Appendix G

**Traffic Counts** 



# Beechwood Specific Plan – Paso Robles

# **Draft Transportation Impact Analysis**

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# **Executive Summary**

This study evaluates the potential transportation impacts of the Beechwood Specific Plan located in the southeastern area of the City of Paso Robles. Two project alternatives were analyzed with differing residential land use densities. The first (674-Unit Project) would consist of 674 residential dwelling units and the second (911-Unit Project) would consist of 911 dwelling units. Both project alternatives would have 4.6 acres of commercial retail land use corresponding to 47,000 square feet of commercial building area. The 911-Unit Project would consist of two phases, with Phase 1 developing 554-Units.

The 674-Unit Project would generate 8,539 net new trips per weekday, including 598 AM peak hour trips and 758 PM peak hour trips. The 911-Unit Project would generate 10,484 net new trips per weekday, including 753 AM peak hour trips and 959 PM peak hour trips. The City's Transportation Impact Analysis Guidelines and Caltrans criteria are applied to identify the transportation deficiencies below.

#### **KEY FINDINGS**

The following sections summarize the recommendations and mitigation measures. Analysis supporting these recommendations are provided in the body of this report.

# **Intersection Operations**

Tables 13, 20, and 26, duplicated below, summarize the intersection mitigation measures.

Table 13: Existing Conditions Mitigations								
			No	To	otal Un	its	Cir. Elem.	Responsible
Intersection	Impact	Mitigation	Project	554	674	911	and TIF1	Agency
3. SR 46 E/Union Rd <sup>2</sup>	LOS	Prohibit NB lefts	X	X	X	X	Yes	Caltrans
6. Golden Hill Rd/Union Rd	LOS, Queue	Install single lane roundabout	X	X	X	X	Yes	City
7. 13th St/Riverside Ave	Queue	Optimize corridor operations, WBR and NBR overlap	X	X	X	X	No	City
8. 13th St/Paso Robles St	Queue	Optimize corridor operations	X	X	X	X	No	City
12. Creston Rd/Stoney Creek Rd	LOS	Install traffic signal	-	-	X	X	Yes	City
13. Creston Rd/Meadowlark Rd	LOS	Install traffic signal	-	-	-	X	Yes	City
17. Niblick Rd/South River Rd	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
20. South River Rd/Charolais Rd	LOS	Install single lane roundabout	-	X	X	X	Yes	City

X - Mitigation required.

There are existing LOS deficiencies at SR 46 E/Union Road and Golden Hill Road/Union Road which will be exacerbated by added project traffic. There are existing queue deficiencies at three signalized intersections: 13th Street/Riverside Avenue, 13th Street/Paso Robles Street, and Niblick Road/South River Road. Project development would require up to three additional intersection mitigations, including installation of a traffic signal at Creston Road/Stoney Creek Road and Creston

<sup>1.</sup> Intersection improvements are included in the Paso Robles Circulation Element and Traffic Impact Fee (TIF).

<sup>2.</sup> The Paso Robles Circulation Element includes improvements on State Route 46 East and in the vicinity between Buena Vista Drive and Dry Creek Road. Recommend project make a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents. Ultimate improvements will be determined in the project documents.

Road/Meadowlark Road, as well as installation of a single lane roundabout at South River Road/Charolais Road.

Under Existing conditions, the addition of any project would worsen operations on SR 46 E at Union Road due to existing deficiencies on the corridor. Study locations on the SR 46 E corridor would operate acceptably under Existing conditions with or without the addition of traffic from either project if northbound lefts are prohibited at the intersection of SR 46 E/Union Road.

Near Term intersection mitigations are summarized in **Table 20**, duplicated below. Near Term conditions include approved, pending, and pipeline projects, including the Olsen-Chandler Specific Plan.

	Table 20: Near Term Mitigations							
			No	Total Units			Cir. Elem.	Responsible
Intersection	Impact	Mitigation	Project	554	674	911	and TIF1	Agency
3. SR 46 E/Union Rd <sup>2</sup>	LOS	Prohibit NB lefts, RTP improvements	X	X	X	X	Yes	Caltrans
4. SR 46 E/Airport Rd <sup>2</sup>	LOS	RTP improvements	X	X	X	X	Yes	Caltrans
7. 13th St/Riverside Ave	Queue	Optimize corridor operations, WBR and NBR overlap	X	X	X	X	No	City
8. 13th St/Paso Robles St	Queue	Optimize corridor operations	X	X	X	X	No	City
11. Creston Rd/Niblick Rd	Queue	Add additional SBL, SBR, EBT, and WBR	X	X	X	X	Yes	City
12. Creston Rd/Stoney Creek Rd	LOS	Install traffic signal	-	X	X	X	Yes	City
13. Creston Rd/Meadowlark Rd	LOS	Install traffic signal	-	X	X	X	Yes	City
14. Creston Rd/Charolais Rd	LOS	Install all-way stop	-	-	-	X	No	City
16. 1st St-Niblick Rd/Spring St	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
17. Niblick Rd/South River Rd	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
20. South River Rd/Charolais Rd	LOS	Install single lane roundabout	X	X	X	X	Yes	City

X - Mitigation required.

Under Near Term conditions, the addition of any project traffic would worsen deficient operations on SR 46 E at Union Road and Airport Road. The single lane roundabout at South River Road/Charolais Road recommended as an Existing Plus Project mitigation measure is needed under Near Term No Project conditions. There are Near Term queue deficiencies at five signalized intersections, including: 13th Street/Riverside Avenue, 13th Street/Paso Robles Street, Creston Road/Niblick Road, 1st Street-Niblick Road/Spring Street and Niblick Road/South River Road. Project development would require up to three additional intersection mitigations including installation of a traffic signal at Creston Road/Stoney Creek Road and Creston Road/Meadowlark Road, as well as installation of all way stop control at Creston Road/Charolais Road.

Under Near Term conditions, no improvements were assumed on the SR 46 E corridor. For the SR 46 E corridor to operate acceptably under Near Term conditions with or without the project, the Union

<sup>1.</sup> Intersection improvements are included in the Paso Robles Circulation Element and Traffic Impact Fee (TIF).

<sup>2.</sup> The Paso Robles Circulation Element includes improvements on State Route 46 East and in the vicinity between Buena Vista Drive and Dry Creek Road. Recommend project make a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents. Ultimate improvements will be determined in the project documents.

Road/Paso Robles Boulevard Extension to Airport Road and the Union Road eastbound on and offramps are needed. Any improvements along SR 46 E are subject to Caltrans review and approval.

It is recommended that the project makes a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents.

Cumulative intersection mitigations are summarized in **Table 26**, duplicated below. Cumulative conditions reflect buildout of local and regional land uses.

Table 26: Cumulative Mitigations								
			No	T	otal Uni	its	Cir. Elem.	Responsible
Intersection	Impact	Mitigation	Project	554	674	911	and TIF1	Agency
2. SR 46 E/Golden Hill Rd <sup>2</sup>	LOS	Optimize traffic signal, SBR overlap	X	X	X	X	Yes	Caltrans
6. Golden Hill Rd/Union Rd	LOS, Queue	Install multi-lane roundabout	X	X	X	X	Yes	City
7. 13th St/Riverside Ave	Queue	Optimize corridor operations, WBR and NBR overlap	X	X	X	X	No	City
8. 13th St/Paso Robles St	Queue	Optimize corridor operations	X	X	X	X	No	City
9. River Rd/Creston Rd	Queue	Optimize corridor operations	X	X	X	X	No	City
12. Creston Rd/Stoney Creek Rd	LOS	Install traffic signal	X	X	X	X	Yes	City
13. Creston Rd/Meadowlark Rd	LOS	Install traffic signal	-	X	X	X	Yes	City
14. Creston Rd/Charolais Rd	LOS	Install all-way stop	-	-	-	X	No	City
15. Riverside Ave/Pine St/ US 101 SB Ramp	LOS	Install all-way stop	X	X	X	X	No	Caltrans
16. 1st St-Niblick Rd/Spring St	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
17. Niblick Rd/South River Rd	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City

X - Mitigation required.

Under Cumulative conditions, the following SR 46 E improvements were assumed to be in place in addition to the Airport Road Extension from Creston Road to Union Road:

- SR 46 E/Buena Vista Drive (#1): Second eastbound left turn lane installed
- SR 46 E/Union Road (#3): Intersection closed, eastbound on and off ramps constructed (Alternative 1 of on-going PA/ED)
- SR 46 E/Airport Road (#4): Turns restricted to right-in-right-out
- Paso Robles Boulevard overcrossing of SR 46 E and northeasterly extension to Airport Road

Under Cumulative conditions, the addition of any project traffic would worsen deficient operations at SR 46 E at Golden Hill Road. A multi-lane roundabout at Golden Hill Road/Union Road, a traffic signal at Creston Road/Stoney Creek Road, and all-way stop control at Riverside Avenue/Pine Street/US 101 SB Ramp are all needed under Cumulative conditions. There are Cumulative queue deficiencies at five signalized intersections including: 13th Street/Riverside Avenue, 13th Street/Paso

<sup>1.</sup> Intersection improvements are included in the Paso Robles Circulation Element and Traffic Impact Fee (TIF).

<sup>2.</sup> The Paso Robles Circulation Element includes improvements on State Route 46 East and in the vicinity between Buena Vista Drive and Dry Creek Road. Recommend project make a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents. Ultimate improvements will be determined in the project documents.

Robles Street, River Road/Creston Road, 1st Street-Niblick Road/Spring Street and Niblick Road/South River Road. Project development would require up to two additional intersection mitigations, including installation of a traffic signal at Creston Road/Meadowlark Road, as well as installation of all way stop control at Creston Road/Charolais Road.

Project traffic could be mitigated by traffic signal improvements at SR 46 E/Golden Hill Road. For the intersection to operate acceptably under Cumulative conditions with or without the project, additional corridor improvements are needed.

It is recommended that the project makes a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents.

## Roadway Operations

The following roadway segments were identified as having a roadway capacity utilization over 90%:

- Existing Conditions: No segments identified with the addition of traffic from either project.
- Near Term Conditions: The Niblick Road segment east of Spring Street would operate at 92% capacity under Near Term conditions. With the addition of traffic from either project, the capacity utilization would increase but remain below 100%.
- Cumulative Conditions: The Niblick Road segment east of Spring Street would operate at 93% capacity under Cumulative conditions. With the addition of traffic from either project, the capacity utilization would increase but remain below 100%. The Creston Road segment east of Ferro Lane would operate at 89% capacity under Cumulative conditions. With the addition of traffic from either project, the capacity utilization would increase above 90% but remain below 100%.

The projected capacity utilization of 99% on Niblick Road does not justify the widening of this roadway. Widening the bridge to a six-lane arterial would result in a capacity utilization below 70%, which would reduce vehicle delays, but would also support higher vehicle speeds and would conflict with the City's multimodal goals and desire to maintain its small-town character.

The projected capacity utilization of 92% on Creston Road also does not justify widening. In 2018, the City Council approved a preferred alternative for the Creston Road Corridor between South River Road and Niblick Road. The preferred alternative includes a three-lane cross section with two travel lanes and center turn lane from South River Road to Rolling Hills Road where the road transitions to a five-lane cross section with four travel lanes and a center turn lane. Also included are Class II bike lanes throughout the corridor and intersection enhancements.

# Freeway Operations

The following freeway segments operate at LOS D or worse with or without the addition of traffic from either project as shown in **Table 30**, duplicated below.

	Table 30: Summary of Freeway Operations								
		Segment	Peak		Ex. +	Near	NT +	Cumu-	
Direction	Location	Type	Hour	Existing	Proj.	Term	Proj.	lative	Cum. + Proj.
	SR 46W Off Ramp	Diverge	AM	-	-	-	-	-	D
	SK 40W OH Kamp	Diverge	PM	-	-	D	D	D	D
	SR 46W On Ramp	Манаа	AM	-	-	-	-	D	D
US 101 NB	SK 40W On Kamp	Merge	PM	D	D	D	D	Е	F
US 101 NB	NI - mala - CCD ACWI	Mainline	AM	-	-	-	-	D	D
	North of SR 46W	Mainline	PM	D	D	D	E	Е	E (674) F (911)
	Spring St. Off Ramp	Diverge	AM	-	-	D	D	D	D
			PM	D	D	Е	Е	F	F
	Spring St. On Ramp	Marra	AM	-	-	-	-	D	D
	Spring St. On Kamp	Merge	PM	-	-	-	-	D	D
	North of SR 46W	Mainline	AM	D	D	D	Е	Е	E
US 101 SB	North of SK 40W	Mannine	PM	D	D	D	D	Е	E
US 101 SB	SR 46W Off Ramp	Diverge	AM	D	D	Е	E	Е	E
	SK 40W OH Kamp	Diverge	PM	D	D	Е	E	Е	E
	CD 4CW/ On Danie	M	AM	-	-	D	D	D	D
	SR 46W On Ramp	Merge	PM	-	-	D	D	D	D
Note: Segment op	erating acceptably are not	shown in table	e.						

Development of mitigation measures and recommendations will require Caltrans coordination. Although widening the mainline to a six-lane facility between Spring Street and Main Street would improve operations to LOS C or better for most segments, widening is difficult and is not included in the US 101 Transportation Concept Report or Regional Transportation Plan for this segment. Ramp improvements or metering may be an alternative in addition to Transportation Demand Management (TDM) and Transportation System Management (TSM) strategies.

The SLOCOG Regional Transportation Plan (RTP) identifies a future SR 46 Urban Multi-Modal Corridor Study for this area.

### San Luis Obispo County Facilities

The 674-Unit and 911-Unit project would generate 8 and 10 PM peak hour trips into the Templeton Road Improvement Fee Area, respectively.

# Circulation Recommendations

**Table 17**, duplicated below, summarizes the on-site, school, and neighborhood circulation recommendations.

	Table 17: Summary of Circulation Recommendations	
Topic	Recommendations	Responsibility
	Meadowlark Road: Consider installing additional parallel parking on south	
	side east of Beechwood Drive for school and park. Currently allowed	Project
	adjacent to the roadway.	
	Beechwood Drive: Remove proposed parking on east side south of Ridge	Project
	Road.	Fioject
Project Site	Ridge Road: Recommend 12' travel lane widths (15' proposed).	Project
Circulation Plan	Airport Road/Meadowlark Road: Existing two-way stop control should	
(Figure 2a)	remain unless roundabout is installed or all-way stop control warrants are	Project
	met.	
	Airport Road Extension: Construct at the time of adjacent development.	
	Airport Road north of Ridge Road should be constructed during Phase 1	Project
	(Subareas A through H). The Airport Road extension to Creston Road	Project
	should be constructed prior to development of Phase 2 (Subareas I and J).	
	Update existing school speed limit and crossing signage per CAMUTCD.	City
	Use ladder crosswalk striping at uncontrolled crosswalks.	City
	Meadowlark Road: Remove north side parking adjacent to school and south	
Virginia Peterson	side parking west of school to install bike lanes. Keep current drop-off and	City
School Circulation	pick-up area.	
School Cheuladon	Beechwood Drive: Install southbound Class II bike lane from Meadowlark	Duning at /Cita
	Road to Creston Road.	Project/City
	Beechwood Drive: Install 25 MPH school signage and other school signage	Project/City
	consistent with CAMUTCD.	Project/City
	Meadowlark Road: If lower posted speed is desired, design roadway	
Traffic Calming	improvements to reduce prevailing speed. Consider roundabout(s) and/or	Project
	mini-roundabout(s) on corridor.	
	Niblick Road/Sherwood Road to Charolais Road: Restripe to include Class II	
	bike lanes (remove parking where necessary) and include buffer where width	City
Creston Road	allows.	
Bicycle and	Complete sidewalk gap on east side between Stoney Creek Road and	Project/City
Pedestrian	Meadowlark Road.	r toject/ City
Assessment	Complete sidewalk gaps on west side between Santa Ynez Avenue and Flag	City
71556551116111	Way.	City
	Remove unsignalized crossing at Myrtlewood Drive when traffic signal is	City
	installed at Stoney Creek Road.	City

# Executive Summary

# **Contents**

Executive Summary	
Introduction9	
Existing Conditions	
Existing Plus Project Conditions31	
Near Term Conditions53	
Cumulative Conditions	
References86	
Figure 1: Project and Study Locations	
Figure 2a: Project Site Circulation Plan	12
Figure 2b: Project Site Phasing Plan	13
Figure 3: Existing Traffic Volumes	29
Figure 4: Existing Lane Configurations	30
Figure 5: Project Trip Distribution	33
Figure 6a: Existing and Near Term 674-Unit Project Trip Assignment	34
Figure 6b: Existing and Near Term 911-Unit Project Trip Assignment	35
Figure 7a: Existing Plus 674-Unit Project Traffic Volumes	36
Figure 7b: Existing Plus 911-Unit Project Traffic Volumes	37
Figure 8: Near Term Traffic Volumes	55
Figure 9a: Near Term Plus 674-Unit Project Traffic Volumes	56
Figure 9b: Near Term Plus 911-Unit Project Traffic Volumes	57
Figure 10: Cumulative Traffic Volumes	69
Figure 11a: Cumulative 674-Unit Project Trip Assignment	70
Figure 11b: Cumulative 911-Unit Project Trip Assignment	71
Figure 12a: Cumulative Plus 674-Unit Project Traffic Volumes	72
Figure 12b: Cumulative Plus 911-Unit Project Traffic Volumes	73

Appendix A: Traffic Counts

Appendix B: Intersection LOS/Queue Calculation Sheets

Appendix C: Freeway LOS Calculation Sheets

Appendix D: Warrant Analysis Sheets

Appendix E: Agency Comment/Response

# Introduction

This study evaluates the potential transportation impacts of the proposed Beechwood Specific Plan located in the southeastern area of the City of Paso Robles. Two project alternatives were analyzed with differing residential land use densities. The first (674-Unit Project) would consist of 674 residential dwelling units and the second (911-Unit Project) would consist of 911 dwelling units. Both project alternatives would have 4.6 acres of commercial retail land use corresponding to 47,000 square feet of commercial building area. The 911-Unit Project would consist of two phases, with Phase 1 developing 554-Units.

The project's location and study intersections are shown on Figure 1. Figures 2a and 2b show the project site circulation and phasing plans, respectively. Phase 1 would develop Subareas A through H.

The study locations, key analysis assumptions, and analysis scenarios were developed in consultation with City, County, and Caltrans staff. The initial scope of work, existing conditions and assumptions, and administrative draft TIS were submitted to agency staff for review and comment. Refer to Appendix E for a summary of agency comments received and resultant responses and changes.

The following intersections are evaluated during the weekday morning (7-9 AM) and evening (4-6 PM) time periods:

- 1. State Route 46 E/Buena Vista Drive
- 2. State Route 46 E/Golden Hill Road
- 3. State Route 46 E/Union Road
- 4. State Route 46 E/Airport Road
- 5. State Route 46 E/Mill Road
- 6. Golden Hill Road/Union Road
- 7. 13th Street/Riverside Avenue
- 8. 13th Street/Paso Robles Street
- 9. River Road/Creston Road
- 10. Creston Road/Golden Hill Road
- 11. Creston Road/Niblick Road
- 12. Creston Road/Stoney Creek Road
- 13. Creston Road/Meadowlark Road

- 14. Creston Road/Charolais Road
- Riverside Avenue/Pine Street/US
   101 SB Ramp
- 16. 1st Street-Niblick Road/Spring Street
- 17. Niblick Road/South River Road
- 18. South River Road/Riverbank Lane
- 19. South River Road/Bridgegate Lane
- 20. South River Road/Charolais Road
- 21. Charolais Road/Holstein Drive
- 22. Charolais Road/Otero Lane
- 23. Charolais Road/St. Andrews Circle
- 24. Charolais Road/Rambouillet Road
- 25. Meadowlark Road/Oriole Way

The following roadway segments were evaluated using average daily traffic (ADT) volumes:

- 1. Creston Road River Road to Golden Hill Road
- 2. Creston Road Golden Hill Road to Niblick Road
- 3. Creston Road Niblick Road to Cedarwood Drive
- 4. Creston Road Cedarwood Drive to Charolais Road
- 5. Golden Hill Road Creston Road to Union Road
- 6. Golden Hill Road Union Road to SR 46 E
- 7. Niblick Road South River Road to Spring Street
- 8. Niblick Road Creston Road to South River Road
- 9. Charolais Road South River Road to Creston Road
- 10. South River Road Spanish Camp Road South to Neal Spring Road
- 11. South River Road Charolais Road to Niblick Road
- 12. Barley Grain Road Creston Road to Spanish Camp Road

The following freeway facilities were evaluated during the weekday morning (7-9 AM) and evening (4-6 PM) time periods:

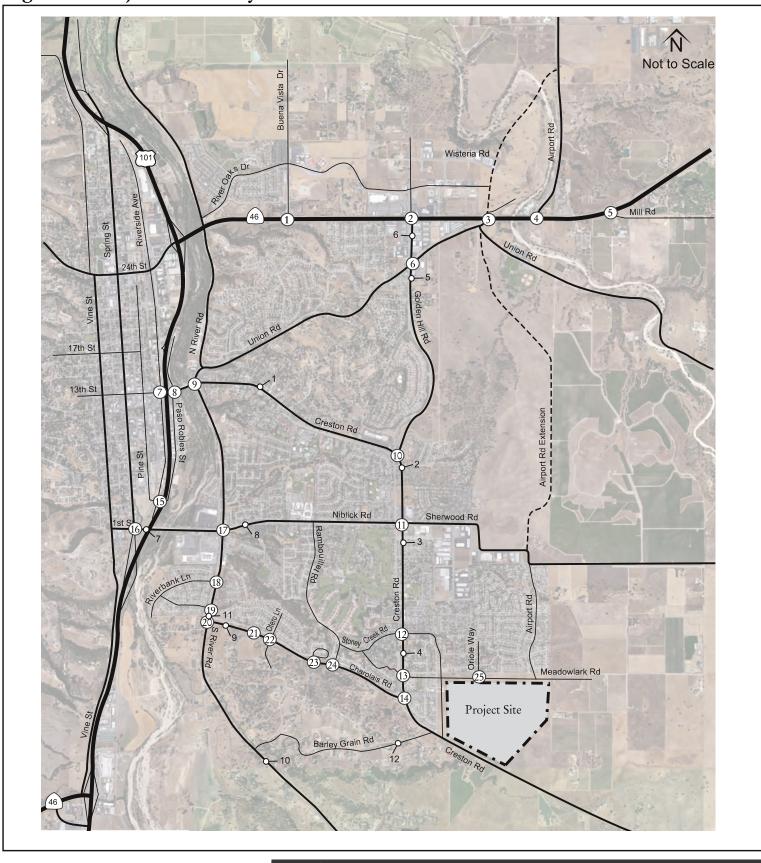
- 1. US 101 northbound off ramp at State Route 46 W
- 2. US 101 northbound on ramp at State Route 46 W
- 3. US 101 northbound mainline north of State Route 46 W
- 4. US 101 northbound off ramp at Spring Street
- 5. US 101 northbound off ramp at Paso Robles Street
- 6. US 101 northbound on ramp at Paso Robles Street
- 7. US 101 northbound mainline south of State Route 46 E
- 8. US 101 northbound off ramp at State Route 46 E
- 9. US 101 northbound on ramp at State Route 46 E
- 10. US 101 northbound mainline north of State Route 46 E
- 11. US 101 southbound mainline north of State Route 46 E
- 12. US 101 southbound off ramp at State Route 46 E
- 13. US 101 southbound on ramp at State Route 46 E
- 14. US 101 southbound off ramp at Riverside Avenue-17th Street
- 15. US 101 southbound mainline south of State Route 46 E
- 16. US 101 southbound on ramp at Riverside Avenue-17th Street
- 17. US 101 southbound off ramp at Riverside Avenue/Pine Street
- 18. US 101 southbound on ramp at Spring Street
- 19. US 101 southbound mainline north of State Route 46 W
- 20. US 101 southbound off ramp at State Route 46 W
- 21. US 101 southbound on ramp at State Route 46 W

The study locations were evaluated under these scenarios:

- 1. Existing Conditions reflect recent traffic counts and the existing transportation network.
- 2. Existing Plus Project adds project generated traffic to existing volumes.
- 3. **Near Term Conditions** add approved and pending projects in the study area to Existing Conditions volumes.
- 4. **Near Term Plus Project** adds project traffic to Near Term volumes.
- 5. **Cumulative Conditions** represent future traffic conditions reflective of the buildout of land uses and the roadway network in the area, not including the proposed Project.
- 6. **Cumulative Plus Project** represents future traffic conditions reflective of the buildout of land uses and the roadway network in the area, including the proposed Project.

A description of the analysis approach follows Figures 1, 2a, and 2b.

Figure 1: Project and Study Locations





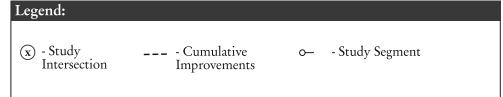
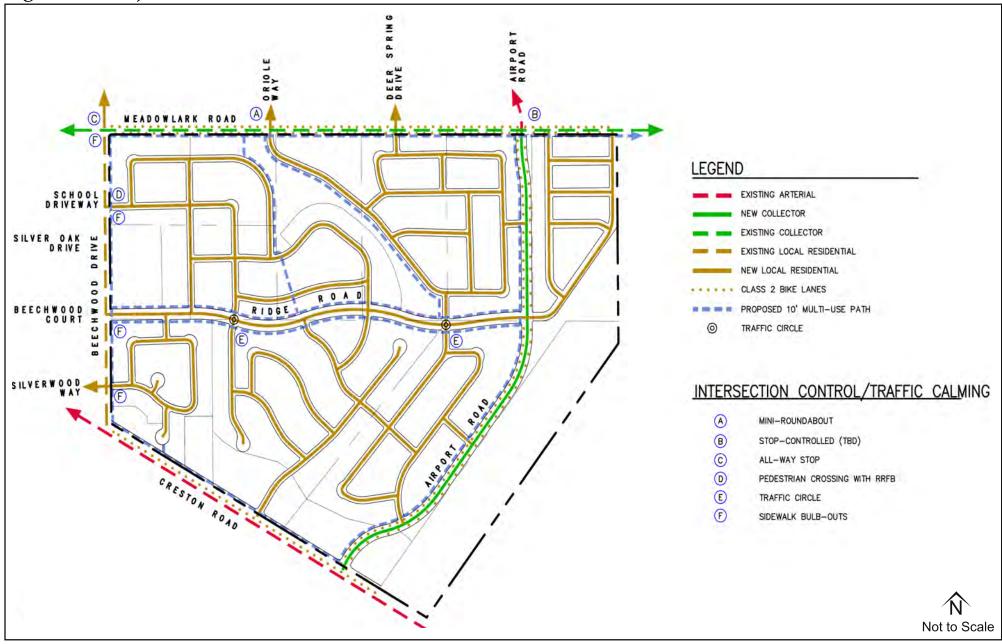


Figure 2a: Project Site Circulation Plan





Source: Rick Engineering Company, February 2019

Figure 2b: Project Site Phasing Plan





Source: Rick Engineering Company, February 2019

# **ANALYSIS METHODS**

The analysis approach was developed based on the City of Paso Robles' *Transportation Impact Analysis Guidelines*, County of San Luis Obispo standards, and Caltrans standards.

### City of Paso Robles Facilities

The City's TIA Guidelines provide criteria for identifying mobility deficiencies reflecting the City's Circulation Element Goals. Vehicular queues that exceed existing or planned lengths of turn pockets are a deficiency criterion. However, while vehicular level of service (LOS) is a component of the evaluation criteria for stop-controlled intersections, it is not identified as a mobility deficiency criterion for signalized intersections.

The City's TIA Guidelines provide mobility deficiency criteria for a variety of study elements. **Table 1** summarizes these criteria, which are used to identify deficiencies.

Table 1: City of Paso Robles Mobility Deficiency Criteria <sup>1</sup>								
Study Element	Deficiency Determination							
On-site Circulation and Parking	Project designs fail to meet City or industry standard guidelines, fail to provide adequate truck access, will result in unsafe conditions, or will create parking demand or supply above code requirements.							
Pedestrian, Bicycle, Transit Facilities	Project fails to provide safe and accessible connections, conflicts with adopted plans, or adds trips to facility that doesn't meet current design standards							
Traffic Operations	Project causes vehicle queues that exceed turn pocket lengths, increases safety hazards, causes stop-controlled intersection to operate below LOS D and meet signal warrants, or causes vehicle demand greater than the roadway capacity.							
1. Summary based on Table 5 of City's Trans	nsportation Impact Study Guidelines							

The City's TIA Guidelines also specify the analysis time periods, noting that typically traffic operations should be studied during the peak one hour of traffic on weekday mornings (between 7-9 AM) and afternoons (between 4-6 PM).

#### County of San Luis Obispo Facilities

The County of San Luis Obispo has adopted the following Level of Service (LOS) standard for roadways and intersections:

- Rural areas (outside the Urban Reserve Line): LOS C is acceptable; LOS D is not.
- Urban areas (within the Urban Reserve Line): LOS D is acceptable; LOS E is not.

The segments of South River Road from Lake Ysabel Road to Spanish Camp Road South and Barley Grain Road from Creston Road to Spanish Camp Road lie outside of the City limits and the Urban Reserve Line and are subject to the LOS C standard.

# Caltrans Facilities

Caltrans controls the intersections along State Route 46 and the freeway segments on US 101. Caltrans relies on LOS to determine deficiencies. Accordingly, Caltrans intersections have been evaluated using LOS criteria as contained in the HCM 6. Vehicular level of service is based on control delay, which is the total of time spent decelerating when approaching an intersection, time spent stopped or moving in a queue at an intersection, and time spent accelerating after an intersection.

Caltrans strives to maintain operations at the LOS C/D threshold on state-operated facilities. If an existing State Highway facility is operating at LOS D, E, or F the existing measure of effectiveness should be maintained. Note that any improvements proposed within Caltrans right-of-way are subject to Caltrans review and approval via their project development process.

Queuing is not a measure of effectiveness at signalized and unsignalized intersections in the Caltrans Guide for the Preparation of Traffic Impact Studies; therefore, queuing impacts are not considered at Caltrans facilities in the following analysis.

## Intersection Analysis

**Table 2** presents the vehicular level of service thresholds for both City- and Caltrans-operated intersections based on the Highway Capacity Manual 6<sup>th</sup> Edition (HCM 6).

	Table 2: Intersection Level of Service Thresholds									
Signalized I	ntersections <sup>1</sup>	Stop Sign Controlle	ed Intersections <sup>2</sup>	Roundabout Intersections <sup>3</sup>						
Control Delay (sec/vehicle)	Level of Service	Control Delay (sec/vehicle)	Level of Service	Control Delay (sec/vehicle)	Level of Service					
≤ 10	A	≤ 10	A	≤ 10	A					
> 10 - 20	В	> 10 - 15	В	> 10 - 15	В					
> 20 - 35	C	> 15 - 25	С	> 15 - 25	C					
> 35 - 55	D	> 25 - 35	D	> 25 - 35	D					
> 55 - 80	E	> 35 - 50	E	> 35 - 50	E					
> 80	F	> 50  or  v/c > 1	F	> 50  or  v/c > 1	F					

<sup>1.</sup> Source: Exhibit 19-8 of the Highway Capacity Manual 6<sup>th</sup> Edition

Unsignalized intersections have lower delay thresholds because users experience more uncertainty than at signals, where drivers typically expect higher levels of congestion and more predictable levels of delay.

The study intersections were analyzed with the Synchro 10 software package. The HCM 6 methodology was applied except where unique intersection configurations or signal phasing required the HCM 2000 methodology. The 95th percentile queues for key movements are reported, which reflect the queue length that will not be exceeded 95% of the time.

<sup>2.</sup> Source: Exhibits 20-2 and 21-8 of the Highway Capacity Manual 6<sup>th</sup> Edition.

<sup>3.</sup> Source: Exhibit 22-8 of the Highway Capacity Manual 6<sup>th</sup> Edition.

# Segment Analysis

The roadway study segments were evaluated for capacity utilization and level of service based on average daily traffic (ADT) volumes.

**Table 3** presents the vehicular level of service thresholds for basic freeway, merge/diverge, and weaving segments based on the HCM 6.

Table 3: Freeway Segment Level of Service Thresholds									
Basic Free	eway <sup>1</sup>	Merge/Di	verge <sup>4</sup>	Freeway Weaving <sup>5</sup>					
Density (pc/mi/ln) <sup>2</sup>	Level of Service	Density (pc/mi/ln)	Level of Service	Density (pc/mi/ln) <sup>2</sup>	Level of Service				
≤ 11	Α	≤ 10	A	≤ 10	A				
>11 - 18	В	> 10 - 20	В	> 10 - 20	В				
> 18 - 26	С	> 20 - 28	С	> 20 - 28	C				
> 26 - 35	D	> 28 - 35	D	> 28 - 35	D				
> 35 - 45	E	> 35	E	> 35 - 43	E				
$> 45 \text{ or } (D > C)^3$	F	v/c > 1	F	> 43  or v/c > 1	F				

<sup>1.</sup> Source: Exhibit 12-15 of the Highway Capacity Manual 6<sup>th</sup> Edition.

The basic freeway and merge/diverge study segments were analyzed using Highway Capacity Software (HCS 7) package, applying the HCM 6 methodology. The weaving segment was analyzed using the Leisch methodology, which required converting the truck volumes in vehicles per hour (vph) to passenger cars per hour (pcph) based on a passenger car equivalent (PCE) value of 2.

<sup>2.</sup> Demand in units of passenger car/mile/lane.

<sup>3.</sup> LOS F if demand exceeds capacity.

<sup>4.</sup> Source: Exhibit 14-3 of the Highway Capacity Manual 6<sup>th</sup> Edition.

<sup>5.</sup> Source: Exhibit 13-6 of the Highway Capacity Manual 6<sup>th</sup> Edition.

# **Existing Conditions**

This section describes the existing transportation system and current operating conditions in the study area.

#### EXISTING ROADWAY NETWORK

US Highway 101 (US 101) is a major north-south interstate facility connecting California, Oregon, and Washington. In the study area, US 101 is a four-lane freeway with a full access interchange at State Route 46.

State Route 46 (SR 46) is an east-west highway connecting the Central Valley with the Central Coast. In the study area, SR 46 consists of four lanes with at-grade intersections at side streets.

Golden Hill Road is a north-south arterial with two travel lanes north of Union Road that expand into four travel lanes between Mesa Road and Dallons Drive.

*Union Road* is a northeast-southwest arterial with two travel lanes between SR 46 E and Creston Road. Union Road also splits into a second arterial in the northwest-southeast direction just before connecting to SR 46 E.

Airport Road is a discontinuous north-south arterial with two travel lanes which runs north of SR 46 E and between Linne Road and Meadowlark Road.

Buena Vista Drive is a north-south arterial with two travel lanes north of SR 46 E.

Mill Road is a primarily east-west local road with two travel lanes south of SR 46 E.

Riverside Avenue is a north-south collector with two travel lanes west of US 101.

*Pine Street* is a primarily north-south local road with two travel lanes. In the study area, Pine Street runs east-west under a railroad crossing (only wide enough for one vehicle) to the intersection of Riverside Avenue and the US 101 southbound off ramp.

Paso Robles Street is a north-south collector with two travel lanes and US 101 on and off ramps to the north and south, respectively.

Creston Road is an arterial that runs both east-west and north-south throughout the study area. The segment of Creston Road between Rolling Hills Road and Charolais Road has either three or four travel lanes, while the segment from River Road to Rolling Hills Road has two travel lanes.

13th Street is an east-west facility acting as a two-lane collector and as a two- and four-lane arterial west and east of Spring Street, respectively. 13th Street turns into Creston Road east of River Road.

Niblick Road is an east-west undivided arterial with four travel lanes between Spring Street and Creston Road. West of Spring Street, Niblick Road turns in 1st Street, and east of Creston Road, it turns into Sherwood Road.

1st Street is an east-west collector with two travel lanes between Vine Street and Spring Street.

Stoney Creek Road is an east-west collector with two travel lanes between Rambouillet Road and Creston Road.

Meadowlark Road is an east-west collector with two travel lanes. Meadowlark Road borders the study area to the north.

Charolais Road is northwest-southeast arterial with two travel lanes between South River Road and Creston Road.

South River Road is a north-south facility acting as a two-lane collector and as a two- and four-lane arterial north and south of Niblick Road, respectively. South River Road turns into Union Road north of Creston Road before intersecting with North River Road.

Riverbank Lane is a northeast-southwest local road with two travel lanes that serves the surrounding residential neighborhoods.

Bridgegate Lane is an east-west local road with two travel lanes that serves the surrounding residential neighborhoods.

Holstein Drive is a north-south local road with two travel lanes that connects the surrounding neighborhoods to Charolais Road.

Otero Lane is a north-south local road with two travel lanes that connects the surrounding neighborhoods to Charolais Road.

St. Andrews Circle is a north-south and east-west local road with two travel lanes that connects the surrounding neighborhood to Charolais Road.

Rambouillet Road is a north-south collector road with two travel lanes that connects the surrounding residential neighborhoods to Niblick Road to the north and Charolais Road to the south.

Oriole Way is a north-south local road with two travel lanes that connects the surrounding neighborhoods to Meadowlark Road to the south.

Barley Grain Road is an east-west local road with two travel lanes that connects the surrounding neighborhoods to South River Road to the west and Creston Road to the east.

#### EXISTING PEDESTRIAN AND BICYCLE FACILITIES

#### Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, multi-use paths, and pedestrian signals at signalized intersections. The existing pedestrian facilities in the project vicinity are described below:

- Airport Road: Continuous sidewalk on both sides of the road between Meadowlark Road and Linne Road. There is an uncontrolled crosswalk on the south leg of Running Stag Way and a stop control crosswalk on the south leg of Scott Street.
- Beechwood Drive: Continuous sidewalk on west side between Creston Road and Stoney Creek
  Road. Intermittent sidewalk on east side north of Meadowlark Road. A stop-controlled
  crosswalk is located on the north leg of Meadowlark Road.
- Charolais Road: A Class I bike path and continuous sidewalk is located on the north side of the
  roadway along the limits from Creston Road to River Road. Class I bikeway connects to the
  Salinas River Walk running parallel to the Salinas River and connecting to the Creston Road /
  13th Street intersection. There are no marked crosswalks on the corridor.
- Creston Road: Intermittent sidewalk on both sides of roadway along the limits. Between Flag
  Way and Charolais Road there is continuous sidewalk on the west side and between Niblick
  Road/Sherwood Road and Stoney Creek Road there is a continuous sidewalk on the east side.
  Crosswalks are provided on all four legs of the Creston Road/Niblick Road/Sherwood Road

- and Creston Road/Cedarwood Drive signalized intersections. An uncontrolled crosswalk is located on the north leg of Meadowlark Road and the south leg of Myrtlewood Drive.
- Meadowlark Road: Continuous sidewalk on north side between Creston Road and easterly limits.
   South side sidewalk between Creston Road and Beechwood Drive. An uncontrolled crosswalk is located on the west leg of Falcon Drive and stop-controlled crosswalks on the west leg of Beechwood Drive and the east leg of Creston Road.
- Niblick Road/Sherwood Road/1st Street: Continuous sidewalk on north side between Vine Street
  and easterly limits. South side sidewalk intermittent. There are multiple uncontrolled and
  traffic signal-controlled crosswalks. Crosswalks are provided on all four legs of the Creston
  Road/Niblick Road/Sherwood Road signalized intersection.
- River Road: Continuous sidewalk on west side from north of Navajo Avenue to Charolais Road.
   East side sidewalk intermittent. Crosswalks are provided on all four legs of the River Road/Niblick Road intersection. A stop-controlled crosswalk is located on the north leg of Charolais Road.

## Bicycle Facilities

Bicycle facilities in the study area consist of Class I, II, and III bikeways. Class I shared-use paths or bike paths are facilities with a separate right of way with crossflows by vehicles minimized. A Class II bike lane provides a striped lane for one-way bicycle travel on the side of the street adjacent to vehicle traffic. Class III bike routes consist of a roadway that is shared between bicycle and vehicle traffic with supplemental bike signage.

The City's Bicycle and Pedestrian Plan was most recently adopted on December 18, 2018. The existing and proposed bikeways in the project vicinity are described below:

- Airport Road: Existing Class II bikeways between Meadowlark Road and Linne Road. A future Class I bikeway is proposed adjacent and parallel to Airport Road connecting Creston Road and Union Road
- Beechwood Drive: Class I and II bikeways are proposed between Meadowlark Road and Creston Road.
- Charolais Road: Existing Class I bike path on the north side of the roadway along the limits
  from Creston Road to River Road. West of River Road the Class I bikeway connects to the
  Salinas River Walk running parallel to the Salinas River and connecting to the Creston Road /
  13th Street intersection. The future Class I Salinas River Trail would eventually connect the
  River Walk to San Miguel and Santa Margarita.
- Creston Road: Existing Class II bike lanes north of Lana Street/Oak Meadow Lane and on north side of road between Beechwood Drive and Meadowlark Road. Class II bike lanes are proposed within the city limits.
- Meadowlark Road: No existing bikeways. Class II bike lanes are proposed west of Beechwood Drive. Class I and II bikeways are proposed east of Beechwood Drive.
- Niblick Road/Sherwood Road/1st Street: Existing Class II bike lanes from Vine Street to the easterly limits.
- River Road: Existing Class II bike lanes from Niblick Road to Charolais Road.

# **EXISTING TRANSIT SERVICE**

The Paso Express provides fixed route and dial-a-ride transit service throughout the City of Paso Robles. All Paso Express trips begin and end at the North County Transportation Center, located at Pine Street/8th Street. The fixed route service operates Routes A and B, which run clockwise and counterclockwise, respectively. The nearest Route A and B stops to the site are located across the street from one another on Stoney Creek Road, west of Creston Road, with hourly service from 6:45 AM to 7:05 PM on weekdays and 7:45 AM to 6:05 PM on Saturdays. The dial-a-ride service provides curb-to-curb service on weekdays from 7:00 AM to 1:00 PM.

The San Luis Obispo Regional Transit Authority (RTA) provides regional fixed-route service to San Luis Obispo County. Route 9 serves the North County region, providing regional access between San Luis Obispo, Santa Margarita, Atascadero, Templeton, and Paso Robles, including a stop at the North County Transportation Center.

### **EXISTING SCHOOL CIRCULATION**

Virginia Peterson Elementary School is located on the southwest corner of the intersection of Beechwood Drive/Meadowlark Road, adjacent to the project site. During the 2017-18 school year, 440 students were enrolled. On-site parking is provided for buses, visitors, and staff. The designated student drop-off and pick-up area is located on the south side of Meadowlark Road adjacent to the school.

CCTC observed school traffic during the typical morning drop-off and afternoon pick-up. School crossing guards are located at both crosswalks on Meadowlark Drive adjacent to the school. Parents use the designated parking area as well as the north side of Meadowlark Drive and Beechwood Drive north of Meadowlark Drive. No congestion or queuing was observed at the intersection of Meadowlark Drive/Beechwood Drive, and additional parking was located on these two roadways.

Recommendations for school circulation are discussed in the Existing Plus Project Scenario of the report.

#### EXISTING TRAFFIC CONDITIONS

New peak hour intersection turning movement counts, peak hour freeway and ramp counts, and roadway segment ADT counts were collected in May, June, and October 2018 during clear weather and when local schools were in session. Additionally, pedestrian and bicycle counts were collected at the study intersections. The traffic count sheets are included in **Appendix A**.

Due to construction work near the intersection of Creston Road/Niblick Road (#11), prior turning movement count data from 2016 was used. San Luis Obispo County 2016 ADT counts were used to analyze the capacity utilization of the roadway segment of South River Road south of Spanish Camp Road South.

The bicycle counts collected at the 13<sup>th</sup> Street/Riverside Avenue intersection (#7) were taken on the same day as the AIDS/LifeCycle event, resulting in uncharacteristically high AM southbound through volumes. The PM bicycle counts, as well as the AM bicycle counts on the unaffected approaches, show that typical bicycle demand at the intersection is not large enough to have a significant effect on the analysis results.

Hourly data from the Caltrans count station on US 101 north of Main Street shows that on midweek school days during the 2017-2018 school year, the peak hours in both directions most frequently

occurred between 7:00-9:00 AM and 4:00-6:00 PM. On the counted day (Wednesday, June 6, 2018), the peak hours in both directions also occurred during these times and the peak hour volumes were all within two percent of the average. Hourly data from the Caltrans count station on SR 46 E west of McMillan Canyon Road shows that on mid-weekdays from July through September 2018, the PM peak hour in both directions most frequently occurred between 4:00-6:00 PM and had substantially larger volumes on average than the AM peak hour. This data indicates that 7:00-9:00 AM and 4:00-6:00 PM intersection counts are sufficient.

**Figure 3** shows the existing weekday peak hour traffic volumes at the study intersections and the existing ADT on the study segments. **Figure 4** shows the existing lane configurations.

# 1. Intersection Operations

**Table 4** presents the existing LOS for the study intersections, with detailed calculation sheets in **Appendix B** and warrant analysis sheets in **Appendix D**.

Table 4: Existing Intersection A	Auto Leve	ls of Service	
	Peak	Delay <sup>1</sup>	
Intersection	Hour	(sec/veh)	LOS
4 C B 4(E/B W . D.)	AM	16.7	В
1. State Route 46 E/Buena Vista Drive	PM	12.0	В
2. State Route 46 E/Golden Hill Road	AM	24.5	С
2. State Route 40 E/ Golden Hill Road	PM	26.2	С
3. State Route 46 E/Union Road	AM	4.2 (23.5)	- (C)
	PM	5.6 (31.3)	- (D)
4. State Route 46 E/Airport Road	AM	5.6 (20.4)	- (C)
	PM	4.6 (22.7)	- (C)
5. State Route 46 E/Mill Road	AM PM	0.1 (16.3) 0.2 (19.3)	- (C) - (C)
	AM	51.3	- (C) <b>F</b>
6. Golden Hill Road/Union Road	PM	50.5	F
5 401 C /P: :1 4	AM	30.0	С
7. 13th Street/Riverside Avenue	PM	37.6	D
8. 13th Street/Paso Robles Street	AM	15.5	В
6. 13th Street/ Laso Robies Street	PM	18.0	В
9. River Road/Creston Road	AM	23.1	C
	PM	19.3	В
10. Creston Road/Golden Hill Road	AM	19.6	В
	PM	17.1	В
11. Creston Road/Niblick Road	AM PM	29.5 23.7	C C
	AM	8.1 (40.8)	- (E)
12. Creston Road/Stoney Creek Road	PM	3.7 (19.9)	- (C)
	AM	12.7	В
13. Creston Road/Meadowlark Road	PM	9.8	A
14. Creston Road/Charolais Road	AM	4.7 (12.8)	- (B)
14. Creston Road/Charorais Road	PM	5.4 (11.6)	- (B)
15. Riverside Ave/Pine St/US 101 SB Ramp	AM	3.7 (12.3)	- (B)
The state of the s	PM	5.2 (12.9)	- (B)
16. 1st Street-Niblick Road/Spring Street	AM	29.3	С
	PM AM	34.6 33.8	C C
17. Niblick Road/South River Road	PM	24.6	C
	AM	2.6 (31.2)	- (D)
18. South River Road/Riverbank Lane	PM	1.0 (21.9)	- (C)
40 C 4 B' D 1/D'1 4 I	AM	1.0 (14.2)	- (B)
19. South River Road/Bridgegate Lane	PM	0.7 (14.0)	- (B)
20. South River Road/Charolais Road	AM	17.2	С
20. South River Road/ Charonais Road	PM	21.4	С
21. Charolais Road/Holstein Drive	AM	0.3 (14.0)	- (B)
,	PM	0.3 (12.1)	- (B)
22. Charolais Road/Otero Lane	AM	1.5 (16.8)	- (C)
	PM AM	0.8 (14.5) 0.3 (14.6)	- (B)
23. Charolais Road/St Andrews Circle	PM	0.3 (14.6)	- (B) - (B)
	AM	3.4 (13.6)	- (B)
24. Charolais Road/Rambouillet Road	PM	2.9 (10.9)	- (B)
25 Mandawlady Bond / Owinto Winn	AM	3.7 (9.3)	- (A)
25. Meadowlark Road/Oriole Way	PM	3.0 (8.8)	- (A)

<sup>1.</sup> HCM 6th average control delay in seconds per vehicle (HCM 2000 used for Intersections 1, 10 and 15). For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

**Existing Conditions** 

The following Caltrans intersection operates below the LOS C threshold:

• SR 46 E/Union Road (#3): the northbound approach operates at LOS D during the PM peak hour due to long delays resulting from side street stop control and the high volumes along SR 46 E.

The following stop-controlled City intersections operates below LOS D:

- Golden Hill Road/Union Road (#6): operates at LOS F during the AM and PM peak hours
  and meets signal warrants due to high volumes from all approaches of the intersection. A
  single-lane roundabout is being designed for this intersection.
- Creston Road/Stoney Creek Road (#12): operates at LOS E during the AM peak hour but does not meet signal warrants. Therefore, the intersection operates acceptably per the City's TIA Guidelines.

# 2. Queues

**Table 5** summarizes the existing vehicular queuing for key movements.

Storage   Peak   Percentile   Queues (tt)	Table	5: Existing (	Queues		
Intersection		J. D		Peak	95th Percentile
1. State Route 46 E/Buena Vista Drive	Intersection	Movement			Queues (ft) <sup>1</sup>
NBL   160   AM   142	1 State Route 46 E/Buena Vista Drive	EBI <sup>2</sup>	345	AM	248
2. State Route 46 E/Golden Hill Road  2. State Route 46 E/Golden Hill Road  EBL <sup>2</sup> 2. State Route 46 E/Union Road  WBL <sup>2</sup> 3. State Route 46 E/Linjort Road  WBL <sup>2</sup> 4. State Route 46 E/Afill Road  WBL <sup>2</sup> 5. State Route 46 E/Afill Road  WBL <sup>2</sup> 5. State Route 46 E/Mill Road  WBL <sup>2</sup> 5. State Route 46 E/Mill Road  WBL <sup>2</sup> 6. Golden Hill Road/Union Road  WBL  WBL  250  PM  203  WBL  250  PM  203  7. 13th Street/Riverside Avenue  WBL  WBL  125  PM  266  WBT  295  AM  208  PM  208  NBL  130  AM  200  PM  221  NBR  110  AM  228  BBL  120  PM  268  EBL  120  PM  107  EBT  295  AM  107  EBT  295  AM  108  109  107  EBT  295  AM  107  108  86  NBL  110  AM  127  PM  108  108  109  109  107  108  108  108  109  109  109  109  109	To date House to E, Buella Viola Billy	LDL	3.13		
SBL   140   AM   108		NBL	160		
2. State Route 46 E/Golden Hill Road    EBL^2   225					
EBL   225		Intersection Bound I Let tate Route 46 E/Buena Vista Drive EBL <sup>2</sup> NBL  SBL  EBL <sup>2</sup> WBL <sup>2</sup> WBL <sup>2</sup> tate Route 46 E/Golden Hill Road WBL <sup>2</sup> tate Route 46 E/Union Road WBL <sup>2</sup> tate Route 46 E/Airport Road EBL <sup>2</sup> NBR  Solden Hill Road/Union Road WBL  Street/Riverside Avenue  WBT  NBL  Sth Street/Paso Robles Street  EBL  EBT  iver Road/Creston Road NBL  Creston Road/Golden Hill Road EBL  Creston Road/Niblick Road  EBL  NBL  SBL  SBL  EBL  EBT  NBL  NBL  NBL  NBL  NBL  NBL  NBL  N	140		
EBL   225	2. State Route 46 E/Golden Hill Road				
WBL   125		$EBL^{2}$	225		
WBL   125					
3. State Route 46 E/Union Road   WBL <sup>2</sup>   195   PM   60   4. State Route 46 E/Airport Road   EBL <sup>2</sup>   580   PM   35   5. State Route 46 E/Mill Road   WBL <sup>2</sup>   305   PM   0   6. Golden Hill Road/Union Road   NBR   190   PM   153   WBL   250   PM   203   7. 13th Street/Riverside Avenue   WBL   125   PM   266   WBT   295   PM   342   NBL   130   PM   221   NBR   110   PM   222   NBR   110   PM   222   NBR   110   PM   381   10. Creston Road/Creston Road   NBL   140   PM   134   11. Creston Road/Niblick Road   EBL   220   PM   86   NBL   230   PM   103   NBL   245   PM   368   NBL   245   PM   368   NBL   245   PM   104   NBL   140   PM   150   NBL   140   PM   150   NBL   150   PM   166   NBL   170   PM   166   NBL   170   PM   165   NBL   165   PM   165   NBL   165   PM   122   NBR   177   PM   144   NBR   190   PM   105   NBL   165   PM   165   NBL   165   PM   165   NBL   165   PM   148   NBL   150   PM   121   NBR   150   PM   122   NBR   150   PM   123   NBL   150   PM   124   NBR   150   PM   125   NBR   16. Ist Street-Niblick Road/Spring Street   NBR   290   PM   213   NBL   150   PM   148   NBL   150   PM   177   NBL   150   PM   179   NBL   160   PM   172   NBL   160   P		$WBL^2$	125		
4. State Route 46 E/Airport Road  4. State Route 46 E/Airport Road  5. State Route 46 E/Mill Road  WBL  35  5. State Route 46 E/Mill Road  WBL  36  WBL  37  WBL  38  WBL  38  WBL  39  WBL  250  MM  203  AM  203  AM  203  AM  203  AM  204  PM  342  AM  208  PM  342  AM  208  PM  342  NBL  130  NBR  110  AM  420  PM  221  NBR  110  AM  42  PM  203  AM  208  PM  342  NBL  130  NBL  130  NBL  130  AM  200  PM  221  NBR  110  AM  42  PM  368  EBL  120  AM  85  PM  107  EBT  295  AM  107  EBT  295  AM  103  PM  107  EBT  295  AM  103  PM  107  EBT  295  AM  108  85  PM  109  107  EBT  295  AM  108  109  River Road/Creston Road  NBL  100  AM  101  AM  101  AM  102  AM  103  PM  104  AM  105  PM  106  EBL  100  AM  101  PM  105  PM  106  EBL  100  AM  100  PM  101  100  100  100  100  100	a company to E/H in Paris	2	405		
4. State Route 46 E/Airport Road  5. State Route 46 E/Mill Road  WBL  305  MM  0  PM  103  PM  103  PM  153  WBL  250  AM  203  WBL  250  AM  206  WBT  295  AM  206  WBT  295  AM  200  PM  201  NBR  110  AM  42  PM  208  EBL  120  AM  42  PM  107  EBT  295  AM  107  EBT  295  AM  107  EBT  295  AM  108  100  RBL  110  AM  110	3. State Route 46 E/Union Road	WBL	195	PM	60
5. State Route 46 E/Mill Road  WBL. 305	4 State Route 46 E / Airport Road	EDI <sup>2</sup>	580	AM	135
S. State Route 46 E./ Mill Road   WBL   305    PM   0	4. State Route 40 E/Aiiport Road	EBL	360	PM	35
NBR   190   AM   103	5. State Route 46 E/Mill Road	W/BI <sup>2</sup>	305		0
6. Golden Hill Road/Union Road    WBL   250		WDE			
WBL   250   AM   235   PM   203		NBR	190		
WBL   125	6. Golden Hill Road/Union Road				
WBL   125   AM   266		WBL	250		
7. 13th Street/Riverside Avenue  WBL 25 PM 266  WBT 295 AM 268 PM 342  NBL 130 AM 200 PM 221  NBR 110 AM 42 PM 268  EBL 120 AM 85 PM 381  EBL 120 PM 381  10. Creston Road/Creston Road NBL 140 PM 134  10. Creston Road/Golden Hill Road EBL 125 AM 103 PM 86  NBL 230 AM 156 PM 166  SBL 245 AM 150 PM 166  EBL 150 PM 165  NBL 165 PM 170  NBL 165 PM 148  NBL 150 PM 291  NBL 165 PM 148  NBL 150 PM 291  NBL 177  SBL 110 AM 315  PM 172  EBL 140 AM 73  PM 139  WBL 80 AM 126					
NBL   130		WBL	125		
NBL   130   AM   200	7. 13th Street/Riverside Avenue	WIDI	205		
NBL   130		WBT	295		
NBR   110   AM   42		NIRI	130	AM	200
Signature   Sign		NDL	130	PM	221
8. 13th Street/Paso Robles Street    EBL   120		NBR	110		
EBL   120   PM   107	8. 13th Street/Paso Robles Street				
EBT   295   AM   381     9. River Road/Creston Road   NBL   140   AM   182     10. Creston Road/Golden Hill Road   EBL   125   AM   103     10. Creston Road/Golden Hill Road   EBL   125   AM   103     11. Creston Road/Niblick Road   NBL   230   AM   156     12. PM   166     13. AM   150     14. Creston Road/Niblick Road   EBL   150   AM   128     150   PM   165     150   AM   128     150   PM   105     151   AM   122     150   AM   123     150   AM   124     150   AM   187     150   PM   291     150   AM   264     150   PM   177     17. Niblick Road/South River Road   EBL   140   AM   73     150   PM   139     150   WBL   80   AM   126     126   Road/South River Road   Road/South River Road   Road/South River Road   Road/South River Road   Road/South Road/Sou		EBL	120		
BB   295   PM   381					
9. River Road/Creston Road  NBL  140  AM PM 134  134  10. Creston Road/Golden Hill Road  EBL  125  AM PM 86  NBL 230  AM 156 PM 146  SBL 245  SBL 245  PM 166  EBL  150  AM 152  WBL  170  AM 103 PM 146  EBL  150  NBL 245  NBL 250  WBL  170  AM 103 PM 105  NBL 150 PM 166  EBL  150  NBL 165  NBL 166  NBL 165  NBL 165  NBL 165  NBL 165  NBL 165  NBL 165  NBL 166  NBL 165  NBL 165  NBL 165  NBL 165  NBL 166  NBL 165  NBL 165  NBL 165  NBL 165  NBL 165  NBL 165  NBL 166  NBL 165  NBL 166  N		EBT	295		
9. River Road/Creston Road  10. Creston Road/Golden Hill Road  EBL  125  AM 103  PM 86  NBL 230  AM 156  PM 146  SBL 245  AM 150  PM 146  SBL 245  AM 150  PM 166  EBL 150  AM 152  WBL 170  AM 152  WBL 170  AM 103  PM 146  SBL 245  AM 150  PM 166  EBL 150  AM 128  PM 105  NBL 165  N					
NBL   230   AM   156   PM   146	9. River Road/Creston Road	NBL	140		
NBL   230   AM   156	10 Creater Bood/Colder Hill Bood	EDI	125	AM	103
NBL   230   PM   146     SBL   245   AM   150     PM   166     EBL   150   AM   128     PM   152     WBL   170   AM   56     PM   105     NBL   165   AM   122     PM   105     NBL   165   AM   122     PM   148     NBR   290   AM   48     PM   213     SBL   305   AM   187     PM   291     NBL   150   AM   264     PM   177     SBL   110   AM   #315     PM   172     EBL   140   AM   73     PM   139     WBL   80   AM   126     WBL   80   AM   126     WBL   80   AM   126     AM   73     PM   139     WBL   80   AM   126     WBL   80   AM   126     SBL   126     SBL   126     SBL   140   AM   73     SBL   130   AM   130     WBL   80   AM   126     SBL   126     SBL   126     SBL   130     SBL   140   AM   73     SBL   130     SBL   130   AM   130     SBL   140   AM   73     SBL   140   AM   73     SBL   140   AM   130     SBL   140   AM   140     SBL   140   AM     SBL	10. Creston Road/Golden Fill Road	EDL	125	PM	86
11. Creston Road/Niblick Road   SBL   245   AM   150		NBL.	230	AM	156
SBL   245   PM   166		- 1122	200		
EBL   150   AM   128		SBL	245		
NBL   150   PM   152	11. Creston Road/Niblick Road				
WBL   170   AM   56   105     NBL   165   AM   122   PM   148     NBR   290   AM   48   PM   213     SBL   305   AM   187   PM   291     NBL   150   AM   264   PM   177     SBL   110   AM   4315   PM   172     SBL   140   AM   73   PM   139     WBL   80   AM   126     WBL   80   AM   126     AM   73   PM   139     WBL   80   AM   126     NBL   150   AM   73   PM   139     WBL   80   AM   126     NBL   150   AM   73   PM   139     WBL   80   AM   126     NBL   150   AM   73   PM   139     WBL   80   AM   126     WBL   WBL   80   AM   126     WBL   WBL   80   AM   126     WBL		EBL	150		
NBL   170   PM   105     NBL   165   PM   148     16. 1st Street-Niblick Road/Spring Street   NBR   290   AM   48     NBR   290   AM   48     PM   213     SBL   305   AM   187     PM   291     NBL   150   AM   264     PM   177     SBL   110   AM   #315     PM   172     EBL   140   AM   73     PM   139     WBL   80   AM   126     WBL   80   AM   126     NBL   105     NBL   105     NBL   105     NBL   106     NBL   107     NBL   107     NBL   108					
NBL   165   AM   122   148		WBL	170		
NBL   165   PM   148		) IDI			
NBR   290   PM   213		NBL	165	PM	148
SBL 305 AM 187 PM 213  SBL 305 AM 187 PM 291  NBL 150 AM 264 PM 177  SBL 110 AM #315 PM 172  EBL 140 AM 73 PM 139 WBL 80 AM 126	16 1st Street-Niblick Road/Spring Street	NIBR	290	AM	48
NBL   150   PM   291	10. 1st Street-Ivibliek Roady Spring Street	TVDIC	250	PM	213
NBL   150   AM   264		SBL	305		
NBL   150   PM   177     SBL   110   AM   #315     PM   172     SBL   140   AM   73     PM   139     WBL   80   AM   126					
17. Niblick Road/South River Road  SBL 110 AM #315 PM 172  EBL 140 AM 73 PM 139 WBL 80 AM 126		NBL	150		
17. Niblick Road/South River Road  EBL 110 PM 172  EBL 140 AM 73  PM 139  WBL 80 AM 126					
EBL 140 AM 73 PM 139 WBL 80 AM 126		SBL	110		
WBL 80 AM 126	17. Niblick Road/South River Road				
WBL 80 AM 126		EBL	140		
WBL   80		W/DI	00		
		WBL	80		132

Queue length that would not be exceeded 95 percent of the time.

<sup>2.</sup> Deceleration length of 530 feet has been subtracted from the storage length per the Highway Design Manual for 60 mph design speed.
# indicates that 95th percentile volume exceeds capacity, queue may be longer.
Bold indicates queue length longer than storage length.

**Existing Conditions** 

The following queue deficiencies at City intersections are noted:

- 1. 13th Street/Riverside Avenue (#7): The westbound left turn queue length exceeds storage length during the AM and PM peak hours, while the westbound through queue length exceeds storage length during the PM peak hour.
- 2. 13th Street/Paso Robles Street (#8): Queues exceed storage length during at least one peak hour on the northbound left, northbound right, and eastbound through turning movements.
- 3. River Road/Creston Road (#9): The northbound left turn queue length exceeds storage length during the AM peak hour.
- 4. Creston Road/Niblick Road (#11): The eastbound left turn queue length exceeds storage length during the PM peak hour.
- 5. Niblick Road/South River Road (#17): Queues exceed storage length during the AM and PM peak hours on the northbound left, southbound left, and westbound left turning movements.

# 3. Roadway Segment Operations

**Table 6** shows the existing capacity utilization and LOS for the study segments.

Table 6: Existing Roadway Segment Operations								
Street	ID	Segment	Facility Type	Lanes	ADT	LOS	Capacity Utilization	
	1	East of Ferro Lane	Arterial	2*	16,049	D	74%	
Creston Road	2	East of Golden Hill Road	Arterial	4	13,675	Α	37%	
Cieston Road	3	South of Niblick Road	Arterial	4	14,856	Α	40%	
	4	North of Meadowlark	Arterial	4	6,008	Α	16%	
Golden Hill Road	5	South of Union Road	Arterial	3	12,676	С	58%	
	6	North of Union Road	Arterial	3	9,805	С	45%	
Niblick Road	7	East of Spring Street	Arterial	4	29,676	D	79%	
	8	East of Quarterhorse	Arterial	4	20,115	Α	54%	
Charolais Road	9	East of South River Road	Arterial	2*	7,838	С	36%	
C	10	South of Spanish Camp Road South	Local	2	1,458	Α	15%	
South River Road	11	North of Charolais Road	Arterial	2*	9,531	С	44%	
Barley Grain Road	12	South of Creston Road	Local	2	439	Α	5%	
		tes the prescence of a raised median or two-wateral Plan Circulation Element, 2011; CCTC, 2		e on a two-l	ane arterial.			

All City segments report a capacity utilization below 90% and both County segments operate at LOS A.

# Freeway Segment Operations

**Table 7** shows the existing peak hour volumes at the freeway mainline and ramp locations and **Table 8** shows the existing LOS, with calculation sheets in **Appendix C**. The ramp peak hour factors (PHF) were calculated based on the individual on and off ramp peak hour volumes. The PHFs and truck percentages for the Riverside Avenue/Pine Street, Spring Street, and SR 46 W ramps were calculated using turning movement count data. The PHFs and truck percentages from the US 101 mainline count taken at the Niblick Road Bridge (per direction) were used as the baseline for all mainline segments, with modified PHFs and truck percentages north of SR 46 E based on ramp data. The Leisch method was employed to calculate the LOS for the US 101 southbound weaving segment (SR 46 E on ramp to Riverside/17<sup>th</sup> Street off ramp). For a worst-case analysis, no volume was assigned to the weave segment's ramp-to-ramp movement.

Table 7: US 101 Existing Peak Hour Volumes							
Direction	Segmen	t Location		Essistino			
Direction				Existing			
	1	SR 46W Off Ramp	146 (114)				
	2	SR 46W On Ramp	427 (755)				
	3	Mainline North of SR 46W	2221 (3281)				
	4	Spring St. Off Ramp	756 (1337)				
US 101 NB	5	Paso Robles St. Off Ramp	323 (561)				
00 101 110	6	Paso Robles St. On Ramp		394 (326)			
	7	Mainline South of SR 46E	1536 (1709)				
	8	SR 46E Off Ramp	890 (947)				
	9	SR 46E On Ramp	260 (249)				
	10	Mainline North of SR 46E	906 (1011)				
	11	Mainline North of SR 46E		850 (1361)			
	12	SR 46E Off Ramp	248 (327)				
	13	SR 46E to Riverside/17 <sup>th</sup> St. Weave Off		892 (992)			
	14			218 (303)			
	15	Mainline South of SR 46E		1276 (1723)			
US 101 SB	16	Riverside/17 <sup>th</sup> St. On Ramp		298 (205)			
	17	Riverside/Pine St. Off Ramp		93 (126)			
	18	Spring St. On Ramp		1190 (894)			
	19	Mainline North of SR 46W		3020 (3046)			
	20	SR 46W Off Ramp	510 (523)				
	21	SR 46W On Ramp	92 (146)				
AM (PM) Peak I	Hour Volur	mes					

	Table 8: Existing Fr	eeway Oper	ations		
	S	Segment	Peak		
Direction	Location	Type	Hour	Density <sup>1</sup>	LOS
	SD 46W Off Dame	Dimores	AM	22.2	С
	SR 46W Off Ramp	Diverge	PM	26.2	С
	SD 46W On Bonn	Marras	AM	23.8	С
	SR 46W On Ramp	Merge	PM	30.4	D
	North of SR 46W	Mainline	AM	19.9	С
	Notur of SK 40W	Maninie	PM	28.0	D
US 101 NB	Spring St. Off Ramp	Diverge	AM	27.1	С
	Spinig St. Off Kamp	Diverge	PM	33.6	D
	Paso Robles St. Off Ramp	Diverge	AM	16.9	В
	1 aso Robles St. Off Ramp	Diverge	PM	19.6	В
	Paso Robles St. On Ramp	Merge	AM	17.7	В
	1 aso Robies St. On Ramp	Weige	PM	17.0	В
	South of SR 46E	Mainline	AM	13.6	В
	30ddi 01 31 <b>C 4</b> 0L	Wanimic	PM	13.4	В
	SR 46E Off Ramp	Diverge	AM	18.1	В
	or top our ramp	Diverge	PM	17.8	В
	SR 46E On Ramp	Merge	AM	13.5	В
	or top on ramp	merge	PM	13.1	В
	North of SR 46E	Mainline	AM	10.1	A
	110101 01 010 102	11111111111	PM	9.7	А
	North of SR 46E	Mainline	AM	8.1	Α
	THORE OF THE	11441111111	PM	13.4	В
	SR 46E Off Ramp	Diverge	AM	12.2	В
	557 (64 5 5 5 <b>5 6 5 6</b> 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6		PM	18.3	В
	SR 46E to Riverside/17 <sup>th</sup> St. <sup>2</sup>	Weave	AM	-	Α
	or to a to raverside, iv ou		PM	-	В
	South of SR 46E	Mainline	AM	11.1	В
			PM	14.8	В
	Riverside/17 <sup>th</sup> St. On Ramp	Merge	AM	17.6	В
US 101 SB			PM	20.9	С
	Riverside/Pine St. Off Ramp	Diverge	AM	18.3	В
	,	U	PM	21.7	С
	Spring St. On Ramp	Merge	AM	23.6	C
			PM	23.9	C
	North of SR 46W	Mainline	AM	28.5	D
			PM	28.6	D
	SR 46W Off Ramp	Diverge	AM	32.5	D
			PM	32.6	D
	SR 46W On Ramp	Merge	AM	27.1	С
	•		PM	27.6	С

<sup>1.</sup> HCM 6 density (passenger cars per mile per lane).

The following freeway segments operate below the LOS C threshold:

- 1. SR 46 W northbound on ramp merge segment operates at LOS D during the PM peak hour.
- 2. US 101 mainline north of SR 46 W operates at LOS D northbound during the PM peak hour and southbound during the AM and PM peak hours.
- 3. Spring Street northbound off ramp diverge segment operates at LOS D during the PM peak hour.
- 4. SR 46 W southbound off ramp diverge segment operates at LOS D during the AM and PM peak hours.

<sup>2.</sup> The Leisch method used for weave section analysis does not report density.

Note: Unacceptable operations shown in **bold** text.

# **COLLISION RATE ANALYSIS**

Table 9 summarizes the existing collision rates for the analyzed roadways segments:

Table 9: Collision Rate Analysis									
Location	Reported Rep		Reference	Collisions	Significant?				
	Collisions	Rate <sup>2</sup>	Rate <sup>3</sup>	Significant <sup>4</sup>	0				
Creston Road (River to Golden Hill)	62	2.52	1.24	46	Yes				
Creston Road (Golden Hill to Niblick)	20	2.67	1.67	23	No				
Creston Road (Niblick to Cedarwood)	11	1.13	1.67	28	No				
Creston Road (Cedarwood to Charolais)	13	3.29	1.29	12	Yes				
Golden Hill Road (Creston to Union)	15	0.81	1.67	47	No				
Golden Hill Road (Union to SR 46E)	7	2.13	1.03	9	No				
Niblick Road (Spring to River)	58	1.49	1.42	76	No				
Niblick Road (River to Creston)	62	4.92	1.67	34	Yes				
Charolais Road (River to Creston)	6	0.50	1.03	23	No				
South River Road (Neal Spring to Spanish Camp)	6	1.71	1.31	11	No				
South River Road (Charolais to Niblick)	17	2.73	1.19	16	Yes				
Barley Grain Road (Creston to Spanish Camp)	0	0.00	1.87	5	No				
1. Based on 3 years of SWITRS data (2015-2017).									
2. Rates are in units of collisions per million vehicle miles.									

The following roadways segments have been identified as having a statistically significant, higher than average collision rate:

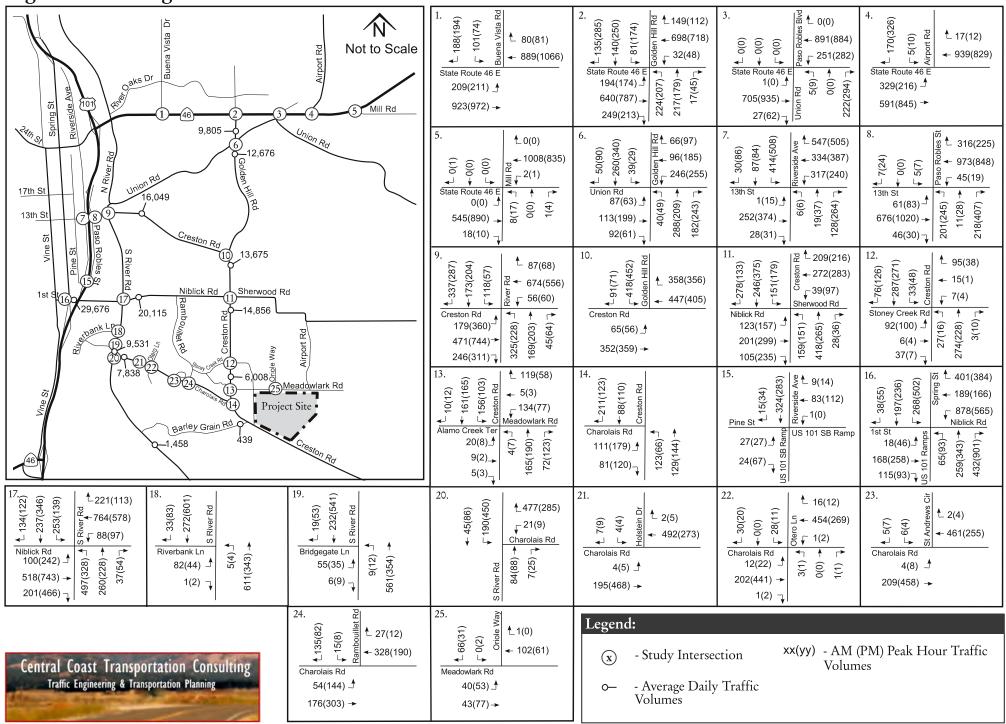
- Creston Road (River Road to Golden Hill Road)
- Creston Road (Cedarwood Drive to Charolais Road)
- Niblick Road (River Road to Creston Road)
- South River Road (Charolais Road to Niblick Road)

On Creston Road and Niblick Road, approximately 50% of collisions are rear end due to unsafe speed. On South River Road, the primary collision factors are unsafe speed and auto right-of-way violations.

<sup>3.</sup> Average rate for similar facilities from Caltrans "2015 Collision Data on California State Highways".

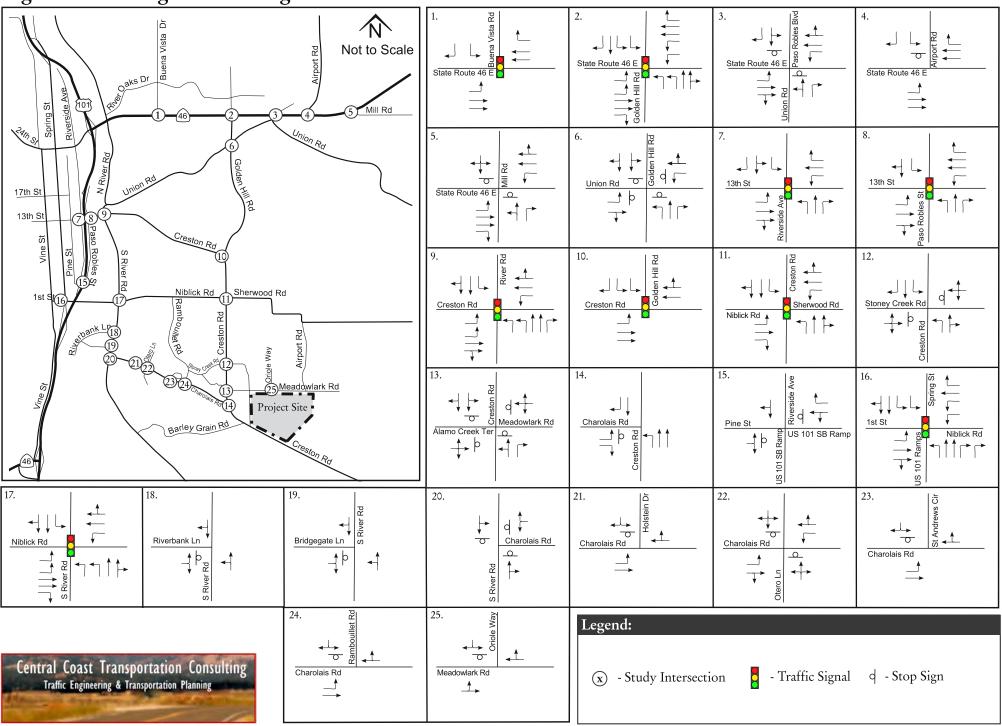
<sup>4.</sup> Based on Caltrans Significance Test. Source: Caltrans Table C Task Force Summary Report, 2002.

Figure 3: Existing Traffic Volumes



**April 2019** 

Figure 4: Existing Lane Configurations



**April 2019** 

# **Existing Plus Project Conditions**

This section evaluates the impacts of the proposed project on the surrounding transportation network, including traffic operations, bicycle, pedestrian, transit, and site access deficiencies. Existing Plus Project conditions reflect existing traffic levels plus the estimated traffic generated by the proposed project.

# PROJECT TRAFFIC ESTIMATES

The amount of project traffic affecting the study intersections is estimated in three steps: trip generation, trip distribution, and trip assignment. Trip generation refers to the total number of new trips generated by the site. Trip distribution identifies the general origins and destinations of these trips, and trip assignment identifies the specific routes taken to reach these origins and destinations.

# Trip Generation

The Institute of Transportation Engineers (ITE) *Trip Generation Manual* 10<sup>th</sup> Edition was used to estimate project trip generation. Internal capture trips made between the residential and commercial land uses were subtracted from the total external trips generated by the project. Pass-by trip reductions were not applied due to low existing volumes on adjacent roads. **Table 10** summarizes the estimated trip generation for the two project sizes.

Table 10: Weekday Vehicle Trip Generation									
				•	AM			PM	
Land Use	Size	Unit <sup>4</sup>	Daily	In	Out	Total	In	Out	Total
674-Unit Project									
Single-Family Residential Housing <sup>1</sup>	474	DU	4,352	85	256	341	285	167	452
Multifamily Housing (Low-Rise) <sup>2</sup>	200	DU	1,471	21	71	92	69	40	109
Shopping Center <sup>3</sup>	47,000	s.f.	3,598	109	66	175	149	162	311
		Gross Trips	9,421	215	393	608	503	369	872
		Internal Trips <sup>5</sup>	882	5	5	10	57	57	114
	$N_0$	et New Trips	8,539	210	388	598	446	312	758
911-Unit Project									
Single-Family Residential Housing <sup>1</sup>	676	DU	6,032	121	364	485	401	235	636
Multifamily Housing (Low-Rise) <sup>2</sup>	235	DU	1,736	25	82	107	79	47	126
Shopping Center <sup>3</sup>	47,000	s.f.	3,598	109	66	175	149	162	311
		Gross Trips	11,366	255	512	767	629	444	1,073
		Internal Trips <sup>5</sup>	882	7	7	14	57	57	114
	N	et New Trips	10,484	248	505	753	572	387	959

- 1) ITE Land Use Code #210, Single-Family Detached Housing. Fitted curve equation used.
- 2) ITE Land Use Code #220, Multifamily Housing (Low-Rise). Fitted curve equation used.
- 3) ITE Land Use Code #820, Shopping Center. Fitted curve equation used.
- 4) DU = Dwelling Unit; s.f. = Square Foot Gross Leasable Area
- 5) AM and PM Internal Trips from TripGen 10 software; Daily Internal Trips from TripGen 2014 software

Source: ITE Trip Generation Manual, 10th Edition, 2017; CCTC, 2019.

The 674-Unit Project would generate 8,539 net new trips per weekday, including 598 AM peak hour trips and 758 PM peak hour trips. The 911-Unit Project would generate 10,484 net new trips per weekday, including 753 AM peak hour trips and 959 PM peak hour trips.

The 911-unit project proposes two phases. As shown in **Figure 2a,** Phase 1 would develop Subareas A through H and consist of 474 single family dwelling units and 80 multi-family dwelling units. Phase 1 would generate 4,916 net new trips per weekday, including 380 AM peak hour trips and 500 PM peak hour trips.

# Trip Distribution and Assignment

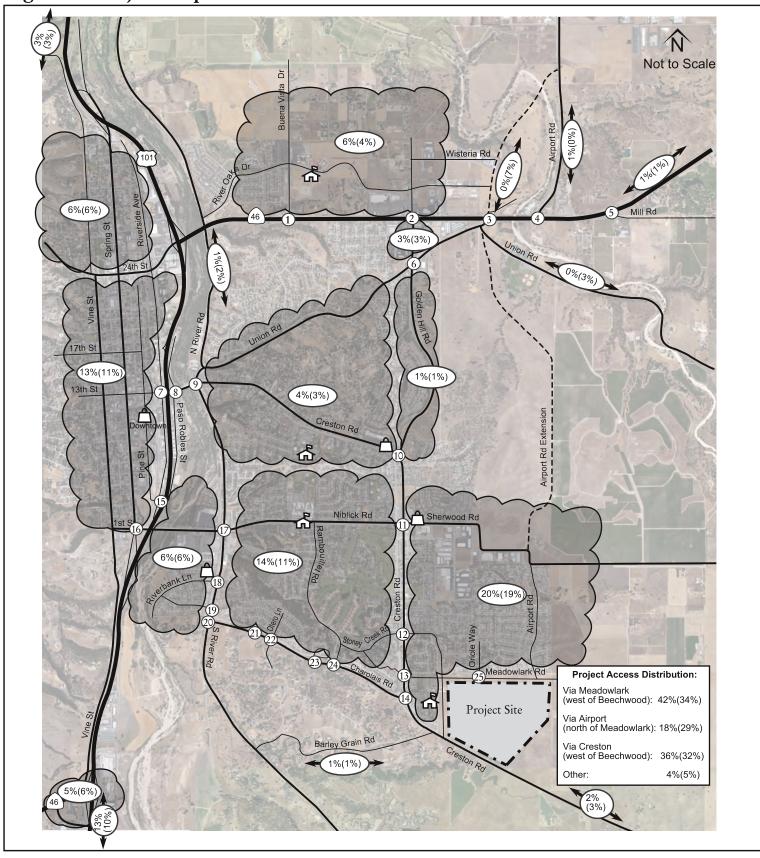
Project trip distribution was derived using a select zone procedure of the City's Travel Demand Model (TDM). **Figure 5** displays the trip distribution for the project under Existing and Cumulative conditions. The Existing conditions distribution will also be used for Near Term conditions. **Figures 6a and 6b** display the trip assignment for the project under Existing and Near Term conditions.

# **Planned Improvements**

It was assumed that either project size would convert the intersection of Meadowlark Road/Oriole Way (#25) to roundabout control in addition to constructing the fourth leg.

Additional project improvements are discussed in detail in the Site Access and On-Site Circulation section of this report.

Figure 5: Project Trip Distribution





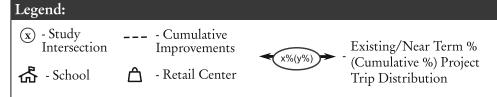
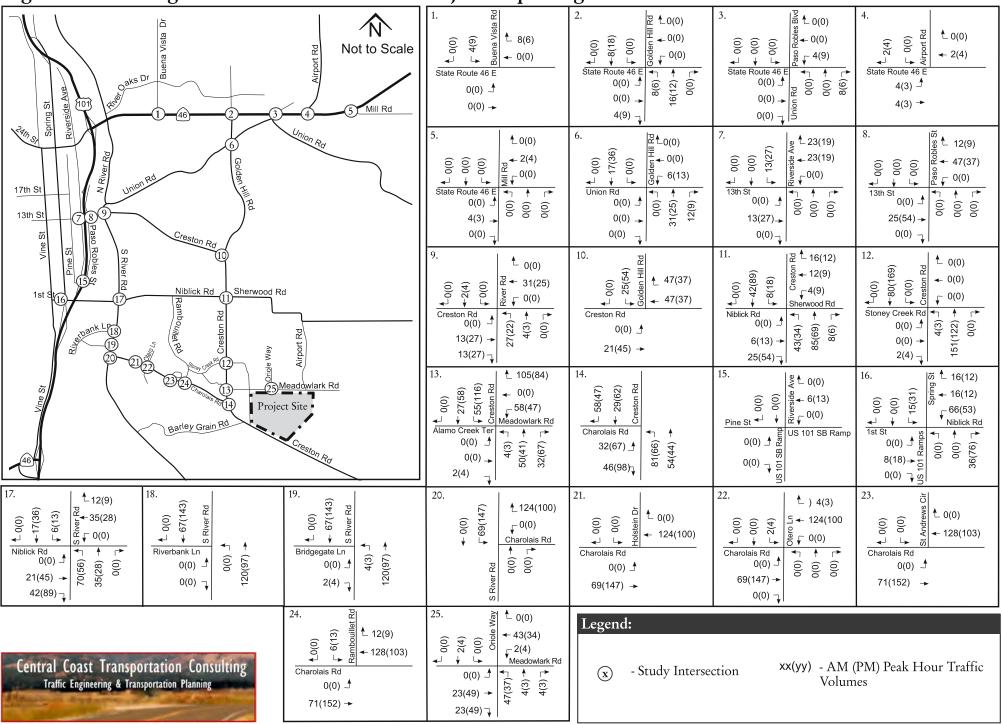
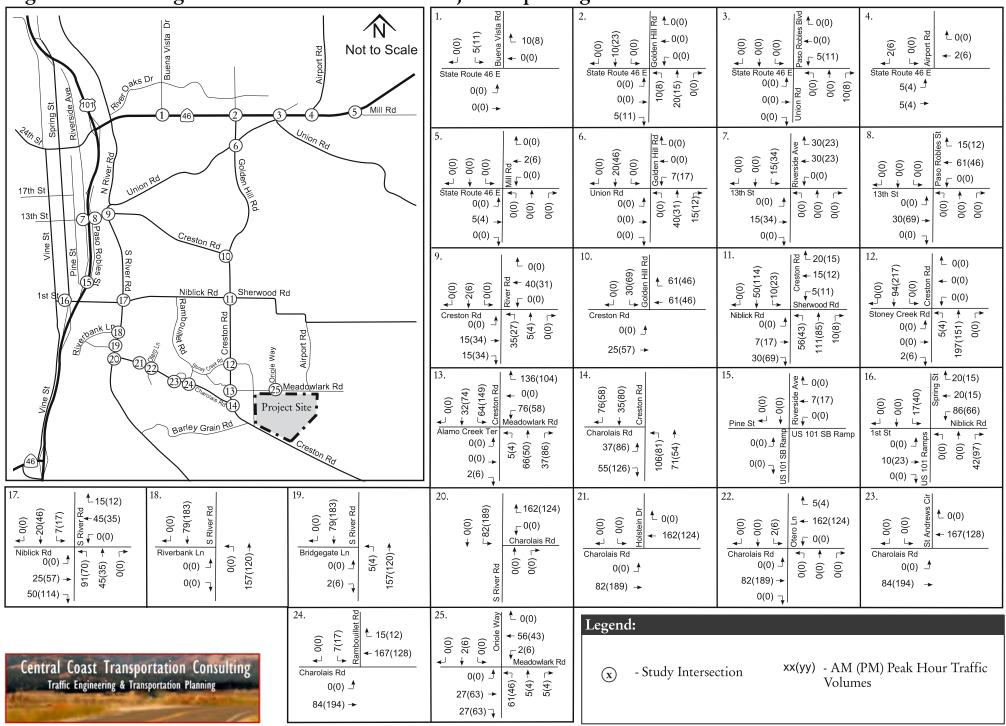


Figure 6a: Existing and Near Term 674-Unit Project Trip Assignment



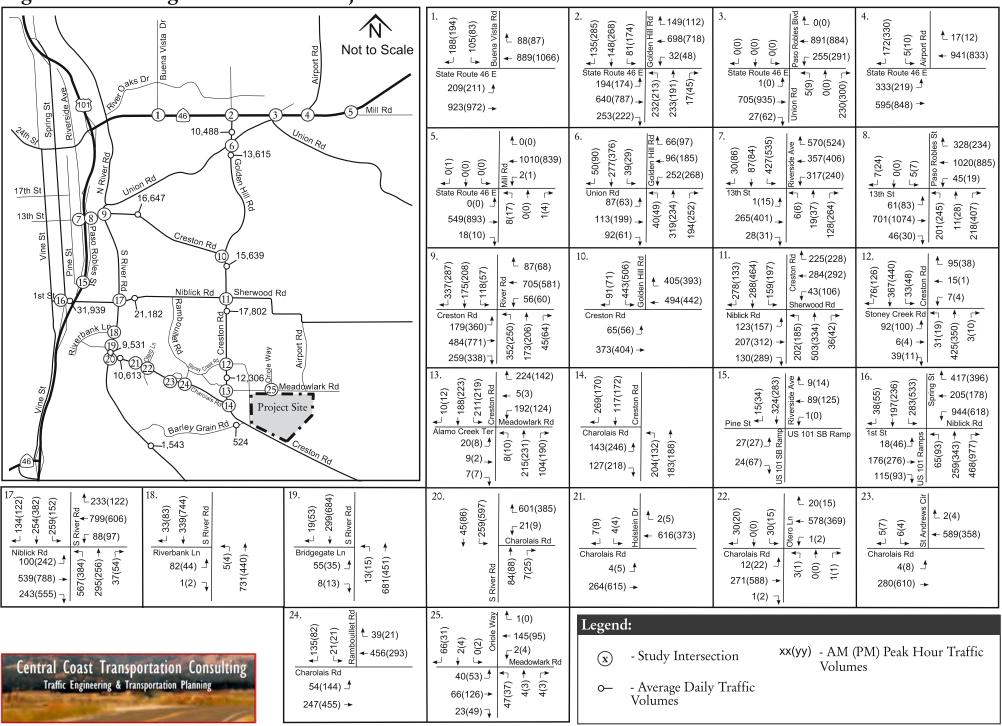
**April 2019** 

Figure 6b: Existing and Near Term 911-Unit Project Trip Assignment

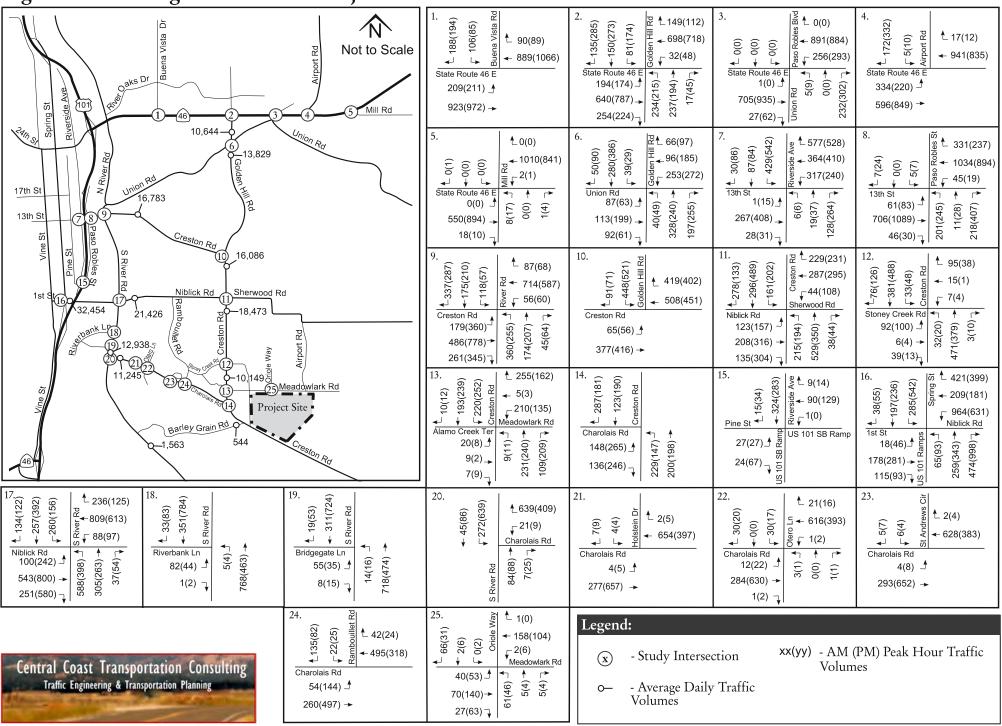


**April 2019** 

Figure 7a: Existing Plus 674-Unit Project Traffic Volumes



# Figure 7b: Existing Plus 911-Unit Project Traffic Volumes



## **EXISTING PLUS PROJECT IMPACT ANALYSIS**

## 1. Intersection Operations

**Figures 7a and 7b** show the traffic volumes for the study intersections during the weekday peak hours and ADT on the study segments under Existing Plus Project conditions.

**Table 11** summarizes the intersection operating conditions under Existing and Existing Plus Project conditions with detailed calculation sheets in **Appendix B** and warrant analysis sheets in **Appendix D**.

Table 11: Existing and	Table 11: Existing and Existing Plus Project Intersection Auto Levels of Service						
	Peak	Exist		Existing		Existing	+ 911
Intersection	Hour	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS
	AM	16.7	В	16.9	В	16.9	В
1. State Route 46 E/Buena Vista Drive	PM	12.0	В	12.2	В	12.3	В
2. State Route 46 E/Golden Hill Road	AM	24.5	С	24.8	С	24.8	С
2. State Route 40 E/Golden Hill Road	PM	26.2	С	26.4	С	26.5	С
3. State Route 46 E/Union Road	AM	4.2 (23.5)	- (C)	4.4 (24.2)	- (C)	4.4 (24.2)	- (C)
5. State Route 40 E/ Chion Road	PM	5.6 (31.3)	- (D)	5.8 (32.2)	- (D)	5.9 (32.4)	- (D)
4. State Route 46 E/Airport Road	AM	5.6 (20.4)	- (C)	5.8 (20.6)	- (C)	5.8 (20.6)	- (C)
4. State Route 40 E/ Import Road	PM	4.6 (22.7)	- (C)	4.7 (23.2)	- (C)	4.8 (23.5)	- (C)
5. State Route 46 E/Mill Road	AM	0.1 (16.3)	- (C)	0.1 (16.4)	- (C)	0.1 (16.4)	- (C)
5. State Route 40 E/ Mill Road	PM	0.2 (19.3)	- (C)	0.2 (19.3)	- (C)	0.2 (19.3)	- (C)
6. Golden Hill Road/Union Road	AM	51.3	F	64.2	F	68.3	F
o. Gorden Fini Road, Chion Road	PM	50.5	F	64.9	F	69.3	F
7. 13th Street/Riverside Avenue	AM	30.0	С	32.0	С	32.7	С
7. 15th Street/Taverside Tivelide	PM	37.6	D	40.2	D	40.9	D
8. 13th Street/Paso Robles Street	AM	15.5	В	15.8	В	15.9	В
o. 15th offeet/ 1 aso 100ses offeet	PM	18.0	В	18.5	В	18.7	В
9. River Road/Creston Road	AM	23.1	С	24.1	С	24.3	С
27 Taves stoney Greetens stone	PM	19.3	В	19.8	В	20.0	В
10. Creston Road/Golden Hill Road	AM	19.6	В	21.0	С	21.4	С
10. Greston Road, Golden Tim Road	PM	17.1	В	18.1	В	18.3	В
11. Creston Road/Niblick Road	AM	29.5	С	34.6	С	36.5	D
11. Greston Road, Priblick Road	PM	23.7	С	26.6	С	27.8	С
12. Creston Road/Stoney Creek Road	AM	8.1 (40.8)	- (E)	19.2 (145.5)	- (F)	24.8 (>200)	- (F)
12. Gregori Houa, Groney Green Houa	PM	3.7 (19.9)	- (C)	4.6 (37.2)	- (E)	5.3 (46.5)	- (E)
13. Creston Road/Meadowlark Road	AM	12.7	В	26.9	D	39.3	E
137 Greatori Houd, Frendo Willia Houd	PM	9.8	A	14.9	В	18.0	С
14. Creston Road/Charolais Road	AM	4.7 (12.8)	- (B)	7.3 (21.2)	- (C)	8.9 (27.5)	- (D)
- 1 - 3-2-3-3-3 - 1-3-1-3	PM	5.4 (11.6)	- (B)	8.4 (18.0)	- (C)	10.4 (22.5)	- (C)
15. Riverside Ave/Pine St/US 101 SB Ramp	AM	3.7 (12.3)	- (B)	3.8 (12.4)	- (B)	3.8 (12.4)	- (B)
т. т	PM	5.2 (12.9)	- (B)	5.5 (13.2)	- (B)	5.6 (13.4)	- (B)
16. 1st Street-Niblick Road/Spring Street	AM	29.3	С	31.8	С	32.4	С
	PM	34.6	С	36.2	D	36.8	D
17. Niblick Road/South River Road	AM	33.8	С	38.9	D	40.5	D
	PM	24.6	С	33.1	С	36.6	D
18. South River Road/Riverbank Lane	AM	2.6 (31.2)	- (D)	3.7 (51.5)	- (F)	4.2 (61.3)	- (F)
,	PM	1.0 (21.9)	- (C)	1.1 (31.3)	- (D)	1.2 (34.5)	- (D)
19. South River Road/Bridgegate Lane	AM	1.0 (14.2)	- (B)	1.1 (16.2)	- (C)	1.1 (16.9)	- (C)
	PM	0.7 (14.0)	- (B)	0.7 (16.3)	- (C)	0.8 (17.1)	- (C)
20. South River Road/Charolais Road	AM	17.2	С	41.8	E	56.9	F
,	PM	21.4	С	68.9	F	90.2	F
21. Charolais Road/Holstein Drive	AM	0.3 (14.0)	- (B)	0.2 (16.7)	- (C)	0.2 (17.7)	- (C)
,	PM	0.3 (12.1)	- (B)	0.2 (14.3)	- (B)	0.2 (15.0)	- (C)
22. Charolais Road/Otero Lane	AM	1.5 (16.8)	- (C)	1.7 (22.9)	- (C)	1.7 (25.2)	- (D)
	PM	0.8 (14.5)	- (B)	0.8 (18.5)	- (C)	0.9 (20.0)	- (C)
23. Charolais Road/St Andrews Circle	AM	0.3 (14.6)	- (B)	0.3 (18.1)	- (C)	0.3 (19.2)	- (C)
·	PM	0.2 (12.0)	- (B)	0.2 (14.4)	- (B)	0.2 (15.1)	- (C)
24. Charolais Road/Rambouillet Road	AM	3.4 (13.6)	- (B)	3.5 (18.1)	- (C)	3.6 (19.9)	- (C)
	PM	2.9 (10.9)	- (B)	2.8 (15.5)	- (C)	2.8 (17.6)	- (C)
25. Meadowlark Road/Oriole Way	AM	3.7 (9.3)	- (A)	3.9	A	4.0	A
,	PM	3.0 (8.8)	- (A)	3.8	Α	4.0	Α

<sup>1.</sup> HCM 6th average control delay in seconds per vehicle (HCM 2000 used for Intersections 1, 10 and 15). For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

Note: Unacceptable operations shown in **bold** text.

The following Caltrans intersection operates below the LOS C threshold:

• SR 46 E/Union Road (#3): the addition of traffic from either project would increase unacceptable delay on the side street approach during the PM peak hour. Restricting the northbound lefts at the intersection would improve operations to LOS C under either project scenario and reduce the conflict points at the intersection. Currently 5 and 9 vehicles make this turn in the AM and PM peak hour, respectively. Restricting westbound left turns is not required or recommended and could impact operations at SR 46 E/Golden Hill Road. A Project Study Report (PSR) has been prepared for this area which will ultimately construct an overcrossing and restrict left turns on SR 46 E. This improvement is consistent with the City's Circulation Element; however, the improvements are in the Caltrans right-of-way and subject to Caltrans review and approval.

Recommendation: Restrict northbound left turns.

The following stop-controlled City intersections operate below LOS D:

 Golden Hill Road/Union Road (#6): the intersection currently operates at LOS F during the AM and PM peak hours and meets signal warrants. A single-lane roundabout would also improve operations to LOS D or better and is consistent with the City's Circulation Element. This project is scheduled to be designed in 2019.

Recommendation: Install a single lane roundabout.

• Creston Road/Stoney Creek Road (#12): the addition of traffic from either project would increase delay at the intersection and would cause the intersection to meet signal warrants. The City's Circulation Element includes a traffic signal at this location. The bulb-out on the northwest corner is not recommended. The existing dedicated left, through, and right southbound turn lanes are desired for signal operations. The eastbound approach should be restriped with a dedicated left-through and right turn lane consistent with the Circulation Element. The northbound left turn lane storage should be maximized.

Recommendation: Install traffic signal prior to occupancy of 674 units.

Creston Road/Meadowlark Road (#13): the addition of traffic from the 911-Unit Project
would cause the intersection to operate below LOS D during the AM peak hour and meet
signal warrants. A traffic signal and restriping at this location are consistent with the City's
Circulation Element. Storage for the southbound left turn lane should be extended.

Recommendation: Install traffic signal prior to occupancy of 911 units.

• South River Road/Riverbank Lane (#18): the addition of traffic from either project would cause the intersection to operate below LOS D during the AM peak hour. However, the intersection would not meet signal warrants and therefore would operate acceptably.

Recommendation: None. Signal warrant not met.

 South River Road/Charolais Road (#20): the addition of traffic from either project would cause the intersection to operate below LOS D during the AM and PM peak hours. The intersection would meet signal warrants. A roundabout is consistent with the City's Circulation Element.

Recommendation: Install single lane roundabout.

## 2. Queues

Table 12 summarizes the vehicular queuing under Existing and Existing Plus Project conditions.

Table 12: Ex	isting and Ex	cisting Pl	us Projec	t Queues		
		Storage	ъ.	95th Pe	ercentile Que	eues (ft) <sup>1</sup>
Intersection	Movement	Length (ft)	Peak Hour	Existing	Existing +	Existing +
			436	Ū	674	911
1. State Route 46 E/Buena Vista Drive	$EBL^2$	345	AM PM	248 197	252 201	253 201
			AM	142	148	150
	NBL	160	PM	125	131	134
			AM	63	64	64
	SBL	140	PM	108	112	112
2. State Route 46 E/Golden Hill Road	2	225	AM	127	128	129
	EBL <sup>2</sup>	225	PM	108	112	112
	WBL <sup>2</sup>	125	AM	29	29	29
	WDL	123	PM	39	40	40
3. State Route 46 E/Union Road	$WBL^2$	195	AM	55	58	58
	WBE		PM	60	63	63
4. State Route 46 E/Airport Road	$EBL^2$	580	AM	135	140	140
-			PM	35	38	38
5. State Route 46 E/Mill Road	$WBL^2$	305	AM PM	0	0	0 0
			AM	103	118	123
	NBR	190	PM	153	180	188
6. Golden Hill Road/Union Road			AM	235	258	260
	WBL	250	PM	203	248	263
	WIDI	405	AM	332	333	333
7 12:1 Same / Di amila A ann	WBL	125	PM	266	266	266
7. 13th Street/Riverside Avenue	WBT	295	AM	268	290	296
	WDI	293	PM	342	362	366
	NBL	130	AM	200	200	200
	TUDE	150	PM	221	221	221
	NBR	110	AM	42	45	46
8. 13th Street/Paso Robles Street			PM	268	273	273
	EBL	120	AM	85	85	85
			PM	107 227	107 236	107 238
	EBT	295	AM PM	381	408	416
			AM	182	197	202
9. River Road/Creston Road	NBL	140	PM	134	145	148
	EDY		AM	103	103	103
10. Creston Road/Golden Hill Road	EBL	125	PM	86	88	88
	NBL	230	AM	156	#212	#234
	NDL	230	PM	146	#193	#206
	SBL	245	AM	150	158	159
11. Creston Road/Niblick Road	0012	213	PM	166	182	#187
	EBL	150	AM	128	128	128
			PM	152	152	152
	WBL	170	AM	56	59	61
			PM AM	105 122	113 122	116 122
	NBL	165	PM	148	149	149
			AM	48	58	60
16. 1st Street-Niblick Road/Spring Street	NBR	290	PM	213	258	269
	OD.	205	AM	187	197	198
	SBL	305	PM	291	309	315
	NIDI	150	AM	264	#334	#356
	NBL	150	PM	177	207	215
	SBL	110	AM	#315	#328	#329
17. Niblick Road/South River Road	SDL	110	PM	172	185	191
17. 1 Money Road, boddi Mivel Road	EBL	140	AM	73	73	73
		- 10	PM	139	139	139
	WBL	80	AM	126	126	126
			PM	132	132	132

Queue length that would not be exceeded 95 percent of the time.
 Deceleration length of 530 feet has been subtracted from the storage length per the HDM for 60 mph design speed. # indicates that 95th percentile volume exceeds capacity, queue may be longer.

Bold indicates queue length longer than storage length.

The following queue deficiencies at City intersections are noted:

 Golden Hill Road/Union Road (#6): the westbound left turn queue length exceeds storage during at least one peak hour with the addition of traffic from either project. A single-lane roundabout is being designed for this intersection consistent with the City's Circulation Element.

Recommendation: Install a single lane roundabout.

• 13th Street/Riverside Avenue (#7): the westbound left turn and through queue lengths would further exceed storage length during both peak hours with the addition of traffic from either project. The addition of project traffic lengthens queues by one vehicle or less, an insignificant amount. Bridge widening at this location in not included in the City's Circulation Element and any widening in this location is unlikely; signal timing should be reviewed, coordinated, and optimized. With coordination and overlaps, the queues would improve to no project conditions. The City's Circulation Element accepts that this location will reach capacity.

Recommendation: Review, coordinate, and optimize corridor operations. Add westbound right and northbound right turn overlap phases.

• 13th Street/Paso Robles Street (#8): the northbound left and right turn and eastbound through queue lengths would further exceed storage length during at least one peak hour with the addition of traffic from either project. The addition of project traffic lengthens queues by two vehicles or fewer. Bridge widening at this location is not included in the City's Circulation Element and any widening in this location is unlikely; signal timing should be reviewed, coordinated, and optimized. If parking is removed on the east side of Paso Robles Street north of 12th Street the northbound right turn lane can be extended. With coordination, queues would improve to no project levels. The City's Circulation Element accepts that this location will reach capacity.

Recommendation: Review, coordinate, and optimize corridor operations.

 River Road/Creston Road (#9): the northbound left turn queue length would further exceed storage length during at least one peak hour with the addition of traffic from either project. Additional storage is available in the striped median. Coordination with the adjacent 13th Street intersections could also improve the queue lengths.

Recommendation: None. Additional storage is available in the striped median.

 Creston Road/Niblick Road (#11): the northbound left turn queue length would exceed storage length during the AM peak hour due to the addition of traffic from the 911-Unit Project.

Recommendation: None. Additional storage is available in the two-way left turn lane.

• 1st Street-Niblick Road/Spring Street (#16): the southbound left turn queue length would exceed storage length during the PM peak hour due to the addition of traffic from the 911-Unit Project.

Recommendation: None. Additional storage is available in the bay taper.

• Niblick Road/South River Road (#17): the north-, south-, and westbound left turn queue lengths would further exceed storage length during both peak hours with the addition of traffic

from either project. No mitigation has been identified to return queues to no project levels. The City's Circulation Element includes widening at this intersection and corridor improvements. Intersection would benefit from additional westbound left turn lane storage; additional right turn lanes and right turn overlap phasing.

Recommendation: Review, coordinate, and optimize corridor operations including Niblick Road complete streets corridor plan improvements.

## Summary of Intersection Mitigations

**Table 13** summarizes the required mitigation measures under Existing conditions. In addition to the 674-Unit project and 911-Unit project analysis, intersections requiring mitigation measures under either project condition were evaluated under the 554-Unit (Phase 1) conditions as shown in **Table 13**.

	Ί	Table 13: Existing Condition	ns Mitiga	ations				
			No	To	otal Uni	its	Cir. Elem.	Responsible
Intersection	Impact	Mitigation	Project	554	674	911	and TIF1	Agency
3. SR 46 E/Union Rd <sup>2</sup>	LOS	Prohibit NB lefts	X	X	X	X	Yes	Caltrans
6. Golden Hill Rd/Union Rd	LOS, Queue	Install single lane roundabout	X	X	X	X	Yes	City
7. 13th St/Riverside Ave	Queue	Optimize corridor operations, WBR and NBR overlap	X	X	X	X	No	City
8. 13th St/Paso Robles St	Queue	Optimize corridor operations	X	X	X	X	No	City
12. Creston Rd/Stoney Creek Rd	LOS	Install traffic signal	-	-	X	X	Yes	City
13. Creston Rd/Meadowlark Rd	LOS	Install traffic signal	-	-	-	X	Yes	City
17. Niblick Rd/South River Rd	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
20. South River Rd/Charolais Rd	LOS	Install single lane roundabout	-	X	X	X	Yes	City

X - Mitigation required.

<sup>1.</sup> Intersection improvements are included in the Paso Robles Circulation Element and Traffic Impact Fee (TIF).

<sup>2.</sup> The Paso Robles Circulation Element includes improvements on State Route 46 East and in the vicinity between Buena Vista Drive and Dry Creek Road. Recommend project make a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents. Ultimate improvements will be determined in the project documents.

## 3. Roadway Segment Operations

**Table 14** shows the Existing and Existing Plus Project capacity utilization and LOS for the roadway study segments.

		Table 14: Existing	and Existin	ng Plus Pr	oject Ro	adway	Segment C	) peration	ns				
						Exist	ing	Ex	isting	+ 674	E	kisting	+ 911
			Facility				Capacity			Capacity			Capacity
Street	ID	Segment	Type	Lanes	ADT	LOS	Utilization	ADT	LOS	Utilization	ADT	LOS	Utilization
	1	East of Ferro Lane	Arterial	2*	16,049	D	74%	16,647	D	77%	16,783	D	77%
Creston Road	2	East of Golden Hill Road	Arterial	4	13,675	A	37%	15,639	Α	42%	16,086	Α	43%
Creston Road	3	South of Niblick Road	Arterial	4	14,856	A	40%	17,802	Α	48%	18,473	Α	49%
	4	North of Meadowlark	Arterial	4	6,008	Α	16%	9,381	Α	25%	10,149	Α	27%
Golden Hill Road	5	South of Union Road	Arterial	3	12,676	С	58%	13,615	D	63%	13,829	D	64%
Golden Hill Koad	6	North of Union Road	Arterial	3	9,805	C	45%	10,488	C	48%	10,644	C	49%
Niblick Road	7	East of Spring Street	Arterial	4	29,676	D	79%	31,939	D	85%	32,454	D	87%
Nibiick Road	8	East of Quarterhorse	Arterial	4	20,115	A	54%	21,182	Α	57%	21,426	Α	57%
Charolais Road	9	East of South River Road	Arterial	2*	7,838	C	36%	10,613	С	49%	11,245	C	52%
South River Road	10	South of Spanish Camp Road South	Local	2	1,458	Α	15%	1,543	Α	16%	1,563	Α	16%
South River Road	11	North of Charolais Road	Arterial	2*	9,531	C	44%	12,306	С	57%	12,938	C	60%
Barley Grain Road	12	South of Creston Road	Local	2	439	Α	5%	524	Α	5%	544	Α	6%
,	. /	tes the prescence of a raised median or two-weral Plan Circulation Element, 2011; CCTC, 2		ne on a two-l	ane arterial								

With the addition of traffic from either project, all City segments would have a capacity utilization below 90% and both County segments would operate at LOS A.

### 4. Freeway Segment Operations

**Table 15** shows the Existing and Existing Plus Project peak hour volumes at the freeway mainline and ramp locations and **Table 16** shows the LOS, with calculation sheets in **Appendix C**.

	Tab	ole 15: US 101 Existing and Existi	ng Plu	is Project Peak	Hour Volumes	
	Segmen	t				
Direction	ID	Location		Existing	Existing + 674	Existing + 911
	1	SR 46W Off Ramp		146 (114)	146 (114)	146 (114)
	2	SR 46W On Ramp		427 (755)	435 (773)	437 (778)
	3	Mainline North of SR 46W		2221 (3281)	2257 (3357)	2263 (3378)
	4	Spring St. Off Ramp		756 (1337)	792 (1413)	798 (1434)
US 101 NB	5	Paso Robles St. Off Ramp		323 (561)	323 (561)	323 (561)
US 101 NB	6	Paso Robles St. On Ramp		394 (326)	406 (335)	409 (338)
	7	Mainline South of SR 46E		1536 (1709)	1548 (1718)	1551 (1721)
	8	SR 46E Off Ramp		890 (947)	890 (947)	890 (947)
	9	SR 46E On Ramp		260 (249)	260 (249)	260 (249)
	10	Mainline North of SR 46E		906 (1011)	918 (1020)	921 (1023)
	11	Mainline North of SR 46E		850 (1361)	856 (1374)	857 (1378)
	12	SR 46E Off Ramp		248 (327)	248 (327)	248 (327)
	13	SR 46E to Riverside/17 <sup>th</sup> St. Weave	On	892 (992)	892 (992)	892 (992)
	14	SR 46E to Riverside/1/ St. Weave	Off	218 (303)	218 (303)	218 (303)
	15	Mainline South of SR 46E		1276 (1723)	1282 (1736)	1283 (1740)
US 101 SB	16	Riverside/17 <sup>th</sup> St. On Ramp		298 (205)	298 (205)	298 (205)
	17	Riverside/Pine St. Off Ramp		93 (126)	99 (139)	100 (143)
	18	Spring St. On Ramp		1190 (894)	1256 (947)	1276 (960)
	19	Mainline North of SR 46W		3020 (3046)	3086 (3099)	3106 (3112)
	20	SR 46W Off Ramp		510 (523)	526 (535)	530 (538)
	21	SR 46W On Ramp		92 (146)	92 (146)	92 (146)
AM (PM) Peak H	our Volur	mes				

	Table 16: Exi	sting and E	Existing	Plus Projec	t Freewa	y Operation	18		
		Segment	Peak	Exis	ting	Existing	g + 674	Existin	g + 911
Direction	Location	Type	Hour	Density <sup>1</sup>	LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>	LOS
	SR 46W Off Ramp	Diverge	AM	22.2	С	22.4	С	22.5	C
	SK 40 W OH Kamp	Diverge	PM	26.2	С	26.8	С	26.9	С
	SR 46W On Ramp	Merge	AM	23.8	С	24.2	С	24.2	С
	on town	merge	PM	30.4	D	31.0	D	31.2	D
	North of SR 46W	Mainline	AM	19.9	C	20.2	C	20.3	С
			PM	28.0	D	28.9	D	29.3	D
	Spring St. Off Ramp	Diverge	AM	27.1	С	27.5	С	27.6	С
			PM	33.6	D	34.3	D	34.5	D
	Paso Robles St. Off Ramp	Diverge	AM	16.9	B B	16.9	B B	16.9	B B
US 101 NB			PM	19.6 17.7	В	19.6		19.6	В
	Paso Robles St. On Ramp	Merge	AM PM	17.7	В	17.9 17.1	B B	17.9 17.1	В
			AM	13.6	В	13.7	В	13.7	В
	South of SR 46E	Mainline	PM	13.4	В	13.7	В	13.5	В
			AM	18.1	В	18.2	В	18.2	В
	SR 46E Off Ramp	Diverge	PM	17.8	В	17.9	В	17.9	В
			AM	13.5	В	13.7	В	13.7	В
	SR 46E On Ramp	Merge	PM	13.1	В	13.2	В	13.2	В
	North of SR 46E	3611	AM	10.1	A	10.3	A	10.3	A
		Mainline	PM	9.7	Α	9.8	Α	9.8	Α
	NI A CERACE	36 : 1:	AM	8.1	Α	8.8	A	9.0	Α
	North of SR 46E	Mainline	PM	13.4	В	13.9	В	14.0	В
	SR 46E Off Ramp	Diverge	AM	12.2	В	12.9	В	13.2	В
	SK 40E OH Kamp	Diverge	PM	18.3	В	18.9	В	19.0	В
	SR 46E to Riverside/17 <sup>th</sup> St. <sup>2</sup>	Weave	AM	-	A	-	A	-	A
	SR 46E to Riverside/1/ St.	weave	PM	-	В	-	В	-	В
	South of SR 46E	Mainline	AM	11.1	В	11.1	В	11.1	В
	South of Sic 1012	Mannine	PM	14.8	В	14.9	В	15.0	В
	Riverside/17 <sup>th</sup> St. On Ramp	Merge	AM	17.6	В	17.7	В	17.7	В
US 101 SB	raverside/ 17 St. On reamp	8-	PM	20.9	С	21.1	С	21.1	С
	Riverside/Pine St. Off Ramp	Diverge	AM	18.3	В	18.3	В	18.3	В
	r		PM	21.7	С	21.8	C	21.8	С
	Spring St. On Ramp	Merge	AM	23.6	C	24.1	C	24.3	С
	1 5 1		PM	23.9	С	24.4	С	24.5	С
	North of SR 46W	Mainline	AM	28.5	D	29.5	D	29.8	D
			PM	28.6	D	29.3	D	29.5	D
	SR 46W Off Ramp	Diverge	AM	32.5	D	33.2	D	33.4	D
			PM	32.6	D C	33.1	<b>D</b>	33.2	<b>D</b>
	SR 46W On Ramp	Merge	AM PM	27.1	C	27.6	C	27.7 28.0	C
			PW	27.6	C	27.9	C	28.0	

<sup>1.</sup> HCM 6 density (passenger cars per mile per lane).

The addition of traffic from either project would increase the density at the five freeway segments currently operating at unacceptable LOS. No additional freeway segments would operate unacceptably. The addition of project traffic increases density by less than two passenger cars per mile per lane at the unacceptable locations.

Recommendation: Development of mitigation measures and recommendations will require Caltrans coordination. The freeway facility operations and recommendations are discussed in detail under Cumulative conditions.

### 5. San Luis Obispo County Facilities

Under Existing Plus Project conditions, three percent of project traffic is estimated to travel south of the City of Paso Robles via Creston Road or River Road. One percent of project traffic is estimated to enter the Templeton Road Improvement Fee Area and Urban Reserve Line (URL) via El Pomar Drive. Two percent of project traffic is estimated to travel to State Route 41 via Creston Road. These trips may travel through the fee area via South El Pomar Road.

The Leisch method used for weave section analysis does not report density.

Note: Unacceptable operations shown in **bold** text.

The Templeton Travel Demand Model and Circulation Study Update (2017) evaluated existing operations and forecast future traffic volumes on El Pomar Drive, Neal Springs Road, and Templeton Road. These roadways operated at LOS A under Existing conditions and would operate acceptably with the proposed project. The intersection of El Pomar Drive/Templeton Road is also forecast to operate acceptably at LOS B under Existing conditions with the proposed project.

The 674-Unit and 911-Unit project would generate 8 and 10 PM peak hour trips into the Templeton Road Improvement Fee Area, respectively.

### SITE ACCESS AND ON-SITE CIRCULATION

This section discusses issues related to site access and on-site circulation. On-site circulation deficiencies would occur if project designs fail to meet appropriate standards, fail to provide adequate truck access, or would result in hazardous conditions. **Table 17** summarizes the circulation recommendations, with details provided in the subsequent discussion.

	Table 17: Summary of Circulation Recommendations	
Topic	Recommendations	Responsibility
	Meadowlark Road: Consider installing additional parallel parking on south side east of Beechwood Drive for school and park. Currently allowed adjacent to the roadway.	Project
	Beechwood Drive: Remove proposed parking on east side south of Ridge Road.	Project
Project Site	Ridge Road: Recommend 12' travel lane widths (15' proposed).	Project
Circulation Plan (Figure 2a)	Airport Road/Meadowlark Road: Existing two-way stop control should remain unless roundabout is installed or all-way stop control warrants are met.	Project
	Airport Road Extension: Construct at the time of adjacent development.  Airport Road north of Ridge Road should be constructed during Phase 1 (Subareas A through H). The Airport Road extension to Creston Road should be constructed prior to development of Phase 2 (Subareas I and J).	Project
	Update existing school speed limit and crossing signage per CAMUTCD.	City
	Use ladder crosswalk striping at uncontrolled crosswalks.	City
Virginia Peterson School Circulation	Meadowlark Road: Remove north side parking adjacent to school and south side parking west of school to install bike lanes. Keep current drop-off and pick-up area.	City
School Circulation	Beechwood Drive: Install southbound Class II bike lane from Meadowlark Road to Creston Road.	Project/City
	Beechwood Drive: Install 25 MPH school signage and other school signage consistent with CAMUTCD.	Project/City
Traffic Calming	Meadowlark Road: If lower posted speed is desired, design roadway improvements to reduce prevailing speed. Consider roundabout(s) and/or mini-roundabout(s) on corridor.	Project
Creston Road	Niblick Road/Sherwood Road to Charolais Road: Restripe to include Class II bike lanes (remove parking where necessary) and include buffer where width allows.	City
Bicycle and	Complete sidewalk gap on east side between Stoney Creek Road and Meadowlark Road.	Project/City
Pedestrian Assessment	Complete sidewalk gaps on west side between Santa Ynez Avenue and Flag Way.	City
	Remove unsignalized crossing at Myrtlewood Drive when traffic signal is installed at Stoney Creek Road.	City

Roadways within the development shall be designed consistent with the City's Circulation Element Policies and Standards and Specifications. Any improvements outside the City shall be consistent with San Luis Obispo County Public Improvement Standards. The project site circulation plan is shown in **Figure 2a**.

### Project Driveways/Access Points

Access points for the proposed project are located on Creston Road, Beechwood Drive, Meadowlark Road, and the future extension of Airport Road. The following summarizes the access points on these roadways:

- *Creston Road*: Two new stop-controlled access points on Creston Road are proposed, one with the Airport Road extension and another local road connection.
- Beechwood Drive: Stop-controlled access points are proposed on Beechwood Drive at the existing school driveway, at Silverwood Way, and at Beechwood Court/Ridge Road.
- Meadowlark Road: Three new connections at existing intersections are proposed on Meadowlark Road. A mini-roundabout is proposed at Oriole Way and stop control is proposed at Deer Springs Drive and Airport Road.
- Airport Road Extension: The project will extend Airport Road from Meadowlark Road to Creston Road. Four new stop-controlled access points are proposed on the Airport Road Extension, one with Ridge Road and three local road connections.

All project access points are forecast to operate acceptably under Cumulative Plus Project conditions with the proposed intersection control, as is the intersection of Meadowlark Road/Beechwood Drive.

At the intersection of Meadowlark Road/Airport Road, a roundabout could be considered for traffic calming. The existing two-way stop control is forecast to operate acceptably under Cumulative Plus Project conditions. If a roundabout is not pursued, two-way stop control should remain at the intersection until the California Manual on Uniform Traffic Control Devices (CAMUTCD) all-way stop control warrants are met, if ever. The warrants require eight hours of traffic volume data. Roundabouts and mini-roundabouts on Meadowlark Road are discussed in more detailed in the subsequent traffic calming section.

The extension of Airport Road should be constructed at the time of adjacent development. Airport Road north of Ridge Road should be constructed during Phase 1 (Subareas A through H). The Airport Road extension to Creston Road should be constructed prior to development of Phase 2 (Subareas I and J). This is consistent with the proposed phasing in the Specific Plan.

### On-Site Circulation

In addition to the Airport Road collector extension, the proposed project will construct a network of local residential streets. Class II bike lanes are included on all collectors and arterials on the project boundary as is more than one north-south and east-west Class I bikeway connection. The development contains minimal cul-de-sacs to facilitate pedestrian and bicycle travel.

Crosswalks should only be installed at new intersections where supported by the City. Currently most intersections on Airport Road, Beechwood Drive, and Meadowlark Road do not have crosswalks on the side street stop-controlled approaches.

While Ridge Road has proposed travel lane widths of 15', 12' lanes are recommended to control vehicle speeds. All other proposed roads have 11' and 12' travel lane widths. In addition, the proposed parallel parking on the east side of Beechwood Drive south of Ridge Road is not recommended. There is likely little demand and the wider cross section could increase speeds.

The project is consistent with the City's Circulation Element by establishing safe pedestrian and bicycle paths and improving the circulation network.

### SCHOOL CIRCULATION

Virginia Peterson Elementary School is located at the southwest corner of the intersection of Beechwood Drive/Meadowlark Road and the proposed project is located at the southeast corner of the intersection. The following section summarizes the recommendations for school access and circulation.

#### Pedestrian Access

Sidewalks are located adjacent to the school site and additional sidewalks will be constructed on the new sections of roadway to facilitate pedestrian travel. Currently, school crosswalks are located at the following locations:

- Creston Road: Stop-controlled crosswalk on north leg of Meadowlark Road intersection.
- Beechwood Drive/Meadowlark Road: Stop-controlled crosswalks on the north and west legs of the intersection with crossing guards during school drop-off and pick-up.
- Meadowlark Road: Uncontrolled crosswalk on the west side of Falcon Drive intersection with crossing guard during school drop-off and pick-up.

A crosswalk with a rectangular rapid flashing beacon (RRFB) at the school driveway on Beechwood Drive is proposed. A bulb-out on the southwest corner and additional crosswalks on the south and east side of the Beechwood Drive/Meadowlark Road intersection are also proposed.

CCTC recommends updating the existing school crossing signage per the CAMUTCD. Ladder crosswalk striping is also recommended at uncontrolled crosswalks. If ladder crosswalks are pursued at stop-controlled crosswalks, striping should be consistent within the intersection and at adjacent intersections.

### Bike Access

There are currently no marked bikeways adjacent to the school. Class II bike lanes are proposed on Meadowlark Road. West of Beechwood Drive, Meadowlark Road is not wide enough to support bike lanes and parking on both sides. Adjacent to the school site, removal of parking on the north side of the road is recommended to facilitate the existing drop-off and pick-up area. Due to an existing bulbout on the north side of the road, removal of parking on the south side of the road is recommended west of the school. Four driveways would be impacted by the proposed parking removals.

A Class I bikeway is currently proposed on the east side of Beechwood Drive adjacent to the proposed project. In addition, Class II bike lanes are proposed between Meadowlark Road and Creston Road per the City's Bicycle and Pedestrian Master Plan. Currently parking is included on both sides of Beechwood Drive within the project improvements. Although the Class I will facilitate bike traffic, a southbound Class II bike lane is also recommended. For students living west of Beechwood Drive crossing the roadway twice is undesirable. Parallel and angled parking are proposed on the east side of the road. A northbound Class II bike lane adjacent to angled parking is not recommended.

### Student Drop-off and Pick-up

The current student drop-off and pick-up area at Virginia Peterson Elementary School is located on the south side of Meadowlark Road between Falcon Drive and Beechwood Drive. Students have direct access from the school and can wait at this location for parents. No modification to this drop-off area is recommended.

The project will construct angled parking on the east side of Beechwood Drive adjacent to the school. Students can access the school from one of the two new crosswalks to be provided on Beechwood Drive.

The two drop-off and pick-up areas will facilitate circulation clockwise and counterclockwise surrounding the school. Additional parallel parking on the south side of Meadowlark Road east of Beechwood Drive should be considered for school access.

### NEIGHBORHOOD CIRCULATION

Charolais Road, Meadowlark Road, Beechwood Drive, and Creston Road were evaluated for traffic calming. In addition, bicycle and pedestrian circulation on Creston Road was analyzed.

### Traffic Calming

Charolais Road has a separated Class I bikeway as well as adjacent sidewalk in some portions and a Class III bikeway is proposed. The existing posted speed limit is 45 MPH. The speed limit was previously 40 MPH and was raised due to higher prevailing speed. The road has rolling terrain with horizontal and vertical curves. Based on the California Vehicle Code and prevailing speeds, a lower speed is not warranted or recommended. Pedestrian and bicycle traffic are separated from vehicular traffic and no traffic calming is recommended. The collision rate is well below the state average and no collision patterns are observed. No improvements are recommended.

Meadowlark Road if fully developed west of Beechwood Drive and on the north side of the road from Creston Road to east of Airport Road. The existing posted speed limit is 25 MPH west of Beechwood Drive and 45 MPH east of Beechwood Drive. The road is straight with rolling terrain. Prior to 2014, the speed limit on Meadowlark Road was 35 MPH. Based on the prevailing speed of traffic the City raised the speed limit to 40 MPH in 2014 and to 45 MPH in 2018 to maintain enforcement. If a posted speed lower than 45 MPH is desired, roadway improvements will need to be designed to reduce the prevailing speed of drivers. With minimal or no driveways fronting this portion of roadway, limiting speeds may be difficult.

The existing all-way stop controlled intersection at Beechwood Drive and the proposed mini-roundabout at Oriole Way may help to control speeds. Mini-roundabouts are small roundabouts with a fully traversable central island. The Federal Highway Administration (FHWA) does not recommend mini-roundabouts where approach speeds are greater than 30 MPH or in locations with high U-turning volumes. Controlling the entry speeds into the proposed mini-roundabout should be considered in the design. At the intersection of Meadowlark Road/Airport Road, a roundabout could be considered for traffic calming.

The proposed project will construct roadway improvements and the southern curb, gutter, and sidewalk east of Beechwood Drive. A Class I bikeway is proposed on the south side of the road and Class II bikeways are also proposed.

Beechwood Drive is fully developed north of Meadowlark Road and on the west side of the road south of Meadowlark Road. There is currently no posted speed limit and with limited driveways the street does not qualify as a 25 MPH residential district per the California Vehicle Code. The road is flat and straight which can increase speeds. Bulb-outs are proposed at all new two-way stop-controlled intersection connections with the school driveway, Beechwood Court/Ridge Road, and Silverwood Way. A Class I bikeway on the east side of the roadway and a crosswalk with an RRFB at the school driveway are also proposed. In addition to these improvements, a Class II bike lane on the west side of the road and 25 MPH school signage and other school signage consistent with the CAMUTCD are recommended. To reduce the cross section and control speeds, the proposed parallel parking on the east side of Beechwood Drive south of Ridge Road is not recommended.

## Creston Road Bicycle and Pedestrian Assessment

CCTC analyzed pedestrian and bicycle access and needs on Creston Road between Niblick Road/Sherwood Road and Charolais Road.

On the west side of the roadway, there is continuous curb, gutter, and sidewalk between Flag Way and Charolais Road. Between Niblick Road/Sherwood Road and Flag Way there is approximately 1800' of rolled curb and gutter without sidewalk adjacent to residential parcels north of Santa Ynez Avenue and 600' of curb and gutter south of Santa Ynez Avenue fronting the Paso Robles Golf Club.

On the east side of the roadway there is continuous sidewalk between Niblick Road/Sherwood Road and Stoney Creek Road. There is a 600' gap in curb, gutter, and sidewalk on the east side between Stoney Creek Road and Meadowlark Road fronting three residential parcels.

Crosswalks are marked at most side street stop-controlled and all side street signal-controlled locations. Marked crosswalks on Creston Road are located at:

- Niblick Road/Sherwood Road: Signal controlled crosswalks on both north and south leg.
- Cedarwood Drive: Signal controlled crosswalks on both north and south leg.
- Myrtlewood Drive: Un-controlled crosswalk on south leg.
- Meadowlark Road: Stop-controlled crosswalk on north leg.

There is currently all-way stop control at the intersection of Creston Road/Santa Ynez Road; however, no crosswalks are provided. Future crossings are planned at:

- Meadowlark Road: Future traffic signal per the City's Circulation Element.
- *Scott Street:* Future traffic signal per the City's Circulation Element.
- Stoney Creek Road: Future traffic signal per the City's Circulation Element.
- Charolais Road: Recommended all-way stop in mitigation measures.

There are currently no marked bikeways on Creston Road between Niblick Road/Sherwood Road and Meadowlark Road. Between Meadowlark Road and Charolais Road a northbound bike lane is signed.

Parking is restricted on the corridor except on the west side adjacent to the rolled curb and on the east side near Stoney Creek Road. The existing posted speed limit is 35 MPH north of Charolais Road and 45 MPH south of Charolais Road. The road is four-lanes north of Flag Way and between Meadowlark Road and Charolais Road.

CCTC recommends restriping Creston Road to include Class II bike lanes. The existing width can accommodate Class II bike lanes with existing lane configurations and parking except near Stoney

Beechwood Specific Plan Draft Transportation Impact Analysis

Creek Road. North of Stoney Creek, parking would likely need to be removed to allow for the existing southbound left turn lane to remain. Parking near the future signalized intersection is also not recommended. Widening on the east side between Stoney Creek Road and Meadowlark Road would reduce the transition but is not required. Where width allows, buffered Class II bike lanes are recommended.

CCTC also recommends completing the sidewalk gap on the east side between Stoney Creek Road and Meadowlark Road. With no planned crossing in the area and no attractors, the sidewalk gap on the west side between Niblick Road/Sherwood Road and Santa Ynez Avenue adjacent to residential driveways is not required for overall connectivity. Completing the sidewalk gap on the west side between Santa Ynez Avenue and Flag Way is recommended. Pedestrians can use the traffic signal at Niblick Road/Sherwood Road and the all-way stop controlled intersection at Santa Ynez Avenue to cross Creston Road. A traffic signal at Scott Street is not currently installed and crossing at that location is not recommended. It is also recommended that the unsignalized crossing at Myrtlewood Drive be removed when the traffic signal is installed at Stoney Creek Road. This action will require a public hearing.

In addition, the City's Circulation Element includes construction of a frontage road on the west side of Creston Road between Niblick Road and Santa Ynez Avenue and a traffic signal at Scott Street.

# **Near Term Conditions**

Near Term conditions reflect the development of approved and pending projects in the study area.

#### METHODOLOGY

A list of approved, pending, and reasonably foreseeable projects was obtained from City staff. The following projects were assumed to be in place under Near Term conditions:

- Olsen-Chandler Specific Plan (1,065 SF units, 168 MF units, 9,800 s.f. commercial, 495-student elementary school).
- Dallons Drive Homewood Suites (105 rooms)
- Black Oak Lodge Hotel (96 rooms, 2717 Black Oak Drive)
- Golden Hill Residential Care Assisted Living Facility (125 beds converted to equivalent MF units, Golden Hill Road south of Union Road)
- Furlotti Annexation/Gateway Project), NW quadrant of SR 46 W/US 101 interchange (425 rooms in three hotels, 97 residential units, 73,700 s.f. commercial uses)
- Justin Vineyards Wine Storage Warehouse (54,000 s.f. warehouse on Wisteria Lane)
- Vintner's Vault wine processing/storage (56,000 s.f. warehouse on Germaine Way)
- Spring Street Village (42 MF units, 3328 Spring Street)
- Hotel Cheval Phase 2 (20 rooms, 1020 Pine Street)
- Hotel Alexa (38 rooms, Alexa Court)
- Oak Park Residential (75 MF units, 29th/Park Street)
- Truck Sales/Installation (4,950 s.f., 3527 Combine Street)
- River Oaks The Next Generation (271 SF units, Club House Drive)
- Cabernet Links RV Resort (290 RV spaces, golf course, 5151 Jardine Road)
- Mullahey Dodge expansion (3,000 s.f., Tractor/Golden Hill Road)
- Bejar Industrial (4,981 s.f., Combine Street)
- Gym/Office (4,958 s.f., 3523 Combine Street)
- Mariott Residence Inn (128 rooms, S Vine Street)
- Habitat Vine Street (9 MF units, Vine Street)
- Oaks Assisted Living (101 beds, S River/Serenade)
- Oaks Hotel Expansion (66 rooms, 3002 Riverside Drive)
- Fairfield Inn (119 rooms, 2940 Union Road)
- Sonic Burger Drive-Thru (2,000 s.f., Golden Hills Plaza)
- 301 Creston Tentative Map (4 MF units)
- Paso Robles Public Market (6 MF units, 16,500 s.f. commercial, 1803 Spring Street)
- Bellissimo Restaurant and Apartments (4 MF units, 6,000 s.f. commercial, 4th Street/Spring Street)
- Tidwell office/maintenance (9,960 s.f. office, Dallons Drive)
- Pine Street Hotel (151 rooms, 944 Pine Street)
- Riverside Wine Storage (18,500 s.f. warehouse, 3230 Riverside Avenue)
- Westco Industrial (3,948 s.f. industrial, Combine Street)
- Viborg Industrial (7,200 s.f. industrial, 1621 N River Road)

- Blue Oaks Apartments (142 MF units, 802 Experimental Station Road)
- Oxford Suites Hotel (127 rooms, 4th Street/Pine Street)
- North Vine Apartments (8 MF units, North Vine Street)
- Webb Apartments (10 MF units, 36th Street/Oak Street)
- Cava Robles RV Resort (310 RV sites, 32 cottages, north end of Golden Hill Road)
- 6th Street/Spring Street retail (4,600 s.f.)
- TTM 3098 (9 MF units, Union Road/Golden Hill Road)
- Oak Park Phase 3 Apartments (75 MF units, 3000 Park Street)
- Firestone Warehouse/Cold Block (69,000 s.f. warehouse, Ramada Drive)
- Paso Robles Inn Expansion (23 rooms, 600 12th Street)
- Buttonwillow Product Warehouse (5,000 s.f., 2203 Wisteria Lane)
- Lone Oak Hotel Conversion (37 rooms, 715 24th Street)
- Destino Resort Hotel Phase 1 (73 rooms, 3340 Airport Road)

These projects were added to the base year TDM to develop 2025 Near Term conditions. An ambient annual growth rate of one percent per year was applied to US 101 volumes and a growth rate of two percent per year was applied to SR 46 E to account for regional growth to year 2025.

**Figure 8** shows the Near Term weekday peak hour traffic volumes at the study intersections and the Near Term ADT on the study segments.

Under Near Term conditions a PHF of 0.92 was used for the intersection analysis and a PHF of 0.94 was used for the freeway analysis consistent with methodologies in the HCM 6<sup>th</sup> Edition. However, if the existing PHF exceeded these respective values, the higher PHF was used.

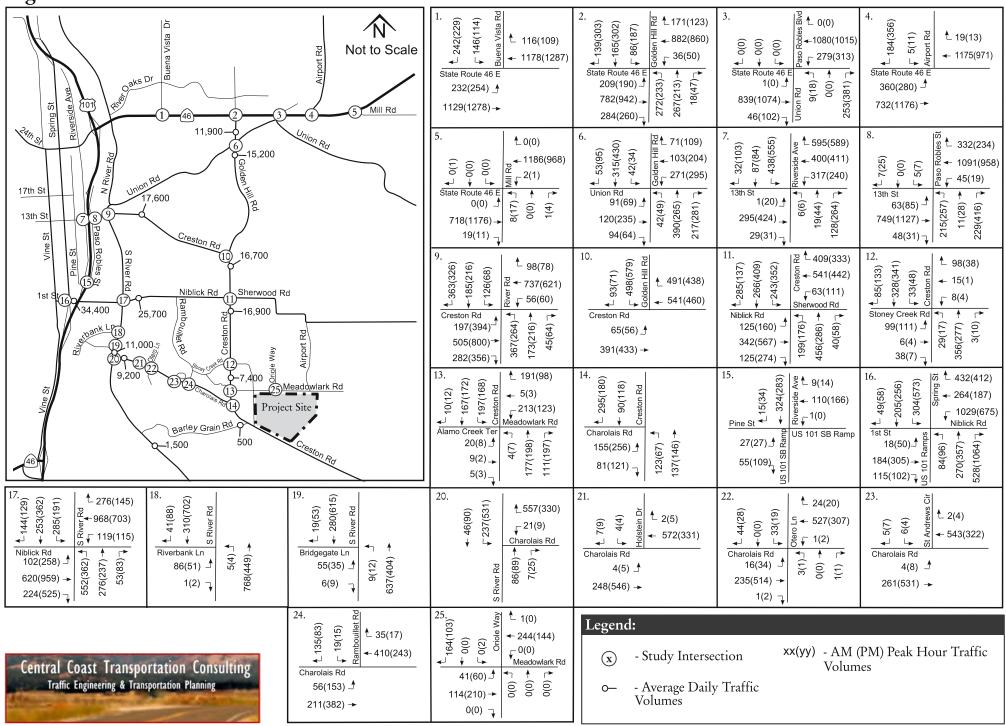
### Transportation Network

The following roadway improvements were assumed to be in place under Near Term conditions:

- Golden Hill Road/Union Road (#6): A single-lane roundabout is scheduled to be designed in 2019 and was assumed to be in place under Near Term conditions.
- Airport Road Extension from Meadowlark Road to Creston Road: Assumed to be constructed with the Olsen-Chandler development.
- Olsen-Chandler site buildout: Roadways internal to the Olsen-Chandler Specific Plan were assumed to be in place under Near Term conditions.

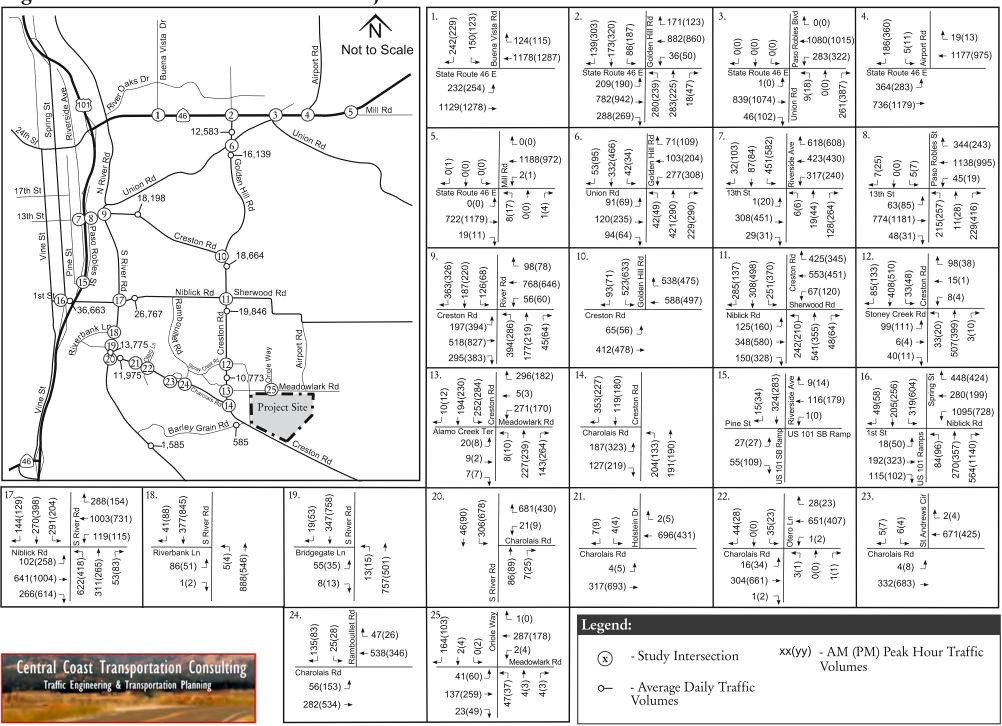
The SR 46 E overcrossing at Union Road was not assumed to be in place under Near Term conditions.

Figure 8: Near Term Traffic Volumes

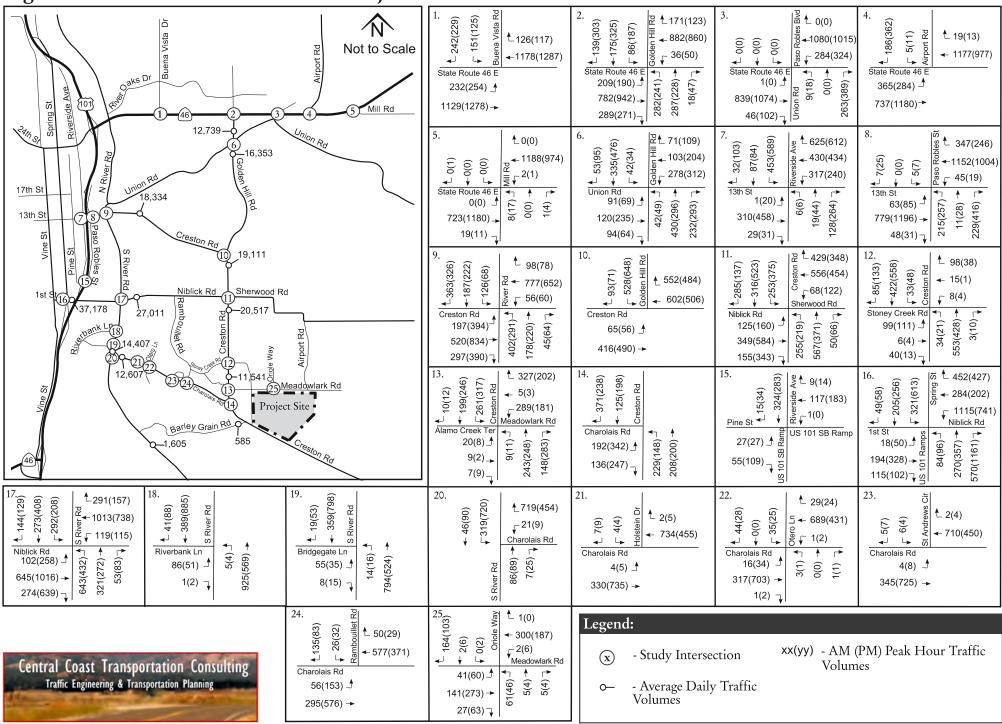


**April 2019** 

Figure 9a: Near Term Plus 674-Unit Project Traffic Volumes



# Figure 9b: Near Term Plus 911-Unit Project Traffic Volumes



**April 2019** 

# Near Term Conditions

## NEAR TERM PLUS PROJECT IMPACT ANALYSIS

## 1. Intersection Operations

**Figures 9a and 9b** show the traffic volumes for the study intersections during the weekday peak hours and ADT on the study segments under Near Term Plus Project conditions.

**Table 18** summarizes the intersection operating conditions under Near Term and Near Term Plus Project conditions with detailed calculation sheets in **Appendix B** and warrant analysis sheets in **Appendix D**.

Table 18: Near Term and	Near Ter	rm Plus Projec	et Intersec	ction Auto Leve	els of Ser	vice	
T WARE 100 I YEAR I STAN WAR	Peak	Near T		Near Term		Near Term	+ 911
Intersection	Hour	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS
	AM	19.4	В	19.6	В	19.6	В
1. State Route 46 E/Buena Vista Drive	PM	16.9	В	17.2	В	17.3	В
	AM	26.1	С	26.6	С	26.8	С
2. State Route 46 E/Golden Hill Road	PM	30.3	С	30.6	С	30.7	С
	AM	5.2 (33.4)	- (D)	5.3 (33.6)	- (D)	5.5 (34.8)	- (D)
3. State Route 46 E/Union Road	PM	17.7 (112.7)	- (F)	18.3 (114.6)	- (F)	18.4 (115.2)	- (F)
4. C B 4/ E/A: B 1	AM	7.1 (25.1)	- (D)	7.3 (25.4)	- (D)	7.4 (25.5)	- (D)
4. State Route 46 E/Airport Road	PM	6.1 (34.6)	- (D)	6.4 (35.9)	- (E)	6.4 (36.3)	- (E)
F.C B ACE/ACU D I	AM	0.1 (18.8)	- (C)	0.1 (18.8)	- (C)	0.1 (18.8)	- (C)
5. State Route 46 E/Mill Road	PM	0.3 (26.8)	- (D)	0.3 (27.0)	- (D)	0.3 (27.0)	- (D)
( C 11 IIII D 1/II ' D 1	AM	14.6	В	16.1	С	16.5	С
6. Golden Hill Road/Union Road	PM	19.7	С	23.3	С	24.5	С
7 424 C /B: 1 A	AM	28.4	С	30.1	С	30.5	С
7. 13th Street/Riverside Avenue	PM	47.7	D	50.8	D	51.5	D
0.401 C/D. D.11 C	AM	14.3	В	14.6	В	14.7	В
8. 13th Street/Paso Robles Street	PM	19.6	В	20.5	С	20.8	С
0 P: P 1/C . P 1	AM	22.1	С	22.8	С	23.0	С
9. River Road/Creston Road	PM	21.0	С	21.6	С	21.8	С
40 C P 1/C 11 IFU P 1	AM	22.3	С	24.0	С	24.6	С
10. Creston Road/Golden Hill Road	PM	19.6	В	21.9	С	22.4	С
44 C	AM	64.2	Е	76.9	Е	80.5	F
11. Creston Road/Niblick Road	PM	44.4	D	52.8	D	56.1	E
10 C D 1/0 C L D 1	AM	8.6 (49.5)	- (E)	19.5 (158.4)	- (F)	24.9 (>200)	- (F)
12. Creston Road/Stoney Creek Road	PM	4.2 (26.3)	- (D)	6.8 (60.3)	- (F)	8.4 (80.8)	- (F)
40 C P 1/25 1 1 1 P 1	AM	17.7	C	52.8	F	73.7	F
13. Creston Road/Meadowlark Road	PM	11.9	В	24.2	С	34.2	D
44 C . P 1/C 1 P 1	AM	4.9 (13.7)	- (B)	8.2 (24.7)	- (C)	10.5 (33.5)	- (D)
14. Creston Road/Charolais Road	PM	6.3 (13.4)	- (B)	12.7 (27.7)	- (D)	18.5 (41.0)	- (E)
45 B. 11 4 /B. 6./H6 404 CB B	AM	4.7 (12.8)	- (B)	4.8 (12.9)	- (B)	4.9 (13.0)	- (B)
15. Riverside Ave/Pine St/US 101 SB Ramp	PM	6.5 (13.6)	- (B)	6.8 (13.9)	- (B)	6.9 (14.0)	- (B)
16. 1st Street-Niblick Road/Spring Street	AM	30.8	С	33.4	С	34.0	С
16. 1st Street-Niblick Road/Spring Street	PM	39.5	D	42.4	D	43.3	D
17 NULU-1- D 4 /C 4 - Di D 4	AM	43.0	D	50.2	D	52.6	D
17. Niblick Road/South River Road	PM	30.4	C	40.2	D	43.9	D
40 C (1 D) D 1/D; 1 1 1	AM	2.8 (37.6)	- (E)	3.9 (62.2)	- (F)	4.3 (71.3)	- (F)
18. South River Road/Riverbank Lane	PM	1.3 (31.1)	- (D)	1.7 (48.5)	- (E)	1.9 (55.5)	- (F)
40 C d D: D 1/D:1 . I	AM	0.9 (14.4)	- (B)	0.9 (16.2)	- (C)	0.9 (16.8)	- (C)
19. South River Road/Bridgegate Lane	PM	0.7 (14.9)	- (B)	0.7 (17.5)	- (C)	0.7 (18.3)	- (C)
20 C d D: D 1/Cl 1: D 1	AM	19.6	С	46.3	E	61.3	F
20. South River Road/Charolais Road	PM	40.6	E	113.6	F	138.5	F
24 Cl. 1 ' D. 1/H 1 . ' D '	AM	0.2 (14.4)	- (B)	0.2 (17.0)	- (C)	0.2 (17.8)	- (C)
21. Charolais Road/Holstein Drive	PM	0.3 (13.1)	- (B)	0.2 (15.7)	- (C)	0.2 (16.5)	- (C)
22 Charolaig Pand/Otara I	AM	1.8 (18.1)	- (C)	2.0 (24.5)	- (C)	2.1 (26.9)	- (D)
22. Charolais Road/Otero Lane	PM	1.2 (16.7)	- (C)	1.3 (23.0)	- (C)	1.4 (26.4)	- (D)
22 Chambria Danil/Cr A 1 C' 1	AM	0.2 (15.1)	- (C)	0.2 (18.2)	- (C)	0.2 (19.2)	- (C)
23. Charolais Road/St Andrews Circle	PM	0.2 (13.3)	- (B)	0.2 (16.1)	- (C)	0.2 (17.1)	- (C)
24 Cl. 1 : D. 1/D. 1 : '11 : D. 1	AM	3.2 (14.8)	- (B)	3.4 (19.7)	- (C)	3.5 (21.6)	- (C)
24. Charolais Road/Rambouillet Road	PM	2.9 (12.9)	- (B)	3.0 (20.1)	- (C)	3.3 (23.8)	- (C)
or M. 1. 1. 1. D. 1/G : 1. W.	AM	3.8 (11.2)	- (B)	4.8	A	5.0	A
25. Meadowlark Road/Oriole Way	PM	2.8 (9.6)	- (A)	4.7	Α	4.9	Α

<sup>1.</sup> HCM 6th average control delay in seconds per vehicle (HCM 2000 used for Intersections 1, 10 and 15). For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

Note: Unacceptable operations shown in **bold** text.

The following Caltrans intersections operate below the LOS C threshold:

• SR 46 E/Union Road (#3): the addition of traffic from either project would increase unacceptable delay on the side street approach during the PM peak hour. Restricting the northbound lefts at the intersection would improve operations to at least Near Term conditions and reduce conflict points at the intersection. The restriction would impact 9 and 18 vehicles in the AM and PM peak hour, respectively. Restricting westbound left turns is not required or recommended and could impact operations at SR 46 E/Golden Hill Road. A Project Study Report has been prepared for this area which will ultimately construct an overcrossing and restrict left turns on SR 46 E. This improvement is consistent with the City's Circulation Element; however, the improvements are in the Caltrans right-of-way and subject to approval.

Recommendation: Project makes a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents.

• State Route 46 E/Airport Road (#4): the intersection would operate with unacceptable delay under Near Term conditions. Restricting the southbound lefts at the intersection would improve operations and reduce conflict points at the intersection. The restriction would impact 5 and 11 vehicles in the AM and PM peak hour, respectively. These vehicles could Uturn at Union Road. Restricting eastbound left turns is not recommended. Adding a southbound right turn lane would not improve LOS and is not recommended. A Project Study Report has been prepared for this area which will ultimately construct an overcrossing at Union Road and restrict left turns on SR 46 E at Union Road and Airport Road. This improvement is consistent with the City's Circulation Element; however, the improvements are in the Caltrans right-of-way and subject to approval.

Recommendation: Project makes a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents.

• State Route 46 E/Mill Road (#5): the intersection would operate at LOS D in the PM peak hour under Near Term conditions. Restricting the northbound lefts, a traffic signal, or grade separation at the intersection would return operations to at least Near Term conditions.

Recommendation: None, traffic signal or grade separation not recommended. Secondary access is recommended if left turns are prohibited.

The following stop-controlled City intersections operate below LOS D:

• Creston Road/Stoney Creek Road (#12): the intersection would operate below LOS D in the AM peak hour under Near Term conditions and in the PM peak hour with the addition of traffic from either project. The intersection meets signal warrants. The City's Circulation Element includes a traffic signal at this location. The bulb-out on the northwest corner is not recommended. The existing dedicated left, through, and right southbound turn lanes are desired for signal operations. The eastbound approach should be restriped with a dedicated left-through and right turn lane consistent with the Circulation Element. The northbound left turn lane storage should be maximized.

Recommendation: Project makes a fair share contribution through the City's impact fee program for installation of a traffic signal.

Creston Road/Meadowlark Road (#13): the addition of traffic from either project would cause
the intersection to operate at LOS F during the AM peak hour and meet signal warrants. A
traffic signal and restriping at this location is consistent with the City's Circulation Element.
Storage for the southbound left turn lane should be extended.

Recommendation: Project makes a fair share contribution through the City's impact fee program for installation of a traffic signal.

Creston Road/Charolais Road (#14): the intersection would operate below LOS D in the PM
peak hour under the 911-Unit Project Near Term conditions. The intersection would meet
signal warrants; however, the intersection operates at LOS C or better with installation of allway stop control. Where traffic signals are warranted, all-way stop control is an interim
measure.

Recommendation: Recommend installation of all-way stop control with 911-Unit project.

• South River Road/Riverbank Lane (#18): the intersection would operate below LOS D in the AM peak hour under Near Term conditions and in the PM peak hour with the addition of traffic from either project. However, the intersection would not meet signal warrants and therefore would operate acceptably.

Recommendation: None. Signal warrant not met.

 South River Road/Charolais Road (#20): the intersection would operate below LOS D in the PM peak hour under Near Term conditions and in the AM peak hour with the addition of traffic from either project. The intersection would meet signal warrants. A roundabout is consistent with the City's Circulation Element.

Recommendation: Project makes a fair share contribution through the City's impact fee program for a roundabout at this intersection.

### 2. Queues

**Table 19** summarizes the vehicular queuing under Near Term and Near Term Plus Project conditions.

Table 19: Near T	erm and No	ear Term	Plus Proj	ect Queues		
		Storage			rcentile Que	ues (ft) <sup>1</sup>
Intersection	Movement	Length	Peak	95011110	1	
		(ft)	Hour	Near Term	Near Term + 674	Near Term + 911
	2		AM	#354	#358	#359
1. State Route 46 E/Buena Vista Drive	$EBL^2$	345	PM	305	311	312
	NBL	160	AM	185	192	195
	NDL	100	PM	164	169	170
	SBL	140	AM	72	73	73
2. State Route 46 E/Golden Hill Road			PM	137	138	138
	$EBL^2$	225	AM	147	149	149
			PM AM	139 34	139 35	139 35
	$WBL^2$	125	PM	47	48	48
	2		AM	60	63	63
3. State Route 46 E/Union Road	$WBL^2$	195	PM	95	103	103
4 Ctata Danta 46 E / Airea at Dani	EDY 2	E00	AM	188	193	195
4. State Route 46 E/Airport Road	EBL <sup>2</sup>	580	PM	65	68	68
5. State Route 46 E/Mill Road	$WBL^2$	305	AM	0	0	0
			PM	0	0	0
6. Golden Hill Road/Union Road	Inte	rsection is		ı	r Term Condi	
	WBL	125	AM	328	329	332
7. 13th Street/Riverside Avenue			PM	268	268	268
	WBT	295	AM DM	326	349	355
			PM AM	372 216	393 216	398 216
	NBL	130	PM	233	233	233
			AM	57	57	57
0.401.0 /D D.11.0	NBR	110	PM	286	289	290
8. 13th Street/Paso Robles Street	EDI	120	AM	88	88	88
	EBL	120	PM	109	109	109
	EBT	295	AM	254	265	267
	151) 1	273	PM	438	470	479
9. River Road/Creston Road	NBL	140	AM	205	220	225
			PM	154	165	169
10. Creston Road/Golden Hill Road	EBL	125	AM PM	103 88	103 88	103 88
			AM	#209	#277	#296
	NBL	230	PM	#179	#277	#244
	0.77.4		AM	#289	#302	#305
11 Control Deed /NULU-la Deed	SBL	245	PM	#414	#440	#448
11. Creston Road/Niblick Road	EBL	150	AM	131	131	131
	EDL	130	PM	154	154	154
	WBL	170	AM	#87	#96	#97
			PM	118	#136	#140
	NBL	165	AM	#158	#158	#158
			PM AM	154 65	154 77	154 79
16. 1st Street-Niblick Road/Spring Street	NBR	290	PM	307	378	400
	200		AM	208	218	219
	SBL	305	PM	337	357	363
	NBL	150	AM	292	#378	#400
	MDL	150	PM	196	226	#245
	SBL	110	AM	#371	#382	#385
17. Niblick Road/South River Road			PM	#233	#266	#274
,	EBL	140	AM	74	74	74
	<u> </u>		PM AM	148 #171	148 #171	148
	WBL	80	AM pm	#171 153	#171 153	#171 153
		l	PM	153	153	153

<sup>1.</sup> Queue length that would not be exceeded 95 percent of the time.

<sup>2.</sup> Deceleration length of 530 feet has been subtracted from the storage length per the HDM for 60 mph design speed.

<sup>#</sup> indicates that 95th percentile volume exceeds capacity, queue may be longer.

The following queue deficiencies at City intersections are noted:

- 13th Street/Riverside Avenue (#7): the westbound left turn and through movement queue lengths would further exceed storage length during both peak hours with the addition of traffic from either project. Bridge widening at this location in not included in the City's Circulation Element and any widening in this location is unlikely; signal timing should be reviewed, coordinated, and optimized. With coordination and overlaps, queues would improve to no project levels. The City's Circulation Element accepts that this location will reach capacity.
  - Recommendation: Review, coordinate, and optimize corridor operations. Add westbound right and northbound right turn overlap phases.
- 13th Street/Paso Robles Street (#8): the northbound left and right turn and eastbound through queue lengths would further exceed storage length during at least one peak hour with the addition of traffic from either project. Bridge widening at this location in not included in the City's Circulation Element and any widening in this location is unlikely; signal timing will need to be reviewed, coordinated and optimized. If parking is removed on the east side of Paso Robles Street north of 12th Street the northbound right turn lane could be extended. With coordination, queues would improve to no project levels. The City's Circulation Element accepts that this location will reach capacity.

Recommendation: Review, coordinate, and optimize corridor operations.

- River Road/Creston Road (#9): the northbound left turn queue length would further exceed storage length during at least one peak hour with the addition of traffic from either project. Additional storage is available in the striped median. Coordination with the adjacent 13th Street intersections could also improve the queue lengths.
  - Recommendation: None. Additional storage is available in the striped median.
- Creston Road/Niblick Road (#11): the northbound, southbound, and eastbound left turn
  queue lengths exceed storage in at least one peak hour under Near Term conditions. The City's
  Circulation Element includes the addition of a second southbound left turn lane and a
  southbound, eastbound, and westbound right turn lane, allowing for two through lanes. With
  these improvements, the left turn queues could be accommodated in available two-way left
  turn lane and bay taper storage.
  - Recommendation: Project makes a fair share contribution through the City's impact fee program for improvements at this intersection.
- 1st Street-Niblick Road/Spring Street (#16): the southbound left turn and northbound right turn queue lengths would exceed the storage length during the PM peak hour under Near Term conditions. No feasible mitigation has been identified to return queues to no project levels. The City's Circulation Element includes corridor improvements on Niblick Road and Spring Street.
  - Recommendation: Project makes a fair share contribution through the City's impact fee program for improvements at this intersection.
- Niblick Road/South River Road (#17): all left turn queue lengths would further exceed the storage length during one or more peak hours with the addition of traffic from either project. No feasible mitigation has been identified to return queues to no project levels. The City's

Circulation Element includes widening at this intersection and corridor improvements. Intersection would benefit from additional westbound left turn lane storage; additional right turn lanes and right turn overlap phasing.

Recommendation: Project makes a fair share contribution through the City's impact fee program for improvements at this intersection.

### Summary of Intersection Mitigations

In addition to the 674-Unit project and 911-Unit project analysis, intersections requiring mitigation measures under either project condition were evaluated under the 554-Unit (Phase 1) conditions as shown in **Table 20**.

		Table 20: Near Term M	itigation	.s				
			No	To	otal Un	its	Cir. Elem.	Responsible
Intersection	Impact	Mitigation	Project	554	674	911	and TIF1	Agency
3. SR 46 E/Union Rd <sup>2</sup>	LOS	Prohibit NB lefts, RTP improvements	X	X	X	X	Yes	Caltrans
4. SR 46 E/Airport Rd <sup>2</sup>	LOS	RTP improvements	X	X	X	X	Yes	Caltrans
7. 13th St/Riverside Ave	Queue	Optimize corridor operations, WBR and NBR overlap	X	X	X	X	No	City
8. 13th St/Paso Robles St	Queue	Optimize corridor operations	X	X	X	X	No	City
11. Creston Rd/Niblick Rd	Queue	Add additional SBL, SBR, EBT, and WBR	X	X	X	X	Yes	City
12. Creston Rd/Stoney Creek Rd	LOS	Install traffic signal	-	X	X	X	Yes	City
13. Creston Rd/Meadowlark Rd	LOS	Install traffic signal	-	X	X	X	Yes	City
14. Creston Rd/Charolais Rd	LOS	Install all-way stop	-	-	-	X	No	City
16. 1st St-Niblick Rd/Spring St	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
17. Niblick Rd/South River Rd	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
20. South River Rd/Charolais Rd	LOS	Install single lane roundabout	X	X	X	X	Yes	City

X - Mitigation required.

### 3. Roadway Segment Operations

**Table 21** shows the Near Term and Near Term Plus Project capacity utilization and LOS for the roadway study segments.

<sup>1.</sup> Intersection improvements are included in the Paso Robles Circulation Element and Traffic Impact Fee (TIF).

<sup>2.</sup> The Paso Robles Circulation Element includes improvements on State Route 46 East and in the vicinity between Buena Vista Drive and Dry Creek Road. Recommend project make a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents. Ultimate improvements will be determined in the project documents.

		Table 21: Near Term a	nd Near T	erm Plu	s Projec	t Road	lway Segme	nt Oper	ations				
					1	Near T	erm	Nea	ar Tern	n + 674	Nea	ar Teri	n + 911
			Facility				Capacity			Capacity			Capacity
Street	ID	Segment	Type	Lanes	ADT	LOS	Utilization	ADT	LOS	Utilization	ADT	LOS	Utilization
	1	East of Ferro Lane	Arterial	2*	17,600	D	81%	18,198	D	84%	18,334	D	84%
Creston Road	2	East of Golden Hill Road	Arterial	4	16,700	Α	45%	18,664	Α	50%	19,111	Α	51%
Creston Road	3	South of Niblick Road	Arterial	4	16,900	Α	45%	19,846	Α	53%	20,517	Α	55%
	4	North of Meadowlark	Arterial	4	7,400	Α	20%	10,773	Α	29%	11,541	Α	31%
Golden Hill Road	5	South of Union Road	Arterial	3	15,200	D	70%	16,139	D	74%	16,353	D	75%
Golden i illi Koad	6	North of Union Road	Arterial	3	11,900	C	55%	12,583	C	58%	12,739	C	59%
Niblick Road	7	East of Spring Street	Arterial	4	34,400	D	92%	36,663	Е	98%	37,178	E	99%
NIDIICK KOZU	8	East of Quarterhorse	Arterial	4	25,700	С	69%	26,767	С	72%	27,011	С	72%
Charolais Road	9	East of South River Road	Arterial	2*	9,200	C	42%	11,975	C	55%	12,607	С	58%
South River Road	10	South of Spanish Camp Road South	Local	2	1,500	Α	16%	1,585	Α	17%	1,605	Α	17%
South River Road	11	North of Charolais Road	Arterial	2*	11,000	С	51%	13,775	D	63%	14,407	D	66%
Barley Grain Road	12	South of Creston Road	Local	2	500	Α	5%	585	Α	6%	605	Α	6%
		res the prescence of a raised median or two-weral Plan Circulation Element, 2011; CCTC, 2		ne on a tw	70-lane arte	erial.							

The following roadway segments operate above 90% capacity utilization:

• Niblick Road (east of Spring Street): This segment operates at 92% capacity under Near Term conditions. With the addition of traffic from either project, the capacity utilization would increase but remain below 100%. The projected capacity utilization of 99% on Niblick Road does not justify the widening of this roadway. Widening the bridge to a six-lane arterial would result in a capacity utilization below 70%, which would reduce vehicle delays, but would also support higher vehicle speeds and would conflict with the City's multimodal goals and desire to maintain its small-town character.

Recommendation: None. Maximize signal operations along corridor and implement TDM measures.

## 4. Freeway Segment Operations

**Table 22** shows the Near Term and Near Term Plus Project peak hour volumes at the freeway mainline and ramp locations and **Table 23** shows the LOS, with calculation sheets in **Appendix C**.

	Table	22: US 101 Near Term and Near	Term	Plus Project Pe	ak Hour Volume	es ·
	Segmen	t			Near Term +	Near Term +
Direction	ID	Location		Near Term	674	911
	1	SR 46W Off Ramp		250 (232)	250 (232)	250 (232)
	2	SR 46W On Ramp		467 (864)	475 (882)	477 (887)
	3	Mainline North of SR 46W		2528 (3705)	2564 (3781)	2570 (3802)
	4	Spring St. Off Ramp		882 (1517)	918 (1593)	924 (1614)
US 101 NB	5	Paso Robles St. Off Ramp		342 (578)	342 (578)	342 (578)
US 101 NB	6	Paso Robles St. On Ramp		406 (347)	418 (356)	421 (359)
	7	Mainline South of SR 46E		1710 (1957)	1722 (1966)	1725 (1969)
	8	SR 46E Off Ramp		1017 (1140)	1017 (1140)	1017 (1140)
	9	SR 46E On Ramp		311 (287)	311 (287)	311 (287)
	10	Mainline North of SR 46E		1004 (1104)	1016 (1113)	1019 (1116)
	11	Mainline North of SR 46E		929 (1492)	935 (1505)	936 (1509)
	12	SR 46E Off Ramp		284 (383)	284 (383)	284 (383)
	13	SR 46E to Riverside/17 <sup>th</sup> St. Weave	On	1104 (1150)	1104 (1150)	1104 (1150)
	14	SK 46E to Riverside/1/ St. Weave	Off	218 (303)	218 (303)	218 (303)
	15	Mainline South of SR 46E		1531 (1956)	1537 (1969)	1538 (1973)
US 101 SB	16	Riverside/17 <sup>th</sup> St. On Ramp		298 (205)	298 (205)	298 (205)
	17	Riverside/Pine St. Off Ramp		120 (180)	126 (193)	127 (197)
	18	Spring St. On Ramp		1349 (1033)	1415 (1086)	1435 (1099)
	19	Mainline North of SR 46W		3438 (3406)	3504 (3459)	3524 (3472)
	20	SR 46W Off Ramp		651 (646)	667 (658)	671 (661)
	21	SR 46W On Ramp		139 (211)	139 (211)	139 (211)
AM (PM) Peak H	Iour Volur	mes				

Table 23: Near Term and Near Term Plus Project Freeway Operations									
<b>5</b>		Segment	Peak	Near Term		Near Term + 674		Near Term + 911	
Direction	Location	Type	Hour	Density <sup>1</sup>	LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>	LOS
US 101 NB	SR 46W Off Ramp	Diverge	AM	25.0	C	25.2	C	25.3	C
			PM	30.2	D	30.7	D	30.8	D
	SR 46W On Ramp	Merge	AM	25.7	С	26.0	С	26.1	С
			PM	33.7	D	34.3	D	34.5	D
	North of SR 46W	Mainline	AM	21.9	C	22.3	С	22.4	С
			PM	34.2	D	35.6	Е	36.0	Е
	Spring St. Off Ramp	Diverge	AM	29.3	D	29.7	D	29.8	D
			PM	37.6	E	38.3	E	38.5	E
	Paso Robles St. Off Ramp	Diverge	AM	18.1	В	18.1	В	18.1	В
			PM	21.8	С	21.8	С	21.8	С
	Paso Robles St. On Ramp	Merge	AM	17.9	В	18.0	В	18.0	В
			PM	19.0	В	19.1	В	19.1	В
	South of SR 46E	Mainline	AM	14.5	В	14.6	В	14.6	В
			PM	15.3	В	15.4	В	15.4	В
	SR 46E Off Ramp	Diverge	AM	19.1	В	19.2	В	19.3	В
			PM	20.1	С	20.2	С	20.2	С
	SR 46E On Ramp	Merge	AM	12.7	В	12.8	В	12.8	В
			PM	13.1	В	13.2	В	13.2	В
	North of SR 46E	Mainline	AM	9.3	Α	9.4	Α	9.5	Α
			PM	9.7	A	9.8	Α	9.8	Α
US 101 SB	North of SR 46E	Mainline	AM	8.8	Α	8.8	Α	8.8	Α
			PM	14.4	В	14.5	В	14.5	В
	SR 46E Off Ramp	Diverge	AM	13.0	В	13.0	В	13.0	В
			PM	19.4	В	19.5	В	19.6	В
	SR 46E to Riverside/17 <sup>th</sup> St. <sup>2</sup>	Weave	AM	-	A	-	Α	-	В
			PM	_	В	_	В	_	В
	South of SR 46E	Mainline	AM	13.2	В	13.2	В	13.2	В
			PM	16.5	В	16.6	В	16.6	В
	Riverside/17 <sup>th</sup> St. On Ramp	Merge	AM	19.8	В	19.8	В	19.8	В
			PM	22.5	C	22.6	C	22.6	C
	Riverside/Pine St. Off Ramp	Diverge	AM	20.6	C	20.7	C	20.7	C
			PM	23.5	C	23.6	C	23.7	C
	Spring St. On Ramp	Merge	AM	26.7	C	27.2	C	27.4	C
			PM	26.2	C	26.7	C	26.8	C
	North of SR 46W	Mainline	AM	34.8	D	36.1	E	36.5	E
			PM	33.1	D	34.0	D	34.3	D
	SR 46W Off Ramp	Diverge	AM	36.3	E	37.0	E	37.2	E
			PM	35.4		35.9		36.0	E E
	SR 46W On Ramp	Merge			E		E		
			AM	29.7	D	30.1	D	30.3	D
	(passenger cars per mile per lane).		PM	29.6	D	29.9	D	30.0	D

<sup>1.</sup> HCM 6 density (passenger cars per mile per lane).

The addition of traffic from either project would increase the density at the seven freeway segments operating at unacceptable LOS. No additional freeway segments would operate unacceptably. The addition of project traffic increases density by less than two passenger cars per mile per lane at the unacceptable locations.

Recommendation: Development of mitigation measures and recommendations will require Caltrans coordination. The freeway facility operations and recommendations are discussed in detail under Cumulative conditions.

<sup>2.</sup> The Leisch method used for weave section analysis does not report density.

Note: Unacceptable operations shown in **bold** text.

## 5. San Luis Obispo County Facilities

Under Near Term conditions, three percent of project traffic is estimated to travel south of the City of Paso Robles via Creston Road or River Road. One percent of project traffic is estimated to enter the Templeton Road Improvement Fee Area and Urban Reserve Line (URL) via El Pomar Drive. Two percent of project traffic is estimated to travel to State Route 41 via Creston Road. These trips may travel through the fee area via South El Pomar Road.

The 674-Unit and 911-Unit project would generate 8 and 10 PM peak hour trips into the Templeton Road Improvement Fee Area, respectively.

Qualitative operations on County roadways and intersections are discussed under Cumulative conditions.

# **Cumulative Conditions**

Cumulative conditions represent build-out of the land uses in the region.

#### **METHODOLOGY**

Cumulative conditions for 2045 were developed using the City and SLOCOG TDMs, which include planned network and land use changes expected upon buildout of the City's General Plan. As with Near Term conditions, the Olsen-Chandler Specific Plan, including a new elementary school, was assumed to be in place. **Figure 10** shows the Cumulative weekday peak hour traffic volumes at the study intersections and the Cumulative ADT on the study segments. **Figures 11a and 11b** display the trip assignment for the project under Cumulative conditions.

As with Near Term conditions, under Cumulative conditions a PHF of 0.92 was used for the intersection analysis and a PHF of 0.94 was used for the freeway analysis. However, if the existing PHF exceeded these respective values the higher PHF was used.

### Transportation Network

In addition to the changes for the Near Term network, the following roadways improvements were assumed to be in place under Cumulative conditions. Alternative 1 of the on-going Union Road/SR 46 E PA/ED was assumed to be in place under Cumulative conditions.

- SR 46 E/Buena Vista Drive (#1): Second eastbound left turn lane
- SR 46 E/Union Road (#3): Intersection closed, eastbound on and off ramps constructed
- SR 46 E/Airport Road (#4): Turns restricted to right-in-right-out
- Golden Hill Road/Union Road (#6): Multi-lane roundabout
- Creston Road/Niblick Road (#11): Second eastbound through lane, second southbound left turn lane, dedicated southbound right turn lane, dedicated westbound right turn lane
- Riverside Avenue/Pine Street/US 101 SB Ramp (#15): Pine Street converted to one-way westbound
- South River Road/Charolais Road (#20): Single-lane roundabout
- Golden Hill Road widened to 4-lane arterial from SR 46 E to Rolling Hills Road
- Airport Road Extension from Olsen-Chandler site to Union Road
- Gilead Lane extended east to Airport Road
- Paso Robles Boulevard overcrossing of SR 46 E and northeasterly extension to Airport Road
- US 101/SR 46 W interchange: Roundabouts at northbound and southbound ramps, Vine Street realigned with Theatre Drive

Figure 10: Cumulative Traffic Volumes

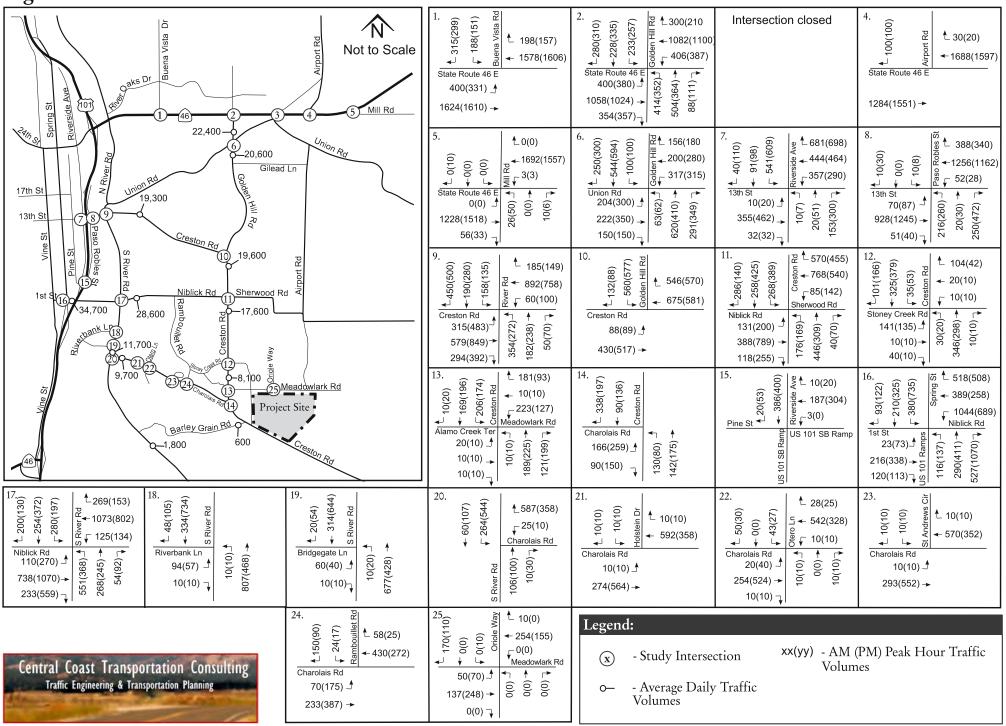


Figure 11a: Cumulative 674-Unit Project Trip Assignment

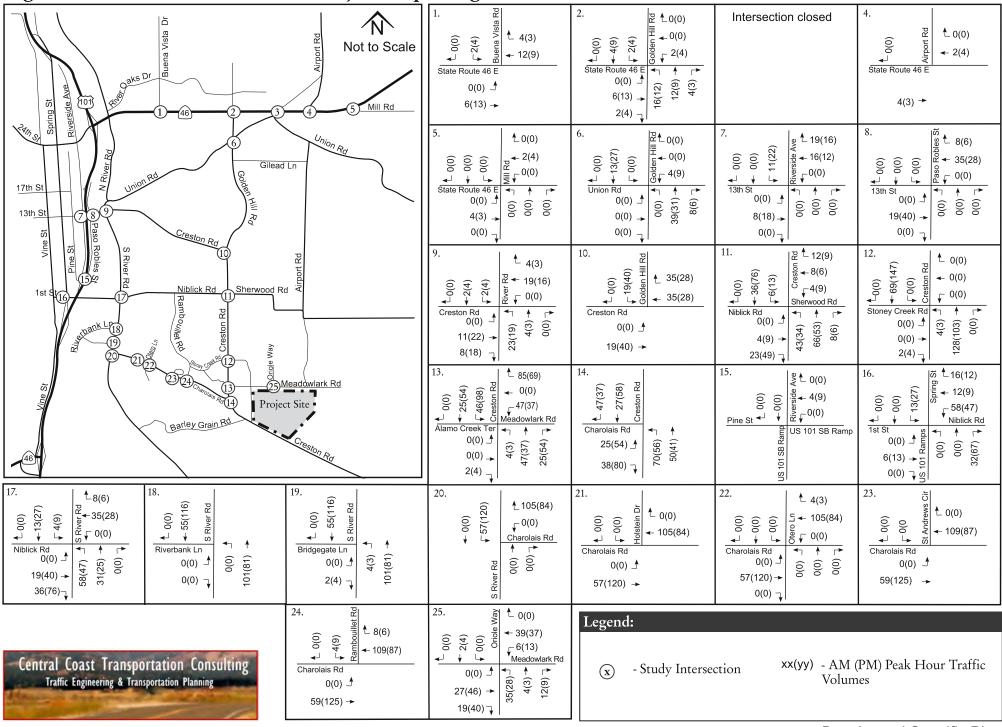


Figure 11b: Cumulative 911-Unit Project Trip Assignment

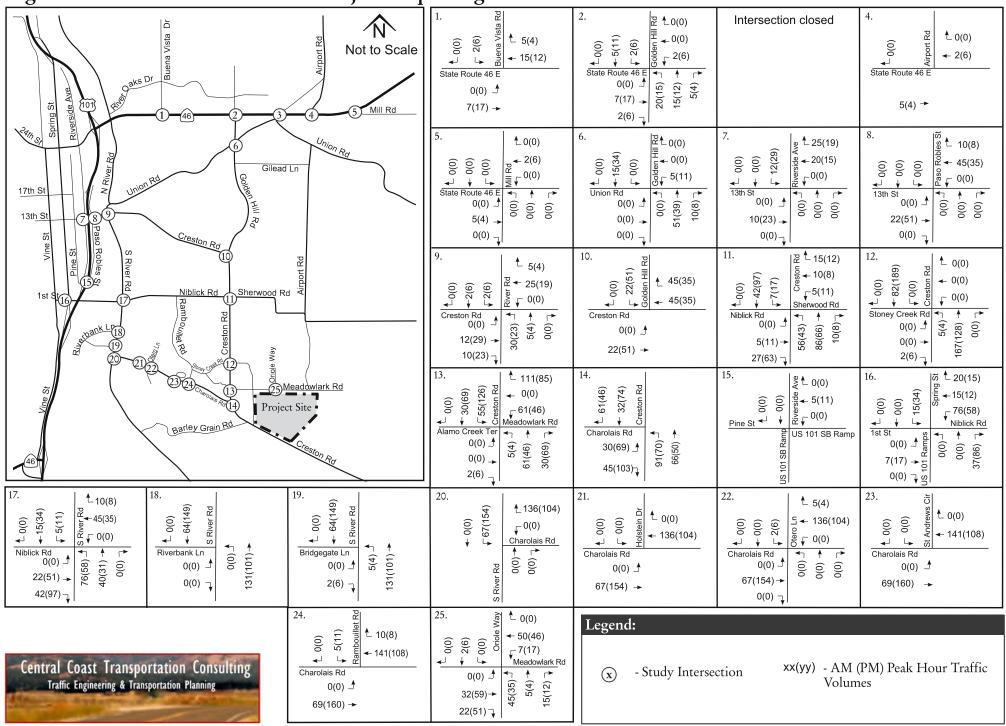


Figure 12a: Cumulative Plus 674-Unit Project Traffic Volumes

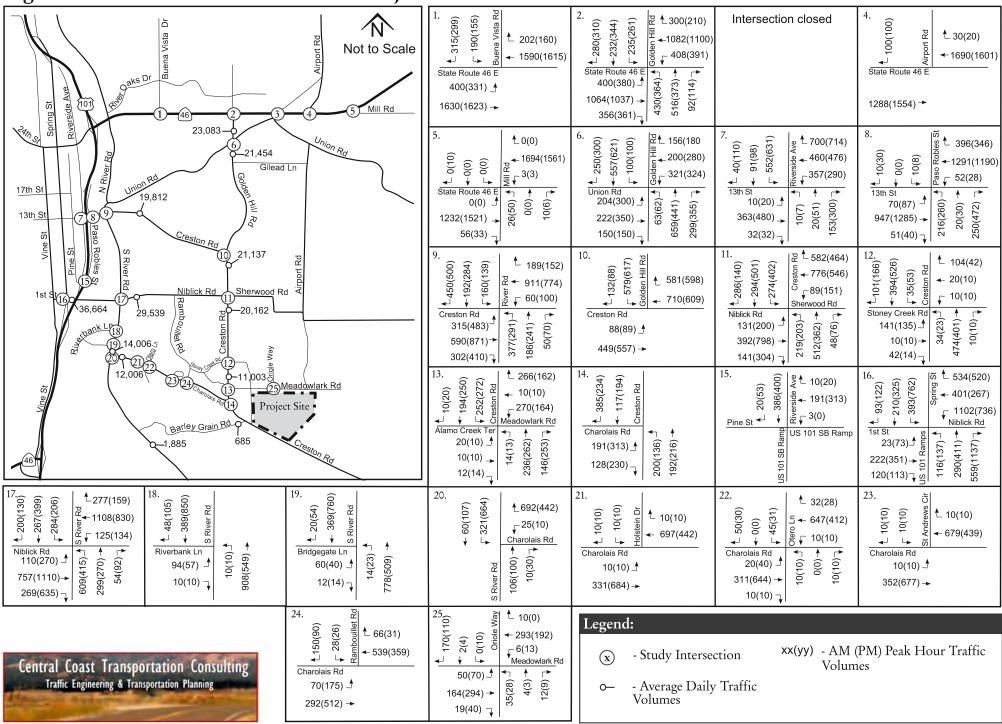
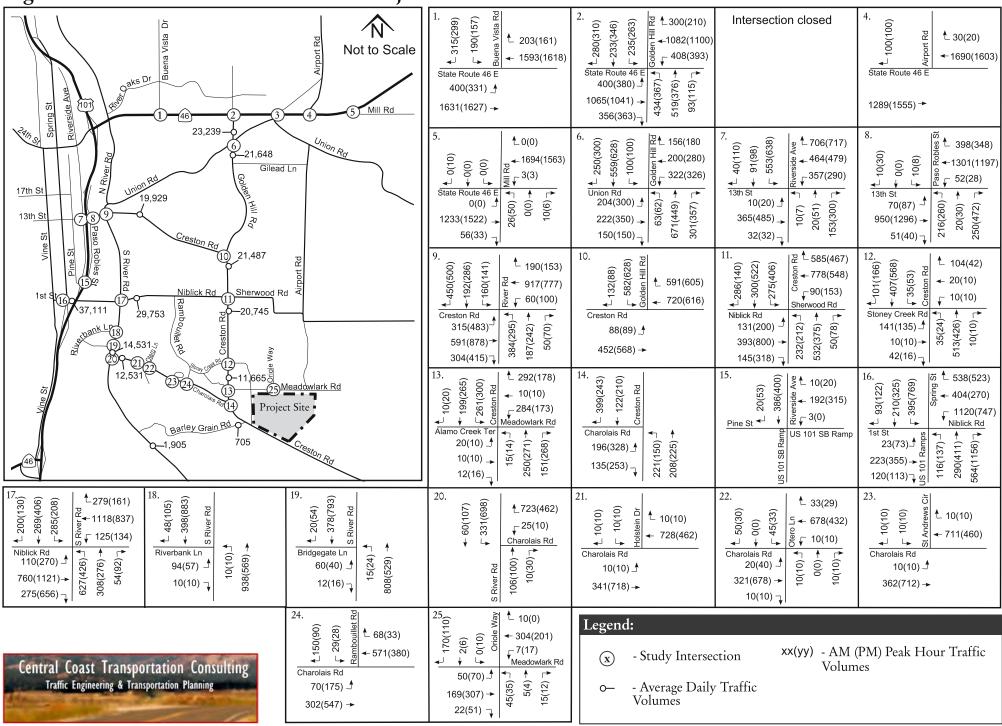


Figure 12b: Cumulative Plus 911-Unit Project Traffic Volumes



## **CUMULATIVE PLUS PROJECT IMPACT ANALYSIS**

## 1. Intersection Operations

**Figures 12a and 12b** show the traffic volumes for the study intersections during the weekday peak hours and ADT on the study segments under Cumulative Plus Project conditions.

**Table 24** summarizes the intersection operating conditions under Cumulative and Cumulative Plus Project conditions with detailed calculation sheets in **Appendix B** and warrant analysis sheets in **Appendix D**.

Table 24: Cumulative and	d Cumulat	ive Plus Proje	et Interse	ction Auto Le	vels of Ser			
Intersection	Peak	Cumula	tive	Cumulative	e + 674	Cumulative	e + 911	
	Hour	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS	
1. State Route 46 E/Buena Vista Drive	AM	28.6	С	29.1	С	29.2	С	
1. State Route 40 E/ Buena Vista Drive	PM	19.9	В	20.2	С	20.3	С	
2. State Route 46 E/Golden Hill Road	AM	81.5	F	83.9	F	84.4	F	
2. State Route 40 E/ Golden Fill Road	PM	59.5	E	61.7	E	62.3	E	
3. State Route 46 E/Union Road	AM			Intersection	closed			
3. State Route 40 L/ Chlori Road	PM				Closed			
4. State Route 46 E/Airport Road	AM	0.9 (28.6)	- (D)	0.9 (28.6)	- (D)	0.9 (28.6)	- (D)	
4. State Route 40 E/Import Road	PM	0.8 (24.6)	- (C)	0.8 (24.7)	- (C)	0.8 (24.7)	- (C)	
5. State Route 46 E/Mill Road	AM	0.4 (35.6)	- (E)	0.4 (35.6)	- (E)	0.4 (35.6)	- (E)	
3. State Route 40 L/ Will Road	PM	1.4 (75.3)	- (F)	1.4 (75.3)	- (F)	1.4 (75.3)	- (F)	
6. Golden Hill Road/Union Road	AM	29.4	D	34.4	D	36.2	E	
o. Golden Hill Roady Chion Road	PM	31.7	D	37.4	E	39.1	Е	
7. 13th Street/Riverside Avenue	AM	45.4	D	47.9	D	48.6	D	
7. 13th Street/ Reverside Tivelide	PM	70.6	Е	74.5	E	75.5	E	
8. 13th Street/Paso Robles Street	AM	16.1	В	16.3	В	16.4	В	
o. 15th Street/1 aso Robies Street	PM	27.5	С	28.5	С	28.8	С	
9. River Road/Creston Road	AM	28.0	C	29.3	С	29.8	C	
7. River Roady Creston Road	PM	27.1	С	28.0	С	28.3	С	
10. Creston Road/Golden Hill Road	AM	27.5	С	29.2	С	29.7	С	
10. Creston Road/ Golden Tim Road	PM	23.9	С	25.4	С	25.8	С	
11. Creston Road/Niblick Road	AM	47.0	D	53.2	D	55.0	E	
11. Creston Road/ Midner Road	PM	32.4	С	36.1	D	37.6	D	
12. Creston Road/Stoney Creek Road	AM	19.3 (104.0)	- (F)	45.6 (>200)	- (F)	55.0 (>200)	- (F)	
12. Creston Road/Stoney Creek Road	PM	7.0 (41.8)	- (E)	15.1 (120.8)	- (F)	19.6 (166.4)	- (F)	
13. Creston Road/Meadowlark Road	AM	19.6	C	49.8	$\mathbf{E}$	63.3	F	
13. Greston Road/ Weadowiark Road	PM	12.9	В	24.2	С	32.2	D	
14. Creston Road/Charolais Road	AM	5.1 (14.4)	- (B)	8.1 (24.9)	- (C)	10.0 (32.4)	- (D)	
14. Creston Road/ Charorais Road	PM	6.6 (14.5)	- (B)	12.9 (29.4)	- (D)	18.2 (41.8)	- (E)	
15. Riverside Ave/Pine St/US 101 SB Ramp	AM	5.4 (16.4)	- (C)	5.5 (16.6)	- (C)	5.6 (16.6)	- (C)	
13. Riverside Ave/Tille 3t/ 03 101 3D Ramp	PM	11.5 (27.6)	- (D)	12.3 (29.0)	- (D)	12.5 (29.3)	- (D)	
16. 1st Street-Niblick Road/Spring Street	AM	36.4	D	39.1	D	39.8	D	
10. 1st Sucet-Monek Road/Spinig Sucet	PM	46.6	D	49.7	D	50.7	D	
17. Niblick Road/South River Road	AM	50.8	D	57.3	E	59.5	E	
17. Nibilek Road/ South River Road	PM	35.0	D	43.8	D	46.7	D	
18. South River Road/Riverbank Lane	AM	3.9 (48.5)	- (E)	5.7 (79.5)	- (F)	6.4 (91.8)	- (F)	
16. South River Road/ Riverbank Lane	PM	1.8 (36.3)	- (E)	2.4 (55.8)	- (F)	2.6 (62.6)	- (F)	
19. South River Road/Bridgegate Lane	AM	1.0 (15.1)	- (C)	1.0 (16.8)	- (C)	1.1 (17.2)	- (C)	
17. South River Road/ Bridgegate Lane	PM	0.8 (15.8)	- (C)	0.9 (18.1)	- (C)	0.9 (18.9)	- (C)	
20. South River Road/Charolais Road	AM	7.6	A	9.1	A	9.7	A	
20. South River Road/ Charonals Road	PM	7.3	A	8.8	A	9.3	A	
21. Charolais Road/Holstein Drive	AM	0.5 (16.2)	- (C)	0.5 (19.0)	- (C)	0.5 (19.9)	- (C)	
21. Charolais Road/Tioistein Diive	PM	0.4 (15.8)	- (C)	0.4 (19.3)	- (C)	0.4 (20.4)	- (C)	
22. Charolais Road/Otero Lane	AM	2.6 (21.6)	- (C)	3.0 (29.7)	- (D)	3.2 (32.6)	- (D)	
22. Gratorais Road/ Otero Laire	PM	1.9 (19.4)	- (C)	2.2 (28.1)	- (D)	2.3 (32.1)	- (D)	
23 Charolais Road/St Andrown Circle	AM	0.5 (16.1)	- (C)	0.5 (19.1)	- (C)	0.5 (20.0)	- (C)	
23. Charolais Road/St Andrews Circle	PM	0.4 (15.4)	- (C)	0.4 (18.8)	- (C)	0.4 (20.0)	- (C)	
24. Charolais Road/Rambouillet Road	AM	3.6 (16.7)	- (C)	4.0 (22.1)	- (C)	4.2 (24.2)	- (C)	
24. Charofais Road/Ramdouillet Road	PM	3.1 (14.2)	- (B)	3.3 (20.6)	- (C)	3.5 (23.2)	- (C)	
25 Mandawlank Pand / O.::-1- W/	AM	3.8 (11.4)	- (B)	5.0	Α	5.1	Α	
25. Meadowlark Road/Oriole Way	PM	3.0 (10.2)	- (B)	5.0	A	5.2	Α	

<sup>1.</sup> HCM 6th average control delay in seconds per vehicle (HCM 2000 used for Intersections 1, 10 and 15). For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

Note: Unacceptable operations shown in **bold** text.

The following Caltrans intersections operate below the LOS C threshold:

• State Route 46 E/Golden Hill Road (#2): the addition of traffic from either project would increase unacceptable delay at the intersection during the AM and PM peak hours. Installation of a southbound right turn overlap phase and time of day operations would improve intersection operations to at least Cumulative conditions. Eastbound U-turns would need to be prohibited with implementation of a southbound right turn overlap. 285 vehicles make a southbound right turn under existing PM peak hour conditions and intersections operations will benefit. Northbound U-turns are allowed at Golden Hill Road and the commercial project driveway north of Highway 46. A Project Study Report has been prepared for this area which will ultimately construct an overcrossing east of this location. The full interchange alternative is needed to improve operations at this location which would restrict access at this intersection to right-in, right-out. This improvement is consistent with the City's Circulation Element; however, the improvements are in the Caltrans right-of-way and subject to approval.

Recommendation: Project makes a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents.

• State Route 46 E/Airport Road (#4): the intersection would operate with unacceptable delay in the AM peak hour under Cumulative conditions with right-in-right-out operations. The addition of project traffic does not degrade the intersection operations during the AM peak hour. A Project Study Report has been prepared for this area which will ultimately construct an overcrossing at Union Road and restrict left turns on SR 46 E at Union Road and Airport Road. The full interchange alternative is needed to improve operations at this location which would close the intersection. This improvement is consistent with the City's Circulation Element.

Recommendation: None.

• State Route 46 E/Mill Road (#5): the intersection would operate with unacceptable delay in both peak hours under Cumulative conditions. The addition of project traffic does not degrade the intersection operations. A traffic signal or grade separation is not recommended at this location. Secondary access is recommended if left turns are prohibited.

Recommendation: None.

• Riverside Avenue/Pine Street/US 101 Southbound Ramps (#15): the intersection would operate at LOS D in the PM peak hour under Cumulative conditions with Pine Street west of Riverside Avenue one-way westbound. Although the typical all-way stop control and traffic signal warrants would not be met, the intersection has two legs with equal volumes and would operate at LOS C or better with all-way (southbound and westbound) stop control.

Recommendation: Install all-way stop control.

The following stop-controlled City intersections operate below LOS D:

Golden Hill Road/Union Road (#6): the intersection would operate at LOS E during the PM
peak hour with the addition of traffic from either project under Cumulative conditions.
Cumulative conditions assumes the multi-lane roundabout in the City's Circulation Element.

The ultimate lane configuration of the roundabout will depend on access to SR 46 E at Golden Hill Road and Union Road.

Recommendation: Project makes a fair share contribution through the City's impact fee program for a roundabout at this intersection.

• Creston Road/Stoney Creek Road (#12): the intersection would operate below LOS D in both peak hours under Cumulative conditions. The intersection meets signal warrants. The City's Circulation Element includes a traffic signal at this location. The bulb-out on the northwest corner is not recommended. The existing dedicated left, through, and right southbound turn lanes are desired for signal operations. The eastbound approach should be restriped with a dedicated left-through and right turn lane consistent with the Circulation Element. The northbound left turn lane storage should be maximized.

Recommendation: Project makes a fair share contribution through the City's impact fee program for installation of a traffic signal.

 Creston Road/Meadowlark Road (#13): the intersection would operate below LOS D in the AM peak hour with the addition of traffic from either project and would meet signal warrants.
 A traffic signal and restriping at this location are consistent with the City's Circulation Element. Storage for the southbound left turn lane should be extended.

Recommendation: Project makes a fair share contribution through the City's impact fee program for installation of a traffic signal.

Creston Road/Charolais Road (#14): the intersection would operate at LOS E in the PM peak
with the 911-Unit Project under Cumulative conditions. The intersection would meet signal
warrants; however, the intersection operates at LOS C with installation of all-way stop control.
Where traffic signals are warranted, all-way stop control is an interim measure.

Recommendation: Install all-way stop control with the 911-Unit project.

 South River Road/Riverbank Lane (#18): the intersection would operate below LOS D in both peak hours under Cumulative conditions. However, the intersection would not meet signal warrants and therefore would operate acceptably.

Recommendation: None. Signal warrant not met.

### 2. Queues

Table 25 summarizes the vehicular queuing under Cumulative and Cumulative Plus Project conditions.

Table 25: Cumu	lative and Cu	umulative	Plus Pro	ject Queues					
		Storage		95th Percentile Queues (ft) <sup>1</sup>					
Intersection	Movement	Length	Peak			Cumulative			
		(ft)	Hour	Cumulative	+ 674	+ 911			
1.0 P 16F/P 17	2	2.15	AM	298	298	298			
1. State Route 46 E/Buena Vista Drive	$EBL^2$	345	PM	224	224	224			
	NBL	160	AM	#431	#453	#458			
	NDL	100	PM	#311	#328	#331			
	SBL	140	AM	193	194	194			
2. State Route 46 E/Golden Hill Road		- 10	PM	201	204	205			
	$EBL^{2}$	225	AM	#434	#434	#434			
			PM	#372	#372	#372			
	$WBL^2$	125	AM PM	#441 #373	#445 #384	#445 #388			
3. State Route 46 E/Union Road				ction closed	#304	#300			
4. State Route 46 E/Airport Road	Interse	ection is rig		out under Cu	mulative Con	ditions			
-	WBL <sup>2</sup>	305	AM	0	0	0			
5. State Route 46 E/Mill Road			PM	0	0	0			
6. Golden Hill Road/Union Road	Inte	rsection is		at under Cum					
	WBL	125	AM	#419	#419	#419			
7. 13th Street/Riverside Avenue			PM	#358	#358	#358			
	WBT	295	AM	381	398	403			
			PM AM	445 228	457 228	463 228			
	NBL	130	PM	246	246	246			
			AM	95	98	99			
	NBR	110	PM	#415	#417	#418			
8. 13th Street/Paso Robles Street	EDY	400	AM	98	98	98			
	EBL	120	PM	#122	#122	#122			
	EBT	295	AM	308	316	318			
	EDI	293	PM	491	516	523			
	NBL	140	AM	#224	#246	#253			
9. River Road/Creston Road			PM	#161	#185	#189			
·	SBL	225	AM	#235	#240	#240			
			PM	#194	#204	#207			
10. Creston Road/Golden Hill Road	EBL	125	AM PM	#183 #168	#183 #168	#183 #168			
			AM	216	#287	#314			
	NBL	230	PM	199	237	248			
	op.	2.15	AM	#169	#176	#177			
11. Creates Pood/Niblish Pood	SBL	245	PM	205	212	214			
11. Creston Road/Niblick Road	EBL	150	AM	#193	#194	#194			
	EDL	130	PM	236	236	236			
	WBL	170	AM	123	129	130			
			PM	179	189	191			
	NBL	165	AM	189	189	189			
			PM AM	207 84	<b>207</b> 92	<b>207</b> 94			
16. 1st Street-Niblick Road/Spring Street	NBR	290	PM	345	411	431			
			AM	259	269	270			
	SBL	305	PM	447	#489	#496			
	NIDI	150	AM	#354	#413	#429			
	NBL	150	PM	201	#240	#252			
	SBL	110	AM	#400	#412	#415			
17. Niblick Road/South River Road	ODL	110	PM	#261	#278	#283			
	EBL	140	AM	#103	#104	#104			
		-	PM	#170	#170	#170			
	WBL	80	AM	#195	#196	#196			
			PM	#208	#208	#208			

<sup>1.</sup> Queue length that would not be exceeded 95 percent of the time.

<sup>2.</sup> Deceleration length of 530 feet has been subtracted from the storage length per the HDM for 60 mph design speed. # indicates that 95th percentile volume exceeds capacity, queue may be longer.

Bold indicates queue length longer than storage length.

The following queue deficiencies at City intersections are noted:

• 13th Street/Riverside Avenue (#7): the westbound left turn and through movement queue lengths would further exceed storage during both peak hours with the addition of traffic from either project. Bridge widening at this location in not included in the City's Circulation Element and any widening in this location is unlikely; signal timing should be reviewed, coordinated and optimized. With coordination and overlaps, queues would improve to no project levels. The City's Circulation Element accepts that this location will reach capacity.

Recommendation: Review, coordinate, and optimize corridor operations. Add westbound right and northbound right turn overlap phases.

• 13th Street/Paso Robles Street (#8): the northbound and eastbound queue lengths would further exceed storage length during at least one peak hour with the addition of traffic from either project. Bridge widening at this location in not included in the City's Circulation Element and any widening in this location is unlikely; signal timing should be reviewed, coordinated and optimized. If parking is removed on the east side of Paso Robles Street north of 12th Street the northbound right turn lane could be extended. With coordination and overlaps, queues would improve to no project levels. The City's Circulation Element accepts that this location will reach capacity.

Recommendation: Review, coordinate, and optimize corridor operations.

• River Road/Creston Road (#9): the northbound and southbound left turn queue lengths would further exceed storage during both peak hours with the addition of traffic from either project. Bridge widening at this location in not included in the City's Circulation Element; signal timing should be reviewed, coordinated and optimized. In addition to coordinated signal timing, the intersection would benefit from restriping of the southbound lanes to a dedicated left, through, and right turn lane. With these modifications, queues could be accommodated in the existing bay taper. The City's Circulation Element accepts that this location will reach capacity.

Recommendation: Review, coordinate, and optimize corridor operations...

• Creston Road/Golden Hill Road (#10): the eastbound left turn queue length exceeds storage under Cumulative conditions. The addition of project traffic does not degrade the intersection operations. The intersection would benefit from a dedicated westbound right turn lane.

Recommendation: None.

Creston Road/Niblick Road (#11): the northbound, westbound, and eastbound left turn
queue lengths exceed storage in at least one peak hour under Near Term conditions with the
proposed widening included in the City's Circulation Element. The left turn queues could be
accommodated in available two-way left turn lane and bay taper storage.

Recommendation: None.

1st Street-Niblick Road/Spring Street (#16): the southbound left turn and northbound left and
right turn queue lengths would further exceed the storage length during the PM peak hour
under Cumulative conditions. No feasible mitigation has been identified to return queues to
no project levels. The City's Circulation Element includes corridor improvements on Niblick
Road and Spring Street.

**Cumulative Conditions** 

Recommendation: Project makes a fair share contribution through the City's impact fee program for improvements at this intersection.

 Niblick Road/South River Road (#17): all left turn lengths would exceed storage in one or more peak hours under Cumulative conditions. No mitigation has been identified to return queues to no project levels. The City's Circulation Element includes widening at this intersection and corridor improvements. The intersection would benefit from additional westbound left turn lane storage, additional right turn lanes and right turn overlap phasing.

Recommendation: Project makes a fair share contribution through the City's impact fee program for improvements at this intersection.

## Summary of Intersection Mitigations

In addition to the 674-Unit project and 911-Unit project analysis, intersections requiring mitigation measures under either project condition were evaluated under the 554-Unit (Phase 1) conditions as shown in **Table 26**.

		Table 26: Cumulative M	itigation	ıs				
			No	To	otal Un	its	Cir. Elem.	Responsible
Intersection	Impact	Mitigation	Project	554	674	911	and TIF1	Agency
2. SR 46 E/Golden Hill Rd <sup>2</sup>	LOS	Optimize traffic signal, SBR overlap	X	X	X	X	Yes	Caltrans
6. Golden Hill Rd/Union Rd	LOS, Queue	Install multi-lane roundabout	X	X	X	X	Yes	City
7. 13th St/Riverside Ave	Queue	Optimize corridor operations, WBR and NBR overlap	X	X	X	X	No	City
8. 13th St/Paso Robles St	Queue	Optimize corridor operations	X	X	X	X	No	City
9. River Rd/Creston Rd	Queue	Optimize corridor operations	X	X	X	X	No	City
12. Creston Rd/Stoney Creek Rd	LOS	Install traffic signal	X	X	X	X	Yes	City
13. Creston Rd/Meadowlark Rd	LOS	Install traffic signal	-	X	X	X	Yes	City
14. Creston Rd/Charolais Rd	LOS	Install all-way stop	-	-	-	X	No	City
15. Riverside Ave/Pine St/ US 101 SB Ramp	LOS	Install all-way stop	X	X	X	X	No	Caltrans
16. 1st St-Niblick Rd/Spring St	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City
17. Niblick Rd/South River Rd	Queue	Optimize corridor operations, corridor improvements	X	X	X	X	Yes	City

X - Mitigation required

<sup>1.</sup> Intersection improvements are included in the Paso Robles Circulation Element and Traffic Impact Fee (TIF).

<sup>2.</sup> The Paso Robles Circulation Element includes improvements on State Route 46 East and in the vicinity between Buena Vista Drive and Dry Creek Road. Recommend project make a fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents. Ultimate improvements will be determined in the project documents.

### 3. Roadway Segment Operations

**Table 27** shows the Cumulative and Cumulative Plus Project capacity utilization and LOS for the roadway study segments.

					(	Cumul	ative	Cun	nulativ	re + 674	Cur	nulativ	re + 911
			Facility				Capacity			Capacity			Capacity
Street	ID	Segment	Type	Lanes	ADT	LOS	Utilization	ADT	LOS	Utilization	ADT	LOS	Utilization
	1	East of Ferro Lane	Arterial	2*	19,300	D	89%	19,812	D	91%	19,929	D	92%
		East of Golden Hill Road	Arterial	4	19,600	Α	52%	21,137	Α	57%	21,487	Α	57%
Creston Koad	3	South of Niblick Road	Arterial	4	17,600	Α	47%	20,162	Α	54%	20,745	Α	55%
4		North of Meadowlark	Arterial	4	8,100	Α	22%	11,003	Α	29%	11,665	Α	31%
Golden Hill Road	5	South of Union Road	Arterial	4	20,600	A	55%	21,454	Α	57%	21,648	A	58%
Golden fill Koad	6	North of Union Road	Arterial	4	22,400	В	60%	23,083	В	62%	23,239	В	62%
Niblick Road	7	East of Spring Street	Arterial	4	34,700	D	93%	36,664	Е	98%	37,111	E	99%
INIDIICK KOZU	8	East of Quarterhorse	Arterial	4	28,600	С	76%	29,539	D	79%	29,753	D	80%
Charolais Road	9	East of South River Road	Arterial	2*	9,700	С	45%	12,006	С	55%	12,531	С	58%
South River Road	10	South of Spanish Camp Road South	Local	2	1,800	Α	19%	1,885	A	20%	1,905	В	20%
South River Road	11	North of Charolais Road	Arterial	2*	11,700	С	54%	14,006	D	65%	14,531	D	67%
Barley Grain Road	12	South of Creston Road	Local	2	600	Α	6%	685	Α	7%	705	Α	7%

The following roadway segments operate above 90% capacity utilization:

• Niblick Road (east of Spring Street): This segment operates at 93% capacity under Cumulative conditions. With the addition of traffic from either project, the capacity utilization would increase but remain below 100%. The projected capacity utilization of 99% on Niblick Road does not justify the widening of this roadway. Widening the bridge to a six-lane arterial would result in a capacity utilization below 70%, which would reduce vehicle delays, but would also support higher vehicle speeds and would conflict with the City's multimodal goals and desire to maintain its small-town character.

Recommendation: None. Maximize signal operations along corridor.

• Creston Road (east of Ferro Lane): This segment would operate at 89% capacity under Cumulative conditions. With the addition of traffic from either project, the capacity utilization would increase above 90% but remain below 100%. The project capacity utilization of 92% does not justify widening per the City's multimodal goals. Corridor improvements including a center left turn lane and bike lanes have been adopted by the City.

Recommendation: None. Maximize signal operations along corridor.

## 4. Freeway Segment Operations

**Table 28** shows the Cumulative and Cumulative Plus Project peak hour volumes at the freeway mainline and ramp locations and **Table 29** shows the LOS, with calculation sheets in **Appendix C**.

	Segmen	t			Cumulative +	Cumulative +
Direction	ĬD	Location		Cumulative	674	911
	1	SR 46W Off Ramp		300 (300)	300 (300)	300 (300)
	2	SR 46W On Ramp		579 (1025)	590 (1047)	591 (1054)
	3	Mainline North of SR 46W		2887 (4131)	2919 (4198)	2924 (4217)
	4	Spring St. Off Ramp		933 (1618)	965 (1685)	970 (1704)
US 101 NB	5	Paso Robles St. Off Ramp		423 (734)	423 (734)	423 (734)
US 101 NB	6	Paso Robles St. On Ramp		478 (457)	486 (463)	488 (465)
	7	Mainline South of SR 46E		2009 (2236)	2017 (2242)	2019 (2244)
	8	SR 46E Off Ramp		1164 (1239)	1164 (1239)	1164 (1239)
	9	SR 46E On Ramp		356 (335)	360 (338)	361 (339)
	10	Mainline North of SR 46E		1201 (1332)	1213 (1341)	1216 (1344)
	11	Mainline North of SR 46E		1120 (1796)	1126 (1809)	1127 (1813)
	12	SR 46E Off Ramp		332 (443)	334 (447)	334 (449)
	13	SR 46E to Riverside/17 <sup>th</sup> St. Weave	On	1167 (1298)	1167 (1298)	1167 (1298)
	14	SR 46E to Riverside/1/ St. Weave	Off	285 (396)	285 (396)	285 (396)
	15	Mainline South of SR 46E		1670 (2255)	1674 (2264)	1675 (2266)
US 101 SB	16	Riverside/17 <sup>th</sup> St. On Ramp		390 (268)	390 (268)	390 (268)
	17	Riverside/Pine St. Off Ramp		200 (324)	204 (333)	205 (335)
	18	Spring St. On Ramp		1374 (1127)	1432 (1174)	1450 (1185)
	19	Mainline North of SR 46W		3623 (3726)	3681 (3773)	3699 (3784)
[	20	SR 46W Off Ramp		706 (707)	725 (723)	731 (726)
	21	SR 46W On Ramp		200 (300)	200 (300)	200 (300)

	Table 29: Cumula	tive and C	Cumulat	ive Plus Pr	oject Free	eway Opera	itions		
		Segment	Peak	Cumul	lative	Cumulati	ve + 674	Cumulati	ive + 911
Direction	Location	Туре	Hour	Density <sup>1</sup>	LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>	LOS
	SR 46W Off Ramp	Diverge	AM	27.9	С	28.1	D	28.2	D
	or low on rump	Diverge	PM	33.2	D	33.6	D	33.7	D
	SR 46W On Ramp	Merge	AM	28.9	D	29.1	D	29.2	D
	r	6-	PM	37.2	E	v/c > 1	F	v/c > 1	F
	North of SR 46W	Mainline	AM	26.1	D	26.5	D	26.5	D
			PM	43.0	E	44.7	E	v/c > 1	F
	Spring St. Off Ramp	Diverge	AM	33.1	D	33.5	D	33.5	D
			PM AM	v/c > 1 21.1	<b>F</b> C	v/c > 1 21.1	<b>F</b> C	v/c > 1 21.1	<b>F</b> C
	Paso Robles St. Off Ramp	Diverge	PM	24.7	C	24.7	C	24.7	C
US 101 NB			AM	20.5	C	20.6	C	20.6	C
	Paso Robles St. On Ramp	Merge	PM	21.3	Č	21.3	Č	21.3	C
			AM	17.0	В	17.1	В	17.1	В
	South of SR 46E  SR 46E Off Ramp	Mainline	PM	17.5	В	17.6	В	17.6	В
		D.	AM	22.1	С	22.2	С	22.2	С
	SR 46E Off Ramp	Diverge	PM	22.6	С	22.7	С	22.7	С
	SR 46E On Ramp	Merge Mainline	AM	14.6	В	14.7	В	14.7	В
	SK 40E On Kamp		PM	15.2	В	15.3	В	15.3	В
	North of SR 46E		AM	11.1	В	11.3	В	11.3	В
	North of Six 40L	ivianimic	PM	11.7	В	11.8	В	11.8	В
	North of SR 46E	Mainline	AM	10.6	Α	10.7	Α	10.7	Α
			PM	17.3	В	17.4	В	17.5	В
	SR 46E Off Ramp	Diverge	AM	15.1	В	15.1	В	15.1	В
	•		PM	22.7	С	22.9	С	22.9	С
	SR 46E to Riverside/17 <sup>th</sup> St. <sup>2</sup>	Weave	AM	-	В	-	В	-	B C
			PM AM	14.3	C B	14.4	C B	14.4	В
	South of SR 46E	Mainline	PM	19.1	С	19.1	С	19.2	С
			AM	21.7	C	21.8	C	21.8	C
	Riverside/17 <sup>th</sup> St. On Ramp	Merge	PM	25.6	C	25.7	C	25.7	C
US 101 SB			AM	22.9	C	22.9	C	22.9	C
	Riverside/Pine St. Off Ramp	Diverge	PM	27.0	C	27.1	C	27.1	C
	C : C O P		AM	28.3	D	28.8	D	28.9	D
	Spring St. On Ramp	Merge	PM	29.0	D	29.3	D	29.4	D
	North of SR 46W	Mainline	AM	38.6	E	40.0	E	40.4	E
	NOITH OF SIX 40W	Mannine	PM	39.5	E	40.5	E	40.8	E
	SR 46W Off Ramp	Diverge	AM	38.2	$\mathbf{E}$	38.7	$\mathbf{E}$	38.9	$\mathbf{E}$
	or low ou Ramp	Diverge	PM	38.5	E	39.0	E	39.1	E
	SR 46W On Ramp	Merge	AM	31.4	D	31.7	D	31.8	D
	522 .5 5 2 p	8-	PM	32.6	D	32.8	D	32.9	D

<sup>1.</sup> HCM 6 density (passenger cars per mile per lane).

The addition of traffic from either project would worsen operations at the eight freeway segments operating at unacceptable LOS. No additional freeway segments would operate unacceptably. The addition of project traffic increases density by less than two passenger cars per mile per lane at the unacceptable locations within capacity and increases the V/C by 0.02 or less at the unacceptable locations that exceed capacity.

Recommendation: Development of mitigation measures and recommendations will require Caltrans coordination. See below for additional discussion on the findings and recommendations.

## Summary of Freeway Operations and Recommendations

The following freeway segments operate at LOS D or worse with or without the addition of traffic from either project as shown in **Table 30**.

<sup>2.</sup> The Leisch method used for weave section analysis does not report density.

Note: Unacceptable operations shown in **bold** text.

		Table 30	Summ	ary of Free	way Ope	rations			
		Segment	Peak		Ex. +	Near	NT +	Cumu-	
Direction	Location	Type	Hour	Existing	Proj.	Term	Proj.	lative	Cum. + Proj.
	SR 46W Off Ramp	Diverge	AM	-	-	-	-	-	D
	3K 40W OH Kamp	Diverge	PM	-	-	D	D	D	D
	SR 46W On Ramp	Merge	AM	-	-	-	-	D	D
US 101 NB	SK 40W On Kamp	Meige	PM	D	D	D	D	E	F
US 101 NB	North of SR 46W	Mainline	AM	-	-	-	-	D	D
	North of SK 40W	Mannine	PM	D	D	D	E	E	E (674) F (911)
	Spring St. Off Ramp	Director	AM	-	-	D	D	D	D
	opinig ot. On Kamp	Diverge	PM	D	D	Е	Е	F	F
	Carina Ct. On Roma	Merge	AM	-	-	-	-	D	D
	Spring St. On Ramp	Meige	PM	-	-	-	-	D	D
	North of SR 46W	Mainline	AM	D	D	D	Е	E	E
US 101 SB	North of SK 40W	Mannine	PM	D	D	D	D	E	E
US 101 SB	CD 4CW/ Off D	D:	AM	D	D	Е	E	E	E
	SR 46W Off Ramp	Diverge	PM	D	D	Е	E	E	E
	CD 4CW/ On Dance	M	AM	-	-	D	D	D	D
	SR 46W On Ramp	Merge	PM	-	-	D	D	D	D
Note: Segment op	erating acceptably are not s	shown in table	e.						<u> </u>

Widening the mainline to a six-lane facility between Spring Street and Main Street would improve mainline and ramp operations to LOS C or better for all segments except the US 101 NB Spring Street off-ramp with or without the proposed project under Near Term or Cumulative conditions. An additional lane at the US 101 NB Spring Street off-ramp is needed under Near Term and Cumulative conditions for acceptable operations. However, widening to a six-lane facility has not been identified in SLOCOG or Caltrans studies.

The US 101 Corridor Mobility Study identified LOS D-E for the northbound segments and LOS D for the southbound off-ramp diverge under 2035 conditions; however, no improvements were identified.

The US 101 Transportation Concept Report for this segment found that in the year 2035 demand is projected to exceed capacity in both the northbound and southbound directions between the urbanized area of Atascadero and south of the Paso Robles urban boundary. The report identifies the following improvement options:

- Interchange improvements
- Parallel route development
- Ramp and auxiliary lane improvements
- Enhanced transit and rail service
- Transportation Demand Management (TDM)
- Transportation System Management (TSM)

The SLOCOG Regional Transportation Plan identifies a future SR 46 Urban Multi-Modal Corridor Study for this area.

Development of mitigation measures and recommendations will require Caltrans coordination. Ramp improvements or metering may be an alternative in addition to Transportation Demand Management (TDM) and Transportation System Management (TSM) strategies.

## Cumulative Conditions

### 5. San Luis Obispo County Facilities

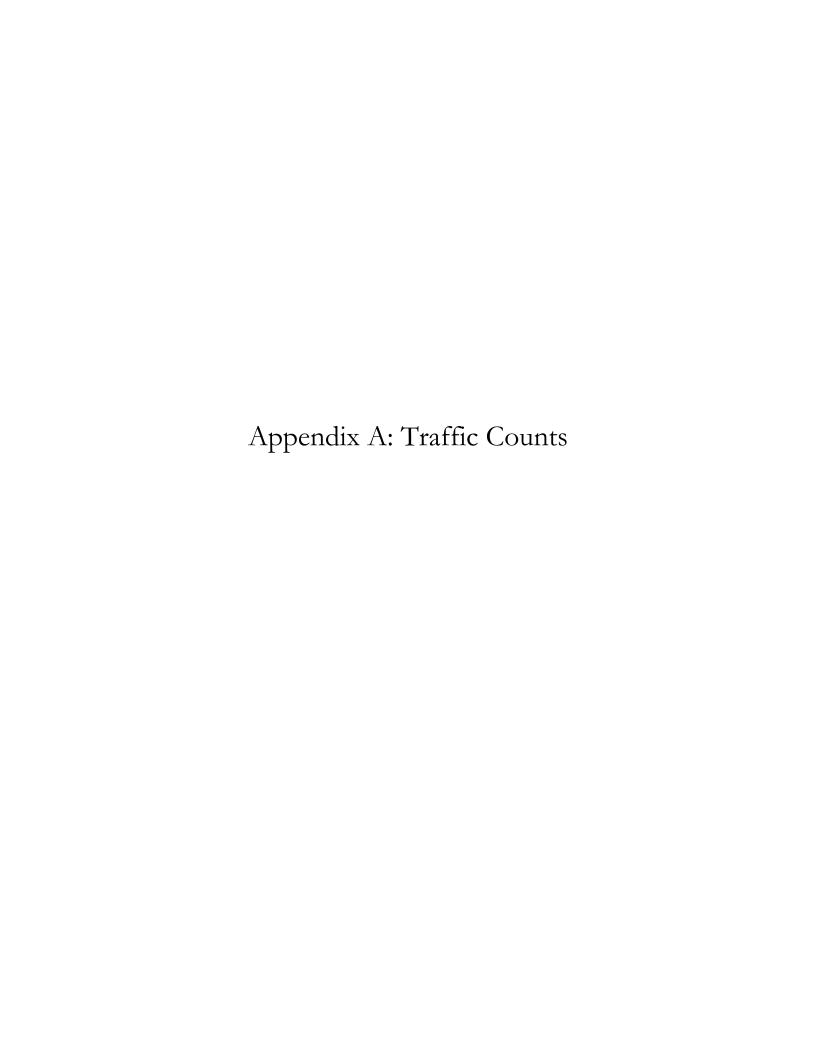
Under Cumulative conditions, four percent of project traffic is estimated to travel south of the City of Paso Robles via Creston Road or River Road. One percent of project traffic is estimated to enter the Templeton Road Improvement Fee Area and Urban Reserve Line (URL) via El Pomar Drive. Three percent of project traffic is estimated to travel to State Route 41 via Creston Road. These trips may travel through the fee area via South El Pomar Road.

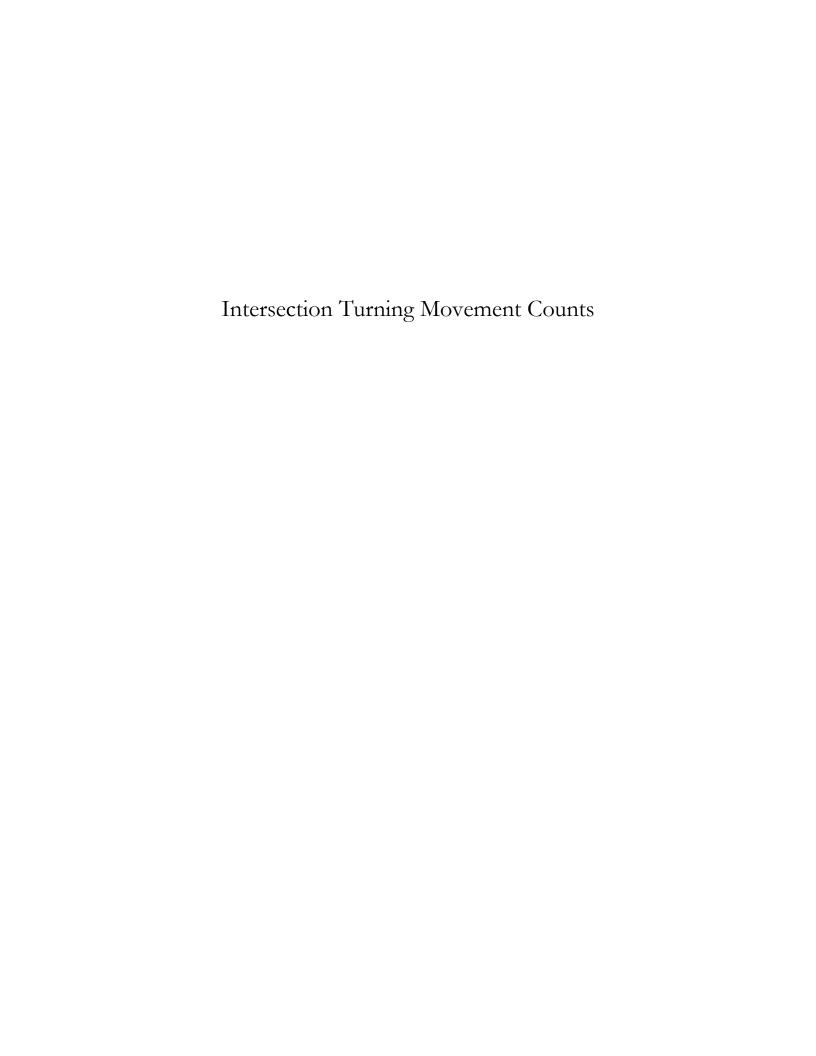
The Templeton Travel Demand Model and Circulation Study Update (2017) evaluated existing operations and forecast future traffic volumes on El Pomar Drive, Neal Springs Road, and Templeton Road. The annual growth rate ranged from 0.14-0.68 percent. These roadways operated at LOS A under Buildout conditions and would operate acceptably with the proposed project. The intersection of El Pomar Drive/Templeton Road is also forecast to operate acceptably at LOS B with the proposed project assuming a one percent annual growth rate.

The 674-Unit and 911-Unit project would generate 8 and 10 PM peak hour trips into the Templeton Road Improvement Fee Area, respectively.

## **References**

California Department of Transportation. 2002. Guide for the Preparation of Traffic Impact Studies.
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2018. General Plan Circulation Element.
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Fehr & Peers. 2008. Final SR 46 E Parallel Routes Study.
Hatch Mott MacDonald. 2012. Highway 46 PSR- Traffic Operations Analysis.
Institute of Transportation Engineers (ITE). 2017. Trip Generation Handbook, 3rd Edition.
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2014. US 101 Corridor Mobility Master Plan.
Transportation Research Board. 2017. Highway Capacity Manual, 6th Edition.







310 N. Irwin Street - Suite 20 Hanford, CA 93230

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## **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6

\*\*\* CA 93442

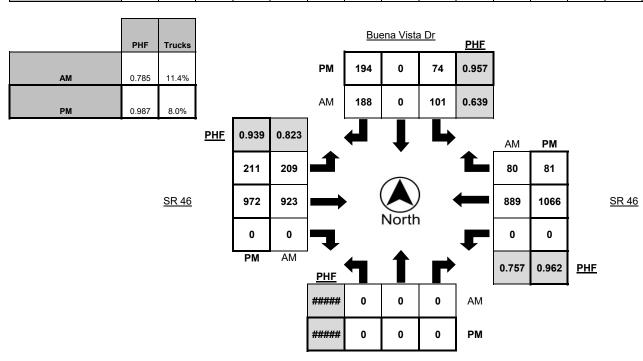
Morro Bay, CA 93442

LOCATION	SR46 @ Buena Vista Dr	LATITUDE	35.6446	
COUNTY	San Luis Obispo	LONGITUDE	-120.6722	
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear	

		North	bound			South	bound		Eastbound				Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	0	0	5	0	22	0	18	147	0	21	0	178	7	26
7:15 AM - 7:30 AM	0	0	0	0	15	0	28	0	21	181	0	27	0	197	12	22
7:30 AM - 7:45 AM	0	0	0	0	15	0	27	1	34	171	0	26	0	215	19	23
7:45 AM - 8:00 AM	0	0	0	0	27	0	70	3	67	277	0	27	0	300	20	63
8:00 AM - 8:15 AM	0	0	0	0	53	0	60	4	62	243	0	41	0	191	24	34
8:15 AM - 8:30 AM	0	0	0	0	6	0	31	0	46	232	0	28	0	183	17	22
8:30 AM - 8:45 AM	0	0	0	0	13	0	33	1	38	200	0	30	0	170	11	33
8:45 AM - 9:00 AM	0	0	0	0	13	0	25	2	63	205	0	36	0	161	22	37
TOTAL	0	0	0	0	147	0	296	11	349	1656	0	236	0	1595	132	260

		North	bound			South	bound			Easth	ound		Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
2:00 PM - 2:15 PM	0	0	0	0	11	0	40	1	39	220	0	33	0	262	26	24	
2:15 PM - 2:30 PM	0	0	0	0	7	0	32	0	42	197	0	26	0	243	34	25	
2:30 PM - 2:45 PM	0	0	0	0	36	0	39	3	39	240	0	44	0	233	34	24	
2:45 PM - 3:00 PM	0	0	0	0	38	0	64	2	35	241	0	29	0	230	11	16	
3:00 PM - 3:15 PM	0	0	0	0	19	0	43	1	33	231	0	25	0	227	9	27	
3:15 PM - 3:30 PM	0	0	0	0	18	0	46	1	34	249	0	39	0	258	13	36	
3:30 PM - 3:45 PM	0	0	0	0	14	0	52	1	39	240	0	24	0	285	12	24	
3:45 PM - 4:00 PM	0	0	0	0	17	0	46	2	35	256	0	33	0	256	16	12	
4:00 PM - 4:15 PM	0	0	0	0	15	0	55	3	62	225	0	26	0	261	24	21	
4:15 PM - 4:30 PM	0	0	0	0	20	0	43	1	44	238	0	35	0	279	19	25	
4:30 PM - 4:45 PM	0	0	0	0	18	0	48	1	53	262	0	26	0	260	14	21	
4:45 PM - 5:00 PM	0	0	0	0	21	0	48	0	52	247	0	27	0	266	24	23	
5:00 PM - 5:15 PM	0	0	0	0	20	0	47	1	60	256	0	23	0	232	23	17	
5:15 PM - 5:30 PM	0	0	0	0	19	0	44	1	49	222	0	30	0	265	28	15	
5:30 PM - 5:45 PM	0	0	0	0	30	0	36	1	35	228	0	20	0	194	14	17	
5:45 PM - 6:00 PM	0	0	0	0	7	0	39	0	31	232	0	19	0	188	18	9	
TOTAL	0	0	0	0	310	0	722	19	682	3784	0	459	0	3939	319	336	

		Northbound				Southbound				Eastbound				Westbound					
PEAK HOUR	AK HOUR Left Thru Right Trucks			Trucks	Left	Thru	Right	Trucks	Left Thru Right Truck			Trucks	Left	Thru	Right	Trucks			
7:30 AM - 8:30 AM	0	0	0	0	101	0	188	8	209	923	0	122	0	889	80	142			
4:00 PM - 5:00 PM	0	0	0	0	74	0	194	5	211	972	0	114	0	1066	81	90			





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# **Turning Movement Report**

Prepared For: Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR46 @ Buena Vista Dr	LATITUDE	35.6446	
COUNTY	San Luis Obispo	LONGITUDE	-120.6722	
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear	

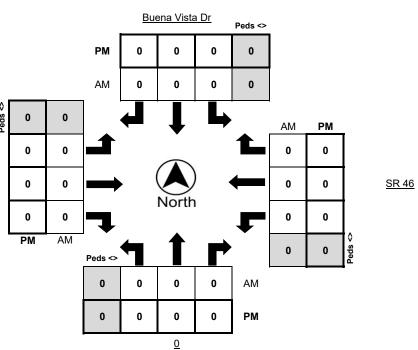
	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg Westbound Bikes			W.Leg	
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0

SR 46





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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR46 @ Buena Vista Dr	
COUNTY	San Luis Obispo	
COLLECTION DATE	Tuesday, October 23, 2018	
CYCLE TIME	95 Seconds	C

N/S STREET	Buena Vista Dr
E/W STREET	SR 46
WEATHER	Clear
ONTROL TYPE	Signal

**COMMENTS** Eastbound left turns are protected.







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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR 46 @ Golden Hill Rd	LATITUDE	35.6446	
COUNTY	San Luis Obispo	LONGITUDE	-120.6581	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound		Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:00 AM - 7:15 AM	21	43	1	3	16	12	34	10	43	72	20	13	9	122	29	22	
7:15 AM - 7:30 AM	37	41	2	2	18	20	33	10	38	139	47	32	3	147	38	20	
7:30 AM - 7:45 AM	50	49	6	5	16	33	36	7	31	132	46	24	12	182	44	26	
7:45 AM - 8:00 AM	79	62	2	0	10	33	24	7	61	203	87	31	10	226	36	35	
8:00 AM - 8:15 AM	64	45	5	2	31	37	44	9	50	156	62	38	7	140	44	22	
8:15 AM - 8:30 AM	31	61	4	4	24	37	31	10	52	149	54	35	3	150	25	36	
8:30 AM - 8:45 AM	23	37	6	3	25	33	44	17	34	145	40	34	4	131	22	36	
8:45 AM - 9:00 AM	26	37	8	1	9	39	43	5	48	132	34	35	4	117	24	19	
TOTAL	331	375	34	20	149	244	289	75	357	1128	390	242	52	1215	262	216	

		North	bound			South	bound		Eastbound Dight Truck				Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
4:00 PM - 4:15 PM	49	42	3	1	32	50	67	7	43	158	41	20	13	180	30	19	
4:15 PM - 4:30 PM	43	46	14	1	46	70	64	5	47	211	70	33	11	151	30	13	
4:30 PM - 4:45 PM	49	54	9	1	35	64	69	8	50	184	51	24	11	206	38	23	
4:45 PM - 5:00 PM	47	35	3	1	45	49	74	7	38	191	42	26	14	202	28	21	
5:00 PM - 5:15 PM	68	44	19	2	48	67	78	0	39	201	50	23	12	159	16	15	
5:15 PM - 5:30 PM	40	31	11	1	30	60	66	8	41	188	64	15	7	177	31	19	
5:30 PM - 5:45 PM	42	57	18	0	40	52	48	3	24	246	43	21	11	145	19	17	
5:45 PM - 6:00 PM	32	34	10	0	37	30	45	2	34	196	30	22	9	121	24	15	
TOTAL	370	343	87	7	313	442	511	40	316	1575	391	184	88	1341	216	142	

		North	bound			South	bound			Easth	ound		Westbound				
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:30 AM - 8:30 AM	224	217	17	11	81	140	135	33	194	640	249	128	32	698	149	119	
4:15 PM - 5:15 PM	207	179	45	5	174	250	285	20	174	787	213	106	48	718	112	72	

							Go	lden Hill	Rd					
	PHF	Trucks								<u>PHF</u>	_			
АМ	0.833	10.5%	1			PM	285	250	174	0.918				
PM	0.973	6.4%			_	AM	135	140	81	0.795				
			PHF	0.895	0.771						AM	PM	ı	
				174	194	1				L	149	112		
		<u>SR 46</u>		787	640	$\longrightarrow$		(A)		<b>←</b>	698	718		<u>SR 46</u>
				213	249	<b></b>		North		F	32	48		
				PM	AM	<u>PHF</u>	1	1	P		0.808	0.861	PHF	
						0.801	224	217	17	AM			-	
						0 833	207	170	45	ВΜ				

Golden Hill Rd

Page 1 of 3



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR 46 @ Golden Hill Rd	LATITUDE	35.6446
COUNTY_	San Luis Obispo	LONGITUDE_	-120.6581
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER_	Clear

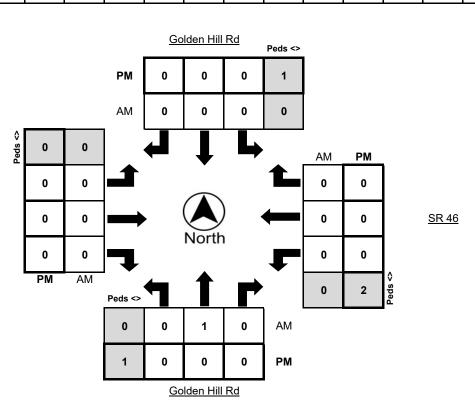
	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Nort	Northbound Bikes			Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Westbound Bikes		ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	2	0	0	0	1	0	1	0	2	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eastbound Bikes			E.Leg Westbound			ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	0

	Bikes	Peds
AM Peak Total	1	0
PM Peak Total	0	4

SR 46



Page 2 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

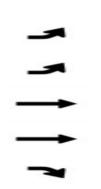
LOCATION	SR 46 @ Golden Hill Rd	
COUNTY	San Luis Obispo	
COLLECTION DATE	Wednesday, June 6, 2018	
CYCLE TIME	169 Seconds	

N/S STREET	Golden Hill Rd / Golden Hill Rd	
E/W STREET	SR 46 / SR 46	
WEATHER	Clear	
CONTROL TYPE	Signal	

**COMMENTS** All approaches have protected left turns.











310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR 46 @ Union Rd	LATITUDE	35.6445	
COUNTY	San Luis Obispo	LONGITUDE	-120.6494	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Easth	ound		Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:00 AM - 7:15 AM	0	0	42	1	0	0	0	0	0	90	2	11	34	177	0	25	
7:15 AM - 7:30 AM	1	0	47	2	0	0	0	0	0	159	5	36	58	180	0	25	
7:30 AM - 7:45 AM	1	0	41	1	0	0	0	0	0	143	3	22	91	245	0	23	
7:45 AM - 8:00 AM	0	0	60	1	0	0	0	0	0	212	6	25	72	289	0	37	
8:00 AM - 8:15 AM	3	0	58	1	0	0	0	0	0	183	10	32	48	180	0	24	
8:15 AM - 8:30 AM	1	0	63	1	0	0	0	0	1	167	8	27	40	177	0	35	
8:30 AM - 8:45 AM	0	0	39	2	0	1	0	0	0	167	5	37	53	165	0	36	
8:45 AM - 9:00 AM	1	0	45	2	0	0	0	0	0	134	10	28	40	142	0	17	
TOTAL	7	0	395	11	0	1	0	0	1	1255	49	218	436	1555	0	222	

		North	bound			South	bound		Eastbound				Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
4:00 PM - 4:15 PM	1	0	74	2	0	0	0	0	0	188	9	18	52	228	0	20	
4:15 PM - 4:30 PM	3	0	60	0	0	0	0	0	0	250	15	27	54	208	0	12	
4:30 PM - 4:45 PM	2	0	65	0	0	0	0	0	0	222	13	21	76	257	0	23	
4:45 PM - 5:00 PM	3	0	89	0	0	0	0	0	0	211	21	29	78	232	0	20	
5:00 PM - 5:15 PM	1	0	80	0	0	0	0	0	0	252	13	23	74	187	0	10	
5:15 PM - 5:30 PM	3	0	68	0	0	0	0	0	0	220	12	14	70	211	0	18	
5:30 PM - 5:45 PM	5	0	67	0	0	0	0	0	0	279	22	17	59	167	0	16	
5:45 PM - 6:00 PM	9	0	70	0	0	0	0	0	0	241	12	18	39	155	0	21	
TOTAL	27	0	573	2	0	0	0	0	0	1863	117	167	502	1645	0	140	

		North	bound			South	Southbound				ound		Westbound			
PEAK HOUR	Left	Thru	Right	Trucks	Left	Left Thru Right Trucks I			Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	5	0	222	4	0	0	0	0	1	705	27	106	251	891	0	119
4:15 PM - 5:15 PM	a	0	204	n	0	0	0	0	0	935	62	100	282	884	n	65

	PHF	Trucks					<u>Pas</u>	o Robles	Blvd	<u>PHF</u>				
АМ	0.822	10.9%				PM	0	0	0	#####				
РМ	0.971	6.7%				AM	0	0	0	#####				
			<u>PHF</u>	0.941	0.841		4	1	L		AM	PM		
				0	1			•		L	0	0		
		SR 46		935	705	$\longrightarrow$	•			<b>←</b>	891	884		SR 46
				62	27	1		North	l	L	251	282		
				PM	AM	PHF	4	1	P	,	0.791	0.875	<u>PHF</u>	
						0.887	5	0	222	AM			1	

0.823

294

Union Rd

PΜ

Page 1 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR 46 @ Union Rd	LATITUDE	35.6445
COUNTY	San Luis Obispo	LONGITUDE	-120.6494
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear

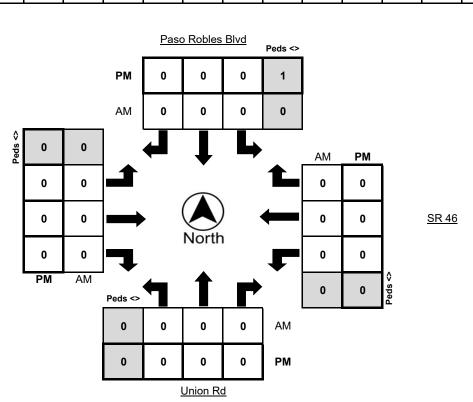
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	likes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	1

SR 46



Page 2 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR 46 @ Union Rd
COUNTY_	San Luis Obispo
COLLECTION DATE	Wednesday, June 6, 2018
CVCI E TIME	N/A

N/S STREET	Paso Robles Blvd / Union Rd	
E/W STREET	SR 46 / SR 46	
WEATHER	Clear	
CONTROL TYPE	Two-Way Stop	

COMMENTS



GTOP















310 N. Irwin Street - Suite 20 Hanford, CA 93230

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## **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6

\*\*\* CA 93442

Morro Bay, CA 93442

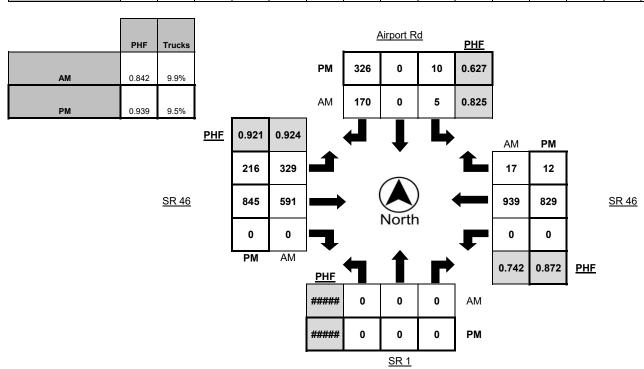
Page 1 of 3

LOCATION	SR46 @ Airport Rd	LATITUDE	35.6445
COUNTY	San Luis Obispo	LONGITUDE	-120.6433
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear

		North	bound			South	bound			Eastb	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	1	0	21	1	52	111	0	15	0	184	3	24
7:15 AM - 7:30 AM	0	0	0	0	0	0	36	3	41	122	0	26	0	203	2	22
7:30 AM - 7:45 AM	0	0	0	0	1	0	41	2	65	134	0	30	0	283	1	24
7:45 AM - 8:00 AM	0	0	0	0	0	0	53	1	111	123	0	25	0	311	11	21
8:00 AM - 8:15 AM	0	0	0	0	4	0	42	9	90	159	0	29	0	183	4	22
8:15 AM - 8:30 AM	0	0	0	0	0	0	34	2	63	175	0	19	0	162	1	20
8:30 AM - 8:45 AM	0	0	0	0	1	0	30	3	51	148	0	38	0	179	0	38
8:45 AM - 9:00 AM	0	0	0	0	3	0	34	4	40	125	0	28	0	156	1	28
TOTAL	0	0	0	0	10	0	291	25	513	1097	0	210	0	1661	23	199

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
2:00 PM - 2:15 PM	0	0	0	0	6	0	53	4	32	166	0	37	0	216	3	33
2:15 PM - 2:30 PM	0	0	0	0	2	0	55	4	49	185	0	27	0	227	0	25
2:30 PM - 2:45 PM	0	0	0	0	3	0	79	9	39	190	0	45	0	221	4	29
2:45 PM - 3:00 PM	0	0	0	0	4	0	45	3	51	232	0	27	0	190	2	21
3:00 PM - 3:15 PM	0	0	0	0	1	0	47	4	52	188	0	29	0	197	2	29
3:15 PM - 3:30 PM	0	0	0	0	1	0	50	6	58	215	0	30	0	195	6	39
3:30 PM - 3:45 PM	0	0	0	0	3	0	131	1	48	200	0	30	0	209	5	21
3:45 PM - 4:00 PM	0	0	0	0	2	0	67	8	64	224	0	29	0	192	3	17
4:00 PM - 4:15 PM	0	0	0	0	1	0	60	3	49	222	0	23	0	190	1	25
4:15 PM - 4:30 PM	0	0	0	0	4	0	68	3	55	199	0	29	0	238	3	23
4:30 PM - 4:45 PM	0	0	0	0	1	0	99	0	48	220	0	25	0	205	4	21
4:45 PM - 5:00 PM	0	0	0	0	2	0	81	3	41	234	0	25	0	197	1	27
5:00 PM - 5:15 PM	0	0	0	0	4	0	102	4	42	215	0	19	0	169	3	17
5:15 PM - 5:30 PM	0	0	0	0	4	0	58	2	36	226	0	34	0	175	1	13
5:30 PM - 5:45 PM	0	0	0	0	1	0	48	0	53	209	0	20	0	149	1	20
5:45 PM - 6:00 PM	0	0	0	0	1	0	35	0	52	204	0	18	0	146	2	8
TOTAL	0	0	0	0	40	0	1078	54	769	3329	0	447	0	3116	41	368

		North	bound			South	bound			Easth	ound			West	bound	
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	0	0	5	0	170	14	329	591	0	103	0	939	17	87
3:30 PM - 4:30 PM	0	0	0	0	10	0	326	15	216	845	0	111	0	829	12	86





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For: Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR46 @ Airport Rd	LATITUDE	35.6445	
COUNTY	San Luis Obispo	LONGITUDE	-120.6433	
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear	

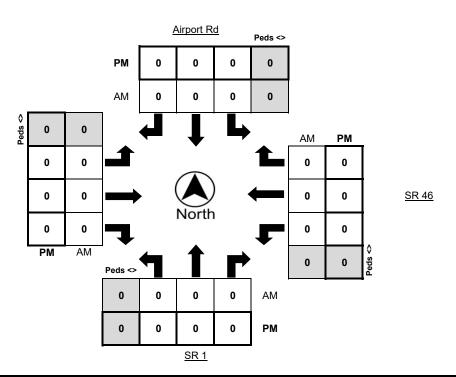
	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	Bikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0

SR 46





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR46 @ Airport Rd	
COUNTY	San Luis Obispo	_
COLLECTION DATE	Tuesday, October 23, 2018	
CYCLE TIME	N/A	CC

N/S STREET	Airport Rd	
E/W STREET	SR 46	
WEATHER	Clear	
CONTROL TYPE	One-Way Stop	

COMMENTS



**GTOP** 









310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6

\*\*\* CA 93442

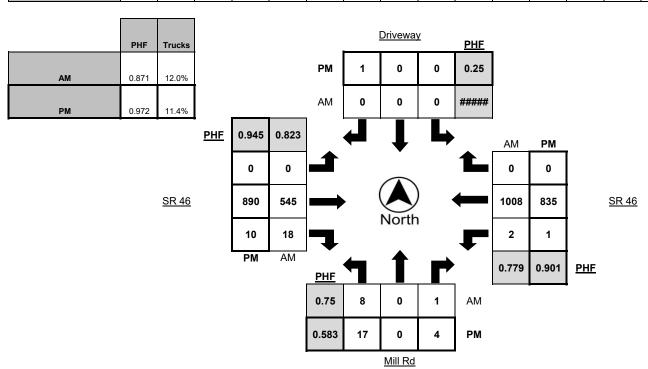
Morro Bay, CA 93442

LOCATION	SR46 @ Mill Rd	LATITUDE	35.6453	
COUNTY	San Luis Obispo	LONGITUDE	-120.6342	
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear	
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear	

		North	bound		Southbound				Eastbound				Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:00 AM - 7:15 AM	2	0	0	0	0	0	0	0	0	111	0	14	0	177	0	24	
7:15 AM - 7:30 AM	3	0	0	0	0	0	0	0	0	126	3	25	0	208	0	21	
7:30 AM - 7:45 AM	3	0	0	0	0	0	0	0	0	130	4	28	1	294	0	22	
7:45 AM - 8:00 AM	1	0	0	0	0	0	0	0	0	124	5	24	1	323	0	18	
8:00 AM - 8:15 AM	1	0	1	0	0	0	0	0	0	165	6	32	0	183	0	20	
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	170	3	18	0	163	0	23	
8:30 AM - 8:45 AM	3	0	1	2	0	0	0	0	0	149	3	34	0	188	0	31	
8:45 AM - 9:00 AM	2	0	1	1	0	0	0	0	0	125	4	29	2	152	0	29	
TOTAL	15	0	3	3	0	0	0	0	0	1100	28	204	4	1688	0	188	

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
2:00 PM - 2:15 PM	2	0	3	0	0	0	0	0	0	166	6	37	1	225	0	31
2:15 PM - 2:30 PM	4	0	0	0	0	0	0	0	0	185	3	24	0	215	0	25
2:30 PM - 2:45 PM	1	0	1	0	0	0	0	0	0	182	3	44	2	231	0	29
2:45 PM - 3:00 PM	6	0	1	0	0	0	0	0	0	229	2	25	1	175	0	30
3:00 PM - 3:15 PM	11	0	2	3	0	0	0	0	0	193	7	21	2	195	0	30
3:15 PM - 3:30 PM	3	0	0	0	0	0	0	0	0	207	2	32	1	198	0	33
3:30 PM - 3:45 PM	6	0	1	0	0	0	0	0	0	197	3	23	1	209	0	20
3:45 PM - 4:00 PM	6	0	3	0	0	0	0	0	0	225	2	27	3	197	0	13
4:00 PM - 4:15 PM	2	0	1	0	0	0	1	0	0	224	2	23	0	202	0	29
4:15 PM - 4:30 PM	3	0	1	1	0	0	0	0	0	212	4	28	0	232	0	21
4:30 PM - 4:45 PM	8	0	1	0	0	0	0	0	0	217	3	24	1	198	0	22
4:45 PM - 5:00 PM	4	0	1	0	0	0	0	0	0	237	1	25	0	203	0	28
5:00 PM - 5:15 PM	5	0	0	0	0	0	0	0	0	233	1	19	0	166	0	15
5:15 PM - 5:30 PM	6	0	2	0	0	0	0	0	0	231	5	33	0	175	0	15
5:30 PM - 5:45 PM	5	0	0	0	0	0	0	0	0	215	2	18	1	146	0	17
5:45 PM - 6:00 PM	2	0	0	0	0	0	0	0	0	202	1	19	0	146	0	9
TOTAL	74	0	17	4	0	0	1	0	0	3355	47	422	13	3113	0	367

	N 41																
		North	bound		Southbound					Easth	ound		Westbound				
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:15 AM - 8:15 AM	8	0	1	0	0	0	0	0	0	545	18	109	2	1008	0	81	
4:00 PM - 5:00 PM	17	0	4	1	0	0	1	0	0	890	10	100	1	835	0	100	



Page 1 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For: Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	SR46 @ Mill Rd	LATITUDE	35.6453	
COUNTY	San Luis Obispo	LONGITUDE	-120.6342	
COLLECTION DATE	Tuesday, October 23, 2018	WEATHER	Clear	

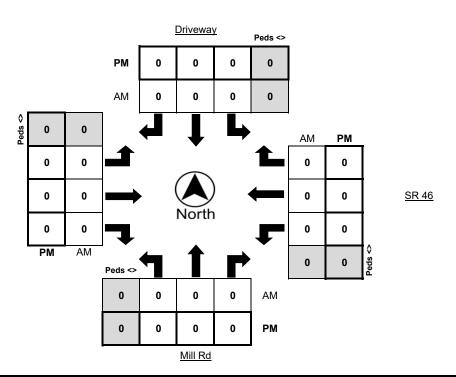
	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Northbound Bikes			N.Leg	N.Leg Southbound Bikes			S.Leg Eastbound Bikes			E.Leg Westbound Bikes				W.Leg	
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0

SR 46



Page 2 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

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## **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 SR46 @ Mill Rd

 COUNTY
 San Luis Obispo

 COLLECTION DATE
 Tuesday, October 23, 2018

 CYCLE TIME
 N/A

N/S STREET	Mill Rd
E/W STREET	SR 46
WEATHER	Clear
CONTROL TYPE	Two-Way Stop

**COMMENTS** 



GTOP













310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd @ Union Rd	LATITUDE	35.6402	
COUNTY	San Luis Obispo	LONGITUDE	-120.6581	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound		Southbound					Eastl	ound		Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	5	39	29	4	5	30	3	3	17	19	9	2	33	15	13	2
7:15 AM - 7:30 AM	7	48	42	1	12	49	3	0	14	26	23	1	53	21	22	6
7:30 AM - 7:45 AM	6	74	32	2	3	60	11	2	19	29	27	0	74	25	10	2
7:45 AM - 8:00 AM	13	82	54	1	12	85	16	6	32	27	28	0	76	32	23	0
8:00 AM - 8:15 AM	14	84	54	2	12	66	20	5	22	31	14	2	43	18	11	5
8:15 AM - 8:30 AM	16	51	46	1	9	49	15	6	12	29	15	0	32	23	15	4
8:30 AM - 8:45 AM	15	37	32	2	9	45	12	6	15	19	9	1	44	27	12	4
8:45 AM - 9:00 AM	6	39	36	3	7	50	10	4	14	23	12	0	26	30	12	2
TOTAL	82	454	325	16	69	434	90	32	145	203	137	6	381	191	118	25

		North	bound		Southbound					Easth	ound		Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	9	50	54	3	13	53	23	2	24	50	14	2	60	40	20	2
4:15 PM - 4:30 PM	6	61	41	0	16	101	23	7	17	48	14	0	49	39	16	3
4:30 PM - 4:45 PM	12	61	50	0	10	85	24	3	11	47	10	1	61	41	29	2
4:45 PM - 5:00 PM	9	44	83	1	4	80	17	0	23	54	20	2	59	48	15	0
5:00 PM - 5:15 PM	15	54	65	1	10	85	27	0	15	48	16	1	69	50	36	1
5:15 PM - 5:30 PM	13	50	45	0	5	90	22	4	14	50	15	0	66	46	17	1
5:30 PM - 5:45 PM	10	66	57	0	8	83	13	2	15	31	16	0	45	40	23	0
5:45 PM - 6:00 PM	4	43	72	0	7	44	13	1	13	47	16	0	34	30	12	0
TOTAL	78	429	467	5	73	621	162	19	132	375	121	6	443	334	168	9

	Northbound					Southbound				Eastbound				Westbound			
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:15 AM - 8:15 AM	40	288	182	6	39	260	50	13	87	113	92	3	246	96	66	13	
4:30 PM - 5:30 PM	49	209	243	2	29	340	90	7	63	199	61	4	255	185	97	4	

	PHF	Trucks					<u>Gc</u>	olden Hill	<u>Rd</u>	<u>PHF</u>			
АМ	0.812	2.2%				PM	90	340	29	0.941			
РМ	0.929	0.9%				AM	50	260	39	0.772			
-			<u>PHF</u>	0.832	0.839		4	1	L	,	AM	PM	
				63	87	1		•		1	66	97	
		Union Ro	<u>1</u>	199	113	$\rightarrow$	•		) .	<b>—</b>	96	185	<u>Union Rd</u>
				61	92	7		North	1	T	246	255	
				PM	AM	PHF	4	1	P		0.779	0.866	<u>PHF</u>
						0.839	40	288	182	AM			1
						0.921	49	209	243	PM			



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd @ Union Rd	LATITUDE	35.6402
COUNTY	San Luis Obispo	LONGITUDE_	-120.6581
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER_	Clear

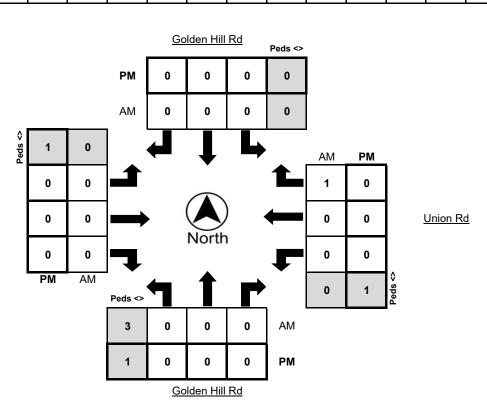
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	6	0	0	1	1	0	0	1	1

	Northbound Bikes			N.Leg	Sou	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	ikes	W.Leg	
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1

	Bikes	Peds
AM Peak Total	1	3
PM Peak Total	0	3

Union Rd





310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

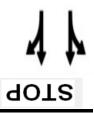
895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd @ Union Rd
COUNTY	San Luis Obispo
COLLECTION DATE	Wednesday, June 6, 2018
CYCLE TIME	N/A

N/S STREET	Golden Hill Rd / Golden Hill Rd
E/W STREET	Union Rd / Union Rd
WEATHER_	Clear
CONTROL TYPE	All-Way Stop

COMMENTS Eastbound

Eastbound and westbound right turns controlled by a yield sign.









STO

STOP



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	13th St @ Riverisde Ave	LATITUDE	35.6280	
COUNTY	San Luis Obispo	LONGITUDE	-120.6870	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	7	14	1	42	14	3	3	0	31	8	1	52	43	60	9
7:15 AM - 7:30 AM	1	7	19	3	78	25	3	3	1	46	10	2	75	58	76	4
7:30 AM - 7:45 AM	2	2	30	4	126	17	8	3	0	53	7	1	80	61	117	5
7:45 AM - 8:00 AM	0	6	38	2	121	31	8	4	1	68	5	1	94	97	168	5
8:00 AM - 8:15 AM	1	6	26	0	84	19	6	4	0	57	7	1	81	90	156	6
8:15 AM - 8:30 AM	3	5	34	1	83	20	8	5	0	74	9	2	62	86	106	5
8:30 AM - 8:45 AM	1	8	26	4	55	23	12	3	5	50	12	1	58	77	88	7
8:45 AM - 9:00 AM	0	8	33	0	57	15	13	2	4	49	6	1	63	125	97	6
TOTAL	8	49	220	15	646	164	61	27	11	428	64	10	565	637	868	47

		North	bound			South	bound			Easth	ound		Westbound				
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
4:00 PM - 4:15 PM	0	9	69	0	89	18	14	6	2	98	10	3	55	101	93	1	
4:15 PM - 4:30 PM	2	10	67	0	119	21	16	0	4	93	9	0	64	88	101	2	
4:30 PM - 4:45 PM	1	7	61	1	91	22	13	1	2	93	12	0	62	104	98	1	
4:45 PM - 5:00 PM	2	10	61	1	137	24	25	0	5	94	6	0	63	107	140	1	
5:00 PM - 5:15 PM	0	9	90	1	135	19	26	3	7	74	5	0	50	83	134	1	
5:15 PM - 5:30 PM	3	11	52	2	145	19	22	1	1	113	8	1	65	93	133	1	
5:30 PM - 5:45 PM	1	10	67	1	105	9	16	1	5	74	6	0	60	100	106	4	
5:45 PM - 6:00 PM	0	4	33	1	104	13	14	1	1	71	6	0	47	101	123	1	
TOTAL	9	70	500	7	925	145	146	13	27	710	62	4	466	777	928	12	

		North	bound			South	bound			Eastl	ound		Westbound				
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
7:30 AM - 8:30 AM	6	19	128	7	414	87	30	16	1	252	28	5	317	334	547	21	
															The state of the s		
4:30 PM - 5:30 PM	6	37	264	5	508	84	86	5	15	374	31	1	240	387	505	4	

	PHF	Trucks					Ri	verside <i>l</i>	<u>\ve</u>	<u>PHF</u>				
АМ	0.849	2.3%				PM	86	84	508	0.911				
PM	0.941	0.6%				AM	30	87	414	0.83				
			PHF	0.861	0.846		4	1	L		AM	PM		
				15	1			•		L	547	505		
		13th St		374	252	$\longrightarrow$			) .	<b>←</b>	334	387		13th St
				31	28			North	1		317	240		
				PM	AM	PHF	4	1	ightharpoonup		0.834	0.913	<u>PHF</u>	
						0.869	6	19	128	АМ			1	

Riverside Ave

264

PΜ



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 13th St @ Riverisde Ave
 LATITUDE
 35.6280

 COUNTY
 San Luis Obispo
 LONGITUDE
 -120.6870

 COLLECTION DATE
 Wednesday, June 6, 2018
 WEATHER
 Clear

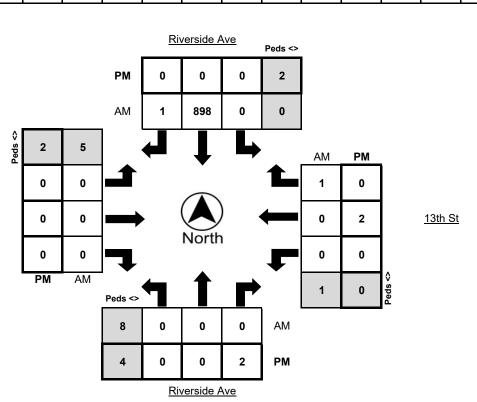
	Nort	hbound E	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	likes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	1	0	0	344	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	308	3	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	232	0	1	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	209	0	0	0	0	0	0	0	0	1	1
8:00 AM - 8:15 AM	0	0	0	0	0	228	0	2	0	0	0	0	0	0	0	2
8:15 AM - 8:30 AM	0	0	0	0	0	229	1	5	0	0	0	1	0	0	0	1
8:30 AM - 8:45 AM	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	1
TOTAL	0	0	1	2	0	1574	4	10	0	0	0	1	1	0	1	7

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	2
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	1	0	0	0	0	3	0	0	0	0	0	2	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM - 5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM - 5:45 PM	0	0	1	1	0	0	0	5	0	0	0	0	1	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	3
TOTAL	0	0	3	4	0	0	0	15	0	0	0	0	1	3	0	7

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	898	1	8	0	0	0	1	0	0	1	5
4:30 PM - 5:30 PM	0	0	2	2	0	0	0	4	0	0	0	0	0	2	0	2

	Bikes	Peds
AM Peak Total	900	14
PM Peak Total	4	8

13th St





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

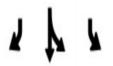
**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	13th St @ Riverisde Ave
COUNTY	San Luis Obispo
COLLECTION DATE	Wednesday, June 6, 2018
CYCLE TIME	104 Seconds

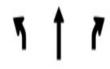
N/S STREET	Riverside Ave / Riverside Ave
E/W STREET	13th St / 13th St
WEATHER	Clear
CONTROL TYPE	Signal

**COMMENTS** All approaches have protected left turns.











310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	13th St @ Paso Robles St	LATITUDE	35.6281	
COUNTY	San Luis Obispo	LONGITUDE	-120.6857	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastk	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	19	0	22	3	1	0	0	0	11	68	7	2	9	141	47	8
7:15 AM - 7:30 AM	29	5	35	1	1	0	1	1	14	125	6	6	6	165	51	2
7:30 AM - 7:45 AM	36	0	47	5	2	0	1	0	15	172	9	6	5	224	89	3
7:45 AM - 8:00 AM	55	4	79	5	2	0	2	1	24	192	17	6	18	291	111	4
8:00 AM - 8:15 AM	58	5	51	2	1	0	4	0	12	134	7	4	9	262	83	4
8:15 AM - 8:30 AM	52	2	41	4	0	0	0	0	10	178	13	5	13	196	33	6
8:30 AM - 8:45 AM	54	2	35	3	1	0	1	1	14	106	9	6	15	160	31	4
8:45 AM - 9:00 AM	70	5	52	5	0	0	4	0	15	105	14	4	11	211	39	6
TOTAL	373	23	362	28	8	0	13	3	115	1080	82	39	86	1650	484	37

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	50	5	72	2	0	0	3	0	25	224	10	6	14	183	44	2
4:15 PM - 4:30 PM	61	5	98	2	2	0	2	0	23	242	2	1	4	183	51	0
4:30 PM - 4:45 PM	54	9	93	1	5	0	11	0	17	220	11	1	8	197	60	0
4:45 PM - 5:00 PM	52	5	105	2	0	0	3	0	20	261	10	1	4	245	55	1
5:00 PM - 5:15 PM	66	7	101	3	1	0	6	0	26	243	3	3	3	194	53	2
5:15 PM - 5:30 PM	73	7	108	1	1	0	4	0	20	296	6	2	4	212	57	0
5:30 PM - 5:45 PM	58	4	98	1	0	0	4	0	21	219	1	1	3	200	51	2
5:45 PM - 6:00 PM	50	3	77	0	0	0	2	0	8	201	3	3	3	215	40	1
TOTAL	464	45	752	12	9	0	35	0	160	1906	46	18	43	1629	411	8

		North	bound			South	bound			Eastk	ound			West	bound	
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	201	11	218	16	5	0	7	1	61	676	46	21	45	973	316	17
4:30 PM - 5:30 PM	245	28	407	7	7	0	24	0	83	1020	30	7	10	848	225	3

	PHF	Trucks					<u>Pas</u>	so Roble	s St	<u>PHF</u>	_			
АМ	0.805	2.1%				PM	24	0	7	0.484				
PM	0.931	0.6%				АМ	7	0	5	0.6				
			<u>PHF</u>	0.88	0.84		4	1	L		AM	PM		
				83	61			•		L	316	225		
		13th St		1020	676	$\longrightarrow$	•		) .	<del></del>	973	848		<u>13th St</u>
				30	46			North	1	F	45	19		
				PM	AM	PHF	4	1	ightharpoonup		0.794	0.898	PHF	
						0.779	201	11	218	AM			l	
										ł				

Paso Robles St



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6

Morro Bay, CA 93442

LOCATION	13th St @ Paso Robles St	LATITUDE	35.6281	
COUNTY	San Luis Obispo	LONGITUDE	-120.6857	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

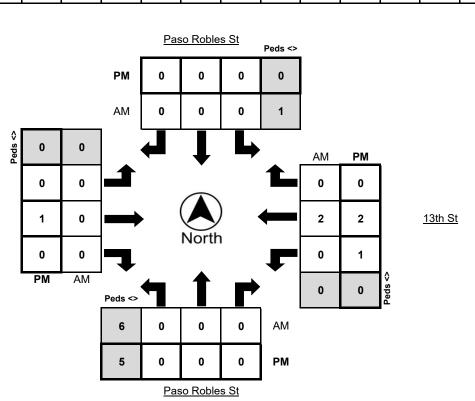
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
8:45 AM - 9:00 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	0	0	0	3	0	0	0	7	0	1	0	0	0	3	1	1

	Nort	hbound B	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	3	0	1	0	0	0	2	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
TOTAL	0	0	0	2	0	0	0	12	1	2	0	0	1	2	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:30 AM - 8:30 AM	0	0	0	1	0	0	0	6	0	0	0	0	0	2	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	5	0	1	0	0	1	2	0	0

	Bikes	Peds
AM Peak Total	2	7
PM Peak Total	4	5

13th St





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### **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	13th St @ Paso Robles St	
COUNTY	San Luis Obispo	
COLLECTION DATE	Wednesday, June 6, 2018	
CYCLE TIME	89 Seconds	

N/S STREET	Paso Robles St / Paso Robles St
E/W STREET	13th St / 13th St
WEATHER	Clear
CONTROL TYPE	Signal

COMMENTS

Eastbound and westbound left turns are protected. Northbound and southbound left turns are permitted. Westbound right turns controlled by a yield sign.











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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Union Rd/River Rd	LATITUDE	35.6291	
COUNTY	San Luis Obispo	LONGITUDE	-120.6833	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	oound			Westl	bound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	38	18	4	1	6	20	62	8	18	46	25	2	8	91	5	1
7:15 AM - 7:30 AM	43	22	5	2	14	38	82	2	32	67	55	6	5	112	6	1
7:30 AM - 7:45 AM	80	42	13	1	27	53	79	2	32	119	71	6	14	165	21	0
7:45 AM - 8:00 AM	105	55	20	3	36	44	103	1	54	140	74	11	11	222	34	1
8:00 AM - 8:15 AM	88	46	6	1	37	49	89	3	38	101	55	4	22	155	19	2
8:15 AM - 8:30 AM	52	26	6	2	18	27	66	4	55	111	46	7	9	132	13	2
8:30 AM - 8:45 AM	39	21	5	2	4	34	58	3	47	71	27	8	13	113	8	2
8:45 AM - 9:00 AM	59	21	8	4	4	30	63	1	44	75	36	5	12	119	6	2
TOTAL	504	251	67	16	146	295	602	24	320	730	389	49	94	1109	112	11

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	54	54	12	0	11	45	78	1	70	146	72	3	6	108	12	1
4:15 PM - 4:30 PM	54	46	20	1	12	43	71	1	96	196	65	1	21	117	15	0
4:30 PM - 4:45 PM	51	48	18	0	13	46	74	0	81	151	78	2	19	147	21	1
4:45 PM - 5:00 PM	61	47	18	0	12	42	73	1	90	192	76	0	17	149	21	0
5:00 PM - 5:15 PM	57	49	16	0	12	69	55	0	90	190	71	5	6	150	8	2
5:15 PM - 5:30 PM	59	59	12	1	20	47	85	0	99	211	86	2	18	110	18	0
5:30 PM - 5:45 PM	56	52	17	1	8	34	61	0	58	159	80	1	12	135	10	2
5:45 PM - 6:00 PM	48	53	17	2	8	42	77	0	67	146	79	0	15	126	17	0
TOTAL	440	408	130	5	96	368	574	3	651	1391	607	14	114	1042	122	6

			North	bound			South	bound			Faetl	ound			Woetl	bound	
ĺ	PEAK HOUR	Left	Thru	Right	Trucks												
	7:30 AM - 8:30 AM	325	169	45	7	118	173	337	10	179	471	246	28	56	674	87	5
	4:30 PM - 5:30 PM	228	203	64	1	57	204	287	1	360	744	311	9	60	556	68	3

	PHF	Trucks						Union Ro	<u>d</u>	<u>PHF</u>			
АМ	0.802	1.7%				PM	287	204	57	0.901			
PM	0.953	0.4%				AM	337	173	118	0.858			
			<u>PHF</u>	0.893	0.836		4	1	L		AM	PM	
				360	179			•		L	87	68	
		13th St		744	471	$\longrightarrow$	•		) .	<del></del>	674	556	Creston Rd
				311	246	-		North	1	F	56	60	
				PM	AM	PHF	4	1	ightharpoonup		0.765	0.914	<u>PHF</u>
						0.749	325	169	45	AM			l
						0.952	228	203	64	PM			



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Union Rd/River Rd	LATITUDE	35.6291	
COUNTY	San Luis Obispo	LONGITUDE	-120.6833	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

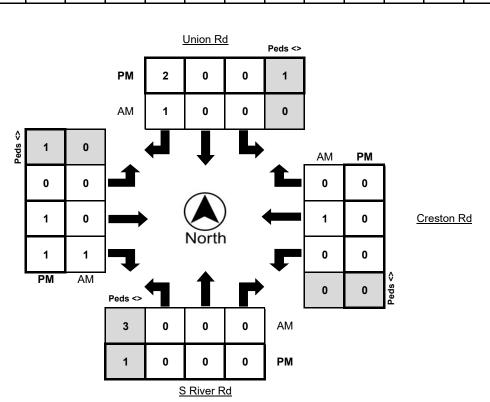
	Nort	hbound E	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	2	4	0	1	1	0	0	1	0	0

	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	2	0	0	0	1	0	0	0	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
TOTAL	0	0	0	2	0	0	2	1	0	3	1	0	0	0	0	1

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	1	3	0	0	1	0	0	1	0	0
4:30 PM - 5:30 PM	0	0	0	1	0	0	2	1	0	1	1	0	0	0	0	1

	Bikes	Peds
AM Peak Total	3	3
PM Peak Total	4	3

13th St





310 N. Irwin Street - Suite 20 Hanford, CA 93230

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### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Creston Rd @ Union Rd/River Rd

 COUNTY
 San Luis Obispo

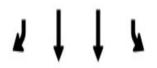
 COLLECTION DATE
 Wednesday, June 6, 2018

 CYCLE TIME
 118 Seconds

N/S STREET	Union Rd / S River Rd
E/W STREET	Creston Rd / 13th St
WEATHER	Clear
CONTROL TYPE	Signal

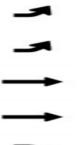
COMMENTS

All approaches have protected left turns. Southbound and eastbound right turns controlled by yield signs.













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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Golden Hill Rd	LATITUDE	35.6223	
COUNTY	San Luis Obispo	LONGITUDE	-120.6597	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	39	0	8	4	5	43	0	1	0	49	58	3
7:15 AM - 7:30 AM	0	0	0	0	65	0	12	4	9	52	0	4	0	62	53	0
7:30 AM - 7:45 AM	0	0	0	0	111	0	36	4	12	77	0	3	0	112	75	4
7:45 AM - 8:00 AM	0	0	0	0	127	0	27	5	22	89	0	1	0	116	117	4
8:00 AM - 8:15 AM	0	0	0	0	107	0	14	5	21	114	0	1	0	140	89	10
8:15 AM - 8:30 AM	0	0	0	0	73	0	14	3	10	72	0	5	0	79	77	5
8:30 AM - 8:45 AM	0	0	0	0	52	0	7	3	6	44	0	0	0	56	55	1
8:45 AM - 9:00 AM	0	0	0	0	54	0	4	4	7	56	0	1	0	83	57	1
TOTAL	0	0	0	0	628	0	122	32	92	547	0	16	0	697	581	28

		North	bound			South	bound			Easth	ound			Westl	ound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	87	0	16	0	6	90	0	2	0	104	94	1
4:15 PM - 4:30 PM	0	0	0	0	99	0	12	2	6	85	0	1	0	116	88	0
4:30 PM - 4:45 PM	0	0	0	0	97	0	17	1	12	88	0	1	0	120	105	2
4:45 PM - 5:00 PM	0	0	0	0	132	0	19	1	19	76	0	0	0	89	79	1
5:00 PM - 5:15 PM	0	0	0	0	116	0	14	0	11	101	0	1	0	101	92	1
5:15 PM - 5:30 PM	0	0	0	0	107	0	21	1	14	94	0	1	0	95	80	0
5:30 PM - 5:45 PM	0	0	0	0	117	0	21	1	13	97	0	1	0	96	77	3
5:45 PM - 6:00 PM	0	0	0	0	88	0	18	1	12	79	0	1	0	74	75	0
TOTAL	0	0	0	0	843	0	138	7	93	710	0	8	0	795	690	8

		North	bound							Eastk	ound			Westl	oound	
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	0	0	418	0	91	17	65	352	0	10	0	447	358	23
4:30 PM - 5:30 PM	0	0	0	0	452	0	71	3	56	359	0	3	0	405	356	4

	PHF	Trucks					<u>Go</u>	lden Hills	s Rd	<u>PHF</u>	_		
АМ	0.869	2.9%				PM	71	0	452	0.866			
РМ	0.968	0.6%				AM	91	0	418	0.826			
			<u>PHF</u>	0.926	0.772		4	1	L	,	AM	PM	
				56	65					L	358	356	
	<u>C</u>	reston F	<u>Rd</u>	359	352	$\longrightarrow$	•		) .	<b>—</b>	447	405	<u>Creston Rd</u>
				0	0	7		North	1	Ļ	0	0	
				PM	AM	PHF	4	1		•	0.864	0.846	<u>PHF</u>
						#####	0	0	0	AM			1
						#####	0	0	0	РМ			



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Golden Hill Rd	LATITUDE	35.6223	
COUNTY	San Luis Obispo	LONGITUDE	-120.6597	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

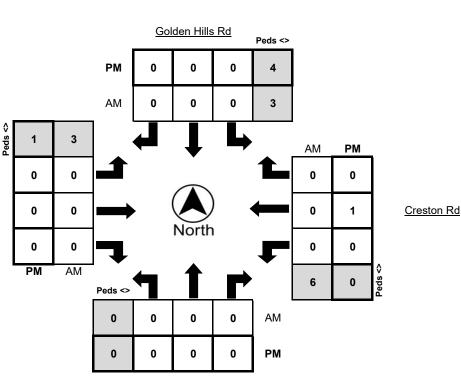
	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	0	0	0	7	0	0	0	0	0	0	0	8	0	0	0	5

	Nort	hbound B	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Westbound Bikes		ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	8	0	0	0	0	0	0	0	0	0	2	0	2

	Nort	hbound E	likes	N.Leg				S.Leg	Eas	tbound B	ikes	E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	3	0	0	0	0	0	0	0	6	0	0	0	3
4:30 PM - 5:30 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	1

	Bikes	Peds
AM Peak Total	0	12
PM Peak Total	1	5

Creston Rd



0



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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Golden Hill Rd	
COUNTY	San Luis Obispo	_
COLLECTION DATE	Thursday, June 7, 2018	
CYCLE TIME	76 Seconds	

N/S STREET	Golden Hills Rd /
E/W STREET	Creston Rd / Creston Rd
WEATHER	Clear
CONTROL TYPE	Signal

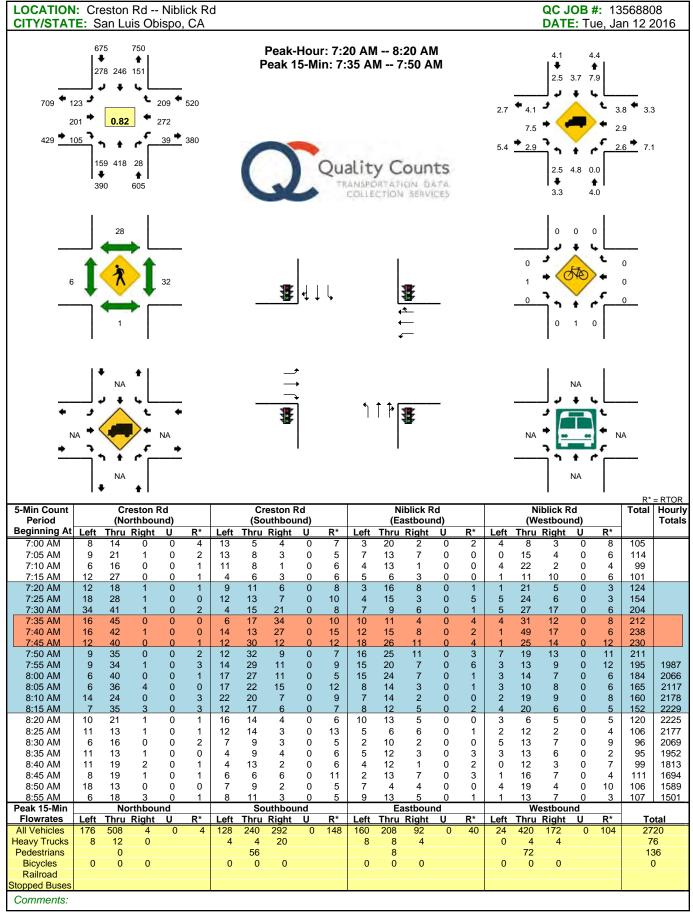
**COMMENTS** Eastbound left turns are protected.

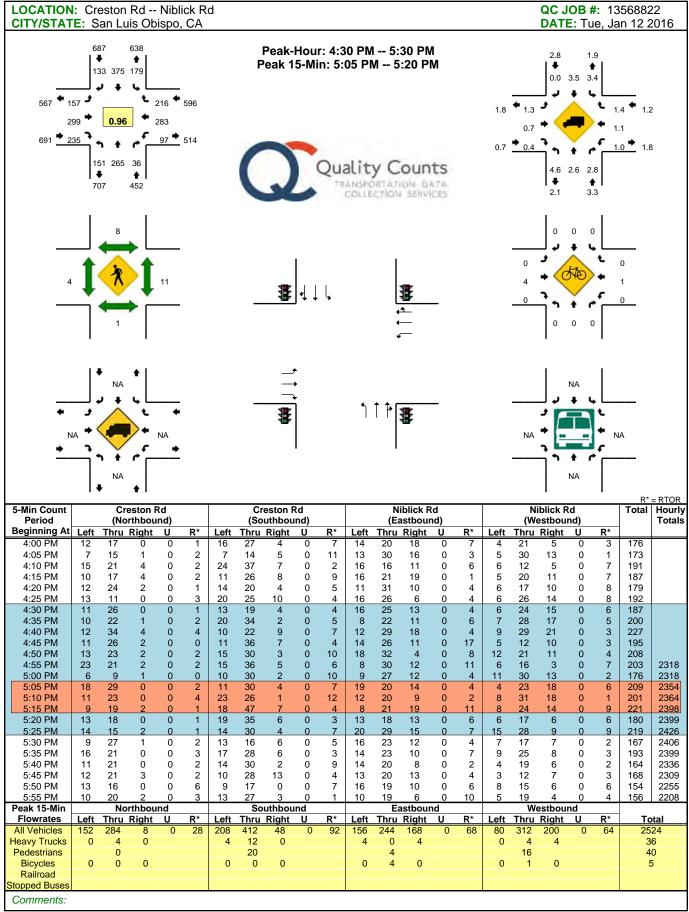














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# **Turning Movement Report**

Prepared For:

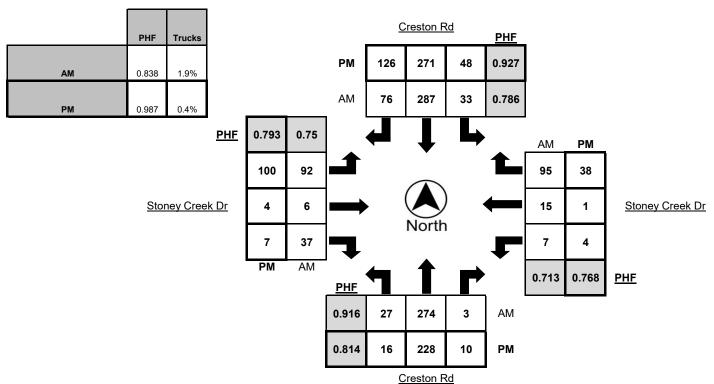
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Stoney Creek Rd	LATITUDE	35.6052	
COUNTY	San Luis Obispo	LONGITUDE	-120.6590	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound		Eastbound				Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	36	1	1	1	37	8	1	16	0	0	0	0	1	11	0
7:15 AM - 7:30 AM	2	53	0	0	6	37	11	1	14	1	2	1	1	4	11	0
7:30 AM - 7:45 AM	5	65	1	0	4	57	24	0	29	0	7	2	1	6	17	0
7:45 AM - 8:00 AM	6	71	1	0	9	89	22	5	26	0	19	1	4	6	28	0
8:00 AM - 8:15 AM	11	71	1	4	13	91	22	1	19	5	10	0	0	3	38	1
8:15 AM - 8:30 AM	5	67	0	2	7	50	8	2	18	1	1	0	2	0	12	0
8:30 AM - 8:45 AM	1	37	0	0	2	35	8	1	15	0	2	1	1	1	8	0
8:45 AM - 9:00 AM	1	36	0	0	6	39	7	2	16	1	0	0	0	1	9	0
TOTAL	31	436	4	7	48	435	110	13	153	8	41	5	9	22	134	1

		North	bound			South	bound			Eastl	ound		Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	5	67	3	1	10	60	28	0	19	2	2	0	0	1	8	0
4:15 PM - 4:30 PM	6	79	1	0	8	45	34	1	27	2	3	1	0	0	3	0
4:30 PM - 4:45 PM	4	72	2	0	10	56	37	0	24	1	0	0	2	0	8	0
4:45 PM - 5:00 PM	4	50	0	0	9	77	34	0	20	0	1	0	0	1	12	0
5:00 PM - 5:15 PM	1	60	2	0	14	73	28	1	28	1	1	0	0	0	6	0
5:15 PM - 5:30 PM	7	46	6	0	15	65	27	1	28	2	5	1	2	0	12	0
5:30 PM - 5:45 PM	9	50	5	1	9	57	29	4	21	1	5	0	1	1	15	0
5:45 PM - 6:00 PM	0	49	2	0	10	55	37	0	32	2	0	0	1	0	12	0
TOTAL	36	473	21	2	85	488	254	7	199	11	17	2	6	3	76	0

		North	bound		Southbound					Easth	ound		Westbound			
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	27	274	3	6	33	287	76	8	92	6	37	3	7	15	95	1
4:30 PM - 5:30 PM	16	228	10	0	48	271	126	2	100	4	7	1	4	1	38	0





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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Stoney Creek Rd	LATITUDE	35.6052
COUNTY_	San Luis Obispo	LONGITUDE_	-120.6590
COLLECTION DATE	Thursday, June 7, 2018	WEATHER_	Clear

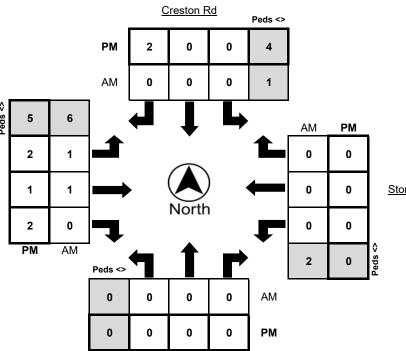
	Nort	thbound E	Bikes					S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	3
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM - 8:30 AM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	3	0	0	0	2	4	1	0	3	0	0	0	12

	Northbound Bikes			N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
5:00 PM - 5:15 PM	0	0	0	2	0	0	1	0	0	0	2	0	0	0	0	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	4	0	0	0	3	1	0	0	3	0	0	0	3
5:45 PM - 6:00 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1
TOTAL	1	0	0	9	0	1	3	3	3	1	2	3	0	1	0	10

	Nort	hbound E	Bikes	N.Leg				S.Leg	Eas	tbound B	ikes	E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	1	0	0	0	0	1	1	0	2	0	0	0	6
4:30 PM - 5:30 PM	0	0	0	4	0	0	2	0	2	1	2	0	0	0	0	5

	Bikes	Peds
AM Peak Total	2	9
PM Peak Total	7	9

Stoney Creek Dr



Creston Rd

Stoney Creek Dr



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### **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Creston Rd @ Stoney Creek Rd

 COUNTY
 San Luis Obispo

 COLLECTION DATE
 Thursday, June 7, 2018

 CYCLE TIME
 N/A

N/S STREET	Creston Rd / Creston Rd
E/W STREET	Stoney Creek Dr / Stoney Creek Dr
WEATHER	Clear
CONTROL TYPE	Two-Way Stop

COMMENTS



STOP





STO





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# **Turning Movement Report**

Prepared For:

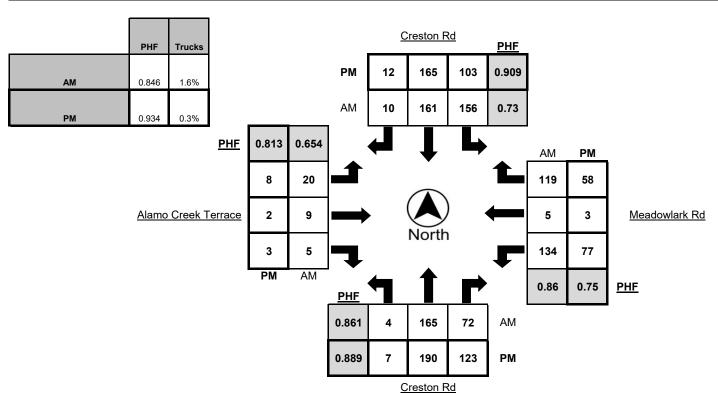
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Meadowlark Rd	LATITUDE	35.6013	
COUNTY	San Luis Obispo	LONGITUDE	-120.6590	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Easth	ound			West	oound	
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	1	31	3	1	7	31	1	1	0	0	4	0	20	0	10	0
7:15 AM - 7:30 AM	2	34	4	0	16	21	1	0	2	0	0	0	31	1	18	0
7:30 AM - 7:45 AM	0	42	14	0	29	32	1	1	7	0	3	0	44	1	30	0
7:45 AM - 8:00 AM	1	45	21	0	63	48	1	4	8	4	1	0	40	0	22	0
8:00 AM - 8:15 AM	1	44	25	5	53	42	7	1	3	4	1	0	28	2	37	0
8:15 AM - 8:30 AM	2	34	12	1	11	39	1	1	2	1	0	0	22	2	30	1
8:30 AM - 8:45 AM	0	25	12	0	11	25	2	1	0	0	2	0	16	1	10	0
8:45 AM - 9:00 AM	0	31	5	0	13	26	0	2	3	0	0	0	23	0	9	1
TOTAL	7	286	96	7	203	264	14	11	25	9	11	0	224	7	166	2

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	2	52	29	1	15	41	4	0	3	1	1	0	12	0	23	0
4:15 PM - 4:30 PM	1	56	23	0	17	32	0	0	1	0	0	0	14	0	24	0
4:30 PM - 4:45 PM	0	62	28	0	21	33	3	0	0	1	1	0	16	0	16	0
4:45 PM - 5:00 PM	3	42	31	0	27	48	2	0	3	1	0	0	19	2	9	0
5:00 PM - 5:15 PM	3	44	30	0	23	48	3	1	3	0	1	0	27	0	19	0
5:15 PM - 5:30 PM	1	42	34	1	32	36	4	0	2	0	1	0	15	1	14	0
5:30 PM - 5:45 PM	0	33	28	1	24	34	5	1	2	0	0	0	10	0	24	0
5:45 PM - 6:00 PM	1	34	20	0	17	34	4	0	3	2	1	0	10	0	13	0
TOTAL	11	365	223	3	176	306	25	2	17	5	5	0	123	3	142	0

		North	bound			South	bound			Easth	ound			West	bound	
PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	4	165	72	6	156	161	10	7	20	9	5	0	134	5	119	1
4:30 PM - 5:30 PM	7	190	123	1	103	165	12	1	8	2	3	0	77	3	58	0





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# **Turning Movement Report**

Prepared For:

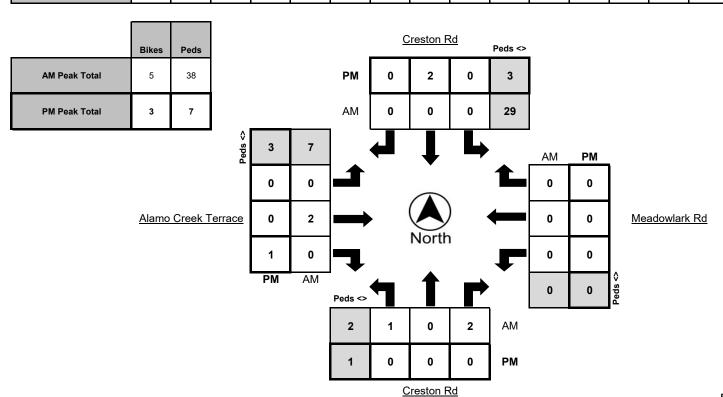
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Meadowlark Rd	LATITUDE	35.6013	
COUNTY	San Luis Obispo	LONGITUDE	-120.6590	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	likes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	5
7:30 AM - 7:45 AM	0	0	2	5	0	0	0	2	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	19	0	0	0	0	0	2	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM - 8:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
TOTAL	1	0	2	34	0	0	0	2	0	2	0	0	2	0	0	15

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	3
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	0	0	0	8	0	2	0	1	0	0	1	2	0	0	0	6

	Nort	thbound E	Bikes	N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes E.Leg Westbound Bikes					W.Leg		
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	1	0	2	29	0	0	0	2	0	2	0	0	0	0	0	7
4:30 PM - 5:30 PM	0	0	0	3	0	2	0	1	0	0	1	0	0	0	0	3





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### **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Creston Rd @ Meadowlark Rd

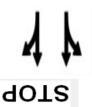
 COUNTY
 San Luis Obispo

 COLLECTION DATE
 Thursday, June 7, 2018

 CYCLE TIME
 N/A

N/S STREET	Creston Rd / Creston Rd
E/W STREET	Meadowlark Rd / Alamo Creek Terrace
WEATHER	Clear
CONTROL TYPE	All-Way Stop

COMMENTS



STOP





STOP





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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Charolais Rd	LATITUDE	35.5991	
COUNTY	San Luis Obispo	LONGITUDE	-120.6590	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	12	24	0	2	0	23	31	1	11	0	8	1	0	0	0	0
7:15 AM - 7:30 AM	24	32	0	0	0	13	39	0	9	0	6	0	0	0	0	0
7:30 AM - 7:45 AM	28	29	0	1	0	12	66	1	31	0	17	2	0	0	0	0
7:45 AM - 8:00 AM	39	37	0	0	0	27	63	4	26	0	23	0	0	0	0	0
8:00 AM - 8:15 AM	36	38	0	4	0	25	42	0	31	0	23	2	0	0	0	0
8:15 AM - 8:30 AM	20	25	0	2	0	24	40	2	23	0	18	0	0	0	0	0
8:30 AM - 8:45 AM	23	21	0	0	0	18	25	1	18	0	11	0	0	0	0	0
8:45 AM - 9:00 AM	21	21	0	0	0	16	30	1	14	0	6	0	0	0	0	0
TOTAL	203	227	0	9	0	158	336	10	163	0	112	5	0	0	0	0

		North	bound			South	bound			Eastl	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	20	38	0	1	0	28	30	1	45	0	26	0	0	0	0	0
4:15 PM - 4:30 PM	20	43	0	0	0	23	21	0	36	0	35	0	0	0	0	0
4:30 PM - 4:45 PM	15	47	0	1	0	20	29	0	45	0	26	0	0	0	0	0
4:45 PM - 5:00 PM	19	27	0	0	0	30	34	0	47	0	33	0	0	0	0	0
5:00 PM - 5:15 PM	12	27	0	0	0	37	39	2	51	0	26	0	0	0	0	0
5:15 PM - 5:30 PM	15	28	0	0	0	30	24	0	48	0	30	0	0	0	0	0
5:30 PM - 5:45 PM	21	20	0	0	0	29	17	1	48	0	34	0	0	0	0	0
5:45 PM - 6:00 PM	18	19	0	0	0	24	19	0	34	0	29	0	0	0	0	0
TOTAL	140	249	0	2	0	221	213	4	354	0	239	0	0	0	0	0

			North	bound			South	bound			Easth	ound			Westl	bound	
	PEAK HOUR	Left	Thru	Right	Trucks												
ı																	
ı	7:30 AM - 8:30 AM	123	129	0	7	0	88	211	7	111	0	81	4	0	0	0	0
ĺ																	
ı	4:15 PM - 5:15 PM	66	144	0	1	0	110	123	2	179	0	120	0	0	0	0	0

Creston Rd

		PHF	Trucks					<u>C</u>	reston R	<u>Rd</u>	<u>PHF</u>	_		
Al	И	0.864	2.4%				PM	123	110	0	0.766			
PI	И	0.966	0.4%			_	AM	211	88	0	0.831			
-				<u>PHF</u>	0.934	0.889		4	1	L		AM	PM	
					179	111					L	0	0	
		<u>CI</u>	narolais l	<u>Rd</u>	0	0	$\longrightarrow$	•		) .	<b>←</b>	0	0	
					120	81	1		North	l	L	0	0	
					PM	AM	PHF	4	1			#####	#####	PHF
							0.829	123	129	0	AM			
							0.833	66	144	0	PM			



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd @ Charolais Rd	LATITUDE	35.5991
COUNTY_	San Luis Obispo	LONGITUDE	-120.6590
COLLECTION DATE	Thursday, June 7, 2018	WEATHER_	Clear

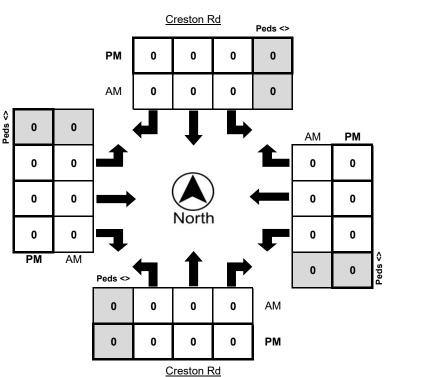
	Nort	hbound B	likes	N.Leg	Sout	hbound E	likes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0

Charolais Rd



<u>0</u>



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### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Creston Rd @ Charolais Rd

 COUNTY
 San Luis Obispo

 COLLECTION DATE
 Thursday, June 7, 2018

 CYCLE TIME
 N/A

N/S STREET	Creston Rd / Creston Rd
E/W STREET	/ Charolais Rd
WEATHER	Clear
CONTROL TYPE	One-Way Stop

COMMENTS











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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Riverside Ave @ Pine St/101 SB Ramps	LATITUDE	35.6177	
COUNTY	San Luis Obispo	LONGITUDE	-120.6876	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	0	51	2	0	3	0	5	0	0	9	3	1
7:15 AM - 7:30 AM	0	0	0	0	0	77	5	3	4	0	8	0	0	16	2	1
7:30 AM - 7:45 AM	0	0	0	0	0	93	2	1	5	0	3	0	0	19	1	0
7:45 AM - 8:00 AM	0	0	0	0	0	71	5	0	7	0	8	0	1	21	2	1
8:00 AM - 8:15 AM	0	0	0	0	0	83	3	2	11	0	5	0	0	27	4	0
8:15 AM - 8:30 AM	0	0	0	0	0	68	2	4	4	0	11	0	0	20	2	0
8:30 AM - 8:45 AM	0	0	0	0	0	59	2	5	7	0	13	0	0	15	5	4
8:45 AM - 9:00 AM	0	0	0	0	0	57	3	2	2	0	6	0	0	21	11	1
TOTAL	0	0	0	0	0	559	24	17	43	0	59	0	1	148	30	8

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	0	56	4	1	5	0	17	0	0	13	2	0
4:15 PM - 4:30 PM	0	0	0	0	0	74	9	1	7	0	9	0	0	30	3	0
4:30 PM - 4:45 PM	0	0	0	0	0	66	10	1	8	0	16	0	0	23	3	0
4:45 PM - 5:00 PM	0	0	0	0	0	63	9	0	5	0	16	0	0	25	1	0
5:00 PM - 5:15 PM	0	0	0	0	0	80	6	1	7	0	26	0	0	34	7	1
5:15 PM - 5:30 PM	0	0	0	0	0	64	10	0	4	0	19	0	0	18	5	0
5:30 PM - 5:45 PM	0	0	0	0	0	60	10	0	7	0	11	0	0	10	5	0
5:45 PM - 6:00 PM	0	0	0	0	0	59	7	0	0	0	11	0	0	25	4	0
TOTAL	0	0	0	0	0	522	65	4	43	0	125	0	0	178	30	1

		North	bound			South	bound			Easth	ound			Westk	oound	
PEAK HOUR	Left	Thru	Right	Trucks												
7:15 AM - 8:15 AM	0	0	0	0	0	324	15	6	27	0	24	0	1	83	9	2
1:15 DM - 5:15 DM	0	0	0	0	0	283	3/	3	27	0	67	0	0	112	1/	1

	PHF	Trucks					<u>R</u>	iverside A	<u>\ve</u>	PHF	_		
АМ	0.908	1.7%				PM	34	283	0	0.922			
PM	0.839	0.7%				AM	15	324	0	0.892			
		-	PHF	0.712	0.797		1	1	L		ı AM	PM	
				27	27			•		L	9	14	
		Pine St		0	0	$\longrightarrow$	•		) .	<b>←</b>	83	112	US 101 Off Ramp
				67	24			North	1		1	0	
				PM	AM	DUE	4	1	$\rightarrow$	•	0.75	0.768	<u>PHF</u>
						<u>PHF</u>	0	0	0	AM			

PΜ

US 101 On Ramp



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### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Riverside Ave @ Pine St/101 SB Ramps
 LATITUDE
 35.6177

 COUNTY
 San Luis Obispo
 LONGITUDE
 -120.6876

 COLLECTION DATE
 Wednesday, June 6, 2018
 WEATHER
 Clear

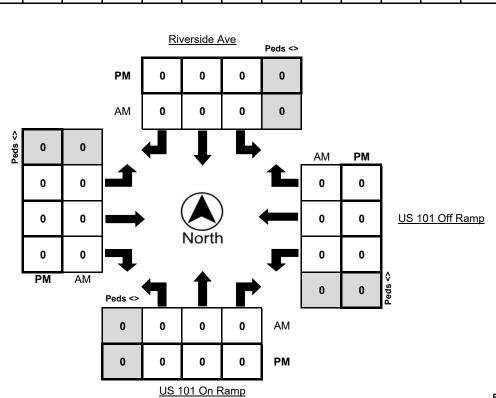
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0

Pine St





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION_	Riverside Ave @ Pine St/101 SB Ramps	N/S STREET	Riverside Ave / US 101 On Ramp
COUNTY	San Luis Obispo	E/W STREET	US 101 Off Ramp / Pine St
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
CYCLE TIME	N/A	CONTROL TYPE	Two-Way Stop

COMMENTS

STOP /

4







310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	1st St / Niblick Rd @ Spring St	LATITUDE	35.6153	
COUNTY	San Luis Obispo	LONGITUDE	-120.6905	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastk	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	8	41	58	8	24	29	8	1	4	9	13	0	190	7	30	1
7:15 AM - 7:30 AM	12	41	83	3	42	43	7	4	4	24	19	3	223	20	50	3
7:30 AM - 7:45 AM	11	40	103	3	75	43	9	3	10	37	34	2	260	38	71	3
7:45 AM - 8:00 AM	24	81	126	5	73	54	12	2	1	48	25	0	255	65	137	11
8:00 AM - 8:15 AM	13	80	103	2	58	48	8	0	3	51	31	1	197	49	121	4
8:15 AM - 8:30 AM	17	58	100	4	62	52	9	2	4	32	25	1	166	37	72	2
8:30 AM - 8:45 AM	9	70	94	1	64	41	7	3	5	32	29	2	167	26	73	5
8:45 AM - 9:00 AM	18	91	90	4	64	44	8	3	5	32	20	0	121	33	63	2
TOTAL	112	502	757	30	462	354	68	18	36	265	196	9	1579	275	617	31

		North	bound			South	bound			Easth	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	28	99	212	3	109	56	16	3	7	48	22	1	131	33	94	3
4:15 PM - 4:30 PM	13	85	220	3	97	69	11	4	12	51	18	1	127	38	106	1
4:30 PM - 4:45 PM	28	82	201	4	127	69	11	1	12	45	18	1	146	55	102	6
4:45 PM - 5:00 PM	22	93	223	2	116	51	19	0	17	76	22	0	148	27	118	3
5:00 PM - 5:15 PM	18	87	235	3	128	55	15	0	7	79	29	0	108	37	79	1
5:15 PM - 5:30 PM	25	81	242	1	131	61	10	2	10	58	24	1	163	47	85	0
5:30 PM - 5:45 PM	19	76	241	1	79	56	17	1	12	59	16	0	146	53	96	3
5:45 PM - 6:00 PM	15	68	199	1	80	37	7	1	9	37	15	1	129	40	85	1
TOTAL	168	671	1773	18	867	454	106	12	86	453	164	5	1098	330	765	18

		North	bound			South	bound			Easth	ound			Westl	bound	
PEAK HOUR	Left	Thru	Right	Trucks												
7:30 AM - 8:30 AM	65	259	432	14	268	197	38	7	18	168	115	4	878	189	401	20
4:30 PM - 5:30 PM	93	3/13	901	10	502	236	55	3	46	258	93	2	565	166	384	10

	PHF	Trucks						Spring S	<u>t</u>	PHF			
АМ	0.840	1.5%				PM	55	236	502	0.958			
РМ	0.972	0.7%				AM	38	197	268	0.905			
			<u>PHF</u>	0.863	0.885		4	1	<b>L</b>		АМ	PM	
				46	18			•		L	401	384	
		<u>1st st</u>		258	168	$\longrightarrow$	•		) .	<b>—</b>	189	166	Niblick Rd
				93	115	1		North	ľ	Ļ	878	565	
				PM	AM	PHF	4	1		,	0.803	0.92	<u>PHF</u>
						0.818	65	259	432	AM			

0.96

901

343

US 101 Ramps

PΜ



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800-975-6938 Phone/Fax www.metrotrafficdata.com

### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 1st St / Niblick Rd @ Spring St
 LATITUDE
 35.6153

 COUNTY
 San Luis Obispo
 LONGITUDE
 -120.6905

 COLLECTION DATE
 Wednesday, June 6, 2018
 WEATHER
 Clear

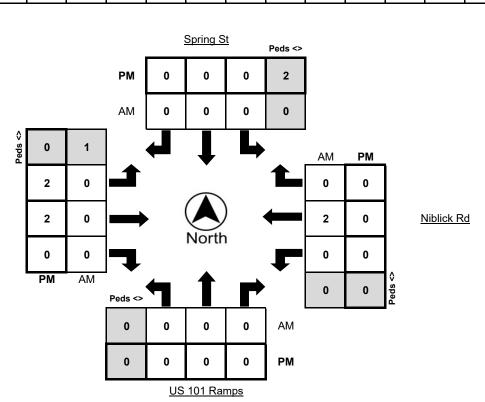
	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:30 AM - 8:45 AM	0	0	0	3	0	0	0	0	0	5	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	1	1	0	1	0	0	1	0	0	0	2	0	0
TOTAL	0	0	0	9	1	0	1	0	0	6	0	0	0	4	0	1

	Nort	thbound E	likes	N.Leg	Sou	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	Bikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	4	0	0	0	0	3	2	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1
4:30 PM - 5:30 PM	0	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	2	1
PM Peak Total	4	2

1st st





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 1st St / Niblick Rd @ Spring St

 COUNTY
 San Luis Obispo

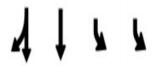
 COLLECTION DATE
 Wednesday, June 6, 2018

 CYCLE TIME
 138 Seconds

N/S STREET	Spring St / US 101 Ramps
E/W STREET	Niblick Rd / 1st st
WEATHER	Clear
CONTROL TYPE	Signal

COMMENTS

Northbound and southbound left turns are protected. Eastbound and westbound approaches are split. Northbound and westbound right turns have an overlap phase.











310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Niblick Rd @ S River Rd	LATITUDE	35.6150	
COUNTY	San Luis Obispo	LONGITUDE	-120.6802	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	81	27	1	0	17	35	25	0	9	67	19	7	10	103	16	2
7:15 AM - 7:30 AM	102	48	23	0	50	28	26	4	14	106	29	8	11	156	29	0
7:30 AM - 7:45 AM	138	73	13	4	86	47	23	2	25	166	47	6	12	212	56	3
7:45 AM - 8:00 AM	160	74	9	1	63	63	32	2	22	140	46	2	18	243	81	5
8:00 AM - 8:15 AM	109	73	6	2	59	71	46	2	26	110	53	1	29	170	56	3
8:15 AM - 8:30 AM	90	40	9	0	45	56	33	3	27	102	55	5	29	139	28	2
8:30 AM - 8:45 AM	93	36	7	0	31	52	27	1	23	98	44	4	16	138	24	6
8:45 AM - 9:00 AM	77	56	6	1	16	54	22	3	15	73	37	4	25	104	21	4
TOTAL	850	427	74	8	367	406	234	17	161	862	330	37	150	1265	311	25

		North	bound			South	bound			Easth	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	63	54	9	1	22	82	42	1	51	163	97	1	18	133	17	0
4:15 PM - 4:30 PM	78	45	12	0	21	89	20	0	70	185	91	3	23	144	22	3
4:30 PM - 4:45 PM	76	46	12	1	36	70	27	0	57	171	95	2	23	137	28	5
4:45 PM - 5:00 PM	86	62	17	0	33	76	34	1	55	159	106	1	24	142	32	2
5:00 PM - 5:15 PM	103	51	11	2	30	104	26	1	58	189	130	1	22	147	33	2
5:15 PM - 5:30 PM	65	54	16	0	39	76	20	0	66	228	122	1	30	158	23	2
5:30 PM - 5:45 PM	74	61	10	0	37	90	42	2	63	167	108	1	21	131	25	0
5:45 PM - 6:00 PM	69	42	12	0	45	73	28	0	55	168	89	1	20	122	34	0
TOTAL	614	415	99	4	263	660	239	5	475	1430	838	11	181	1114	214	14

		North	bound			South	bound			Eastk	ound			Westl	bound	
PEAK HOUR	Left	Thru	Right	Trucks												
7:30 AM - 8:30 AM	497	260	37	7	253	237	134	9	100	518	201	14	88	764	221	13
4:45 PM - 5:45 PM	328	228	54	2	139	346	122	4	242	743	466	4	97	578	113	6

	PHF	Trucks					<u>s</u>	River R	<u>ld</u>	<u>PHF</u>	_		
АМ	0.870	1.3%				PM	122	346	139	0.898			
РМ	0.956	0.5%			_	AM	134	237	253	0.886			
			PHF	0.872	0.86		4	1	L	•	AM	PM	
				242	100					L	221	113	
	<u>1</u>	Niblick R	<u>d</u>	743	518	$\longrightarrow$	•			<del></del>	764	578	Niblick Rd
				466	201	7		North	ľ	F	88	97	
				PM	AM	PHF	4	1		•	0.784	0.934	<u>PHF</u>
						0.817	497	260	37	AM			1
						0.924	328	228	54	РМ			

S River Rd



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Niblick Rd @ S River Rd
 LATITUDE
 35.6150

 COUNTY
 San Luis Obispo
 LONGITUDE
 -120.6802

 COLLECTION DATE
 Thursday, June 7, 2018
 WEATHER
 Clear

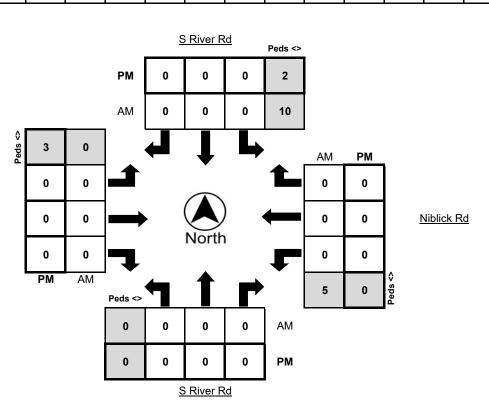
	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	0	1	0	11	0	0	1	4	0	0	0	6	0	0	0	3

	Nort	hbound E	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	Bikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	3	0	0	0	2	0	0	0	3	0	0	0	2
4:15 PM - 4:30 PM	0	0	0	5	0	0	0	1	0	0	0	0	0	1	0	7
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	12	0	0	0	3	0	0	0	4	0	1	0	12

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:30 AM - 8:30 AM	0	0	0	10	0	0	0	0	0	0	0	5	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3

	Bikes	Peds
AM Peak Total	0	15
PM Peak Total	0	5

Niblick Rd





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# **Turning Movement Report**

Prepared For:

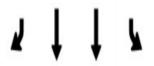
**Central Coast Transportation Consulting** 

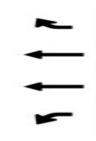
895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

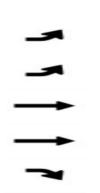
LOCATION	Niblick Rd @ S River Rd	
COUNTY	San Luis Obispo	
COLLECTION DATE	Thursday, June 7, 2018	
CYCLE TIME	125 Seconds	

N/S STREET	S River Rd / S River Rd
E/W STREET	Niblick Rd / Niblick Rd
WEATHER	Clear
CONTROL TYPE	Signal

**COMMENTS** All approaches have protected left turns.











310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd @ Riverbank Ln	LATITUDE	35.6101	
COUNTY	San Luis Obispo	LONGITUDE	-120.6810	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	1	119	0	1	0	44	4	1	14	0	2	0	0	0	0	0
7:15 AM - 7:30 AM	1	172	0	3	0	53	5	1	24	0	1	1	0	0	0	0
7:30 AM - 7:45 AM	0	199	0	1	0	73	3	4	29	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	2	129	0	4	0	89	11	4	20	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	2	111	0	5	0	57	14	3	9	0	0	1	0	0	0	0
8:15 AM - 8:30 AM	1	100	0	2	0	51	10	2	16	0	1	0	0	0	0	0
8:30 AM - 8:45 AM	0	101	0	2	0	53	9	0	8	0	0	1	0	0	0	0
8:45 AM - 9:00 AM	0	78	0	3	0	55	5	0	6	0	4	0	0	0	0	0
TOTAL	7	1009	0	21	0	475	61	15	126	0	8	3	0	0	0	0

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	1	65	0	0	0	138	11	1	7	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	1	111	0	1	0	135	15	2	13	0	1	1	0	0	0	0
4:30 PM - 4:45 PM	1	85	0	1	0	136	16	2	10	0	1	0	0	0	0	0
4:45 PM - 5:00 PM	2	101	0	2	0	140	24	0	11	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	1	78	0	2	0	152	21	3	12	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	1	82	0	0	0	162	22	3	11	0	2	0	0	0	0	0
5:30 PM - 5:45 PM	0	82	0	0	0	147	16	1	10	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	1	75	0	0	0	90	15	1	14	0	1	0	0	0	0	0
TOTAL	8	679	0	6	0	1100	140	13	88	0	5	1	0	0	0	0

		North	bound			South	bound			Easth	ound			Westl	oound	
PEAK HOUR	Left	Thru	Right	Trucks												
7:15 AM - 8:15 AM	5	611	0	13	0	272	33	12	82	0	1	2	0	0	0	0
4:45 PM - 5:45 PM	4	343	0	4	0	601	83	7	44	0	2	0	0	0	0	0

S River Rd

	PHF	Trucks					<u> </u>	S River R	<u>d</u>	<u>PHF</u>			
АМ	0.826	2.7%				PM	83	601	0	0.929			
PM	0.962	1.0%				AM	33	272	0	0.763			
			PHF	0.885	0.716		4	Ţ	L	•	AM	PM	
				44	82					L	0	0	
	<u>Ri</u>	<u>verbank</u>	<u>Ln</u>	0	0	$\longrightarrow$	•			<del>-</del>	0	0	
				2	1	1		North	l	L	0	0	
				PM	AM	PHF	4	1			#####	#####	<u>PHF</u>
						0.774	5	611	0	AM			1
						0.842	4	343	0	РМ			



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd @ Riverbank Ln	LATITUDE	35.6101
COUNTY_	San Luis Obispo	LONGITUDE_	-120.6810
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER_	Clear

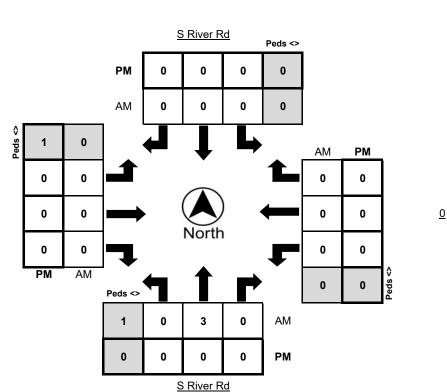
	Nort	thbound E	Bikes	N.Leg	Leg Southbound Bikes		S.Leg	Eastbound Bikes			E.Leg	.eg Westbound Bikes			W.Leg	
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
8:30 AM - 8:45 AM	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	2
TOTAL	0	6	0	0	0	8	0	1	0	0	0	0	0	0	0	6

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	ound Bikes		Eastbound Bikes		E.Leg	Westbound Bikes		ikes	W.Leg	
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2

	Nort	thbound E	Bikes	N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg W		tbound B	W.Leg	
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Bikes	Peds
AM Peak Total	3	1
PM Peak Total	0	1

Riverbank Ln





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd @ Riverbank Ln	N/S STREET	S River Rd / S River Rd
COUNTY	San Luis Obispo	E/W STREET	/ Riverbank Ln
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
CYCLE TIME	N/A	CONTROL TYPE	One-Way Stop

COMMENTS









310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd @ Bridgegate Ln	LATITUDE	35.6077	
COUNTY	San Luis Obispo	LONGITUDE	-120.6816	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	2	72	0	2	0	25	4	2	16	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	2	118	0	0	0	36	4	2	21	0	3	0	0	0	0	0
7:30 AM - 7:45 AM	1	149	0	1	0	52	6	3	11	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	5	163	0	1	0	71	6	1	15	0	2	0	0	0	0	0
8:00 AM - 8:15 AM	1	131	0	2	0	73	3	0	8	0	1	0	0	0	0	0
8:15 AM - 8:30 AM	1	100	0	2	0	55	6	1	8	0	1	0	0	0	0	0
8:30 AM - 8:45 AM	2	94	0	0	0	47	4	5	7	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	2	82	0	4	0	40	1	1	9	0	0	0	0	0	0	0
TOTAL	16	909	0	12	0	399	34	15	95	0	7	0	0	0	0	0

		North	bound			South	bound			Easth	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	72	0	3	0	130	16	1	9	0	1	0	0	0	0	0
4:15 PM - 4:30 PM	2	87	0	1	0	139	12	6	8	0	3	0	0	0	0	0
4:30 PM - 4:45 PM	2	85	0	5	0	118	14	2	7	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	1	89	0	3	0	136	8	2	11	0	5	0	0	0	0	0
5:00 PM - 5:15 PM	7	93	0	1	0	148	19	1	9	0	1	0	0	0	0	0
5:15 PM - 5:30 PM	1	65	0	0	0	132	11	1	9	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	76	0	0	0	127	15	2	12	0	2	0	0	0	0	0
5:45 PM - 6:00 PM	1	79	0	0	0	107	12	0	12	0	3	0	0	0	0	0
TOTAL	14	646	0	13	0	1037	107	15	77	0	15	0	0	0	0	0

			North	bound			South	bound			Easth	ound			Westl	oound	
	PEAK HOUR	Left	Thru	Right	Trucks												
ı																	
ı	7:15 AM - 8:15 AM	9	561	0	4	0	232	19	6	55	0	6	0	0	0	0	0
ı																	
l	4:15 PM - 5:15 PM	12	354	0	10	0	541	53	11	35	0	9	0	0	0	0	0

S River Rd

	PHF	Trucks					<u>s</u>	S River R	<u>Rd</u>	<u>PHF</u>			
АМ	0.842	1.1%				PM	53	541	0	0.889			
PM	0.906	2.1%				AM	19	232	0	0.815			
			<u>PHF</u>	0.688	0.635		4	1	L		AM	PM	
				35	55					1	0	0	
	<u>Bri</u>	idgegate	<u>Ln</u>	0	0	$\longrightarrow$	•		) .	<b>←</b>	0	0	
				9	6	1		North	1	L	0	0	
				PM	AM	PHF	4	1			#####	#####	<u>PHF</u>
						0.848	9	561	0	AM			
						0.915	12	354	0	РМ			

Page 1 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd @ Bridgegate Ln	LATITUDE_	35.6077
COUNTY	San Luis Obispo	LONGITUDE	-120.6816
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear

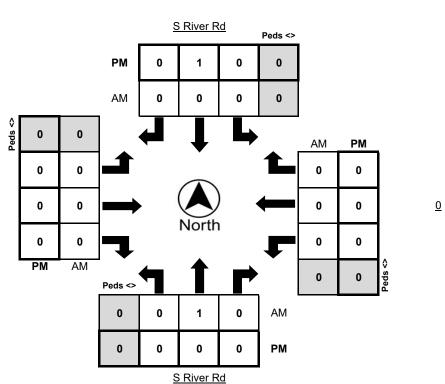
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	6

	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:15 AM - 8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	1	0
PM Peak Total	1	0

Bridgegate Ln





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### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 S River Rd @ Bridgegate Ln

 COUNTY
 San Luis Obispo

 COLLECTION DATE
 Thursday, June 7, 2018

 CYCLE TIME
 N/A

N/S STREET	S River Rd / S River Rd
E/W STREET	/ Bridgegate Ln
WEATHER	Clear
CONTROL TYPE	One-Way Stop

COMMENTS





STOP





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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

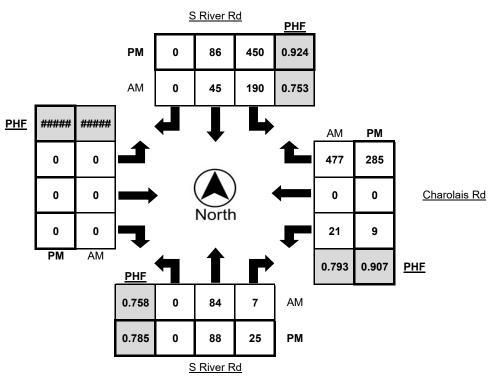
LOCATION	S River Rd @ Charolais Rd	LATITUDE	35.6065	
COUNTY	San Luis Obispo	LONGITUDE	-120.6819	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound		Southbound				Eastbound				Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	11	1	0	17	9	0	1	0	0	0	0	3	0	64	1
7:15 AM - 7:30 AM	0	28	2	0	27	11	0	0	0	0	0	0	5	0	89	0
7:30 AM - 7:45 AM	0	25	2	0	42	9	0	4	0	0	0	0	8	0	123	2
7:45 AM - 8:00 AM	0	20	2	0	53	15	0	2	0	0	0	0	6	0	151	1
8:00 AM - 8:15 AM	0	11	1	1	68	10	0	1	0	0	0	0	2	0	114	3
8:15 AM - 8:30 AM	0	19	0	0	40	13	0	0	0	0	0	0	3	0	82	2
8:30 AM - 8:45 AM	0	22	3	0	35	13	0	0	0	0	0	0	3	0	76	0
8:45 AM - 9:00 AM	0	23	0	1	27	15	0	3	0	0	0	0	5	0	65	0
TOTAL	0	159	11	2	309	95	0	11	0	0	0	0	35	0	764	9

		North	bound		Southbound				Eastbound				Westbound			
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	19	3	0	100	33	0	1	0	0	0	0	3	0	49	0
4:15 PM - 4:30 PM	0	11	6	0	115	20	0	0	0	0	0	0	1	0	74	0
4:30 PM - 4:45 PM	0	27	9	0	95	24	0	0	0	0	0	0	5	0	64	0
4:45 PM - 5:00 PM	0	25	4	0	113	24	0	0	0	0	0	0	3	0	66	0
5:00 PM - 5:15 PM	0	25	6	0	127	18	0	1	0	0	0	0	0	0	81	0
5:15 PM - 5:30 PM	0	13	3	0	115	30	0	0	0	0	0	0	2	0	54	0
5:30 PM - 5:45 PM	0	15	3	0	111	25	0	0	0	0	0	0	7	0	62	1
5:45 PM - 6:00 PM	0	21	3	0	97	13	0	0	0	0	0	0	3	0	61	0
TOTAL	0	156	37	0	873	187	0	2	0	0	0	0	24	0	511	1

		North	bound			South	bound			Easth	ound			Westl	bound	
PEAK HOUR	Left	Thru	Right	Trucks												
7:15 AM - 8:15 AM	0	84	7	1	190	45	0	7	0	0	0	0	21	0	477	6
4·15 PM - 5·15 PM	0	88	25	0	450	86	0	1	0	0	0	Ο	a	0	285	0

	PHF	Trucks
АМ	0.834	1.7%
РМ	0.917	0.1%



Page 1 of 3



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd @ Charolais Rd	LATITUDE	35.6065
COUNTY	San Luis Obispo	LONGITUDE	-120.6819
COLLECTION DATE	Thursday, June 7, 2018	WEATHER_	Clear

	Northbound Bikes			N.Leg Southbound Bikes			S.Leg	eg Eastbound Bikes			E.Leg	Westbound Bikes		W.Leg		
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0
TOTAL	0	0	0	5	0	0	0	0	0	0	0	2	0	0	1	0

	Northbound Bikes			N.Leg	eg Southbound Bikes			S.Leg	Leg Eastbound Bikes			E.Leg	Westbound Bikes		ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	5	0	0	0	0	0	0	0	0	1	1	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM - 5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0

	Bikes	Peds
AM Peak Total	1	0
PM Peak Total	3	1

S River Rd Peds <> PM 0 AM0 0 ΑM PM 0 0 0 0 Charolais Rd 0 0 1 0 0 PΜ AM 0 Peds <> 0 0 AM 0 PΜ S River Rd

0



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### **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION_	S River Rd @ Charolais Rd	i
COUNTY	San Luis Obispo	
COLLECTION DATE	Thursday, June 7, 2018	
CYCLE TIME	N/A	(

N/S STREET	S River Rd / S River Rd
E/W STREET	Charolais Rd /
WEATHER	Clear
CONTROL TYPE	All-Way Stop

COMMENTS

MOTS North S



**STOP** 





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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Holstein Dr	LATITUDE	35.6055	
COUNTY	San Luis Obispo	LONGITUDE	-120.6763	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastk	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	2	0	0	0	1	16	0	1	0	66	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	29	0	0	0	99	0	0
7:30 AM - 7:45 AM	0	0	0	0	2	0	3	1	1	47	0	3	0	127	0	1
7:45 AM - 8:00 AM	0	0	0	0	1	0	2	0	1	53	0	1	0	156	1	0
8:00 AM - 8:15 AM	0	0	0	0	1	0	2	0	2	66	0	1	0	110	1	4
8:15 AM - 8:30 AM	0	0	0	0	3	0	1	0	0	40	0	0	0	80	1	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	3	0	1	37	0	0	0	74	1	0
8:45 AM - 9:00 AM	0	0	0	0	2	0	2	0	0	26	0	2	0	67	1	0
TOTAL	0	0	0	0	11	0	13	1	6	314	0	8	0	779	5	6

		North	bound			South	bound			Easth	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	0	0	2	0	1	103	0	0	0	56	4	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	2	0	2	117	0	0	0	66	1	0
4:30 PM - 4:45 PM	0	0	0	0	2	0	3	0	1	101	0	0	0	62	1	1
4:45 PM - 5:00 PM	0	0	0	0	2	0	2	0	1	117	0	0	0	72	3	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	2	0	1	133	0	1	0	73	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	1	0	4	113	0	0	0	53	0	0
5:30 PM - 5:45 PM	0	0	0	0	1	0	2	0	4	103	0	0	0	68	1	0
5:45 PM - 6:00 PM	0	0	0	0	3	0	1	0	0	100	0	0	0	60	1	0
TOTAL	0	0	0	0	8	0	15	0	14	887	0	1	0	510	11	3

			North	bound			South	bound			Easth	ound			Westl	ound	
	PEAK HOUR	Left	Thru	Right	Trucks												
Г																	
	7:15 AM - 8:15 AM	0	0	0	0	4	0	7	1	4	195	0	5	0	492	2	5
	4:15 PM - 5:15 PM	0	0	0	0	4	0	9	0	5	468	0	1	0	273	5	3

	PHF	Trucks					Ŀ	lolstein [	<u>Or</u>	<u>PHF</u>			
АМ	0.822	1.6%				РМ	9	0	4	0.65			
PM	0.914	0.5%			_	AM	7	0	4	0.55			
			PHF	0.882	0.732		4	1	L	•	AM	PM	
				5	4					L	2	5	
	<u>Cl</u>	narolais	<u>Rd</u>	468	195	$\longrightarrow$	•		) .	<del></del>	492	273	Charolais Rd
				0	0	7		North	1	F	0	0	
				PM	AM	<u>PHF</u>	4	1		,	0.787	0.927	<u>PHF</u>
						#####	0	0	0	AM			1
						#####	0	0	0	РМ			



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### **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

 LOCATION
 Charolais Rd @ Holstein Dr
 LATITUDE
 35.6055

 COUNTY
 San Luis Obispo
 LONGITUDE
 -120.6763

 COLLECTION DATE
 Thursday, June 7, 2018
 WEATHER
 Clear

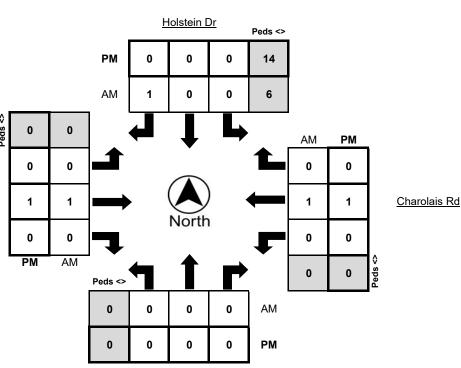
	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0
7:45 AM - 8:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	23	0	0	1	0	0	1	0	0	0	1	0	0

	Nort	hbound B	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	8	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
5:00 PM - 5:15 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	17	0	0	0	0	0	1	0	0	0	1	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:15 AM - 8:15 AM	0	0	0	6	0	0	1	0	0	1	0	0	0	1	0	0
4:15 PM - 5:15 PM	0	0	0	14	0	0	0	0	0	1	0	0	0	1	0	0

	Bikes	Peds
AM Peak Total	3	6
PM Peak Total	2	14

Charolais Rd





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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Holstein Dr	_
COUNTY	San Luis Obispo	_
COLLECTION DATE	Thursday, June 7, 2018	
CYCLE TIME	N/A	

N/S STREET	Holstein Dr /	
E/W STREET	Charolais Rd / Charolais Rd	
WEATHER	Clear	
CONTROL TYPE	One-Way Stop	

COMMENTS



GTOP







310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Otero Ln	LATITUDE	35.6048	
COUNTY	San Luis Obispo	LONGITUDE	-120.6745	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	1	0	2	0	0	19	0	1	0	67	0	1
7:15 AM - 7:30 AM	0	0	0	0	3	0	3	0	0	27	0	0	0	93	1	0
7:30 AM - 7:45 AM	1	0	0	0	14	0	5	0	1	44	0	2	0	122	4	1
7:45 AM - 8:00 AM	1	0	0	0	9	0	11	0	1	54	1	0	0	144	2	0
8:00 AM - 8:15 AM	0	0	1	0	2	0	10	0	6	60	0	1	0	106	7	0
8:15 AM - 8:30 AM	1	0	0	0	3	0	4	0	4	44	0	1	1	82	3	3
8:30 AM - 8:45 AM	0	0	0	0	1	0	5	0	2	35	0	3	0	70	5	0
8:45 AM - 9:00 AM	0	0	0	0	2	0	1	0	0	25	0	1	0	65	3	2
TOTAL	3	0	1	0	35	0	41	0	14	308	1	9	1	749	25	7

		North	bound			South	bound			Eastl	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	1	0	6	0	2	1	1	102	1	1	0	51	6	0
4:15 PM - 4:30 PM	0	0	0	0	2	0	3	0	9	103	2	2	0	76	4	2
4:30 PM - 4:45 PM	0	0	0	0	2	0	4	2	2	102	0	4	0	63	4	3
4:45 PM - 5:00 PM	0	0	1	0	6	0	4	1	3	118	0	1	2	63	3	3
5:00 PM - 5:15 PM	1	0	0	0	1	0	9	0	8	118	0	0	0	67	1	0
5:15 PM - 5:30 PM	0	0	0	0	4	0	4	0	3	113	2	0	0	51	4	0
5:30 PM - 5:45 PM	1	0	0	0	5	0	7	0	5	106	0	0	1	58	3	1
5:45 PM - 6:00 PM	0	0	0	0	2	0	3	0	4	96	0	0	0	61	1	0
TOTAL	2	0	2	0	28	0	36	4	35	858	5	8	3	490	26	9

			North	bound			South	bound			Easth	ound			Westl	ound	
[	PEAK HOUR	Left	Thru	Right	Trucks												
ſ																	
	7:30 AM - 8:30 AM	3	0	1	0	28	0	30	0	12	202	1	4	1	454	16	4
ſ																	
ı	4:15 PM - 5:15 PM	1	0	1	0	11	0	20	3	22	441	2	7	2	269	12	8

	PHF	Trucks						Otero In		<u>PHF</u>	_		
АМ	0.839	1.1%				PM	20	0	11	0.775			
PM	0.952	2.3%				AM	30	0	28	0.725			
			PHF	0.923	0.814		4	1	L		AM	PM	
				22	12					L	16	12	
	CI	narolais	<u>Rd</u>	441	202	$\longrightarrow$	•			<b>—</b>	454	269	<u>Charolais Rd</u>
				2	1	1		North	l	L	1	2	
				PM	AM	PHF	4	1			0.807	0.884	<u>PHF</u>
						1	3	0	1	AM			ı
						0.5	1	0	1	РМ			

Otero Ln



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Otero Ln	LATITUDE	35.6048	
COUNTY	San Luis Obispo	LONGITUDE	-120.6745	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

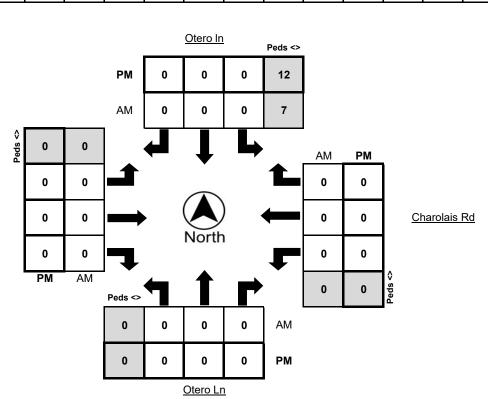
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	9	0	0	0	0	0	0	0	2	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	31	0	0	0	0	0	0	0	2	0	0	0	0

	Nort	thbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	7
PM Peak Total	0	12

Charolais Rd



Page 2 of 3



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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Otero Ln	
COUNTY	San Luis Obispo	
COLLECTION DATE	Thursday, June 7, 2018	
CYCLE TIME	N/A	

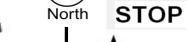
N/S STREET	Otero In / Otero Ln	
E/W STREET	Charolais Rd / Charolais Rd	
WEATHER	Clear	
CONTROL TYPE	Two-Way Stop	

COMMENTS



qots









310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ St Andrews Cir	LATITUDE	35.6028	
COUNTY	San Luis Obispo	LONGITUDE	-120.6693	
COLLECTION DATE	Thursday, June 14, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	0	15	0	1	0	58	0	1
7:15 AM - 7:30 AM	0	0	0	0	1	0	1	0	0	35	0	1	0	95	0	0
7:30 AM - 7:45 AM	0	0	0	0	2	0	2	0	1	57	0	2	0	120	0	1
7:45 AM - 8:00 AM	0	0	0	0	1	0	1	0	3	70	0	1	0	137	1	1
8:00 AM - 8:15 AM	0	0	0	0	2	0	1	0	0	47	0	0	0	109	1	2
8:15 AM - 8:30 AM	0	0	0	0	0	0	1	0	0	48	0	0	0	79	1	1
8:30 AM - 8:45 AM	0	0	0	0	0	0	1	0	1	31	0	1	0	76	1	0
8:45 AM - 9:00 AM	0	0	0	0	2	0	1	0	1	47	0	0	0	73	1	1
TOTAL	0	0	0	0	8	0	9	0	6	350	0	6	0	747	5	7

		North	bound			South	bound			Eastl	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	0	0	1	0	2	93	0	0	0	66	1	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	2	0	2	107	0	1	0	57	0	0
4:30 PM - 4:45 PM	0	0	0	0	1	0	4	0	4	103	0	1	0	68	1	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	3	0	5	104	0	0	0	62	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	1	0	1	99	0	0	0	70	1	0
5:15 PM - 5:30 PM	0	0	0	0	1	0	2	0	3	106	0	0	0	55	1	0
5:30 PM - 5:45 PM	0	0	0	0	1	0	3	0	2	130	0	1	0	63	1	0
5:45 PM - 6:00 PM	0	0	0	0	2	0	1	0	2	123	0	0	0	67	1	0
TOTAL	0	0	0	0	5	0	17	0	21	865	0	3	0	508	6	0

		North	bound			South	bound			Eastk	ound			Westl	oound	
PEAK HOUR	Left	Thru	Right	Trucks												
7:15 AM - 8:15 AM	0	0	0	0	6	0	5	0	4	209	0	4	0	461	2	4
5:00 PM - 6:00 PM	0	0	0	0	4	0	7	0	8	458	0	1	0	255	4	0

	PHF	Trucks					<u>St</u>	Andres	<u>Cir</u>	<u>PHF</u>	_		
АМ	0.806	1.2%				PM	7	0	4	0.688			
PM	0.920	0.1%				AM	5	0	6	0.688			
			PHF	0.883	0.729		4	1	L		AM	PM	
				8	4					L	2	4	
	<u>Cl</u>	narolais	<u>Rd</u>	458	209	$\longrightarrow$	•			<b>—</b>	461	255	<u>Charolais Rd</u>
				0	0	7		North	l	F	0	0	
				PM	AM	PHF	4	1		,	0.839	0.912	<u>PHF</u>
						#####	0	0	0	AM			I
						#####	0	0	0	РМ			



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ St Andrews Cir	LATITUDE	35.6028	
COUNTY	San Luis Obispo	LONGITUDE	-120.6693	
COLLECTION DATE	Thursday, June 14, 2018	WEATHER	Clear	

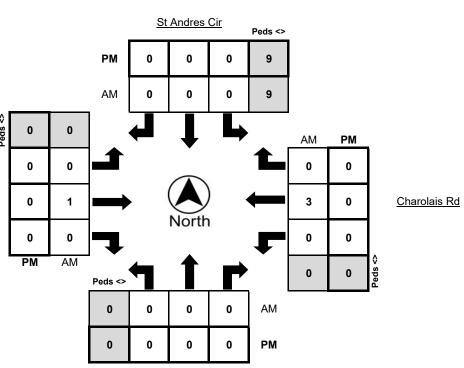
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
7:30 AM - 7:45 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
8:15 AM - 8:30 AM	0	0	0	5	0	0	0	0	0	0	0	0	0	2	0	0
8:30 AM - 8:45 AM	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	38	0	0	0	0	0	1	0	0	0	5	0	0

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sou	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	0	0	9	0	0	0	0	0	1	0	0	0	3	0	0
5:00 PM - 6:00 PM	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	4	9
PM Peak Total	0	9

Charolais Rd





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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ St Andrews Cir	
COUNTY	San Luis Obispo	
COLLECTION DATE	Thursday, June 14, 2018	
CYCLE TIME	N/A	

N/S STREET	St Andres Cir /	
E/W STREET	Charolais Rd / Charolais Rd	
WEATHER	Clear	
CONTROL TYPE	One-Way Stop	

COMMENTS



GTOP







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# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Rambouillet Rd	LATITUDE	35.6024	
COUNTY	San Luis Obispo	LONGITUDE	-120.6670	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	0	0	21	0	5	18	0	1	0	44	3	2
7:15 AM - 7:30 AM	0	0	0	0	0	0	32	0	13	18	0	0	0	64	2	0
7:30 AM - 7:45 AM	0	0	0	0	3	0	37	0	18	42	0	2	0	88	11	1
7:45 AM - 8:00 AM	0	0	0	0	3	0	45	0	13	47	0	0	0	102	6	0
8:00 AM - 8:15 AM	0	0	0	0	5	0	34	0	13	49	0	1	0	73	9	2
8:15 AM - 8:30 AM	0	0	0	0	4	0	19	0	10	38	0	0	0	65	1	1
8:30 AM - 8:45 AM	0	0	0	0	1	0	21	0	8	29	0	0	0	54	0	0
8:45 AM - 9:00 AM	0	0	0	0	1	0	14	0	11	12	0	0	0	54	2	0
TOTAL	0	0	0	0	17	0	223	0	91	253	0	4	0	544	34	6

		North	bound			South	bound			Eastl	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	3	0	18	0	30	75	0	0	0	41	2	0
4:15 PM - 4:30 PM	0	0	0	0	2	0	20	0	32	68	0	0	0	48	2	0
4:30 PM - 4:45 PM	0	0	0	0	1	0	25	0	30	74	0	0	0	41	3	1
4:45 PM - 5:00 PM	0	0	0	0	3	0	23	0	36	89	0	0	0	48	4	1
5:00 PM - 5:15 PM	0	0	0	0	2	0	14	0	46	72	0	0	0	53	3	0
5:15 PM - 5:30 PM	0	0	0	0	2	0	13	0	32	80	0	0	0	38	1	0
5:30 PM - 5:45 PM	0	0	0	0	3	0	25	0	29	76	0	0	0	41	1	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	23	0	36	68	0	0	0	33	0	0
TOTAL	0	0	0	0	16	0	161	0	271	602	0	0	0	343	16	2

			North	bound			South	bound			Easth	ound			Westl	ound	
[	PEAK HOUR	Left	Thru	Right	Trucks												
ſ																	
	7:30 AM - 8:30 AM	0	0	0	0	15	0	135	0	54	176	0	3	0	328	27	4
ſ																	
ı	4:15 PM - 5:15 PM	0	0	0	0	8	0	82	0	144	303	0	0	0	190	12	2

	PHF	Trucks					<u>Ra</u>	mbouillet	t Rd	<u>PHF</u>	_		
АМ	0.851	1.0%				PM	82	0	8	0.865			
РМ	0.910	0.3%				AM	135	0	15	0.781			
			<u>PHF</u>	0.894	0.927		4	Ţ	L		AM	PM	
				144	54					L	27	12	
	<u>Cł</u>	narolais	<u>Rd</u>	303	176	$\longrightarrow$	•		) .	<b>←</b>	328	190	<u>Charolais Rd</u>
				0	0	1		North	ľ	L	0	0	
				PM	AM	PHF	4	1			0.822	0.902	<u>PHF</u>
						#####	0	0	0	AM			l
						#####	0	0	0	РМ			



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Rambouillet Rd	LATITUDE	35.6024	
COUNTY	San Luis Obispo	LONGITUDE	-120.6670	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

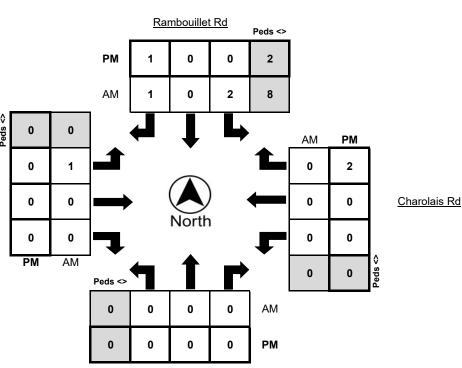
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	2	2	0	1	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	17	2	0	3	0	1	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	4	0	0	1	0	0	0	0	0	0	0	2	0

	Nort	thbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	8	2	0	1	0	1	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	2	0	0	1	0	0	0	0	0	0	0	2	0

	Bikes	Peds
AM Peak Total	4	8
PM Peak Total	3	2

Charolais Rd





310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd @ Rambouillet Rd	_
COUNTY	San Luis Obispo	<u> </u>
COLLECTION DATE	Thursday, June 7, 2018	
CYCLE TIME	N/A	_ c

N/S STREET	Rambouillet Rd /	
E/W STREET	Charolais Rd / Charolais Rd	
WEATHER	Clear	
CONTROL TYPE	One-Way Stop	

COMMENTS



GTOP







310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:
Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Meadowlark Rd @ Oriole Wy	LATITUDE	35.6011	
COUNTY	San Luis Obispo	LONGITUDE	-120.6501	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	0	0	8	0	0	6	0	0	0	21	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	16	0	2	6	0	0	0	18	1	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	20	0	4	7	0	0	0	33	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	21	0	10	13	0	0	0	33	0	1
8:00 AM - 8:15 AM	0	0	0	0	0	0	15	0	16	16	0	0	0	17	1	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	10	0	10	7	0	0	0	19	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	4	0	7	8	0	0	0	14	0	0
8:45 AM - 9:00 AM	0	0	0	0	1	0	9	0	3	5	0	0	0	11	0	0
TOTAL	0	0	0	0	1	0	103	0	52	68	0	0	0	166	2	2

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	0	0	5	0	16	22	0	0	0	13	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	6	0	9	15	0	0	0	13	2	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	6	0	15	18	0	0	0	17	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	7	0	16	18	0	0	0	16	0	0
5:00 PM - 5:15 PM	0	0	0	0	2	0	12	0	12	17	0	0	0	15	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	6	0	10	24	0	0	0	13	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	8	0	7	29	0	0	0	10	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	2	0	9	20	0	0	0	10	0	0
TOTAL	0	0	0	0	2	0	52	0	94	163	0	0	0	107	2	1

			North	bound			South	bound			Eastl	ound			Westl	bound	
[	PEAK HOUR	Left	Thru	Right	Trucks												
П																	
	7:30 AM - 8:30 AM	0	0	0	0	0	0	66	0	40	43	0	0	0	102	1	1
Г																	
ı	4:30 PM - 5:30 PM	0	0	0	0	2	0	31	0	53	77	0	0	0	61	0	1

	PHF	Trucks					!	Oriole W	У	<u>PHF</u>	_		
АМ	0.818	0.4%				РМ	31	0	2	0.589			
PM	0.966	0.4%				AM	66	0	0	0.786			
			PHF	0.956	0.648		4	1	L		AM	PM	
				53	40			•		1	1	0	
	<u>Me</u>	adowlark	k Rd	77	43	$\longrightarrow$	•		) .	<b>←</b>	102	61	<u>Meadowlark Rd</u>
				0	0	<b>1</b>		North	ľ	L	0	0	
				PM	AM	PHF	4	1			0.78	0.897	<u>PHF</u>
						#####	0	0	0	AM			
						#####	0	0	0	РМ			



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# **Turning Movement Report**

Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Meadowlark Rd @ Oriole Wy	LATITUDE	35.6011	
COUNTY	San Luis Obispo	LONGITUDE	-120.6501	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

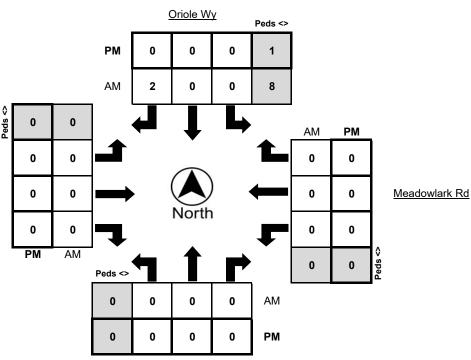
	Nort	hbound E	likes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	likes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0
7:30 AM - 7:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0
TOTAL	0	0	0	18	0	0	2	0	1	0	0	1	0	2	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

	Nort	hbound E	Bikes	N.Leg	Sout	hbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds												
7:30 AM - 8:30 AM	0	0	0	8	0	0	2	0	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	2	8
PM Peak Total	0	1

Meadowlark Rd



0



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# **Turning Movement Report**

Prepared For:

**Central Coast Transportation Consulting** 

895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Meadowlark Rd @ Oriole Wy	N/S STREET	Oriole Wy /
COUNTY	San Luis Obispo	E/W STREET	Meadowlark Rd / Meadowlark Rd
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear
CYCLE TIME	N/A	CONTROL TYPE	One-Way Stop

COMMENTS









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# **Turning Movement Report**

Prepared For:

OMNI-Means

943 Reserve Drive Roseville, CA 95678

LOCATION	SR 46W @ US 101 NB Ramps	LATITUDE	35.5893	
COUNTY	San Luis Obispo	LONGITUDE	-120.6950	
ECTION DATE	Tuesday May 22 2018	WEATHER	Clear	

		North	bound			South	bound			Eastk	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	4	0	20	0	0	0	0	0	36	54	0	6	0	15	27	8
7:15 AM - 7:30 AM	4	0	37	1	0	0	0	0	22	62	0	10	0	11	35	12
7:30 AM - 7:45 AM	2	0	25	3	0	0	0	0	40	90	0	5	0	17	39	8
7:45 AM - 8:00 AM	10	1	24	3	0	0	0	0	44	91	0	8	0	18	34	7
8:00 AM - 8:15 AM	11	0	26	4	0	0	0	0	65	61	0	11	0	17	47	21
8:15 AM - 8:30 AM	9	1	34	1	0	0	0	0	55	51	0	8	0	19	60	13
8:30 AM - 8:45 AM	6	0	17	0	0	0	0	0	38	81	0	14	0	28	44	11
8:45 AM - 9:00 AM	13	0	29	3	0	0	0	0	53	63	0	10	0	18	64	17
TOTAL	59	2	212	15	0	0	0	0	353	553	0	72	0	143	350	97

		North	bound			South	bound			Easth	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	6	0	16	0	0	0	0	0	89	81	0	5	0	31	88	4
4:15 PM - 4:30 PM	13	0	26	1	0	0	0	0	90	76	0	12	0	38	75	7
4:30 PM - 4:45 PM	11	1	10	0	0	0	0	0	101	56	0	9	0	42	103	4
4:45 PM - 5:00 PM	7	0	12	0	0	0	0	0	93	64	0	7	0	44	97	8
5:00 PM - 5:15 PM	13	1	20	0	0	0	0	0	104	44	0	16	0	47	73	6
5:15 PM - 5:30 PM	17	0	11	1	0	0	0	0	103	46	0	14	0	41	79	6
5:30 PM - 5:45 PM	6	1	10	0	0	0	0	0	111	24	0	9	0	42	60	4
5:45 PM - 6:00 PM	11	0	12	0	0	0	0	0	96	29	0	4	0	24	58	4
TOTAL	84	3	117	2	0	0	0	0	787	420	0	76	0	309	633	43

		North	bound			South	bound			Eastl	ound			Westk	oound	
PEAK HOUR	Left	Thru	Right	Trucks												
8:00 AM - 9:00 AM	39	1	106	8	0	0	0	0	211	256	0	43	0	82	215	62
4:00 PM - 5:00 PM	37	1	64	1	n	n	0	0	373	277	0	33	0	155	363	23

	PHF	Trucks					<u>US 1</u>	101 On F	<u>Ramp</u>	<u>PHF</u>				
АМ	0.948	12.4%				PM	0	0	0	#####				
PM	0.980	4.5%			_	AM	0	0	0	#####				
			PHF	0.956	0.927		4		L		AM	PM	ī	
				373	211	1				L	215	363		
		<u>SR 46</u>		277	256	$\longrightarrow$	•		) .	<b>—</b>	82	155		<u>SR 46</u>
				0	0	<b>1</b>		North		F	0	0		
				PM	AM	<u>PHF</u>	4	1		,	0.905	0.893	<u>PHF</u>	
						0.83	39	1	106	AM				
										1				

0.654

US 101 Off Ramp

Page 1 of 3



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# **Turning Movement Report**

Prepared For:

**OMNI-Means** 943 Reserve Drive Roseville, CA 95678

LOCATION	SR 46W @ US 101 NB Ramps	LATITUDE	35.5893
COUNTY	San Luis Obispo	LONGITUDE	-120.6950
COLLECTION DATE	Tuesday, May 22, 2018	WEATHER	Clear

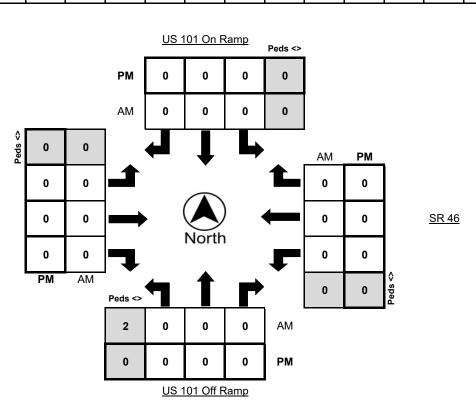
	Nort	hbound E	likes	N.Leg	Sout	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0

	Nort	Northbound Bikes		N.Leg	Sou	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

	Nort	thbound E	Bikes	N.Leg	Sou	thbound E	Bikes	S.Leg	Eas	tbound B	ikes	E.Leg	Wes	tbound B	ikes	W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	2
PM Peak Total	0	0

SR 46



Page 2 of 3



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# **Turning Movement Report**

Prepared For:

**OMNI-Means** 

943 Reserve Drive Roseville, CA 95678

LOCATION	SR 46W @ US 101 NB Ramps	N/S STREET	US 101 On Ramp / US 101 Off Ramp
COUNTY	San Luis Obispo	E/W STREET	SR 46 / SR 46
COLLECTION DATE	Tuesday, May 22, 2018	WEATHER	Clear
CYCLE TIME	98 Seconds	CONTROL TYPE	Signal

**COMMENTS** Eastbound left turns are protected.









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# **Turning Movement Report**

Prepared For:

OMNI-Means

943 Reserve Drive Roseville, CA 95678

LOCATION	SR 46W @ US 101 SB Ramps	LATITUDE	35.5894	
COUNTY	San Luis Obispo	LONGITUDE	-120.6961	
COLLECTION DATE	Tuesday, May 22, 2018	WEATHER	Clear	

		North	bound			South	bound			Eastl	ound			Westl	oound	
Time	Left	Thru	Right	Trucks												
7:00 AM - 7:15 AM	0	0	0	0	53	1	33	5	0	35	5	0	2	14	0	2
7:15 AM - 7:30 AM	0	0	0	0	51	1	49	8	0	33	21	3	5	9	0	2
7:30 AM - 7:45 AM	0	0	0	0	46	0	51	14	0	83	15	2	7	14	0	3
7:45 AM - 8:00 AM	0	0	0	0	69	0	74	7	0	66	9	1	7	20	0	3
8:00 AM - 8:15 AM	0	0	0	0	65	0	74	8	0	61	10	2	9	19	0	1
8:15 AM - 8:30 AM	0	0	0	0	54	0	69	8	0	53	13	2	9	17	0	4
8:30 AM - 8:45 AM	0	0	0	0	49	1	55	5	0	69	8	4	16	20	0	2
8:45 AM - 9:00 AM	0	0	0	0	58	0	79	14	0	57	15	5	11	23	0	1
TOTAL	0	0	0	0	445	3	484	69	0	457	96	19	66	136	0	18

		North	bound			South	bound			Easth	ound			Westl	bound	
Time	Left	Thru	Right	Trucks												
4:00 PM - 4:15 PM	0	0	0	0	44	0	108	7	0	126	6	3	12	26	0	1
4:15 PM - 4:30 PM	0	0	0	0	44	0	89	7	0	119	15	4	18	30	0	1
4:30 PM - 4:45 PM	0	0	0	0	37	0	76	6	0	120	13	1	20	35	0	2
4:45 PM - 5:00 PM	0	0	0	0	39	0	82	5	0	120	10	3	21	28	0	0
5:00 PM - 5:15 PM	0	0	0	0	39	1	95	4	0	107	19	3	18	40	0	4
5:15 PM - 5:30 PM	0	0	0	0	36	0	85	2	0	116	24	3	20	42	0	1
5:30 PM - 5:45 PM	0	0	0	0	38	0	108	2	0	93	8	1	14	29	0	1
5:45 PM - 6:00 PM	0	0	0	0	20	0	75	3	0	105	7	2	9	24	0	2
TOTAL	0	0	0	0	297	1	718	36	0	906	102	20	132	254	0	12

			North	bound			Southbound				Eastbound				Westbound			
ĺ	PEAK HOUR	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	
ĺ																		
ı	7:45 AM - 8:45 AM	0	0	0	0	237	1	272	28	0	249	40	9	41	76	0	10	
ſ																		
-	4:30 PM - 5:30 PM	0	0	0	0	151	1	338	17	0	463	66	10	79	145	0	7	

PΜ

US 101 On Ramp

	PHF	Trucks					<u>US</u>	101 Off F	Ramp	<u>PHF</u>	_			
АМ	0.935	5.1%				PM	338	1	151	0.907				
PM	0.962	2.7%				AM	272	1	237	0.892				
	•		<u>PHF</u>	0.945	0.938		4	1	L	,	AM	PM		
				0	0			•		1	0	0		
		<u>SR 46</u>		463	249	$\longrightarrow$			) .	<b>←</b>	76	145		<u>SR 46</u>
				66	40			North	1		41	79		
				PM	AM	DUE	<b>4</b>	1	$\rightarrow$		0.813	0.903	<u>PHF</u>	
						PHF #####	0	0	0	AM				



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# **Turning Movement Report**

Prepared For:

**OMNI-Means** 943 Reserve Drive Roseville, CA 95678

LOCATION	SR 46W @ US 101 SB Ramps	LATITUDE	35.5894
COUNTY	San Luis Obispo	LONGITUDE	-120.6961
COLLECTION DATE	Tuesday, May 22, 2018	WEATHER_	Clear

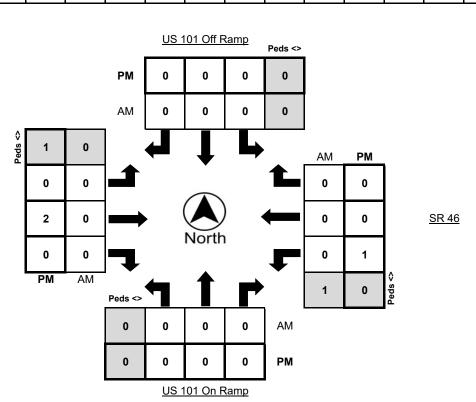
	Nort	hbound E	likes	N.Leg	N.Leg Southbound Bikes			S.Leg	eg Eastbound Bikes			E.Leg	Wes	stbound B	ikes	W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0

	Nort	thbound E	Bikes	N.Leg	g Southbound Bikes			S.Leg	Eastbound Bikes		E.Leg	E.Leg Westbound Bikes		ikes	W.Leg	
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1

	Nort	hbound E	Bikes	N.Leg	Sout	Southbound Bikes			Eastbound Bikes			E.Leg Westbound Bikes		ikes	W.Leg	
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	1

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	3	1

SR 46



Page 2 of 3



310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# **Turning Movement Report**

Prepared For:

OMNI-Means

943 Reserve Drive Roseville, CA 95678

LOCATION	SR 46W @ US 101 SB Ramps	N/S STREET	US 101 Off Ramp / US 101 On Ramp
COUNTY	San Luis Obispo	E/W STREET	SR 46 / SR 46
COLLECTION DATE	Tuesday, May 22, 2018	WEATHER	Clear
CYCLE TIME	71 Seconds	CONTROL TYPE	Signal

**COMMENTS** Westbound left turns are protected.











310 N. Irwin Street - Suite 20

Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### Peak Hour Volume

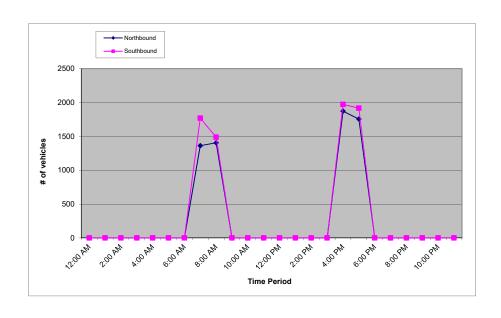
Prepared For:

Central Coast Trans. Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	101 Mainline @ Niblick Rd Bridge	LATITUDE	35.6154332
COUNTY	San Luis Obispo	LONGITUDE	-120.688532
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
NUMBER OF LANES	4		

		No	orthbou	nd				Hourly			
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	-	-	-	-	0	-	-	-	-	0	0
1:00 AM	-	-	-	-	0	-	-	-	-	0	0
2:00 AM	-	-	-	-	0	-	-	-	-	0	0
3:00 AM	-	-	-	-	0	-	-	-	-	0	0
4:00 AM	-	-	-	-	0	-	-	-	-	0	0
5:00 AM	-	-	-	-	0	-	-	-	-	0	0
6:00 AM	-	-	-	-	0	-	-	-	-	0	0
7:00 AM	237	309	395	421	1362	340	472	465	492	1769	3131
8:00 AM	340	366	358	341	1405	401	392	334	360	1487	2892
9:00 AM	-	-	-	-	0	-	-	-	-	0	0
10:00 AM	-	-	-	-	0	-	-	-	-	0	0
11:00 AM	-	-	-	-	0	-	-	-	-	0	0
12:00 PM	-	-	-	-	0	-	-	-	-	0	0
1:00 PM	-	-	-	-	0	-	-	-	-	0	0
2:00 PM	-	-	-	-	0	-	-	-	-	0	0
3:00 PM	-	-	-	-	0	-	-	-	-	0	0
4:00 PM	414	467	497	494	1872	442	446	546	538	1972	3844
5:00 PM	471	482	425	377	1755	584	484	406	442	1916	3671
6:00 PM	-	-	-	-	0	-	-	-	-	0	0
7:00 PM	-	-	-	-	0	-	-	-	-	0	0
8:00 PM	-	-	-	-	0	-	-	-	-	0	0
9:00 PM	-	-	-	-	0	-	-	-	-	0	0
10:00 PM	-	-	-	-	0	-	-	-	-	0	0
11:00 PM	-	-	-	-	0	-	-	-	-	0	0
Total		47.	2%		6394		52.	8%		7144	
iotai	•	13538									

AM% 44.5% AM Peak 3295 7:15 am to 8:15 am AM P.H.F. 0.90 PM% 55.5% PM Peak 4096 4:30 pm to 5:30 pm PM P.H.F. 0.97



Location: US 101 Mainline at Niblick Rd Bridge

Date: 6/6/2018

	Northbo	ound	Southbound			
Interval	<b>ALL Vehicles</b>	Trucks	All Vehicles	Trucks	TOTAL	Truck %
7:00 AM	237	19	340	26	577	8%
7:15 AM	309	18	472	28	781	6%
7:30 AM	395	26	465	38	860	7%
7:45 AM	421	29	492	35	913	7%
8:00 AM	340	21	401	39	741	8%
8:15 AM	366	34	392	38	758	9%
8:30 AM	358	40	334	23	692	9%
8:45 AM	341	28	360	31	701	8%
Totals:	2767	215	3256	258	6023	8%

Pea	k	Нο	ur	٧a	alι	ies
-----	---	----	----	----	-----	-----

7:15 AM - 8:15 AM	1465	94	1830	140	3295	7%

	Northbound		Southbound			
Interval	<b>ALL Vehicles</b>	Trucks	<b>All Vehicles</b>	Trucks	TOTAL	Truck %
4:00 PM	414	22	442	30	856	6%
4:15 PM	467	25	446	32	913	6%
4:30 PM	497	24	546	28	1043	5%
4:45 PM	494	15	538	21	1032	3%
5:00 PM	471	19	584	38	1055	5%
5:15 PM	482	18	484	32	966	5%
5:30 PM	425	18	406	20	831	5%
5:45 PM	377	13	442	15	819	3%
Totals:	3627	154	3888	216	7515	5%

### **Peak Hour Values**

4:30 PM - 5:30 PM	1944	76	2152	119	4096	5%



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Hanford, CA 93230

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### Peak Hour Volume

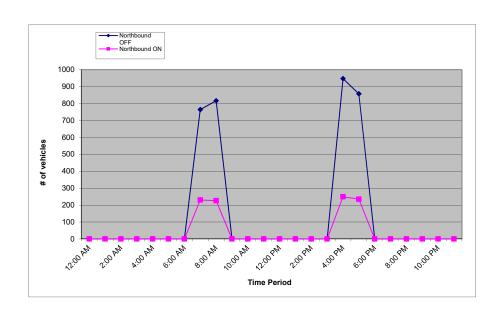
Prepared For:

Central Coast Trans. Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	101 NB Ramps @ SR 46 E	LATITUDE	35.6428285
COUNTY	San Luis Obispo	LONGITUDE	-120.6843692
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER_	Clear
NUMBER OF LANES	2 OFF / 1 ON		

		Nort	hbound	OFF			Nort	hbound	ION		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	-	-	-	-	0	-	-	-	-	0	0
1:00 AM	-	-	-	-	0	-	-	-	-	0	0
2:00 AM	-	-	-	-	0	-	-	-	-	0	0
3:00 AM	-	-	-	-	0	-	-	-	-	0	0
4:00 AM	-	-	-	-	0	-	-	-	-	0	0
5:00 AM	-	-	-	-	0	-	-	-	-	0	0
6:00 AM	-	-	-	-	0	-	-	-	-	0	0
7:00 AM	135	161	205	263	764	44	46	55	85	230	994
8:00 AM	223	199	179	215	816	68	52	60	46	226	1042
9:00 AM	-	-	-	-	0	-	-	-	-	0	0
10:00 AM	-	-	-	-	0	-	-	-	-	0	0
11:00 AM	-	-	-	-	0	-	-	-	-	0	0
12:00 PM	-	-	-	-	0	-	-	-	-	0	0
1:00 PM	-	-	-	-	0	-	-	-	-	0	0
2:00 PM	-	-	-	-	0	-	-	-	-	0	0
3:00 PM	-	-	-	-	0	-	-	-	-	0	0
4:00 PM	235	223	246	243	947	65	55	72	57	249	1196
5:00 PM	224	225	219	189	857	59	59	70	47	235	1092
6:00 PM	-	-	-	-	0	-	-	-	-	0	0
7:00 PM	-	-	-	-	0	-	-	-	-	0	0
8:00 PM	-	-	-	-	0	-	-	-	-	0	0
9:00 PM	-	-	-	-	0	-	-	-	-	0	0
10:00 PM	-	-	-	-	0	-	-	-	-	0	0
11:00 PM	-	-	-	-	0	-	-	-	-	0	0
Total		78.	3%		3384		21.	7%		940	
iotai					43	24					

AM% 47.1% AM Peak 1150 7:30 am to 8:30 am AM P.H.F. 0.83 PM% 52.9% PM Peak 1196 4:00 pm to 5:00 pm PM P.H.F. 0.94



Location: 101 NB Ramps @ SR 46 E

Date: 6/6/2018

	NB O	FF	NB ON			
Interval	<b>ALL Vehicles</b>	Trucks	All Vehicles	Trucks	TOTAL	Truck %
7:00 AM	135	7	44	10	179	9%
7:15 AM	161	5	46	9	207	7%
7:30 AM	205	4	55	6	260	4%
7:45 AM	263	19	85	14	348	9%
8:00 AM	223	11	68	4	291	5%
8:15 AM	199	9	52	14	251	9%
8:30 AM	179	17	60	14	239	13%
8:45 AM	215	13	46	10	261	9%
Totals:	1580	85	456	81	2036	8%

### **Peak Hour Values**

7:30 AM - 8:30 AM	890	43	260	38	1150	7%

	NB OFF		NB OFF NB ON		NB ON			
Interval	<b>ALL Vehicles</b>	Trucks	<b>All Vehicles</b>	Trucks	TOTAL	Truck %		
4:00 PM	235	8	65	10	300	6%		
4:15 PM	223	5	55	5	278	4%		
4:30 PM	246	5	72	8	318	4%		
4:45 PM	243	4	57	5	300	3%		
5:00 PM	224	6	59	8	283	5%		
5:15 PM	225	7	59	10	284	6%		
5:30 PM	219	5	70	11	289	6%		
5:45 PM	189	7	47	8	236	6%		
Totals:	1804	47	484	65	2288	5%		

### **Peak Hour Values**

4:00 PM - 5:00 PM	947	22	249	28	1196	4%



310 N. Irwin Street - Suite 20

Hanford, CA 93230

NUMBER OF LANES 2 OFF / 2 ON

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### Peak Hour Volume

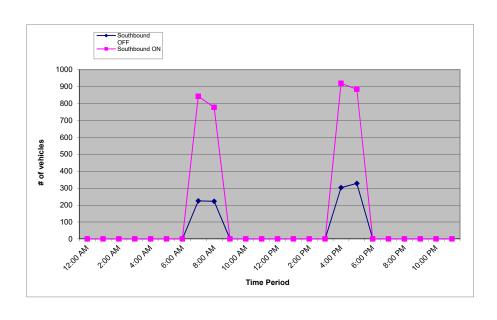
Prepared For:

Central Coast Trans. Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	US 101 SB Ramps @ SR 46 E	LATITUDE	35.6424274	
COUNTY	San Luis Obispo	LONGITUDE	-120.6856352	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	
_				

		Sout	hbound	OFF			Sou	thbound	ON		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	-	-	-	-	0	-	-	-	-	0	0
1:00 AM	-	-	-	-	0	-	-	-	-	0	0
2:00 AM	-	-	-	-	0	-	-	-	-	0	0
3:00 AM	-	-	-	-	0	-	-	-	-	0	0
4:00 AM	-	-	-	-	0	-	-	-	-	0	0
5:00 AM	-	-	-	-	0	-	-	-	-	0	0
6:00 AM	-	-	-	-	0	-	-	-	-	0	0
7:00 AM	38	64	58	65	225	164	224	205	249	842	1067
8:00 AM	61	53	59	49	222	214	213	179	171	777	999
9:00 AM	-	-	-	-	0	-	-	-	-	0	0
10:00 AM	-	-	-	-	0	-	-	-	-	0	0
11:00 AM	-	-	-	-	0	-	-	-	-	0	0
12:00 PM	-	-	-	-	0	-	-	-	-	0	0
1:00 PM	-	-	-	-	0	-	-	-	-	0	0
2:00 PM	-	-	-	-	0	-	-	-	-	0	0
3:00 PM	-	-		-	0	•	-			0	0
4:00 PM	67	70	75	91	303	230	198	245	246	919	1222
5:00 PM	79	82	91	76	328	246	255	160	223	884	1212
6:00 PM	-	-	-	-	0	-	-	-	-	0	0
7:00 PM	-	-	-	-	0	-	-	-	-	0	0
8:00 PM	-	-	-	-	0	-	-	-	-	0	0
9:00 PM	-	-	-	-	0	-	-	-	-	0	0
10:00 PM	-	-	-	-	0	-	-	-	-	0	0
11:00 PM	-	-	-	-	0	-	-	-		0	0
Total		24.	0%	•	1078	76.0% 3422					
Total					45	00					

AM% 45.9% AM Peak 1140 7:15 am to 8:15 am AM P.H.F. 0.91 PM% 54.1% PM Peak 1319 4:30 pm to 5:30 pm PM P.H.F. 0.98



Location: US 101 SB @ SR 46 E

Date: 6/6/2018

	SB OFF		SB ON			
Interval	<b>ALL Vehicles</b>	Trucks	All Vehicles	Trucks	TOTAL	Truck %
7:00 AM	38	10	164	16	202	13%
7:15 AM	64	14	224	9	288	8%
7:30 AM	58	9	205	13	263	8%
7:45 AM	65	11	249	13	314	8%
8:00 AM	61	13	214	24	275	13%
8:15 AM	53	12	213	20	266	12%
8:30 AM	59	15	179	10	238	11%
8:45 AM	49	11	171	24	220	16%
Totals:	447	95	1619	129	2066	11%

### **Peak Hour Values**

7:15 AM - 8:15 AM	248	47	892	59	1140	9%

	SB OFF		SB ON			
Interval	<b>ALL Vehicles</b>	Trucks	<b>All Vehicles</b>	Trucks	TOTAL	Truck %
4:00 PM	67	15	230	5	297	7%
4:15 PM	70	12	198	12	268	9%
4:30 PM	75	19	245	9	320	9%
4:45 PM	91	18	246	8	337	8%
5:00 PM	79	16	246	9	325	8%
5:15 PM	82	15	255	6	337	6%
5:30 PM	91	21	160	3	251	10%
5:45 PM	76	17	223	5	299	7%
Totals:	631	133	1803	57	2434	8%

### **Peak Hour Values**

4:30 PM - 5:30 PM	327	68	992	32	1319	8%



310 N. Irwin Street - Suite 20

Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### Peak Hour Volume

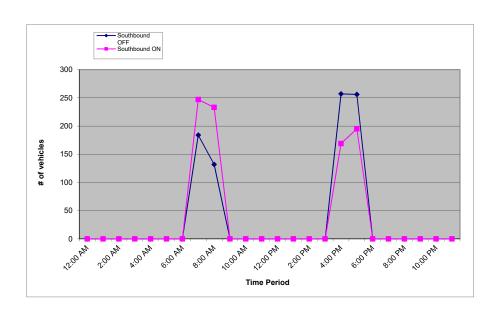
Prepared For:

Central Coast Trans. Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	US 101 SB Ramps @ Riverside Ave/17th St	LATITUDE	35.6320947	
COUNTY	San Luis Obispo	LONGITUDE	-120.6873304	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	
NUMBER OF LANES	1 OFF / 1 ON			

	Southbound OFF					Southbound ON				Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	-	-	-	-	0	-	-	-	-	0	0
1:00 AM	-	-	-	-	0	-	-	-	-	0	0
2:00 AM	-	-	-	-	0	-	-	-	-	0	0
3:00 AM	-	-	-	-	0	-	-	-	-	0	0
4:00 AM	-	-	-	-	0	-	-	-	-	0	0
5:00 AM	-	-	-	-	0	-	-	-	-	0	0
6:00 AM	-			-	0	-	-			0	0
7:00 AM	18	44	58	64	184	38	57	73	79	247	431
8:00 AM	55	41	26	10	132	73	73	43	44	233	365
9:00 AM	-			-	0	-	-			0	0
10:00 AM	-			-	0	-	-			0	0
11:00 AM	-			-	0	-	-			0	0
12:00 PM	-	-	-	-	0	-	-	-	-	0	0
1:00 PM	-	-	-	-	0	-	-	-	-	0	0
2:00 PM	-		-	-	0	-	-	-	-	0	0
3:00 PM	-	-	-	-	0	-	-	-	-	0	0
4:00 PM	43	59	60	95	257	34	35	54	46	169	426
5:00 PM	80	68	49	59	256	60	45	49	41	195	451
6:00 PM	-	-	-	-	0	-	-	-	-	0	0
7:00 PM	-		-	-	0	-	-	-	-	0	0
8:00 PM	-		-	-	0	-	-	-	-	0	0
9:00 PM	-	-	-	-	0	-	-	-	-	0	0
10:00 PM	-	-	-	-	0	-	-	-	-	0	0
11:00 PM	-	-	-	-	0	-	-	-	-	0	0
Total	101070							844			
i Stai	1673										

AM% 47.6% AM Peak 516 7:30 am to 8:30 am AM P.H.F. 0.90 PM% 52.4% PM Peak 508 4:30 pm to 5:30 pm PM P.H.F. 0.90



Location: US 101 SB Ramps @ Riverside Ave/17th St

Date: 6/6/2018

	SB OFF		SB ON			
Interval	<b>ALL Vehicles</b>	Trucks	All Vehicles	Trucks	TOTAL	Truck %
7:00 AM	18	0	38	3	56	5%
7:15 AM	44	0	57	5	101	5%
7:30 AM	58	0	73	1	131	1%
7:45 AM	64	0	79	1	143	1%
8:00 AM	55	0	73	1	128	1%
8:15 AM	41	0	73	1	114	1%
8:30 AM	26	0	43	1	69	1%
8:45 AM	10	1	44	0	54	2%
Totals:	316	1	480	13	796	2%

Peak	Hour	Va	lues
------	------	----	------

T CUIT TOUT TUINES						
7:30 AM - 8:30 AM	218	0	298	4	516	1%

	SB O	FF	SB C	ON		
Interval	<b>ALL Vehicles</b>	Trucks	<b>All Vehicles</b>	Trucks	TOTAL	Truck %
4:00 PM	43	0	34	0	77	0%
4:15 PM	59	0	35	0	94	0%
4:30 PM	60	0	54	1	114	1%
4:45 PM	95	0	46	0	141	0%
5:00 PM	80	1	60	0	140	1%
5:15 PM	68	0	45	0	113	0%
5:30 PM	49	0	49	0	98	0%
5:45 PM	59	1	41	0	100	1%
Totals:	513	2	364	1	877	0%

### **Peak Hour Values**

4:30 PM - 5:30 P	M 303	1	205	1	508	0%



#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20

Hanford, CA 93230

NUMBER OF LANES 1 OFF

PM%

65.6%

PM Peak 561

800-975-6938 Phone/Fax www.metrotrafficdata.com

### Peak Hour Volume

Prepared For:

PM P.H.F. 0.95

Central Coast Trans. Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	US 101 NB Offramp @ Paso Robles St	LATITUDE	35.6210237
COUNTY	San Luis Obispo	LONGITUDE	-120.6854367
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear
_		_	

		Nort	hbound	OFF			N/A			Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	-	-	-	-	0	-	-	-	-	0	0
1:00 AM	-	-	-	-	0	-	-	-	-	0	0
2:00 AM	-	-	-	-	0	-	-	-	-	0	0
3:00 AM	-	-	-	-	0	-	-	-	-	0	0
4:00 AM	-	-	-	-	0	-	-	-	-	0	0
5:00 AM	-	-	-	-	0	-	-	-	-	0	0
6:00 AM	-	-	-	-	0	-	-	-	-	0	0
7:00 AM	44	58	61	86	249	-	-		-	0	249
8:00 AM	86	81	70	83	320	-	-	-	-	0	320
9:00 AM	-	-	-	-	0	-	-	-	-	0	0
10:00 AM	-	-	-	-	0	-	-	-	-	0	0
11:00 AM	-	•	-	-	0	-	-		-	0	0
12:00 PM	-	•	-	-	0	-	-	-	-	0	0
1:00 PM	-	-	-	-	0	-	-	-	-	0	0
2:00 PM	-	•	-	-	0	-	-		-	0	0
3:00 PM	-	•	-	-	0	-	-		-	0	0
4:00 PM	133	147	137	136	553	-	-	-	-	0	553
5:00 PM	141	147	113	133	534	-	-	-	-	0	534
6:00 PM	-	-	-	-	0	-	-	-	-	0	0
7:00 PM	-	-	-	-	0	-	-	-	-	0	0
8:00 PM	-	-	-	-	0	-	-	-	-	0	0
9:00 PM	-	•	-	-	0	-	-		-	0	0
10:00 PM	-	-	-	-	0	-	-		-	0	0
11:00 PM	-	-	-	-	0	-	-	-	-	0	0
Total		100	.0%		1656		0.0	0%		0	
Total					16	56					
AM%	34.4%	Α	M Peak	323	7:45 am	to 8:45	am .	ΑN	/I P.H.F.	0.94	

4:30 pm to 5:30 pm

Northbound
OFF
N/A

600

400

400

100

100

100

100

Time Period

Location: US 101 NB Offramp @ Paso Robles St

Date: 6/7/2018

	NB O	FF	NB ON			
Interval	<b>ALL Vehicles</b>	Trucks	All Vehicles	Trucks	TOTAL	Truck %
7:00 AM	44	0	-	-	44	0%
7:15 AM	58	2	-	-	58	3%
7:30 AM	61	0	-	-	61	0%
7:45 AM	86	1	-	-	86	1%
8:00 AM	86	3	-	-	86	3%
8:15 AM	81	1	-	-	81	1%
8:30 AM	70	2	-	-	70	3%
8:45 AM	83	0	-	-	83	0%
Totals:	569	9	-	-	569	2%

### **Peak Hour Values**

7:45 AM - 8:45 AM	323	7	-	-	323	2%

	NB O	FF	NB ON			
Interval	<b>ALL Vehicles</b>	Trucks	<b>All Vehicles</b>	Trucks	TOTAL	Truck %
4:00 PM	133	0	-	-	133	0%
4:15 PM	147	2	-	-	147	1%
4:30 PM	137	0	-	-	137	0%
4:45 PM	136	0	-	-	136	0%
5:00 PM	141	0	-	-	141	0%
5:15 PM	147	0	-	-	147	0%
5:30 PM	113	0	-	-	113	0%
5:45 PM	133	0	-	-	133	0%
Totals:	1087	2	-	-	1087	0%

### **Peak Hour Values**

4:30 PM - 5:30 PM	561	0	-	-	561	0%
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#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20

Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

### Peak Hour Volume

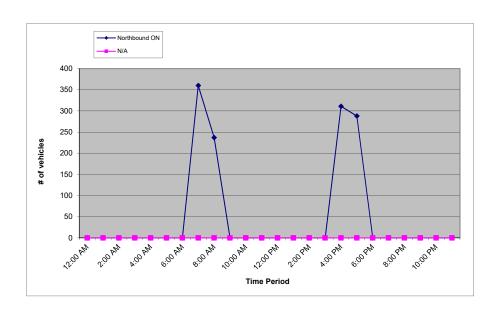
Prepared For:

Central Coast Trans. Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	US 101 NB Onramp @ Paso Robles St	LATITUDE	35.6298427
COUNTY	San Luis Obispo	LONGITUDE	-120.6864345
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER _	Clear
NUMBER OF LANES	1 ON	_	

		Northbound ON					N/A				Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	-	-	-	-	0	-	-	-	-	0	0
1:00 AM	-	-	-	-	0	-	-	-	-	0	0
2:00 AM	-	-	-	-	0	-	-	-	-	0	0
3:00 AM	-	-	-	-	0	-	-	-	-	0	0
4:00 AM	-	-	-	-	0	-	-	-	-	0	0
5:00 AM	-	-	-	-	0	-	-	-	-	0	0
6:00 AM	-	-	-	-	0	-	-	-	-	0	0
7:00 AM	59	64	102	135	360	-	-	-	-	0	360
8:00 AM	93	43	45	56	237	-	-	-	-	0	237
9:00 AM	-	-	-	-	0	-	-	-	-	0	0
10:00 AM	-	-	-	-	0	-	-	-	-	0	0
11:00 AM	-	-	-	-	0	-	-	-	-	0	0
12:00 PM	-	-	-	-	0	-	-	-	-	0	0
1:00 PM	-	-	-	-	0	-	-	-	-	0	0
2:00 PM	-	-	-	-	0	-	-	-	-	0	0
3:00 PM	-	-	-	-	0	-	-	-	-	0	0
4:00 PM	74	74	85	78	311	-	-	-	-	0	311
5:00 PM	84	79	74	51	288	-	-	-	-	0	288
6:00 PM	-	-	-	-	0	-	-	-	-	0	0
7:00 PM	-	-	-	-	0	-	-	-	-	0	0
8:00 PM		-	-	-	0	-	-	-	-	0	0
9:00 PM		-	-	-	0	-	-	-	-	0	0
10:00 PM	-	-	-	-	0	-	-	-	-	0	0
11:00 PM	-	-	-	-	0	-	-	-	-	0	0
Total	100.0%   1196   0.0%   0										
Total	1196										
										-	

AM% 49.9% AM Peak 394 7:15 am to 8:15 am AM P.H.F. 0.73 PM% 50.1% PM Peak 326 4:30 pm to 5:30 pm PM P.H.F. 0.96



Location: US 101 NB Onramp @ Paso Robles St

Date: 6/6/2018

	NB O	FF	NB ON			
Interval	<b>ALL Vehicles</b>	Trucks	All Vehicles	Trucks	TOTAL	Truck %
7:00 AM	-	-	59	1	59	2%
7:15 AM	-	-	64	3	64	5%
7:30 AM	-	-	102	3	102	3%
7:45 AM	-	-	135	3	135	2%
8:00 AM	-	-	93	0	93	0%
8:15 AM	-	-	43	1	43	2%
8:30 AM	-	-	45	2	45	4%
8:45 AM	-	-	56	2	56	4%
Totals:	-	-	597	15	597	3%

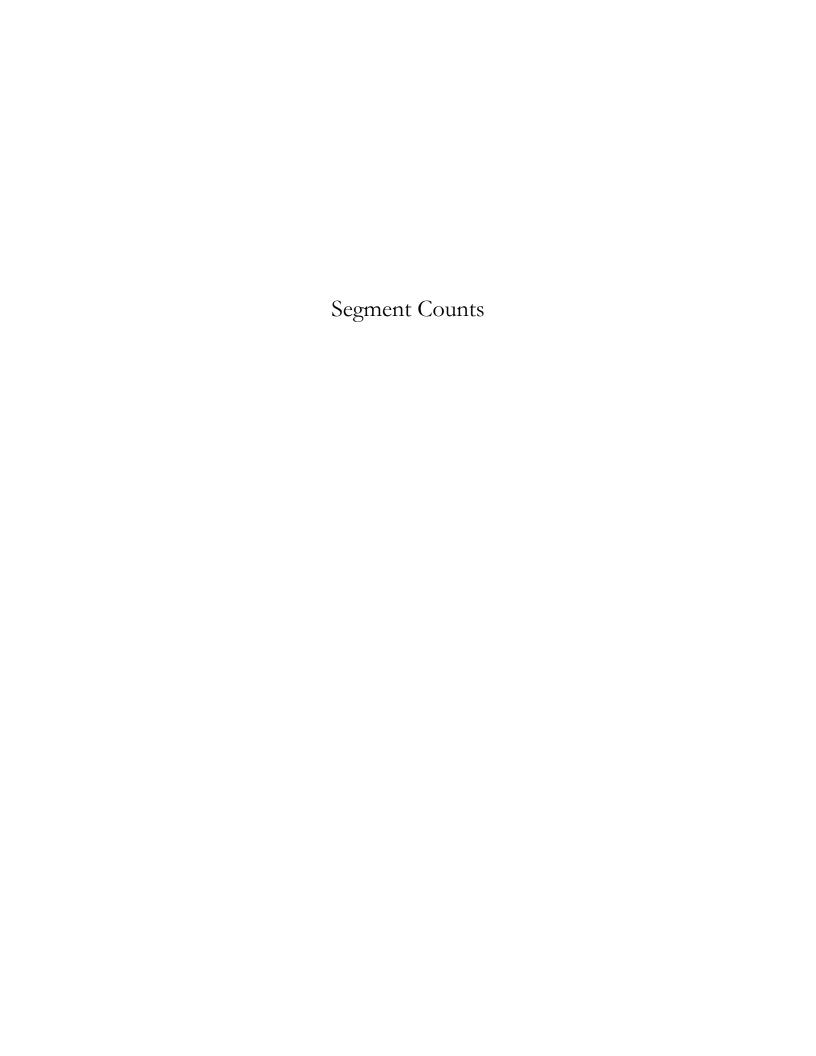
### **Peak Hour Values**

7:15 AM - 8:15 AM	-	-	394	9	394	2%

	NB OFF		NB ON			
Interval	<b>ALL Vehicles</b>	Trucks	<b>All Vehicles</b>	Trucks	TOTAL	Truck %
4:00 PM	-	-	74	2	74	3%
4:15 PM	-	-	74	1	74	1%
4:30 PM	-	-	85	0	85	0%
4:45 PM	-	-	78	2	78	3%
5:00 PM	-	-	84	2	84	2%
5:15 PM	-	-	79	0	79	0%
5:30 PM	-	-	74	0	74	0%
5:45 PM	-	-	51	2	51	4%
Totals:	-	-	599	9	599	2%

### **Peak Hour Values**

4:30 PM - 5:30 PM	-	-	326	4	326	1%





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

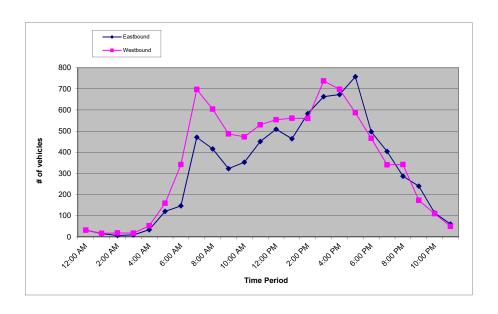
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd e/o Ferro Ln	LATITUDE	35.6289445
COUNTY	San Luis Obispo	LONGITUDE	-120.6777817
COLLECTION DATE	Tuesday, June 5, 2018	WEATHER	Clear

		Е	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	9	10	5	8	32	15	7	3	7	32	64
1:00 AM	2	6	5	3	16	4	5	5	3	17	33
2:00 AM	1	1	3	2	7	4	6	6	3	19	26
3:00 AM	0	2	4	4	10	3	3	2	10	18	28
4:00 AM	3	7	7	17	34	6	10	16	21	53	87
5:00 AM	17	16	30	58	121	23	38	40	58	159	280
6:00 AM	21	34	36	56	147	59	79	91	113	342	489
7:00 AM	47	91	157	176	471	99	132	204	262	697	1168
8:00 AM	144	102	84	86	416	201	147	106	150	604	1020
9:00 AM	65	88	88	82	323	118	116	114	139	487	810
10:00 AM	84	76	74	119	353	127	117	106	123	473	826
11:00 AM	112	102	111	126	451	133	122	143	132	530	981
12:00 PM	133	139	109	128	509	164	139	122	129	554	1063
1:00 PM	130	105	119	110	464	143	127	132	159	561	1025
2:00 PM	107	131	144	201	583	135	132	140	153	560	1143
3:00 PM	146	190	152	175	663	187	210	176	164	737	1400
4:00 PM	172	152	158	191	673	183	183	165	167	698	1371
5:00 PM	184	213	214	146	757	162	153	136	136	587	1344
6:00 PM	125	131	119	122	497	132	117	115	102	466	963
7:00 PM	129	88	95	92	404	89	82	73	97	341	745
8:00 PM	82	54	74	77	287	98	96	82	66	342	629
9:00 PM	76	50	55	59	240	48	51	40	34	173	413
10:00 PM	40	33	19	21	113	33	31	24	22	110	223
11:00 PM	18	23	9	11	61	21	11	10	8	50	111
Total	47.0% 7632 53.0% 8610							8610			
iotai		16242									

AM% 35.8% AM Peak 1393 7:30 am to 8:30 am AM P.H.F. 0.80 PM% 64.2% PM Peak 1422 3:15 pm to 4:15 pm PM P.H.F. 0.89





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

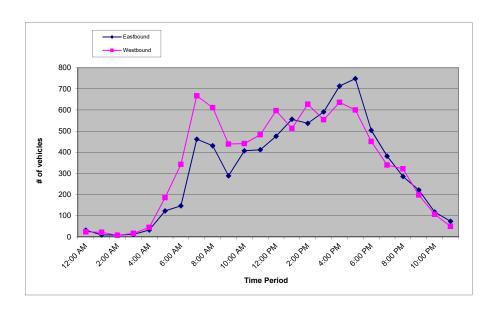
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd e/o Ferro Ln	LATITUDE	35.6289445
COUNTY	San Luis Obispo	LONGITUDE	-120.6777817
COLLECTION DATE	Wednesday, June 6, 2018		Clear
	77 04110 0410 0, 2010		Cidal

		Eastbound					W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	9	15	7	1	32	10	7	3	4	24	56
1:00 AM	6	3	0	1	10	5	5	8	4	22	32
2:00 AM	3	2	3	1	9	2	2	1	3	8	17
3:00 AM	4	1	1	6	12	1	5	3	8	17	29
4:00 AM	2	5	12	14	33	5	7	12	21	45	78
5:00 AM	10	20	31	62	123	30	47	44	65	186	309
6:00 AM	20	35	48	44	147	60	63	106	114	343	490
7:00 AM	52	83	154	173	462	99	130	189	249	667	1129
8:00 AM	145	139	67	80	431	194	139	136	142	611	1042
9:00 AM	70	69	74	76	289	127	111	100	101	439	728
10:00 AM	99	100	100	108	407	111	112	102	116	441	848
11:00 AM	77	102	103	130	412	110	103	115	155	483	895
12:00 PM	156	107	103	110	476	161	183	145	108	597	1073
1:00 PM	109	120	128	199	556	118	157	105	133	513	1069
2:00 PM	147	138	122	130	537	174	161	151	141	627	1164
3:00 PM	143	142	158	148	591	151	142	138	123	554	1145
4:00 PM	153	197	175	188	713	118	160	182	176	636	1349
5:00 PM	193	221	183	151	748	161	147	153	139	600	1348
6:00 PM	140	139	104	121	504	137	108	105	101	451	955
7:00 PM	120	99	90	73	382	86	96	79	79	340	722
8:00 PM	74	76	75	61	286	83	72	81	86	322	608
9:00 PM	67	55	57	43	222	71	62	41	24	198	420
10:00 PM	42	28	29	19	118	35	22	23	27	107	225
11:00 PM	26	9	19	20	74	19	13	10	8	50	124
Total	47.8% 7574 52.2% 8281										
					158	355					

AM% 35.7% AM Peak 1382 7:30 am to 8:30 am AM P.H.F. 0.82 PM% 64.3% PM Peak 1443 4:30 pm to 5:30 pm PM P.H.F. 0.98





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

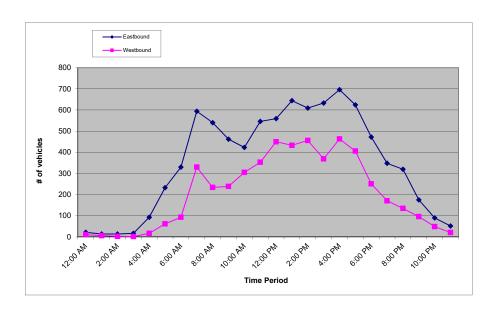
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd e/o Golden Hill Rd	LATITUDE	35.6218359
COUNTY	San Luis Obispo	LONGITUDE	-120.6593804
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear

i			46	. al			10	/ a a 4 la a			Hourly
	4.1		astbour	-				estbour	-		•
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	9	6	3	4	22	1	3	5	2	11	33
1:00 AM	3	4	4	3	14	1	1	2	2	6	20
2:00 AM	0	3	6	5	14	0	1	2	0	3	17
3:00 AM	1	4	5	7	17	0	0	1	1	2	19
4:00 AM	15	15	26	37	93	1	3	6	7	17	110
5:00 AM	36	58	75	64	233	8	7	21	26	62	295
6:00 AM	60	76	98	96	330	15	13	32	33	93	423
7:00 AM	110	115	166	203	594	41	67	105	117	330	924
8:00 AM	170	135	106	129	540	89	68	35	42	234	774
9:00 AM	120	110	124	108	462	55	68	55	61	239	701
10:00 AM	97	97	111	118	423	87	72	83	63	305	728
11:00 AM	125	120	144	157	546	80	87	92	94	353	899
12:00 PM	133	155	137	134	559	112	123	109	106	450	1009
1:00 PM	144	143	170	187	644	103	123	87	120	433	1077
2:00 PM	177	123	171	138	609	118	149	102	87	456	1065
3:00 PM	171	152	177	133	633	75	89	105	100	369	1002
4:00 PM	162	166	197	171	696	98	117	111	137	463	1159
5:00 PM	168	183	138	135	624	125	123	88	70	406	1030
6:00 PM	141	122	100	109	472	84	65	49	53	251	723
7:00 PM	102	95	65	86	348	60	38	38	35	171	519
8:00 PM	84	81	77	78	320	35	16	47	37	135	455
9:00 PM	64	42	39	30	175	30	24	24	18	96	271
10:00 PM	30	21	27	12	90	14	13	14	8	49	139
11:00 PM	20	15	12	5	52	4	6	5	6	21	73
Total	63.2% 8510 36.8% 495						4955				
iotai					134	165					

AM% 36.7% AM Peak 1053 7:30 am to 8:30 am AM P.H.F. 0.82 PM% 63.3% PM Peak 1215 4:30 pm to 5:30 pm PM P.H.F. 0.99





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

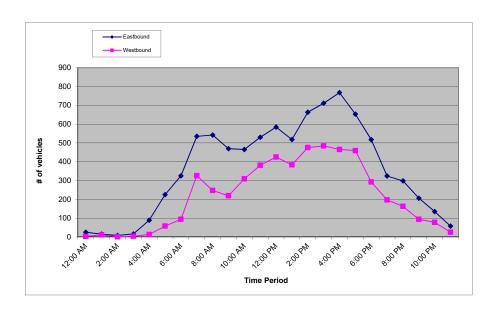
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd e/o Golden Hill Rd	LATITUDE	35.6218359
COUNTY	San Luis Obispo	LONGITUDE	-120.6593804
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear

		E	astbour	nd		Westbound					Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	7	9	2	7	25	0	2	1	0	3	28
1:00 AM	9	0	0	6	15	3	6	0	2	11	26
2:00 AM	0	3	3	2	8	1	0	0	0	1	9
3:00 AM	2	2	6	6	16	1	1	0	2	4	20
4:00 AM	18	14	25	32	89	3	0	3	7	13	102
5:00 AM	33	55	60	77	225	5	9	14	30	58	283
6:00 AM	60	75	86	104	325	16	16	24	38	94	419
7:00 AM	97	104	143	191	535	38	63	103	122	326	861
8:00 AM	185	125	101	131	542	90	57	43	57	247	789
9:00 AM	133	104	113	119	469	57	61	46	55	219	688
10:00 AM	104	118	108	135	465	71	72	80	86	309	774
11:00 AM	102	134	144	150	530	88	97	89	107	381	911
12:00 PM	126	166	131	161	584	124	94	115	92	425	1009
1:00 PM	128	129	119	142	518	89	90	94	110	383	901
2:00 PM	129	141	195	198	663	103	112	123	137	475	1138
3:00 PM	183	166	187	175	711	134	117	113	120	484	1195
4:00 PM	184	214	207	162	767	121	108	110	126	465	1232
5:00 PM	180	168	153	152	653	127	126	105	101	459	1112
6:00 PM	129	139	132	117	517	84	80	70	58	292	809
7:00 PM	100	78	79	67	324	60	41	47	49	197	521
8:00 PM	75	75	72	76	298	45	50	41	27	163	461
9:00 PM	54	53	45	54	206	31	31	16	16	94	300
10:00 PM	47	33	33	22	135	30	16	18	14	78	213
11:00 PM	23	9	13	13	58	10	8	3	4	25	83
Total	62.5% 8678									5206	
. 3.66.					138	384					

AM% 35.4% AM Peak 911 11:00 am to 12:00 pm AM P.H.F. 0.89 PM% 64.6% PM Peak 1239 3:45 pm to 4:45 pm PM P.H.F. 0.96





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

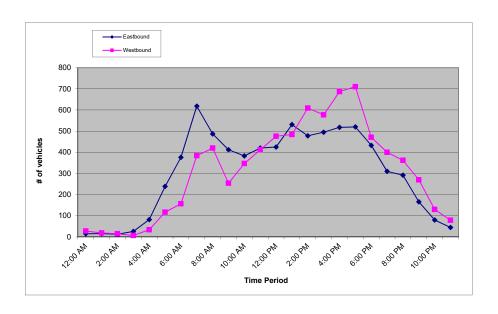
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd s/o Niblick Rd	LATITUDE	35.6146144
COUNTY	San Luis Obispo	LONGITUDE	-120.6590371
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

		E	astbour	nd		Westbound				Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	6	5	2	2	15	9	6	7	6	28	43
1:00 AM	4	5	4	3	16	3	6	7	3	19	35
2:00 AM	4	1	4	4	13	7	2	4	2	15	28
3:00 AM	2	8	6	10	26	3	2	0	2	7	33
4:00 AM	10	13	22	37	82	3	6	16	9	34	116
5:00 AM	41	56	71	71	239	16	19	47	35	117	356
6:00 AM	63	87	112	114	376	37	27	43	50	157	533
7:00 AM	111	160	155	192	618	53	70	89	172	384	1002
8:00 AM	168	111	94	114	487	161	115	66	78	420	907
9:00 AM	105	104	104	99	412	53	78	52	71	254	666
10:00 AM	99	83	103	98	383	77	91	89	90	347	730
11:00 AM	98	109	104	109	420	97	94	124	97	412	832
12:00 PM	113	104	100	108	425	109	132	110	125	476	901
1:00 PM	101	107	165	158	531	110	123	125	126	484	1015
2:00 PM	135	95	136	112	478	158	191	128	132	609	1087
3:00 PM	140	123	116	116	495	146	116	156	159	577	1072
4:00 PM	105	121	169	123	518	158	155	192	182	687	1205
5:00 PM	134	145	128	113	520	193	177	184	156	710	1230
6:00 PM	126	102	107	98	433	156	103	107	105	471	904
7:00 PM	86	79	76	69	310	103	105	97	95	400	710
8:00 PM	86	73	67	66	292	77	71	115	99	362	654
9:00 PM	61	47	31	27	166	86	63	59	62	270	436
10:00 PM	29	23	17	11	80	43	38	28	21	130	210
11:00 PM	16	15	6	8	45	21	19	25	14	79	124
Total	49.8% 7380 50.2%							7449			
· Star					148	329					

AM% 35.6% AM Peak 1167 7:15 am to 8:15 am AM P.H.F. 0.80 PM% 64.4% PM Peak 1315 4:30 pm to 5:30 pm PM P.H.F. 0.91





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

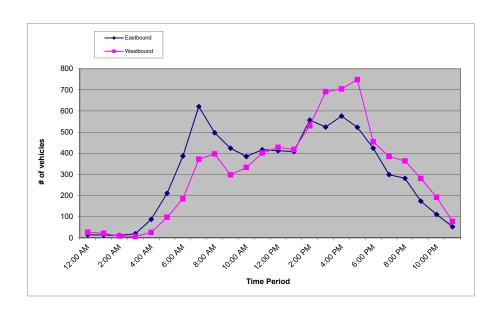
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd s/o Niblick Rd	LATITUDE	35.6146144	
COUNTY	San Luis Obispo	LONGITUDE	-120.6590371	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	
•	***		•	

		E	astbour	nd		Westbound				Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	5	3	1	6	15	6	7	6	8	27	42
1:00 AM	6	3	2	3	14	3	10	4	5	22	36
2:00 AM	3	4	2	3	12	3	4	0	2	9	21
3:00 AM	3	5	6	6	20	3	1	1	2	7	27
4:00 AM	12	16	21	39	88	3	3	5	15	26	114
5:00 AM	26	58	64	63	211	16	19	32	31	98	309
6:00 AM	65	98	106	118	387	35	37	54	59	185	572
7:00 AM	112	151	182	176	621	48	58	114	152	372	993
8:00 AM	169	126	93	109	497	142	105	71	79	397	894
9:00 AM	116	92	119	97	424	81	64	79	74	298	722
10:00 AM	92	95	108	90	385	68	73	96	96	333	718
11:00 AM	97	99	99	122	417	90	93	92	126	401	818
12:00 PM	99	99	103	111	412	114	102	120	92	428	840
1:00 PM	101	102	104	101	408	110	96	97	115	418	826
2:00 PM	107	131	151	168	557	123	110	152	145	530	1087
3:00 PM	134	130	130	130	524	187	184	163	157	691	1215
4:00 PM	132	159	164	121	576	186	161	171	186	704	1280
5:00 PM	137	135	122	129	523	184	189	198	177	748	1271
6:00 PM	96	127	118	83	424	130	107	106	111	454	878
7:00 PM	95	64	78	62	299	94	86	100	105	385	684
8:00 PM	75	72	70	65	282	89	102	100	73	364	646
9:00 PM	43	43	44	44	174	81	78	67	55	281	455
10:00 PM	45	28	26	12	111	55	45	56	36	192	303
11:00 PM	17	10	14	12	53	33	27	10	8	78	131
Total		50.	0%		7434		50.	0%		7448	
iotai					148	382					

AM% 35.4% AM Peak 1166 7:30 am to 8:30 am AM P.H.F. 0.89 PM% 64.6% PM Peak 1287 4:30 pm to 5:30 pm PM P.H.F. 0.96





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

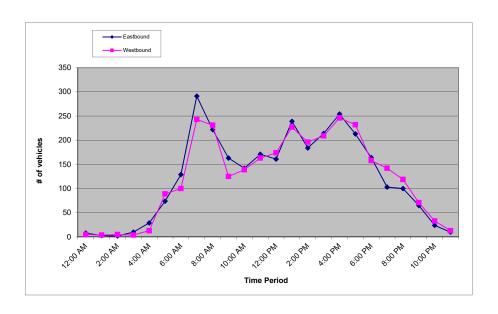
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd n/o Meadowlark	LATITUDE	35.6031866	
COUNTY	San Luis Obispo	LONGITUDE	-120.6589848	
COLLECTION DATE	Wednesday, June 6, 2018		Clear	
•				

		E	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	4	3	1	0	8	2	1	2	0	5	13
1:00 AM	0	2	1	0	3	2	2	0	0	4	7
2:00 AM	1	0	1	0	2	2	0	1	2	5	7
3:00 AM	0	3	4	3	10	1	1	0	2	4	14
4:00 AM	3	5	8	13	29	1	2	6	4	13	42
5:00 AM	14	18	17	25	74	13	13	44	19	89	163
6:00 AM	22	32	39	36	129	26	14	30	30	100	229
7:00 AM	50	61	92	88	291	29	38	74	102	243	534
8:00 AM	83	49	46	44	222	98	59	38	36	231	453
9:00 AM	52	36	40	35	163	30	32	30	33	125	288
10:00 AM	28	27	48	39	142	37	36	31	35	139	281
11:00 AM	44	41	42	44	171	33	38	42	50	163	334
12:00 PM	50	34	38	39	161	39	47	41	47	174	335
1:00 PM	34	45	94	66	239	54	69	59	45	227	466
2:00 PM	51	32	46	55	184	58	57	43	38	196	380
3:00 PM	57	53	50	54	214	43	56	59	51	209	423
4:00 PM	50	65	83	56	254	56	58	63	69	246	500
5:00 PM	52	63	52	46	213	62	50	57	63	232	445
6:00 PM	51	47	34	32	164	54	38	30	36	158	322
7:00 PM	26	26	23	28	103	38	34	31	39	142	245
8:00 PM	26	24	27	23	100	27	17	41	34	119	219
9:00 PM	23	20	10	12	65	24	21	16	10	71	136
10:00 PM	8	5	9	2	24	11	4	10	8	33	57
11:00 PM	1	5	0	4	10	0	3	8	2	13	23
Total	50.3% 297				2975				2941		
Total					59	16					

AM% 40.0% AM Peak 645 7:30 am to 8:30 am AM P.H.F. 0.85 PM% 60.0% PM Peak 508 4:15 pm to 5:15 pm PM P.H.F. 0.87





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

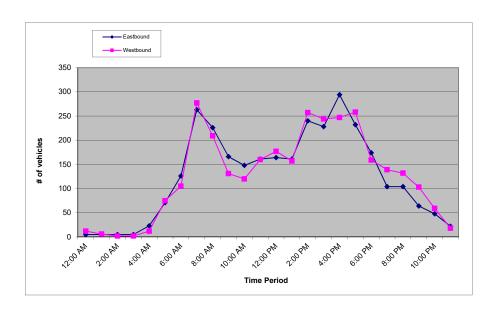
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Creston Rd n/o Meadowlark	LATITUDE	35.6031866
COUNTY	San Luis Obispo	LONGITUDE	-120.6589848
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear
	y,		-

		E	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	1	0	3	1	5	5	2	2	3	12	17
1:00 AM	2	0	2	1	5	1	3	2	0	6	11
2:00 AM	1	1	0	3	5	0	0	0	2	2	7
3:00 AM	0	2	1	2	5	1	1	0	0	2	7
4:00 AM	6	3	5	9	23	3	1	1	7	12	35
5:00 AM	11	22	16	22	71	11	11	29	24	75	146
6:00 AM	19	30	36	41	126	21	24	24	36	105	231
7:00 AM	41	58	87	77	263	33	54	79	111	277	540
8:00 AM	83	64	31	48	226	82	54	36	37	209	435
9:00 AM	44	47	42	33	166	36	23	33	39	131	297
10:00 AM	40	33	46	29	148	21	34	41	24	120	268
11:00 AM	33	38	47	43	161	33	39	37	51	160	321
12:00 PM	50	36	41	37	164	45	29	54	49	177	341
1:00 PM	44	34	39	44	161	49	36	28	44	157	318
2:00 PM	46	37	91	66	240	51	59	85	62	257	497
3:00 PM	67	44	55	62	228	62	57	64	61	244	472
4:00 PM	87	67	83	57	294	60	47	61	79	247	541
5:00 PM	63	61	58	50	232	66	77	64	51	258	490
6:00 PM	39	47	50	38	174	44	44	29	42	159	333
7:00 PM	26	24	33	21	104	39	24	42	34	139	243
8:00 PM	33	19	25	27	104	29	39	36	28	132	236
9:00 PM	17	16	14	17	64	27	27	31	18	103	167
10:00 PM	17	12	12	7	48	26	12	11	10	59	107
11:00 PM	4	5	8	5	22	9	6	1	2	18	40
Total	49.8% 3039 50.2% 3061						3061				
iotai					61	00				•	

AM% 38.0% AM Peak 637 7:30 am to 8:30 am AM P.H.F. 0.85 PM% 62.0% PM Peak 547 4:30 pm to 5:30 pm PM P.H.F. 0.95





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

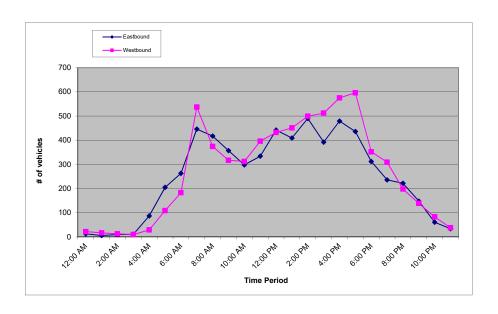
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd s/o Union Rd	LATITUDE	35.6388503
COUNTY	San Luis Obispo	LONGITUDE	-120.6581385
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear

		E	astbour	nd		Westbound				Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	6	4	2	1	13	5	4	8	5	22	35
1:00 AM	1	1	3	1	6	2	2	9	4	17	23
2:00 AM	0	2	3	5	10	6	4	1	2	13	23
3:00 AM	2	2	3	4	11	3	1	3	3	10	21
4:00 AM	14	11	27	35	87	3	3	16	7	29	116
5:00 AM	23	58	61	63	205	16	20	34	39	109	314
6:00 AM	52	50	62	99	263	35	32	53	63	183	446
7:00 AM	70	96	113	167	446	72	117	164	184	537	983
8:00 AM	169	111	56	81	417	130	117	69	58	374	791
9:00 AM	91	91	77	98	357	64	96	83	74	317	674
10:00 AM	75	76	72	75	298	81	77	72	82	312	610
11:00 AM	87	79	72	96	334	85	97	112	102	396	730
12:00 PM	105	134	88	115	442	114	113	97	108	432	874
1:00 PM	79	106	106	118	409	115	108	96	132	451	860
2:00 PM	136	147	103	104	490	125	141	122	111	499	989
3:00 PM	101	105	98	88	392	96	125	161	130	512	904
4:00 PM	131	109	117	122	479	139	119	159	158	575	1054
5:00 PM	117	110	95	114	436	172	179	133	112	596	1032
6:00 PM	82	91	72	67	312	113	75	85	79	352	664
7:00 PM	63	61	61	51	236	104	85	49	71	309	545
8:00 PM	48	58	59	57	222	51	29	64	54	198	420
9:00 PM	48	28	48	24	148	53	24	42	20	139	287
10:00 PM	24	17	13	7	61	28	24	13	18	83	144
11:00 PM	8	8	10	8	34	8	10	13	7	38	72
Total	48.4% 6				6108	08 51.6% 65			6503		
iotai					120	611					

AM% 37.8% AM Peak 1155 7:30 am to 8:30 am AM P.H.F. 0.82 PM% 62.2% PM Peak 1134 4:30 pm to 5:30 pm PM P.H.F. 0.98





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

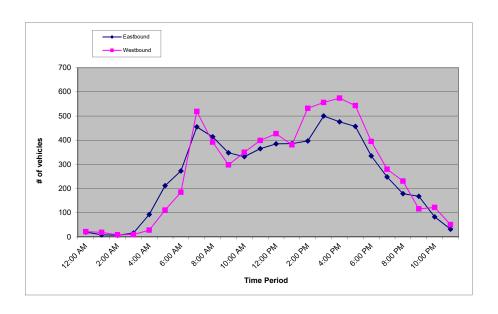
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd s/o Union Rd	LATITUDE	35.6388503	
COUNTY	San Luis Obispo	LONGITUDE	-120.6581385	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	
•				

_		E	astbour	nd		Westbound				Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	4	7	5	4	20	8	6	3	5	22	42
1:00 AM	0	3	2	4	9	3	5	6	5	19	28
2:00 AM	0	1	4	2	7	4	2	1	2	9	16
3:00 AM	1	1	8	6	16	5	2	1	2	10	26
4:00 AM	10	22	20	41	93	6	1	11	10	28	121
5:00 AM	24	56	60	72	212	10	15	36	50	111	323
6:00 AM	57	58	62	96	273	25	32	55	73	185	458
7:00 AM	85	86	112	172	455	63	112	172	172	519	974
8:00 AM	137	122	78	77	414	147	99	75	71	392	806
9:00 AM	83	96	82	87	348	93	78	64	63	298	646
10:00 AM	78	83	79	92	332	72	86	107	85	350	682
11:00 AM	75	80	112	98	365	94	104	89	112	399	764
12:00 PM	77	120	83	105	385	129	95	96	107	427	812
1:00 PM	107	95	83	101	386	95	84	88	114	381	767
2:00 PM	111	82	98	106	397	115	114	138	165	532	929
3:00 PM	132	131	127	110	500	147	127	151	131	556	1056
4:00 PM	127	113	121	115	476	131	128	144	171	574	1050
5:00 PM	112	116	115	114	457	159	150	147	87	543	1000
6:00 PM	84	77	96	78	335	101	91	112	91	395	730
7:00 PM	76	61	54	57	248	79	69	57	75	280	528
8:00 PM	39	48	52	40	179	60	57	67	47	231	410
9:00 PM	48	48	35	37	168	37	25	27	27	116	284
10:00 PM	34	16	18	15	83	41	36	28	17	122	205
11:00 PM	10	12	6	4	32	20	15	6	10	51	83
Total	48.6% 6190						51.4% 6550			6550	
Total		12740							1		

AM% 38.4% AM Peak 1133 7:30 am to 8:30 am AM P.H.F. 0.82 PM% 61.6% PM Peak 1086 2:45 pm to 3:45 pm PM P.H.F. 0.97





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

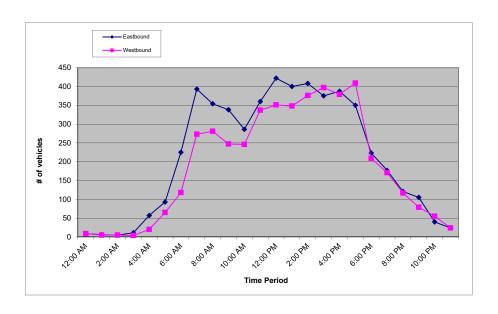
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd n/o Union Rd	LATITUDE	35.6409015
COUNTY	San Luis Obispo	LONGITUDE	-120.6581332
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

		E	astbour	ıd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	2	5	1	1	9	2	2	0	5	9	18
1:00 AM	2	1	2	1	6	2	1	2	0	5	11
2:00 AM	0	1	2	2	5	2	1	1	1	5	10
3:00 AM	1	1	4	5	11	1	0	1	2	4	15
4:00 AM	10	16	15	16	57	3	4	8	5	20	77
5:00 AM	17	21	18	37	93	7	15	15	28	65	158
6:00 AM	38	49	61	77	225	21	21	29	47	118	343
7:00 AM	55	81	99	158	393	43	51	70	109	273	666
8:00 AM	126	90	69	69	354	91	87	58	45	281	635
9:00 AM	61	108	73	96	338	58	72	63	54	247	585
10:00 AM	77	76	64	69	286	67	62	57	60	246	532
11:00 AM	90	93	83	94	360	65	82	102	88	337	697
12:00 PM	82	111	123	106	422	92	89	82	88	351	773
1:00 PM	99	109	94	98	400	90	79	66	113	348	748
2:00 PM	111	98	105	94	408	106	97	91	82	376	784
3:00 PM	94	105	100	76	375	85	104	107	101	397	772
4:00 PM	82	88	107	110	387	91	77	119	92	379	766
5:00 PM	104	104	78	64	350	111	117	97	84	409	759
6:00 PM	71	66	50	36	223	68	38	53	50	209	432
7:00 PM	54	50	32	41	177	53	47	24	47	171	348
8:00 PM	18	36	40	27	121	26	18	39	34	117	238
9:00 PM	35	20	32	18	105	24	17	26	12	79	184
10:00 PM	17	10	6	7	40	20	14	9	12	55	95
11:00 PM	4	7	6	7	24	6	6	7	5	24	48
Total	53.3% 5169						46.7% 4525				
					96	94					

AM% 38.7% AM Peak 697 11:00 am to 12:00 pm AM P.H.F. 0.94 PM% 61.3% PM Peak 819 1:45 pm to 2:45 pm PM P.H.F. 0.94





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

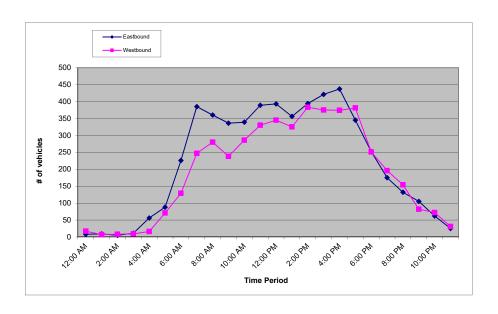
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Golden Hill Rd n/o Union Rd	LATITUDE	35.6409015	
COUNTY	San Luis Obispo	LONGITUDE	-120.6581332	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	

		E	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	3	2	2	1	8	7	5	0	5	17	25
1:00 AM	0	3	1	5	9	0	2	2	3	7	16
2:00 AM	1	1	2	1	5	4	2	1	1	8	13
3:00 AM	2	0	4	5	11	4	2	1	2	9	20
4:00 AM	7	15	12	22	56	3	2	5	6	16	72
5:00 AM	13	17	22	36	88	5	18	18	30	71	159
6:00 AM	41	45	64	76	226	26	23	36	44	129	355
7:00 AM	78	70	95	142	385	31	55	69	92	247	632
8:00 AM	107	101	89	63	360	88	68	66	58	280	640
9:00 AM	70	76	97	93	336	68	54	64	52	238	574
10:00 AM	99	68	79	93	339	65	73	79	69	286	625
11:00 AM	82	85	126	96	389	68	84	85	93	330	719
12:00 PM	102	111	79	101	393	103	69	96	77	345	738
1:00 PM	95	95	83	83	356	74	87	84	80	325	681
2:00 PM	115	106	83	90	394	86	83	100	114	383	777
3:00 PM	109	114	101	97	421	118	86	78	93	375	796
4:00 PM	99	113	124	101	437	90	77	99	108	374	811
5:00 PM	100	92	91	62	345	104	99	90	88	381	726
6:00 PM	64	61	63	64	252	68	59	68	56	251	503
7:00 PM	56	34	46	39	175	48	58	36	54	196	371
8:00 PM	31	32	34	35	132	42	41	39	32	154	286
9:00 PM	26	31	22	26	105	21	21	23	17	82	187
10:00 PM	23	21	7	11	62	30	9	17	16	72	134
11:00 PM	8	10	2	5	25	10	11	1	9	31	56
Total		53.	5%		5309	9 46.5% 4607					
· Jtui					99	16					

AM% 38.8% AM Peak 719 11:00 am to 12:00 pm AM P.H.F. 0.85 PM% 61.2% PM Peak 827 4:30 pm to 5:30 pm PM P.H.F. 0.93





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

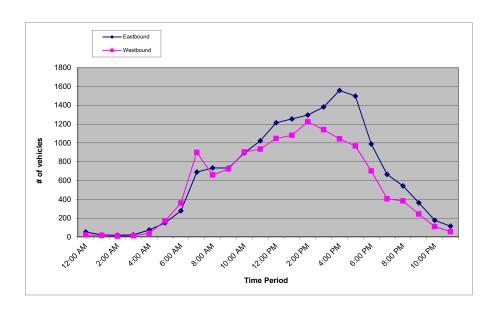
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Niblick Rd e/o Spring St	LATITUDE	35.6151235	
COUNTY	San Luis Obispo	LONGITUDE	-120.6849338	
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear	

		E	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	15	20	10	8	53	6	4	6	5	21	74
1:00 AM	5	11	2	3	21	5	4	4	3	16	37
2:00 AM	4	3	6	6	19	2	1	5	1	9	28
3:00 AM	4	5	7	6	22	2	6	1	4	13	35
4:00 AM	3	17	15	40	75	4	9	13	13	39	114
5:00 AM	25	27	53	45	150	34	41	41	56	172	322
6:00 AM	45	57	75	101	278	74	65	117	104	360	638
7:00 AM	97	145	223	225	690	136	166	264	333	899	1589
8:00 AM	190	187	171	186	734	191	177	151	140	659	1393
9:00 AM	156	191	190	196	733	151	153	208	211	723	1456
10:00 AM	226	206	216	245	893	228	204	241	230	903	1796
11:00 AM	254	257	262	249	1022	226	233	235	240	934	1956
12:00 PM	312	287	278	337	1214	283	247	246	271	1047	2261
1:00 PM	331	290	317	317	1255	231	275	283	292	1081	2336
2:00 PM	310	341	317	328	1296	326	354	288	256	1224	2520
3:00 PM	321	346	358	357	1382	297	293	282	268	1140	2522
4:00 PM	371	381	383	422	1557	260	261	293	229	1043	2600
5:00 PM	444	405	377	272	1498	234	260	267	206	967	2465
6:00 PM	312	256	220	200	988	194	193	173	142	702	1690
7:00 PM	171	170	164	160	665	121	105	94	86	406	1071
8:00 PM	129	149	137	128	543	111	92	103	77	383	926
9:00 PM	139	84	78	62	363	82	51	63	47	243	606
10:00 PM	52	58	35	33	178	45	31	20	15	111	289
11:00 PM	41	30	27	17	115	19	20	10	6	55	170
Total		54.	.5%		15744	4 45.5% 13150				13150	
Total					288	394					

AM% 32.7% AM Peak 1956 11:00 am to 12:00 pm AM P.H.F. 0.98 PM% 67.3% PM Peak 2670 4:30 pm to 5:30 pm PM P.H.F. 0.98





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

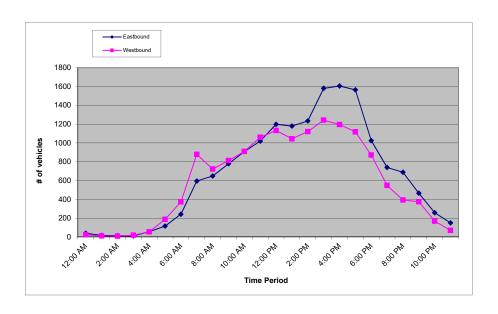
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Niblick Rd e/o Spring St	LATITUDE	35.6151235
COUNTY	San Luis Obispo	LONGITUDE	-120.6849338
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear

		E	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	8	12	7	12	39	5	10	3	6	24	63
1:00 AM	3	3	6	4	16	3	3	2	3	11	27
2:00 AM	3	2	3	6	14	4	2	3	0	9	23
3:00 AM	1	5	0	5	11	5	2	5	7	19	30
4:00 AM	4	13	13	25	55	7	7	12	28	54	109
5:00 AM	12	24	47	33	116	28	35	58	66	187	303
6:00 AM	36	53	60	93	242	70	77	119	107	373	615
7:00 AM	78	135	201	181	595	150	178	264	286	878	1473
8:00 AM	177	180	140	151	648	213	182	183	144	722	1370
9:00 AM	183	201	183	211	778	164	186	235	227	812	1590
10:00 AM	226	240	208	234	908	229	230	225	225	909	1817
11:00 AM	232	245	264	278	1019	272	234	268	286	1060	2079
12:00 PM	317	313	281	287	1198	289	267	304	272	1132	2330
1:00 PM	284	283	299	313	1179	244	290	224	286	1044	2223
2:00 PM	288	307	293	345	1233	275	259	293	293	1120	2353
3:00 PM	362	390	419	409	1580	321	345	305	271	1242	2822
4:00 PM	392	404	415	394	1605	294	292	303	306	1195	2800
5:00 PM	458	427	343	336	1564	337	277	250	254	1118	2682
6:00 PM	280	258	259	227	1024	236	244	187	204	871	1895
7:00 PM	199	191	174	175	739	165	135	123	125	548	1287
8:00 PM	180	198	164	146	688	104	108	108	73	393	1081
9:00 PM	133	123	118	91	465	98	93	113	70	374	839
10:00 PM	79	79	64	36	258	57	45	41	25	168	426
11:00 PM	47	46	41	16	150	24	24	12	10	70	220
Total	52.9% 16124 47.1% 1							14333			
Total					304	157					

AM% 31.2% AM Peak 2079 11:00 am to 12:00 pm AM P.H.F. 0.92 PM% 68.8% PM Peak 2825 3:15 pm to 4:15 pm PM P.H.F. 0.96





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

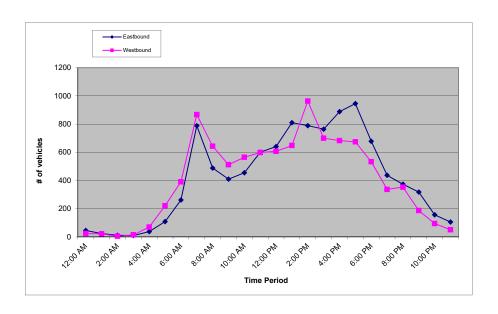
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Niblick Rd e/o Quarterhorse	LATITUDE	35.6157842
COUNTY	San Luis Obispo	LONGITUDE	-120.6766149
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
·		<del>-</del>	

		Е	astbour	nd			W	estbour	nd		Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	11	13	15	7	46	8	6	5	5	24	70
1:00 AM	5	8	4	7	24	10	3	4	5	22	46
2:00 AM	2	2	4	4	12	1	1	2	1	5	17
3:00 AM	3	1	2	4	10	2	7	1	5	15	25
4:00 AM	4	6	12	16	38	9	16	17	28	70	108
5:00 AM	13	13	38	45	109	40	49	55	77	221	330
6:00 AM	45	43	82	92	262	68	81	113	129	391	653
7:00 AM	73	209	259	247	788	134	178	282	273	867	1655
8:00 AM	149	131	106	102	488	210	170	141	122	643	1131
9:00 AM	92	105	111	102	410	133	121	135	123	512	922
10:00 AM	129	111	101	114	455	169	126	148	122	565	1020
11:00 AM	145	147	168	141	601	130	137	168	163	598	1199
12:00 PM	154	144	168	175	641	156	151	146	154	607	1248
1:00 PM	199	194	185	232	810	136	124	189	199	648	1458
2:00 PM	215	197	186	191	789	372	239	192	160	963	1752
3:00 PM	201	153	195	215	764	165	187	185	163	700	1464
4:00 PM	213	214	224	237	888	179	137	221	146	683	1571
5:00 PM	240	261	232	212	945	177	180	170	147	674	1619
6:00 PM	174	174	164	166	678	150	131	139	113	533	1211
7:00 PM	106	131	102	98	437	89	95	64	89	337	774
8:00 PM	96	84	98	96	374	83	87	90	93	353	727
9:00 PM	99	80	77	62	318	58	54	45	30	187	505
10:00 PM	50	51	26	30	157	23	33	21	18	95	252
11:00 PM	36	27	21	22	106	13	18	13	7	51	157
Total		51.0% 10150 49.0% 9764									
					199	114					

AM% 36.0% AM Peak 1807 7:15 am to 8:15 am AM P.H.F. 0.84 PM% 64.0% PM Peak 1832 1:45 pm to 2:45 pm PM P.H.F. 0.78





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

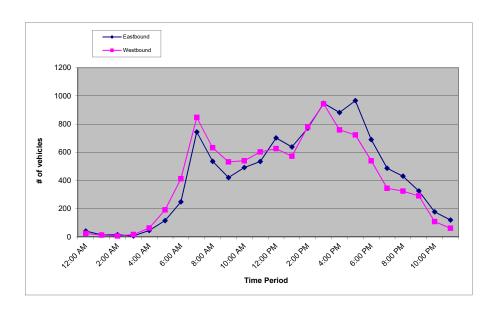
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Niblick Rd e/o Quarterhorse	LATITUDE	35.6157842	
COUNTY	San Luis Obispo	LONGITUDE	-120.6766149	
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear	_

		Е	astbour	ıd		Westbound					Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	12	18	8	4	42	10	5	4	6	25	67
1:00 AM	3	4	4	3	14	3	4	3	3	13	27
2:00 AM	3	3	4	6	16	3	4	0	0	7	23
3:00 AM	1	0	2	4	7	4	4	4	5	17	24
4:00 AM	3	5	15	23	46	6	11	14	32	63	109
5:00 AM	15	22	38	41	116	32	40	53	67	192	308
6:00 AM	38	48	68	95	249	71	101	120	121	413	662
7:00 AM	96	200	255	193	744	132	188	288	239	847	1591
8:00 AM	168	150	122	96	536	179	163	154	136	632	1168
9:00 AM	107	96	105	113	421	129	121	148	134	532	953
10:00 AM	124	116	123	129	492	138	117	158	127	540	1032
11:00 AM	127	126	146	136	535	147	145	157	154	603	1138
12:00 PM	186	171	172	173	702	153	172	160	141	626	1328
1:00 PM	157	141	165	175	638	143	147	126	156	572	1210
2:00 PM	175	152	208	236	771	184	159	241	197	781	1552
3:00 PM	242	231	218	256	947	324	237	202	180	943	1890
4:00 PM	211	214	235	222	882	180	177	205	197	759	1641
5:00 PM	244	262	226	234	966	196	181	154	192	723	1689
6:00 PM	157	180	179	174	690	147	162	122	109	540	1230
7:00 PM	135	122	109	121	487	104	87	74	80	345	832
8:00 PM	99	125	108	99	431	85	85	89	66	325	756
9:00 PM	101	87	68	70	326	58	80	111	42	291	617
10:00 PM	60	37	54	27	178	42	30	24	13	109	287
11:00 PM	39	39	30	12	120	20	17	11	14	62	182
Total		51.	0%						9960		
Total		20316									

AM% 35.0% AM Peak 1710 7:15 am to 8:15 am AM P.H.F. 0.79 PM% 65.0% PM Peak 1916 2:30 pm to 3:30 pm PM P.H.F. 0.85





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

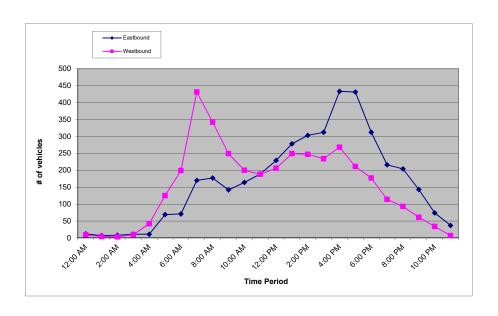
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd e/o S River Rd	LATITUDE	35.6063695
COUNTY	San Luis Obispo	LONGITUDE	-120.6811345
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
·		<del></del>	

		E	astbour	nd		Westbound					Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	2	5	3	2	12	2	5	2	0	9	21
1:00 AM	2	3	1	1	7	2	0	0	2	4	11
2:00 AM	3	1	2	2	8	0	1	1	1	3	11
3:00 AM	2	6	2	1	11	0	2	4	4	10	21
4:00 AM	2	3	1	5	11	7	9	9	17	42	53
5:00 AM	9	16	30	14	69	24	23	39	39	125	194
6:00 AM	10	12	22	27	71	38	37	64	60	199	270
7:00 AM	24	34	49	63	170	66	93	139	133	431	601
8:00 AM	51	41	42	43	177	96	78	85	83	342	519
9:00 AM	45	28	32	37	142	50	60	74	65	249	391
10:00 AM	36	41	41	46	164	51	43	47	59	200	364
11:00 AM	45	49	44	51	189	45	48	49	46	188	377
12:00 PM	64	57	48	60	229	43	47	53	63	206	435
1:00 PM	62	72	81	63	278	48	60	67	74	249	527
2:00 PM	75	77	78	73	303	56	52	67	72	247	550
3:00 PM	76	74	73	89	312	67	47	52	68	234	546
4:00 PM	104	111	110	108	433	50	82	65	71	268	701
5:00 PM	118	125	112	76	431	55	53	52	51	211	642
6:00 PM	87	91	62	72	312	43	55	41	38	177	489
7:00 PM	49	58	59	50	216	28	33	33	20	114	330
8:00 PM	43	59	56	46	204	24	20	25	24	93	297
9:00 PM	57	38	32	16	143	23	10	11	17	61	204
10:00 PM	23	20	21	10	74	9	11	7	7	34	108
11:00 PM	17	7	10	3	37	3	3	0	1	7	44
Total		51.9% 4003 48.1% 3703									
		7706									

AM% 36.8% AM Peak 658 7:15 am to 8:15 am AM P.H.F. 0.84 PM% 63.2% PM Peak 720 4:15 pm to 5:15 pm PM P.H.F. 0.93





#### Metro Traffic Data Inc.

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# 24 Hour Count Report

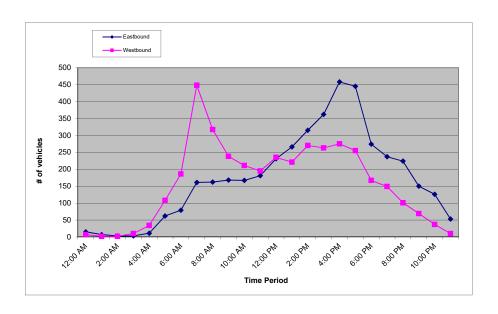
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Charolais Rd e/o S River Rd	LATITUDE	35.6063695
COUNTY	San Luis Obispo	LONGITUDE	-120.6811345
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear
-	· · · · · · · · · · · · · · · · · · ·		

ĺ		Е	astbour	nd		Westbound					Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	3	3	2	7	15	4	3	0	0	7	22
1:00 AM	2	1	3	1	7	1	1	0	0	2	9
2:00 AM	0	0	1	2	3	0	1	1	0	2	5
3:00 AM	0	0	1	2	3	3	2	1	4	10	13
4:00 AM	2	2	4	3	11	7	3	6	18	34	45
5:00 AM	12	10	28	12	62	21	21	33	33	108	170
6:00 AM	10	21	27	21	79	33	34	52	67	186	265
7:00 AM	24	29	47	61	161	70	97	132	149	448	609
8:00 AM	62	37	40	23	162	100	75	73	69	317	479
9:00 AM	32	50	40	46	168	57	64	65	52	238	406
10:00 AM	45	41	43	38	167	52	52	49	58	211	378
11:00 AM	47	47	42	45	181	44	56	41	54	195	376
12:00 PM	61	54	48	68	231	66	62	56	51	235	466
1:00 PM	73	61	61	71	266	53	53	47	68	221	487
2:00 PM	76	79	80	80	315	58	68	68	76	270	585
3:00 PM	96	77	105	84	362	69	56	68	70	263	625
4:00 PM	113	115	110	120	458	62	67	72	74	275	733
5:00 PM	126	119	105	95	445	72	53	67	63	255	700
6:00 PM	94	67	56	57	274	35	50	36	46	167	441
7:00 PM	76	54	50	57	237	40	40	34	35	149	386
8:00 PM	52	55	59	58	224	35	21	20	25	101	325
9:00 PM	50	44	32	24	150	26	18	10	15	69	219
10:00 PM	39	35	34	18	126	9	8	9	11	37	163
11:00 PM	16	17	11	9	53	2	3	5	0	10	63
Total	Total 52.2% 41					60 47.8% 3810					
Iolai					79	70					

AM% 34.8% AM Peak 677 7:15 am to 8:15 am AM P.H.F. 0.81 PM% 65.2% PM Peak 756 4:15 pm to 5:15 pm PM P.H.F. 0.95





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

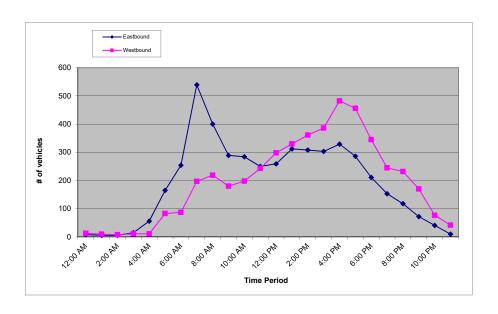
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd n/o Charolais Rd	LATITUDE	35.6069877
COUNTY	San Luis Obispo	LONGITUDE	-120.6818426
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear

		E	astbour	ıd		Westbound				Hourly	
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	2	4	2	0	8	1	5	4	3	13	21
1:00 AM	3	1	0	2	6	4	3	2	1	10	16
2:00 AM	1	1	2	2	6	3	1	3	1	8	14
3:00 AM	0	3	6	6	15	2	6	2	1	11	26
4:00 AM	8	9	15	24	56	2	3	1	5	11	67
5:00 AM	28	29	57	51	165	10	19	35	19	83	248
6:00 AM	47	52	75	80	254	10	19	20	38	87	341
7:00 AM	77	115	168	179	539	32	42	57	66	197	736
8:00 AM	112	95	101	92	400	71	45	51	52	219	619
9:00 AM	61	66	85	77	289	51	43	42	44	180	469
10:00 AM	74	63	71	76	284	49	45	49	55	198	482
11:00 AM	59	68	65	58	250	64	57	60	62	243	493
12:00 PM	52	70	61	76	259	92	68	67	71	298	557
1:00 PM	63	80	79	90	312	75	87	97	71	330	642
2:00 PM	79	67	71	91	308	91	90	97	83	361	669
3:00 PM	82	70	72	79	303	92	90	89	115	386	689
4:00 PM	65	101	76	87	329	123	114	127	118	482	811
5:00 PM	79	66	73	68	286	128	124	116	88	456	742
6:00 PM	53	65	51	42	211	102	95	67	81	345	556
7:00 PM	37	43	40	33	153	53	63	70	59	245	398
8:00 PM	34	21	33	30	118	52	66	60	54	232	350
9:00 PM	29	13	12	18	72	68	37	39	26	170	242
10:00 PM	12	12	9	8	41	27	20	20	10	77	118
11:00 PM	4	5	0	1	10	18	9	13	2	42	52
Total	49.9% 4674					50.1% 4684					
Total	9358										

AM% 37.7% AM Peak 810 7:15 am to 8:15 am AM P.H.F. 0.83 PM% 62.3% PM Peak 830 4:15 pm to 5:15 pm PM P.H.F. 0.97





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

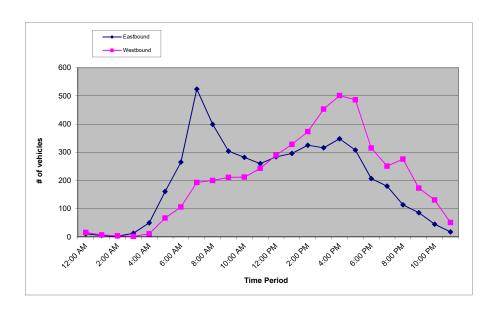
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	S River Rd n/o Charolais Rd	LATITUDE	35.6069877
COUNTY	San Luis Obispo	LONGITUDE	-120.6818426
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	3	7	0	1	11	4	3	2	7	16	27
1:00 AM	1	1	2	1	5	1	1	3	2	7	12
2:00 AM	0	1	1	1	3	0	1	1	2	4	7
3:00 AM	3	2	1	7	13	0	0	0	2	2	15
4:00 AM	6	7	12	25	50	2	3	3	3	11	61
5:00 AM	29	32	49	51	161	13	12	30	12	67	228
6:00 AM	46	59	76	84	265	18	22	30	36	106	371
7:00 AM	82	118	159	165	524	30	42	48	73	193	717
8:00 AM	117	98	100	84	399	69	51	46	34	200	599
9:00 AM	78	73	77	76	304	41	64	51	55	211	515
10:00 AM	73	77	59	73	282	52	52	60	48	212	494
11:00 AM	59	72	52	77	260	65	63	60	55	243	503
12:00 PM	82	70	69	63	284	76	68	70	76	290	574
1:00 PM	72	77	63	84	296	92	70	76	90	328	624
2:00 PM	68	80	84	93	325	98	89	93	93	373	698
3:00 PM	83	70	85	78	316	110	114	112	117	453	769
4:00 PM	85	82	94	87	348	127	132	113	129	501	849
5:00 PM	89	61	82	76	308	132	135	118	101	486	794
6:00 PM	42	67	46	52	207	109	71	63	72	315	522
7:00 PM	47	55	37	41	180	78	61	49	63	251	431
8:00 PM	37	21	30	26	114	72	70	68	66	276	390
9:00 PM	25	27	16	18	86	55	50	36	32	173	259
10:00 PM	13	11	13	8	45	41	38	34	18	131	176
11:00 PM	3	6	6	3	18	17	16	10	8	51	69
Total		49.	5%		4804						
. 3.66.	9704										

AM% 36.6% AM Peak 791 7:15 am to 8:15 am AM P.H.F. 0.83 PM% 63.4% PM Peak 858 4:15 pm to 5:15 pm PM P.H.F. 0.97





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

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# 24 Hour Count Report

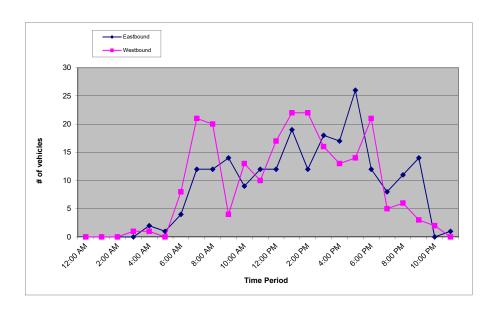
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

LOCATION	Barley Grain Rd s/o Creston Rd	LATITUDE	35.5952153
COUNTY	San Luis Obispo	LONGITUDE	-120.6566848
COLLECTION DATE	Wednesday, June 6, 2018	WEATHER	Clear
-	****	_	

Hour		d	Westbound					Hourly
1:00 AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	th <b>Total</b>	4th	1st	2nd	3rd	4th	Total	Totals
2:00 AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0	0	0	0	0	0	0
3:00 AM 0 0 0 0 0 0 4:00 AM 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0	0	0	0	0	0	0
4:00 AM 1 0 0 5:00 AM 0 0 0 0 6:00 AM 1 2 1 7:00 AM 2 4 4 8:00 AM 4 4 1 9:00 AM 0 2 5 11:00 AM 2 4 1 12:00 PM 5 4 2 1:00 PM 8 4 1 2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 1 2 2 9:00 PM 1 2 2	0	0	0	0	0	0	0	0
5:00 AM 0 0 0 0 0 6:00 AM 1 2 1 1 7:00 AM 2 4 4 4 1 9:00 AM 4 4 4 1 1 9:00 AM 2 4 1 1 1:00 PM 5 4 2 1:00 PM 1 3 5 3:00 PM 1 3 5 3:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 5 1 5 7:00 PM 1 3 1 1 8:00 PM 1 2 2 2 9:00 PM 1 2 2 2 9:00 PM 6 3 3 3 10:00 PM 0 0 0 0	0	0	0	0	1	0	1	1
6:00 AM 1 2 1 7:00 AM 2 4 4 8:00 AM 4 4 1 9:00 AM 4 4 4 10:00 AM 0 2 5 11:00 AM 2 4 1 12:00 PM 5 4 2 1:00 PM 8 4 1 2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 5 1 5 7:00 PM 6 2 7	1 2	1	1	0	0	0	1	3
7:00 AM 2 4 4 4 1 9:00 AM 4 4 4 1 1 9:00 AM 0 2 5 11:00 AM 2 4 1 1 12:00 PM 5 4 2 1:00 PM 1 3 5 13:00 PM 6 2 7 15:00 PM 8 8 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1	1	0	0	0	0	0	1
8:00 AM	) 4	0	2	1	3	2	8	12
9:00 AM	2 12	2	4	2	11	4	21	33
10:00 AM 0 2 5 11:00 AM 2 4 1 12:00 PM 5 4 2 1:00 PM 8 4 1 2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 3 1 8:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0 0	3 <b>12</b>	3	5	5	6	4	20	32
11:00 AM 2 4 1 12:00 PM 5 4 2 1:00 PM 8 4 1 2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0 0	2 14	2	1	2	1	0	4	18
12:00 PM 5 4 2 1:00 PM 8 4 1 2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0		2	3	3	0	7	13	22
1:00 PM 8 4 1 2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0	5 <b>12</b>	5	1	5	3	1	10	22
2:00 PM 1 3 5 3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0	1 12	1	2	8	4	3	17	29
3:00 PM 3 3 6 4:00 PM 6 2 7 5:00 PM 8 8 4 6:00 PM 5 1 5 7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0 0	3 <b>19</b>	6	6	5	7	4	22	41
4:00 PM         6         2         7           5:00 PM         8         8         4           6:00 PM         5         1         5           7:00 PM         1         3         1           8:00 PM         1         2         2           9:00 PM         6         3         3           10:00 PM         0         0         0	3 12	3	3	8	6	5	22	34
5:00 PM         8         8         4           6:00 PM         5         1         5           7:00 PM         1         3         1           8:00 PM         1         2         2           9:00 PM         6         3         3           10:00 PM         0         0         0	3 <b>18</b>	6	3	6	3	4	16	34
6:00 PM         5         1         5           7:00 PM         1         3         1           8:00 PM         1         2         2           9:00 PM         6         3         3           10:00 PM         0         0         0	2 17	2	2	1	5	5	13	30
7:00 PM 1 3 1 8:00 PM 1 2 2 9:00 PM 6 3 3 10:00 PM 0 0 0	<b>26</b>	6	1	5	4	4	14	40
8:00 PM	1 12	1	4	4	5	8	21	33
9:00 PM 6 3 3 10:00 PM 0 0 0	_	3	4	0	0	1	5	13
<b>10:00 PM</b> 0 0 0		6	1	2	2	1	6	17
	2 14	2	0	1	1	1	3	17
	0	0	0	1	0	1	2	2
<b>11:00 PM</b> 0 0 1	) 1	0	0	0	0	0	0	1
Total 49.7%	49.7% 216 50 435						219	

AM% 33.1% AM Peak 39 7:30 am to 8:30 am AM P.H.F. 0.65 PM% 66.9% PM Peak 41 1:00 pm to 2:00 pm PM P.H.F. 0.73





#### Metro Traffic Data Inc.

310 N. Irwin Street - Suite 20 Hanford, CA 93230

800-975-6938 Phone/Fax www.metrotrafficdata.com

# 24 Hour Count Report

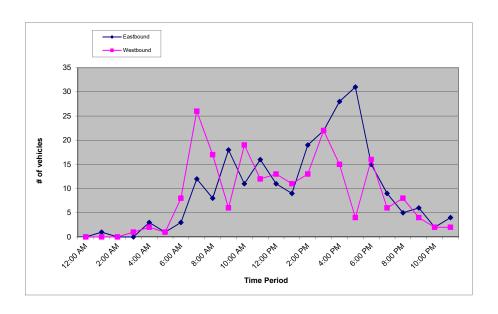
Prepared For:

Central Coast Transportation Consulting 895 Napa Avenue, Suite A-6 Morro Bay, CA 93442

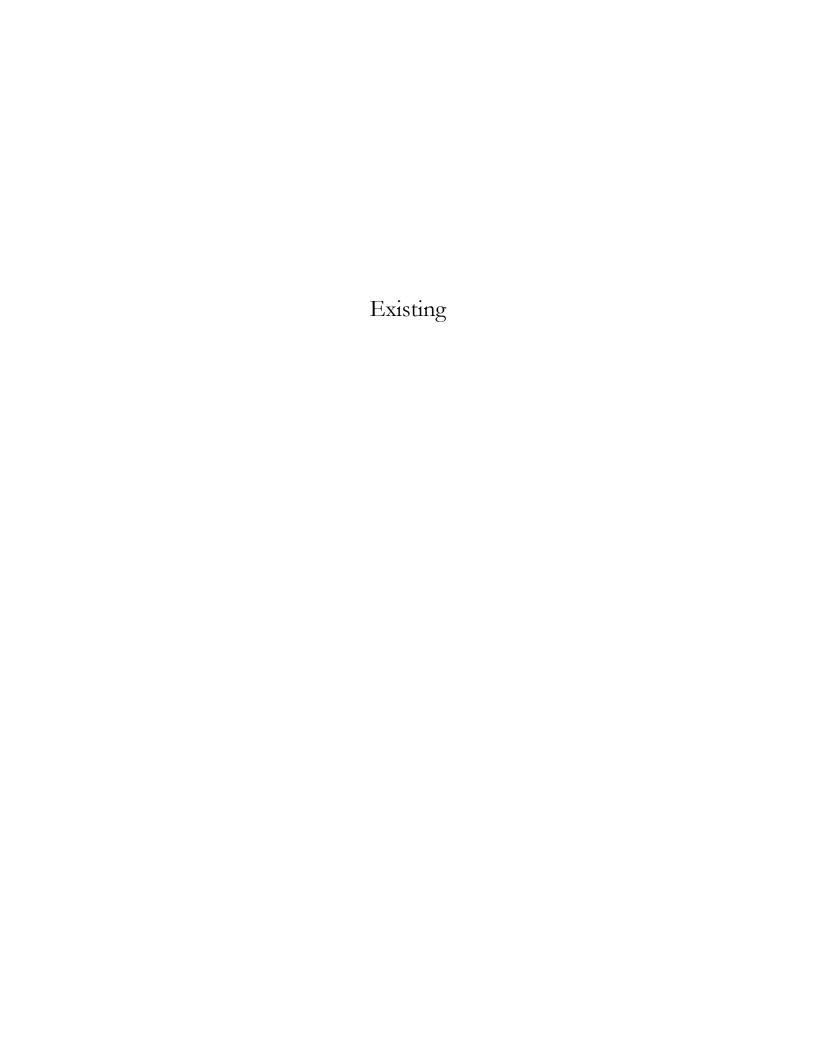
LOCATION	Barley Grain Rd s/o Creston Rd	LATITUDE	35.5952153
COUNTY	San Luis Obispo	LONGITUDE	-120.6566848
COLLECTION DATE	Thursday, June 7, 2018	WEATHER	Clear

		E	astbour	nd				Hourly			
Hour	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Totals
12:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	1	0	0	0	0	0	1
2:00 AM	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	1	0	1	1
4:00 AM	3	0	0	0	3	2	0	0	0	2	5
5:00 AM	0	0	0	1	1	0	0	1	0	1	2
6:00 AM	0	1	1	1	3	1	2	2	3	8	11
7:00 AM	1	5	3	3	12	9	1	8	8	26	38
8:00 AM	2	2	1	3	8	4	4	7	2	17	25
9:00 AM	2	8	3	5	18	1	4	0	1	6	24
10:00 AM	2	4	1	4	11	4	6	6	3	19	30
11:00 AM	5	5	3	3	16	0	4	3	5	12	28
12:00 PM	3	1	5	2	11	4	1	2	6	13	24
1:00 PM	4	2	3	0	9	2	1	3	5	11	20
2:00 PM	6	3	3	7	19	1	2	5	5	13	32
3:00 PM	5	7	2	8	22	8	5	4	5	22	44
4:00 PM	5	5	12	6	28	3	7	2	3	15	43
5:00 PM	7	9	10	5	31	0	3	0	1	4	35
6:00 PM	6	4	2	3	15	4	4	5	3	16	31
7:00 PM	6	1	1	1	9	1	2	2	1	6	15
8:00 PM	1	1	2	1	5	1	3	1	3	8	13
9:00 PM	3	2	0	1	6	1	1	1	1	4	10
10:00 PM	1	1	0	0	2	2	0	0	0	2	4
11:00 PM	2	0	1	1	4	0	1	1	0	2	6
Total		52.	9%		234	40	47.	1%		208	
					44	42					

AM% 37.3% AM Peak 38 7:00 am to 8:00 am AM P.H.F. 0.86 PM% 62.7% PM Peak 47 3:45 pm to 4:45 pm PM P.H.F. 0.84



Appendix B: Intersection LOS & Queue Calculation Sheets



Lane Group Flow (vph) 265 1168 1125

0.66

0.0

43.8

145

248

345

0

0

Lane Group

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio Intersection Summary

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Total Delay

v/c Ratio

**← ♦** 

EBT WBT WBR SBL 101

0.15 0.54

4.2

0.0 0.0

4.2 50.5

21

330 450

0

1301

0.36 0.80

0.3 29.0

0.0 0.0

0.3 29.0

378

0

0.51 0.36 0.39 0.08 0.25 0.23

0 306

0

942 856

520 3223 2885

0

128 238

74

137

514

520 1015

> 0 0

50.5 14.9

0.35

0.0

14.9

63

121

	×	-	<b>←</b>	*	-	4				
Movement	EBL	EBT	WBT	WBR	SBL	SBR				
Lane Configurations	*	<b>^</b>	<b>^</b>	7	ች	7				
Traffic Volume (vph)	209	923	889	80	101	188				
Future Volume (vph)	209	923	889	80	101	188				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7				
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00				
Frt	1.00	1.00	1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1612	3223	3223	1442	1612	1442				
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1612	3223	3223	1442	1612	1442				
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79				
Adj. Flow (vph)	265	1168	1125	101	128	238				
RTOR Reduction (vph)	0	0	0	56	0	39				
Lane Group Flow (vph)	265	1168	1125	45	128	199				
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%				
Turn Type	Prot	NA	NA	Perm	Prot	Prot				
Protected Phases	8	Free!	6		7!	4				
Permitted Phases				6		4				
Actuated Green, G (s)	24.5	96.4	42.5	42.5	14.4	42.9				
Effective Green, g (s)	24.5	96.4	42.5	42.5	14.4	42.9				
Actuated g/C Ratio	0.25	1.00	0.44	0.44	0.15	0.45				
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7				
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0				
Lane Grp Cap (vph)	409	3223	1420	635	240	641				
v/s Ratio Prot	c0.16	0.36	c0.35		c0.08	0.14				
v/s Ratio Perm				0.03						
v/c Ratio	0.65	0.36	0.79	0.07	0.53	0.31				
Uniform Delay, d1	32.1	0.0	23.2	15.5	37.9	17.2				
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Incremental Delay, d2	3.5	0.3	3.3	0.1	2.6	0.3				
Delay (s)	35.6	0.3	26.5	15.6	40.5	17.5				
Level of Service	D	Α	С	В	D	В				
Approach Delay (s)		6.8	25.6		25.5					
Approach LOS		Α	С		С					
Intersection Summary										
HCM 2000 Control Dela			16.7	H	HCM 200	00 Level of	Service	E	3	
HCM 2000 Volume to C		ratio	0.70							
Actuated Cycle Length (			96.4			ost time (s)		15.0		
Intersection Capacity Ut	tilization	1	55.7%	I	CU Leve	el of Servic	Э	E	3	
Analysis Period (min)			15							
! Phase conflict between	en lane	groups	i.							
Critical Lana Craun										

c Critical Lane Group

Beechwood SP

Lane Group Flow (vph) 234

EBT

771

326

1323

2373

0.54 0.59

48.2 29.7

0.0 0.0

48.2 29.7

72 226

127

225

591

0

0

EBR WBL

39 841

0.0 0.0

29

600 2373

0

300

0.39

5.0 43.1

0.0

5.0 43.1 36.6

43

485 125

0

1142

WBT

0.78

36.6

248

354

2509

0

180 270 281

5.4 47.4

0.0

5.4 47.4

37 142

390

1110

0

 $0.40 \quad 0.32 \quad 0.26 \quad 0.07 \quad 0.35 \quad 0.16 \quad 0.41 \quad 0.20 \quad 0.15 \quad 0.23 \quad 0.23$ 

0.57

0.0

82

160

658

0

0.39

35.7 51.0

0.0

35.7 51.0

78

131

853

1376

0.30

Lane Group

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio
Intersection Summary

Total Delay

v/c Ratio

Existing AM Queues

163

0.43

10.5

0.0

10.5

0

46

0

98 169

0.60

50.8

50.8

451

731 715

0

0 0

0.34

0.0 0.0

30 100

63 186

140

658

0

0

	۶	<b>→</b>	•	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	44	7	1,1	<b>^</b>	7	77	<b>†</b> 1>		1/4	<b>*</b>	7
Traffic Volume (veh/h)	194	640	249	32	698	149	224	217	17	81	140	135
Future Volume (veh/h)	194	640	249	32	698	149	224	217	17	81	140	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	234	771	300	39	841	180	270	261	20	98	169	163
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	334	1069	477	252	1133	505	377	678	52	167	266	225
Arrive On Green	0.10	0.32	0.32	0.08	0.34	0.34	0.12	0.22	0.22	0.05	0.15	0.15
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	3105	236	3209	1737	1472
Grp Volume(v), veh/h	234	771	300	39	841	180	270	138	143	98	169	163
Grp Sat Flow(s),veh/h/ln		1650	1472	1605	1650	1472	1605	1650	1691	1605	1737	1472
Q Serve(q s), s	5.1	15.1	7.6	0.8	16.4	6.7	5.9	5.2	5.3	2.2	6.7	7.7
Cycle Q Clear(g c), s	5.1	15.1	7.6	0.8	16.4	6.7	5.9	5.2	5.3	2.2	6.7	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	334	1069	477	252	1133	505	377	360	369	167	266	225
V/C Ratio(X)	0.70	0.72	0.63	0.15	0.74	0.36	0.72	0.38	0.39	0.59	0.64	0.72
Avail Cap(c a), veh/h	791	3163	1411	791	3163	1411	879	926	949	879	975	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		21.8	7.5	31.4	21.1	17.9	31.0	24.3	24.4	33.9	29.0	29.5
Incr Delay (d2), s/veh	2.7	0.9	1.4	0.1	1.0	0.4	2.5	0.7	0.7	3.3	2.5	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	In 1.9	5.0	3.7	0.3	5.4	2.1	2.3	1.9	2.0	0.9	2.8	2.8
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	34.3	22.7	8.9	31.5	22.1	18.4	33.6	25.0	25.0	37.1	31.6	33.9
LnGrp LOS	С	С	Α	С	С	В	С	С	С	D	С	С
Approach Vol, veh/h		1305			1060			551			430	
Approach Delay, s/veh		21.6			21.8			29.2			33.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		30.9	12.6	16.5	11.6	32.4	7.8	21.3				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gma	x),8s0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+	11)2\$8	17.1	7.9	9.7	7.1	18.4	4.2	7.3				
Green Ext Time (p_c), s	0.0	6.6	0.7	1.5	0.5	6.7	0.2	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	<u> </u>	۸ß		7	۸î۶			4	7		4	7
Traffic Vol, veh/h	1	705	27	251	891	0	5	0	222	0	0	0
Future Vol, veh/h	1	705	27	251	891	0	5	0	222	0	0	0
Conflicting Peds, #/h	hr 0	0	0	0	0	0	0	0	0	0	0	0
	ree	Free	Free	Free			Stop	Stop		Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	340	-	-	195	-	-	-	-	25	-	-	25
Veh in Median Stora	age,‡		-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	1	860	33	306	1087	0	6	0	271	0	0	0
Major/Minor Ma	ijor1		N	lajor2		N	linor1		N	linor2		
Conflicting Flow All1	087	0	0	893	0	0	2035	2578	447	2131	2594	544
Stage 1	-	-	-	-	-	-	879	879		1699		-
Stage 2	-		-				1156			432	895	
Critical Hdwy 4	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-		6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy 2	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuve	587	-	-	701	-	-	30	22	535	25	22	461
Stage 1	-	-	-	-	-	-	291	343	-	87	133	-
Stage 2	-	-	-	-	-	-	195	133	-	549	337	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuv	<b>£</b> 187	-	-	701	-	-	20	12	535	8	12	461
Mov Cap-2 Maneuv	er -	-	-	-	-	-	20	12	-	8	12	-
Stage 1	-	-	-	-	-	-	290	342	-	87	75	-
Stage 2	-	-	-	-	-	-	110	75	-	271	336	-
Approach	EB			WB			NB			SB		
HCM Control Delay,				3.1			23.5			0		
HCM LOS	5 0			0.1			20.0 C			A		
							J					
Minor Lane/Major M	lvm\.	RI n 1	RI n2	EBL	EBT	ERP	WRI	WBT	W/R P	RI n4	BI no	
	VIIIN			587	CDI	EDR	701	VVDI	WDN	DLII 6	DLIIZ	
Capacity (veh/h)		20	535		-	-			-			
HCM Cantral Dalay			0.506		-		0.437	-	-	-		
HCM Control Delay	(S) 2				-	-	14.1	-		0	0	
HCM Coth % tile O(v	oh)	0.9	2.8	B 0	-	-	2.2	-	-	Α	Α	
HCM 95th %tile Q(v	en)	0.9	2.8	U	-	-	2.2	-	-	-	-	

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configuration	s 🌂	44	<b>^</b>	7	*	7
Traffic Vol, veh/h	329	591	939	17	5	170
Future Vol, veh/h	329	591	939	17	5	170
Conflicting Peds, #/	/hr 0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	580	-	-	165	0	25
Veh in Median Stor	age,	# 0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	392	704	1118	20	6	202
Major/Minor M	aior1	, N.	laiora	N.	linor2	
	ajor1		lajor2			EEC
Conflicting Flow All		0	-		2254	559
Stage 1	-		-		1118 1136	-
Stage 2	4.2	-	-	-	1136	7 1
Critical Hdwy	4.3	-	-	-	6	7.1
Critical Hdwy Stg 1		-	-	-	6	-
Critical Hdwy Stg 2		-	-	-	_	
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuve		-	-	-	31	453
Stage 1	-	-	-	-	258	-
Stage 2	-	-	-	-	252	-
Platoon blocked, %		-	-	-	10	450
Mov Cap-1 Maneuv		-	-	-	10	453
Mov Cap-2 Maneuv		-	-	-	71	-
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	252	-
Approach	EB		WB		SB	
HCM Control Delay	/, 8.7		0		20.4	
HCM LOS					С	
= = -						
		ED:		MAIDT		DI 0
Minor Lane/Major N	vivmt			WBT		
Capacity (veh/h)		566	-	-	-	71
HCM Lane V/C Rat		0.692	-	-		0.084
HCM Control Delay	/ (s)	24.4	-	-	-	60.3
HCM Lane LOS		С	-	-	-	F
HCM 95th %tile Q(	veh)	5.4	-	-	-	0.3

Intersection											
Int Delay, s/veh 0.1											
Movement EBL	. EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5 <b>^</b>	7	1	Φß			41	7		44	
Traffic Vol, veh/h		18		1008	0	8	0	1	0	0	0
Future Vol, veh/h (	545	18	2	1008	0	8	0	1	0	0	0
Conflicting Peds, #/hr (	0	0	0	0	0	0	0	0	0	0	0
	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		None	-	-	None	-	-	None	-	-	None
Storage Length 275	· -	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage;	-# 0	-	-	0	-	-	2	-	-	2	-
Grade, %	- 0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor 87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, % 13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow (	626	21	2	1159	0	9	0	1	0	0	0
Major/Minor Major1		N.	lajor2		N/	linor1		N.	linor2		
Conflicting Flow All1159		0		0		1210	1700		1476	1010	580
Stage 1		U	047	-	U	626	626		1163		500
Stage 2		-		-			1163	-		647	-
Critical Hdwy 4.36			4.36	-	-	7.76		7.16			7.16
Critical Hdwy Stg 1		-	4.30	-	-		5.76	7.10		5.76	7.10
Critical Hdwy Stg 2			-	-	-	6.76	5.76	-		5.76	
Follow-up Hdwy 2.33		- :	2.33	-	-		4.13	3.43	3.63	4.13	3.43
Pot Cap-1 Maneuve640			864			126	71	651	79	69	431
Stage 1		-	004	-	-	413	449	051	190	246	431
Stage 2						438	246			439	
Platoon blocked. %						400	240	-	043	408	
Mov Cap-1 Maneuver40			864	-		126	71	651	79	69	431
Mov Cap-1 Maneuver			- 004			308	212	- 001		211	401
Stage 1						413	449	_	190	246	
Stage 2						437	246			439	
Olage 2						701	270		072	703	
Approach EE			WB			NB			SB		
HCM Control Delay, s (	)		0			16.3			0		
HCM LOS						С			Α		
Minor Lane/Major Mvml	NBLn1N	IBLn2	EBL	EBT	EBR	WBL	WBT	WBR	BLn1		
Capacity (veh/h)	308		540			864	-		-		
HCM Lane V/C Ratio		0.002	J+0	-		0.003		_	-		
HCM Control Delay (s)	17		0		_	9.2	-	-	0		
HCM Lane LOS	C	В	A			A			A		
HCM 95th %tile Q(veh)	0.1	0	0	_	_	0	_	_	-		
, , , , , , , , , , , , , ,	0.1	- 0	- 0			-					

Intersection												
Intersection Delay, s/veh	51.3											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f <sub>2</sub>		ች	1,		*	<b>^</b>	#		413-	
Traffic Vol, veh/h	87	113	92	246	96	66	40	288	182	39	260	50
Future Vol, veh/h	87	113	92	246	96	66	40	288	182	39	260	50
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	107	140	114	304	119	81	49	356	225	48	321	62
Number of Lanes	1	1	0	1	1	0	1	1	1	0	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			3		
Conflicting Approach Left				NB			EB			WB		
Conflicting Lanes Left	2			3			2			2		
Conflicting Approach Rig	ht NB			SB			WB			EB		
Conflicting Lanes Right	3			2			2			2		
HCM Control Delay	37			55			68.5			33.8		
HCM LOS	Е			F			F			D		
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %		100%	0%	0%	100%	0%	100%	0%	23%	0%		
Vol Thru, %		0%	100%	0%	0%	55%	0%	59%	77%	72%		
Vol Right, %		0%	0%	100%	0%	45%	0%	41%	0%	28%		
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop		
Traffic Vol by Lane		40	288	182	87	205	246	162	169	180		
LT Vol		40	0	0	87	0	246	0	39	0		
Through Vol		0	288	0	0	113	0	96	130	130		
RT Vol		0	0	182	0	92	0	66	0	50		
Lane Flow Rate		49	356	225	107	253	304	200	209	222		
Geometry Grp		8	8	8	8	8	8	8	8	8		
Degree of Util (X)		0.155	1.064	0.627	0.35	0.772		0.582	0.646	0.675		
Departure Headway (Hd)	)	11.297	10.773	10.039	12.15	11.296	11.613	10.792	11.578	11.25		
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Сар		319	338	362	298	321	316	336	315	322		
Service Time		9.025	8.501	7.767	9.85	8.996	9.313			8.95		
HCM Lane V/C Ratio		0.154	1.053	0.622	0.359	0.788		0.595		0.689		
HCM Control Delay		16.1	101.2	28.3	21.3	43.7	73.1	27.5	33.2	34.4		
HCM Lane LOS		С	F	D	С	Е	F	D	D	D		
HCM 95th-tile Q		0.5	12.9	4.1	1.5	6.1	9.4	3.5	4.2	4.6		

Beechwood	SP			
7: Riverside	Ave	&	13th	Street

Existing AM Queues

	•	-	1	-	•	1	1		-	¥	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	1	329	373	393	644	7	22	151	292	297	35	
v/c Ratio	0.01	0.57	0.76	0.44	0.59	0.05	0.14	0.56	0.71	0.71	0.07	
Control Delay	49.0	38.6	41.8	18.2	4.0	44.2	45.1	16.3	42.1	41.9	0.3	
Queue Delay	0.0	0.0	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.0	38.6	42.0	18.6	4.3	44.2	45.1	16.3	42.1	41.9	0.3	
Queue Length 50th (ft)	1	85	182	127	0	4	11	0	149	152	0	
Queue Length 95th (ft)	6	146	332	268	44	18	38	51	286	289	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	106	963	689	1131	1210	382	402	454	574	585	612	
Starvation Cap Reductn	0	0	33	329	163	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.34	0.57	0.49	0.62	0.02	0.05	0.33	0.51	0.51	0.06	
Intersection Summary												

Beechwood SP 7: Riverside Ave & 13th Street Existing AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b> 1>		ሻ	<b>†</b>	7	ሻ	<b>^</b>	7	ሻ	ર્ન	7
Traffic Volume (veh/h)	1	252	28	317	334	547	6	19	128	414	87	30
Future Volume (veh/h)	1	252	28	317	334	547	6	19	128	414	87	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	ı	No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	296	33	373	393	644	7	22	151	560	0	35
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	2	706	78	423	852	722	212	223	188	712	0	313
Arrive On Green	0.00	0.22	0.22	0.24	0.46	0.46	0.12	0.12	0.12	0.20	0.00	0.20
Sat Flow, veh/h	1767	3194	353	1767	1856	1572	1767	1856	1569	3534	0.00	1553
Grp Volume(v), veh/h	1	162	167	373	393	644	7	22	151	560	0	35
Grp Sat Flow(s), veh/h/ln		1763	1784	1767	1856	1572	1767	1856	1569	1767	0	1553
Q Serve(q s), s	0.0	6.5	6.6	16.8	12.0	31.0	0.3	0.9	7.7	12.4	0.0	1.5
Cycle Q Clear(g c), s	0.0	6.5	6.6	16.8	12.0	31.0	0.3	0.9	7.7	12.4	0.0	1.5
Prop In Lane	1.00	0.5	0.20	1.00	12.0	1.00	1.00	0.9	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	1.00	389	394	423	852	722	212	223	188	712	0	313
V/C Ratio(X)	0.41	0.42	0.42	0.88	0.46	0.89	0.03	0.10	0.80	0.79	0.00	0.11
	107	491	497	695	1134	961	385	404	342	1219	0.00	536
Avail Cap(c_a), veh/h												
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00			1.00	1.00		0.00	1.00
Uniform Delay (d), s/veh		27.6	27.7	30.3	15.3	20.5	32.1	32.4	35.4	31.3	0.0	26.9
Incr Delay (d2), s/veh	85.0	0.7	0.7	7.5	0.4	8.5	0.1	0.2	7.7	2.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		2.8	2.9	7.8	4.8	12.1	0.1	0.4	3.3	5.3	0.0	0.6
Unsig. Movement Delay,												
	126.2	28.3	28.4	37.8	15.7	28.9	32.2	32.6	43.1	33.3	0.0	27.1
LnGrp LOS	F	С	С	D	В	С	С	С	D	С	A	С
Approach Vol, veh/h		330			1410			180			595	
Approach Delay, s/veh		28.7			27.6			41.4			32.9	
Approach LOS		С			С			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s24.3	22.8		21.2	4.6	42.4		14.4				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		23.0		28.5	5.0	50.5		18.0				
Max Q Clear Time (q c+		8.6		14.4	2.0	33.0		9.7				
Green Ext Time (p_c), s	1.0	1.7		1.9	0.0	4.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			30.0									
HCM 6th LOS			C									
110111 0111 1000			0									

tes

User approved volume balancing among the lanes for turning movement.

Beechwood SP		
8: Paso Robles Street &	13th	Stree

Existing AM Queues

	~	-	1	-	•	1	T		-	¥	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	903	56	1216	395	251	14	273	6	9	
v/c Ratio	0.40	0.51	0.32	0.70	0.44	0.70	0.03	0.46	0.02	0.02	
Control Delay	48.1	16.1	47.4	20.2	6.7	42.7	27.1	7.1	27.0	0.0	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.1	16.4	47.4	20.2	6.7	42.7	27.1	7.1	27.0	0.0	
Queue Length 50th (ft)	43	173	32	274	36	135	6	4	3	0	
Queue Length 95th (ft)	85	227	67	342	78	200	19	42	12	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	250	2243	226	2237	1075	578	769	807	575	772	
Starvation Cap Reductn	0	611	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.55	0.25	0.54	0.37	0.43	0.02	0.34	0.01	0.01	
Intersection Summary											

Beechwood SP 8: Paso Robles Street & 13th Street Existing AM HCM 6th Signalized Intersection Summary

	ၨ	-	•	•	-	*	1	1	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>↑</b> ↑		7	<b>^</b>	7	7	<b>†</b>	7	7	- ↑	
Traffic Volume (veh/h)	61	676	46	45	973	316	201	11	218	5	0	7
Future Volume (veh/h)	61	676	46	45	973	316	201	11	218	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	l	No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	845	58	56	1216	0	251	14	272	6	0	9
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	105	1660	114	89	1718		437	433	367	364	0	367
Arrive On Green	0.06	0.50	0.50	0.05	0.49	0.00	0.23	0.23	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1767	3346	230	1767	3526	1572	1395	1856	1572	1085	0	1572
Grp Volume(v), veh/h	76	445	458	56	1216	0	251	14	272	6	0	9
Grp Sat Flow(s), veh/h/ln	1767	1763	1813	1767	1763	1572	1395	1856	1572	1085	0	1572
Q Serve(g s), s	2.6	10.4	10.4	1.9	16.5	0.0	10.4	0.4	9.8	0.3	0.0	0.3
Cycle Q Clear(g c), s	2.6	10.4	10.4	1.9	16.5	0.0	10.6	0.4	9.8	0.6	0.0	0.3
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	875	900	89	1718		437	433	367	364	0	367
V/C Ratio(X)	0.73	0.51	0.51	0.63	0.71		0.57	0.03	0.74	0.02	0.00	0.02
Avail Cap(c a), veh/h	303	1476	1517	274	2894		810	930	788	655	0	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	10.4	10.4	28.5	12.3	0.0	22.2	18.1	21.8	18.4	0.0	18.1
Incr Delay (d2), s/veh	9.2	0.5	0.4	7.2	0.5	0.0	1.2	0.0	3.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	In 1.3	3.5	3.6	0.9	5.6	0.0	3.2	0.1	3.6	0.1	0.0	0.1
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	37.5	10.9	10.8	35.8	12.8	0.0	23.4	18.2	24.7	18.4	0.0	18.1
LnGrp LOS	D	В	В	D	В		С	В	С	В	Α	В
Approach Vol, veh/h		979			1272	Α		537			15	
Approach Delay, s/veh		12.9			13.9			24.0			18.2	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		34.9		18.8	8.1	34.4		18.8				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		51.3		30.7	10.5	50.3		30.7				
Max Q Clear Time (g c+		12.4		2.6	4.6	18.5		12.6				
Green Ext Time (p c), s	0.0	7.0		0.0	0.1	11.3		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			15.5 B									
HCM bill LOS			В									

Notes
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP 9: River Road/Union Road & Creston Road

Existing Alv Queues	

		-	*	-	7	ı		-	*	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
ane Group Flow (vph)	224	897	70	952	406	211	56	148	637	
/c Ratio	0.59	0.66	0.46	0.80	0.71	0.26	0.13	0.62	0.89dr	
ontrol Delay	53.4	27.2	59.5	36.5	49.8	35.1	2.4	56.7	36.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
otal Delay	53.4	27.2	59.5	36.5	49.8	35.1	2.4	56.7	36.3	
Queue Length 50th (ft)	75	245	46	304	136	61	0	97	153	
Queue Length 95th (ft)	113	290	89	348	182	93	2	155	198	
nternal Link Dist (ft)		353		673		608			523	
urn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	433	1583	187	1534	711	989	510	330	968	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.52	0.57	0.37	0.62	0.57	0.21	0.11	0.45	0.66	

Intersection Summary
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Beechwood SP 9: River Road/Union Road & Creston Road

Existing AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	1	†	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16.50	ħβ		1	<b>↑</b> β		ሻሻ	<b>^</b>	7	ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	179	471	246	56	674	87	325	169	45	118	173	337
Future Volume (veh/h)	179	471	246	56	674	87	325	169	45	118	173	337
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	589	0	70	842	109	406	211	56	148	216	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	1444		98	1150	149	550	557	248	191	373	
Arrive On Green	0.10	0.41	0.00	0.05	0.36	0.36	0.16	0.16	0.16	0.11	0.11	0.00
Sat Flow, veh/h	3456	3647	0	1781	3159	409	3456	3554	1585	1781	3647	0
Grp Volume(v), veh/h	224	589	0	70	474	477	406	211	56	148	216	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1791	1728	1777	1585	1781	1777	0
Q Serve(g s), s	4.1	7.7	0.0	2.5	15.2	15.2	7.3	3.5	2.0	5.3	3.8	0.0
Cycle Q Clear(g c), s	4.1	7.7	0.0	2.5	15.2	15.2	7.3	3.5	2.0	5.3	3.8	0.0
Prop In Lane	1.00		0.00	1.00		0.23	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	336	1444		98	647	652	550	557	248	191	373	
V/C Ratio(X)	0.67	0.41		0.72	0.73	0.73	0.74	0.38	0.23	0.77	0.58	
Avail Cap(c a), veh/h	659	2466		285	1179	1188	1081	1491	665	503	1382	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.6	13.8	0.0	30.5	18.1	18.1	26.3	24.8	24.2	28.5	28.0	0.0
Incr Delay (d2), s/veh	2.3	0.2	0.0	9.3	1.6	1.6	2.0	0.4	0.5	6.5	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	ln 1.7	2.8	0.0	1.3	5.8	5.8	2.9	1.4	0.7	2.4	1.5	0.0
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	30.8	14.0	0.0	39.8	19.7	19.7	28.2	25.2	24.6	35.0	29.4	0.0
LnGrp LOS	С	В		D	В	В	С	С	С	С	С	
Approach Vol, veh/h		813	Α		1021			673			364	Α
Approach Delay, s/veh		18.7			21.1			27.0			31.7	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		31.1	14.9	11.4	10.9	28.4	11.5	14.8				
Change Period (Y+Rc),		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		45.5	20.5	25.5	12.5	43.5	18.5	27.5				
Max Q Clear Time (g c+		9.7	9.3	5.8	6.1	17.2	7.3	5.5				
Green Ext Time (p c), s	0.1	4.5	1.1	1.1	0.1	6.6	0.3	1.3				
0 = 7	0.1	4.3	1.1	1.1	0.4	0.0	0.3	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.1									
HCM 6th LOS			С									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

75

0.31

39.2

0.0

39.2

26

103

125

0

0

405

10.0 19.1

31 114

126

329 2930 2245

0

0.22 0.68

10.0 19.1

0.0 0.0

1151 2310

EBT WBT SBL

925

332

0

480

0.57 0.22

29.6

0.0

29.6

79

230

120

0

1431

105

8.7

0.0

8.7

43

720

0

Lane Group

Control Delay

Queue Delay

v/c Ratio

Lane Group Flow (vph)

Total Delay
Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio
Intersection Summary

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Page 24

	۶	<b>→</b>	+	•	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
ane Configurations	*	<b>^</b>	<b>†</b> 1>		ሻሻ	7			
raffic Volume (vph)	65	352	447	358	418	91			
uture Volume (vph)	65	352	447	358	418	91			
leal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
otal Lost time (s)	4.5	4.5	4.5		4.5	4.5			
ane Util. Factor	1.00	0.95	0.95		0.97	1.00			
rpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
lpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
rt	1.00	1.00	0.93		1.00	0.85			
It Protected	0.95	1.00	1.00		0.95	1.00			
atd. Flow (prot)	1752	3505	3250		3400	1568			
It Permitted	0.95	1.00	1.00		0.95	1.00			
atd. Flow (perm)	1752	3505	3250		3400	1568			
eak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87			
dj. Flow (vph)	75	405	514	411	480	105			
RTOR Reduction (vph)	0	405	117	411	460	80			
ane Group Flow (vph)	75	405	808	0	480	25			
confl. Peds. (#/hr)	75	405	000	3	400	25			
eavy Vehicles (%)	3%	3%	3%	3%	3%	3%			
		NA	NA	370					
urn Type	Prot				Perm	Perm			
rotected Phases	5	2	6						
ermitted Phases					4	4			
ctuated Green, G (s)	6.9	37.1	25.7		16.7	16.7			
ffective Green, g (s)	6.9	37.1	25.7		16.7	16.7			
ctuated g/C Ratio	0.10	0.53	0.37		0.24	0.24			
learance Time (s)	4.5	4.5	4.5		4.5	4.5			
ehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
ane Grp Cap (vph)	171	1849	1188		807	372			
s Ratio Prot	c0.04	0.12	c0.25						
/s Ratio Perm					c0.14	0.02			
c Ratio	0.44	0.22	0.68		0.59	0.07			
Iniform Delay, d1	29.9	8.9	18.8		23.8	20.8			
rogression Factor	1.00	1.00	1.00		1.00	1.00			
ncremental Delay, d2	1.8	0.1	1.6		1.2	0.1			
elay (s)	31.7	8.9	20.5		25.0	20.8			
evel of Service	С	Α	С		С	С			
pproach Delay (s)		12.5	20.5		24.2				
pproach LOS		В	С		С				
ntersection Summary									
ICM 2000 Control Dela	ıy		19.6	H	ICM 200	00 Level	of Service	В	
ICM 2000 Volume to C		ratio	0.58						
ctuated Cycle Length			70.3	S	Sum of lo	ost time	(s)	18.0	
ntersection Capacity Ut			51.3%			el of Ser		A	
Analysis Period (min)			15			2. 20.			
Critical Lane Group									

Existing AM Queues

	•	$\rightarrow$	*	1	•	1	Ť	-	¥	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	150	245	128	48	587	194	544	184	639	
v/c Ratio	0.59	0.41	0.22	0.32	0.74	0.65	0.69	0.64	0.68	
Control Delay	43.4	25.2	5.9	43.3	25.4	42.3	32.1	43.1	18.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.4	25.2	5.9	43.3	25.4	42.3	32.1	43.1	18.8	
Queue Length 50th (ft)	70	102	0	23	94	90	128	86	78	
Queue Length 95th (ft)	128	164	31	56	141	156	175	150	122	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	320	665	638	163	1013	392	1081	368	1159	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.37	0.20	0.29	0.58	0.49	0.50	0.50	0.55	
Intersection Summary										

Beechwood SP 11: Creston Road & Niblick Road/Sherwood Road Existing AM HCM 6th Signalized Intersection Summary

	۶	-	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>^</b>	7	7	<b>↑</b> î>		7	<b>↑</b> ↑		*	<b>↑</b> ↑	
Traffic Volume (veh/h)	123	201	105	39	272	209	159	418	28	151	246	278
Future Volume (veh/h)	123	201	105	39	272	209	159	418	28	151	246	278
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		0.92	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	l	No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	150	245	128	48	332	255	194	510	34	184	300	339
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	189	554	463	75	442	331	239	886	59	227	457	405
Arrive On Green	0.11	0.30	0.30	0.04	0.24	0.24	0.14	0.27	0.27	0.13	0.26	0.26
Sat Flow, veh/h	1739	1826	1526	1739	1858	1392	1739	3281	218	1739	1735	1537
Grp Volume(v), veh/h	150	245	128	48	309	278	194	269	275	184	300	339
Grp Sat Flow(s), veh/h/ln	1739	1826	1526	1739	1735	1515	1739	1735	1764	1739	1735	1537
Q Serve(q s), s	6.0	7.7	4.5	1.9	11.8	12.2	7.7	9.5	9.6	7.3	11.0	14.9
Cycle Q Clear(g c), s	6.0	7.7	4.5	1.9	11.8	12.2	7.7	9.5	9.6	7.3	11.0	14.9
Prop In Lane	1.00		1.00	1.00		0.92	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	189	554	463	75	413	361	239	468	476	227	457	405
V/C Ratio(X)	0.79	0.44	0.28	0.64	0.75	0.77	0.81	0.57	0.58	0.81	0.66	0.84
Avail Cap(c a), veh/h	329	682	570	168	487	425	403	560	570	378	536	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	20.0	18.9	33.5	25.2	25.3	29.8	22.5	22.5	30.1	23.4	24.8
Incr Delay (d2), s/veh	7.4	0.6	0.3	8.8	5.3	7.1	6.5	1.1	1.1	6.7	2.3	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	ln 2.7	3.0	1.5	1.0	5.0	4.7	3.5	3.8	3.8	3.3	4.5	6.2
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	38.3	20.5	19.2	42.4	30.5	32.4	36.4	23.6	23.6	36.8	25.7	35.8
LnGrp LOS	D	С	В	D	С	С	D	С	С	D	С	D
Approach Vol, veh/h		523			635			738			823	
Approach Delay, s/veh		25.3			32.2			27.0			32.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		23.7	7.6	26.1	14.3	23.3	12.2	21.5				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		23.0	6.9	26.6	16.5	22.0	13.5	20.0				
Max Q Clear Time (g_c+	,,	11.6	3.9	9.7	9.7	16.9	8.0	14.2				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.6	0.3	1.8	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			29.5									
HCM 6th LOS			С									

Intersection Int Delay, s/veh	8.1											
	EBL	EBT	EBR	WBL		WBR			NBR		SBT	SBR
Lane Configurations		4			4		ሻ	Դ		7		7
Traffic Vol, veh/h	92	6	37	7	15	95	27	274	3	33	287	76
Future Vol, veh/h	92	6	37	7	15	95	27	274	3	33	287	76
Conflicting Peds, #/		0	0	0	0	1	6	0	2	2	0	6
	Stop								Free	Free		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Stora	age,	# 0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	7	44	8	18	113	32	326	4	39	342	90
Major/Minor Mi	nor2		N	linor1		N	lajor1		N	lajor2		
Conflicting Flow All		822	348	885	910	331	438	0	0	332	0	0
Stage 1	426	426	-	394	394	-		-	-	-	-	-
Stage 2	459	396	-	491	516	-		-		-	-	
		6.52	6 22		6.52	6 22	4 12	-	_	4.12	_	_
Critical Hdwy Stg 1				6.12	5.52	-						
Critical Hdwy Stg 2				6.12		_	_	_	_	_	_	_
Follow-up Hdwy 3						3 318	2 218	-		2.218		-
Pot Cap-1 Maneuve		309	695	266	275	711		_		1227	_	_
Stage 1	606	586	-	631	605		- 122	-		1221	-	-
Stage 2	582	604	_	559	534	_	_	_	_	_	_	_
Platoon blocked. %		00-7		000	00-7			-	-		-	
Mov Cap-1 Maneuv		288	691	233	256	709	1116	_		1225	_	_
Mov Cap-1 Maneuv		288	-	233	256			-		1225	-	
Stage 1	585	564	_	611	586	_	_	_	_	_	_	_
Stage 2	460	585	-	500	514							
5.ago 2	.50	500		500	014							
Annragah	ED			WD			ND			CD		
Approach	EB			WB			NB			SB		
HCM Control Delay				14.3			0.7			0.7		
HCM LOS	Е			В								
Minor Lane/Major M	/lvmt	NBL	NBT	NBRE	BLnW	BLn1	SBL	SBT	SBR			
Capacity (veh/h)		1116	-	-	254		1225	-	-			
HCM Lane V/C Rat	io (	0.029	-	-	0.633	0.265	0.032	-	-			
HCM Control Delay		8.3	_	-	40.8	14.3	8	-	-			
HCM Lane LOS	. ,	A	-	-	Е	В	A	-	-			
HCM 95th %tile Q(v	veh)	0.1	-	-	3.9	1.1	0.1	-	-			
	,											

Intersection												
Intersection Delay, s/veh	12.7											
Intersection LOS	В											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				4	#		414
Traffic Vol, veh/h	20	9	5	134	5	119	0	4	165	72	156	161
Future Vol, veh/h	20	9	5	134	5	119	0	4	165	72	156	161
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	11	6	158	6	140	0	5	194	85	184	189
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Rigi	nt NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	9.9			13.5				11.2			13.5	
HCM LOS	Α			В				В			В	
Lane		NBLn1	NBLn2	EBLn1\	WBLn1	SBLn1	SBLn2					
Vol Left, %		2%	0%	59%	52%	66%	0%					
Vol Thru, %		98%	0%	26%	2%	34%	89%					
Vol Right, %		0%	100%	15%	46%	0%	11%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		169	72	34	258	237	91					
LT Vol		4	0	20	134	156	0					
Through Vol		165	0	9	5	81	81					
RT Vol		0	72	5	119	0	10					
Lane Flow Rate		199	85	40	304	278	106					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.34	0.128	0.071	0.471	0.487	0.174					
Departure Headway (Hd)		6.149	5.425	6.376	5.582	6.304	5.891					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Cap		585	659	559	643	570	608					
Service Time		3.899	3.174	4.447	3.631	4.051	3.637					
HCM Lane V/C Ratio		0.34	0.129	0.072	0.473	0.488	0.174					
HCM Control Delay		12.1	9	9.9	13.5	14.9	9.9					
HCM Lane LOS		В	Α	Α	В	В	Α					
HCM 95th-tile Q		1.5	0.4	0.2	2.5	2.7	0.6					

veh	
SBR	
10	
10	
0.85	
2	
12	
0	
Left	
t	
Right	
ht	
	SBR 10 10 0.85 2 12 0

Intersection				_	
Int Delay, s/veh 4.7					
, ,		NIDI	NDT	ODT	000
Movement EBL		NBL		SBT	SBR
Lane Configurations		ሻ	<b>^</b>	<b>^</b>	7
Traffic Vol, veh/h 111		123	129	88	211
Future Vol, veh/h 111		123	129	88	211
Conflicting Peds, #/hr 0		0	0	0	0
	Stop				
	None		None		None
Storage Length 0	145	105	-	-	0
Veh in Median Storage0	# -	-	0	0	-
Grade, % 0	-	-	0	0	-
Peak Hour Factor 86	86	86	86	86	86
Heavy Vehicles, % 3		3	3	3	3
Mymt Flow 129		143	150	102	245
	04	.40	.00	.02	
Major/Minor Minor2	N	lajor1	M	lajor2	
Conflicting Flow All 463	102	347	0	-	0
Stage 1 102	-	-	-	-	-
Stage 2 361	-	-	-	-	-
Critical Hdwy 6.645	6.245	4.145	-	_	-
Critical Hdwy Stg 15.445		-	-		-
Critical Hdwy Stg 25.845		-	_	-	-
Follow-up Hdwy 3.5285			-	-	
Pot Cap-1 Maneuve540		1204		_	_
Stage 1 919		1204	- :		
Stage 2 674					
3	-	-	-	-	-
Platoon blocked, %	050	4004	-	-	-
Mov Cap-1 Maneuver76		1204	-	-	-
Mov Cap-2 Maneuven76		-	-	-	-
Stage 1 810		-	-	-	-
Stage 2 674	-	-	-	-	-
Approach EB		NB		SB	
- 1 1					
HCM Control Delay,12.8		4.1		0	
HCM LOS B					
Minor Lane/Major Mvmt	NBL	NRT	BLn E	RI n2	SRT
					301
Capacity (veh/h)	1204		476	950	
HCM Lane V/C Ratio	0.119		0.271		-
HCM Control Delay (s)	8.4	-	15.4	9.2	-
HCM Lane LOS	Α	-	С	Α	-
HCM 95th %tile Q(veh)	0.4	-	1.1	0.3	-

Beechwood SP

Existing AM

15: US 101 SB Ramp & Pine Street & Riverside Avenbe M Unsignalized Intersection Capacity Analysis

	•	-	•	•	-	*		<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					<b>f</b> a	
Traffic Volume (veh/h)	27	0	24	1	83	9	0	0	0	0	324	15
Future Volume (Veh/h)	27	0	24	1	83	9	0	0	0	0	324	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	0	26	1	91	10	0	0	0	0	356	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	414	364	364	390	372	0	372			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	414	364	364	390	372	0	372			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	96	100	84	99	100			100		
cM capacity (veh/h)	475	564	681	547	558	1085	1186			1623		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	56	102	372									
Volume Left	30	1	0									
Volume Right	26	10	16									
cSH	553	619	1700									
Volume to Capacity	0.10	0.16	0.22									
Queue Length 95th (ft)	8	15	0									
Control Delay (s)	12.2	12.3	0.0									
Lane LOS	В	В										
Approach Delay (s)	12.2	12.3	0.0									
Approach LOS	В	В										
Intersection Summary												
Average Delay			3.7									
Intersection Capacity Ut	ilization		34.3%	16	CU Lev	el of Ser	vice		Α			
Analysis Period (min)			15			2. 20.						

Synchro 10 Report Page 37 Central Coast Transportation Consulting

Beechwood SP 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road Existing AM Queues

	ၨ	-	•	<b>←</b>	*	4	†	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	21	337	1045	225	477	77	308	514	319	280	
v/c Ratio	0.10	0.69	0.73	0.29	0.44	0.51	0.63	0.31	0.63	0.35	
Control Delay	54.6	46.0	34.1	25.9	2.6	71.9	58.1	4.6	56.9	42.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.6	46.0	34.1	25.9	2.6	71.9	58.1	4.6	56.9	42.0	
Queue Length 50th (ft)	15	98	347	115	5	60	124	30	125	98	
Queue Length 95th (ft)	43	157	473	196	34	122	186	48	187	147	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	314	667	1839	997	1161	187	714	1904	725	1065	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.51	0.57	0.23	0.41	0.41	0.43	0.27	0.44	0.26	
Intersection Summary											

Beechwood SP Existing AM 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road HCM 6th Signalized Intersection Summary

	*	-	•	1	<b>←</b>	•	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> 1>		ሻሻ	<b>*</b>	7	7	44	77	75	<b>†</b> 1>	
Traffic Volume (veh/h)	18	168	115	878	189	401	65	259	432	268	197	38
Future Volume (veh/h)	18	168	115	878	189	401	65	259	432	268	197	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	n	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	200	137	1045	225	477	77	308	514	319	235	45
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	275	179	1315	711	785	100	555	1497	413	623	117
Arrive On Green	0.13	0.13	0.13	0.38	0.38	0.38	0.06	0.16	0.16	0.12	0.21	0.21
Sat Flow, veh/h	1781	2061	1344	3456	1870	1564	1781	3554	2790	3456	2983	562
Grp Volume(v), veh/h	21	171	166	1045	225	477	77	308	514	319	138	142
Grp Sat Flow(s), veh/h/ln	1781	1777	1628	1728	1870	1564	1781	1777	1395	1728	1777	1768
Q Serve(g_s), s	1.0	9.0	9.6	26.2	8.3	21.4	4.2	7.8	10.2	8.7	6.5	6.7
Cycle Q Clear(g_c), s	1.0	9.0	9.6	26.2	8.3	21.4	4.2	7.8	10.2	8.7	6.5	6.7
Prop In Lane	1.00		0.83	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	237	237	217	1315	711	785	100	555	1497	413	371	369
V/C Ratio(X)	0.09	0.72	0.76	0.79	0.32	0.61	0.77	0.55	0.34	0.77	0.37	0.38
Avail Cap(c_a), veh/h	373	372	341	2186	1183	1179	223	846	1726	862	644	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	40.5	40.7	26.8	21.3	17.5	45.4	38.0	12.8	41.6	33.1	33.1
Incr Delay (d2), s/veh	0.2	4.1	5.5	1.1	0.3	0.8	11.9	0.9	0.1	3.1	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	/In 0.5	4.2	4.2	10.3	3.5	7.2	2.1	3.3	6.1	3.9	2.8	2.9
Unsig. Movement Delay,	, s/veh											
LnGrp Delay(d),s/veh	37.2	44.6	46.3	27.9	21.5	18.3	57.3	38.8	13.0	44.7	33.7	33.8
LnGrp LOS	D	D	D	С	С	В	Е	D	В	D	С	С
Approach Vol, veh/h		358			1747			899			599	
Approach Delay, s/veh		45.0			24.5			25.6			39.6	
Approach LOS		D			С			С			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s16.3	21.0		17.6	11.2	26.1		42.4				
Change Period (Y+Rc),	s * 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gma	ax), 24	23.2		20.4	12.2	* 35		61.6				
Max Q Clear Time (g_c+	-111)0 <i>s</i> 7	12.2		11.6	6.2	8.7		28.2				
Green Ext Time (p_c), s	0.9	3.0		1.4	0.1	1.6		8.9				
Intersection Summary												
HCM 6th Ctrl Delay			29.3									
HCM 6th LOS			С									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Central Coast Transportation Consulting

Beechwood SP 17: S. River Road & Niblick Road Existing AM Queues

	•	-	*	1	-	1	1	-	↓
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	595	231	101	1132	571	342	291	426
v/c Ratio	0.52	0.49	0.33	0.55	0.85	0.78	0.59	0.79	0.70
Control Delay	59.3	29.6	5.2	57.9	36.0	48.1	44.1	56.4	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	29.6	5.2	57.9	36.0	48.1	44.1	56.4	40.0
Queue Length 50th (ft)	40	166	0	67	351	192	114	190	120
Queue Length 95th (ft)	73	242	50	126	475	264	158	#315	170
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	220	1312	732	236	1507	826	898	440	958
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.45	0.32	0.43	0.75	0.69	0.38	0.66	0.44
Intersection Summary									

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection

	۶	<b>→</b>	•	€	+	4	1	†	~	<b>/</b>	<del> </del>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,2	<b>^</b>	7	7	<b>↑</b> ↑		1,1	<b>†</b> }		7	<b>↑</b> ↑	
Traffic Volume (veh/h)	100	518	201	88	764	221	497	260	37	253	237	134
Future Volume (veh/h)	100	518	201	88	764	221	497	260	37	253	237	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	595	231	101	878	254	571	299	43	291	272	154
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1296	578	129	1046	302	675	564	80	332	380	209
Arrive On Green	0.05	0.36	0.36	0.07	0.39	0.39	0.20	0.18	0.18	0.19	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	2715	784	3456	3119	444	1781	2213	1216
Grp Volume(v), veh/h	115	595	231	101	574	558	571	169	173	291	217	209
Grp Sat Flow(s),veh/h/ln		1777	1585	1781	1777	1722	1728	1777	1786	1781	1777	1652
Q Serve(g_s), s	3.0	11.8	5.4	5.1	27.0	27.1	14.7	7.9	8.1	14.6	10.6	11.1
Cycle Q Clear(g_c), s	3.0	11.8	5.4	5.1	27.0	27.1	14.7	7.9	8.1	14.6	10.6	11.1
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.25	1.00		0.74
Lane Grp Cap(c), veh/h	179	1296	578	129	685	664	675	321	323	332	305	284
V/C Ratio(X)	0.64	0.46	0.40	0.78	0.84	0.84	0.85	0.53	0.54	0.88	0.71	0.74
Avail Cap(c_a), veh/h	244	1439	642	261	854	828	904	501	504	487	523	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.3	6.3	42.0	25.7	25.7	35.7	34.2	34.2	36.4	36.0	36.2
Incr Delay (d2), s/veh	3.8	0.3	0.4	9.7	6.1	6.4	5.7	1.3	1.4	11.7	3.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh. Unsig. Movement Delay,		4.7	3.3	2.5	11.7	11.4	6.4	3.4	3.5	7.2	4.7	4.6
	46.6	22.6	6.8	51.8	31.8	32.1	41.4	35.5	35.6	48.1	39.0	39.9
LnGrp Delay(d),s/veh LnGrp LOS	40.0 D	22.6 C	0.0 A	51.6 D	31.6 C	32.1 C	41.4 D	35.5 D	35.6 D	46.1 D	39.0 D	39.9 D
	U		A	U			U		U	U		
Approach Vol, veh/h		941 21.6			1233 33.6			913 39.2			717 43.0	
Approach LOS		21.0 C			33.0 C			39.2 D			43.0 D	
Approach LOS		C			C			U			U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		38.1	22.5	20.3	9.3	40.0	21.7	21.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		37.3	24.1	27.1	6.5	44.3	25.2	26.0				
Max Q Clear Time (g_c+		13.8	16.7	13.1	5.0	29.1	16.6	10.1				
Green Ext Time (p_c), s	0.1	4.7	1.3	2.0	0.0	6.4	0.6	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			33.8									
HCM 6th LOS			С									

mersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configuration				4	1,	
Traffic Vol. veh/h	82		5	611	272	33
Future Vol, veh/h	82	1	5	611	272	33
Conflicting Peds, #		1	0	0	0	0
Sign Control			Free			Free
RT Channelized		None		None		None
Storage Length	0			-	-	-
Veh in Median Sto	-			0	0	-
Grade. %	0			0	0	
Peak Hour Factor			83	83	83	83
Heavy Vehicles, %			3	3	3	3
Mymt Flow	99	_	6	736	328	40
IVIVIIIC I IOW	33		U	100	320	40
Major/Minor M	/linor2	N	lajor1	M	ajor2	
Conflicting Flow A	II1096	349	368	0	-	0
Stage 1	348	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg	15.43	-	-	-	-	-
Critical Hdwy Stg 2	25.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuv				-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	466	-	_	-	-	-
Platoon blocked. 9				-	-	-
Mov Cap-1 Maneu		691	1185	-	-	_
Mov Cap-2 Maneu			-		-	_
Stage 1	707		_			-
Stage 2	466	-		-	_	
Stage 2	400					
Approach	EB		NB		SB	
<b>HCM Control Dela</b>	y34.2		0.1		0	
HCM LOS	D					
NA: 1 /NA:		NIDI	NDT	DI 4	ODT	000
Minor Lane/Major	IVIVMt					SBR
Capacity (veh/h)		1185		235	-	-
HCM Lane V/C Ra		0.005		0.426	-	-
HCM Control Dela	ıy (s)	8.1		31.2	-	-
HCM Lane LOS		Α		D	-	-
HCM 95th %tile Q	(veh)	0	-	2	-	-

Intersection						
Int Delay, s/veh	1					
Movement E	BL	EBR	NBI	NBT	SBT	SBR
Lane Configurations		LDIX	HUL	4	13	ODIT
Traffic Vol, veh/h	55	6	9	561	232	19
Future Vol. veh/h	55	6	9	561	232	19
		-				19
Conflicting Peds, #/hi		0	_ 0	_ 0	_ 0	
				Free		
RT Channelized		None		None		None
Storage Length	0	-	-	-	-	-
Veh in Median Storag		<b>#</b> -	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
	65	7	11	668	276	23
Major/Minor Mino		M	lajor1	M	ajor2	
Conflicting Flow All 9	78	288	299	0	-	0
Stage 1 2	88	-	-	-	-	-
Stage 2 6	90	-	-	-	-	-
Critical Hdwy 6	.42	6.22	4.12	-	-	-
Critical Hdwy Stg 15.	42	_	-	-	-	-
Critical Hdwy Stg 25		-	_	-		_
Follow-up Hdwy 3.5			2 218	_	_	_
Pot Cap-1 Maneuve			1262			
	61	731	1202		- 3	
	198					
9	198	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuv€			1262	-	-	-
Mov Cap-2 Maneuve	<b>k</b> 45	-	-	-	-	-
Stage 1 7	<b>750</b>	-	-	-	-	-
Stage 2 4	198	-	-	-	-	-
A	-D		ND		CD	
- 1 1	EB		NB		SB	
HCM Control Delay,1			0.1		0	
HCM LOS	В					
Minor Lane/Major Mv	mt	NIDI	NIDTE	DI n1	SBT	CDD
	IIIL				301	
Capacity (veh/h)		1262	-		-	-
HCM Lane V/C Ratio		800.0		0.157	-	-
HCM Control Delay (	s)	7.9		14.2	-	-
HCM Lane LOS		Α	Α	В	-	-
HCM 95th %tile Q(ve	h)	0	-	0.6	-	-

Intersection Delay, s/veh	17.2						
Intersection LOS	С						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	WBL	WDK		NDI	SDL		
	<b>"</b> 21	477	<b>♣</b> 84	7	190	<del>ર્</del> 4 45	
Traffic Vol, veh/h Future Vol, veh/h	21	477	84	7	190	45	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	
Heavy Vehicles, %	0.63	0.03	0.03	0.63	0.63	0.03	
Mymt Flow	25	575	101	8	229	54	
Number of Lanes	1	0	101	0	0	1	
Number of Lanes		U	'	U	U	'	
Approach	WB		NB		SB		
Opposing Approach			SB		NB		
Opposing Lanes	0		1		1		
Conflicting Approach Let					WB		
Conflicting Lanes Left	1		0		1		
Conflicting Approach Rig			WB				
Conflicting Lanes Right	1		1		0		
HCM Control Delay	20.2		10.2		13.5		
HCM LOS	С		В		В		
Lane		NBLn1\	WBLn1	SBLn1			
Lane Vol Left, %		NBLn1\ 0%	WBLn1 4%	SBLn1 81%			
Vol Left, %		0%	4%	81%			
Vol Left, % Vol Thru, %		0% 92%	4% 0%	81% 19%			
Vol Left, % Vol Thru, % Vol Right, %		0% 92% 8%	4% 0% 96%	81% 19% 0%			
Vol Left, % Vol Thru, % Vol Right, % Sign Control		0% 92% 8% Stop 91	4% 0% 96% Stop	81% 19% 0% Stop			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane		0% 92% 8% Stop 91 0 84	4% 0% 96% Stop 498 21 0	81% 19% 0% Stop 235 190 45			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol		0% 92% 8% Stop 91 0 84 7	4% 0% 96% Stop 498 21 0 477	81% 19% 0% Stop 235 190 45			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate		0% 92% 8% Stop 91 0 84 7	4% 0% 96% Stop 498 21 0 477 600	81% 19% 0% Stop 235 190 45 0			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp		0% 92% 8% Stop 91 0 84 7 110	4% 0% 96% Stop 498 21 0 477 600	81% 19% 0% Stop 235 190 45 0 283			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)		0% 92% 8% Stop 91 0 84 7 110 1	4% 0% 96% Stop 498 21 0 477 600 1 0.757	81% 19% 0% Stop 235 190 45 0 283 1 0.453			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755 Yes			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes 612	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes 804	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755 Yes 626			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes 612 3.904	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes 804 2.54	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755 Yes 626 3.798			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes 612 3.904 0.18	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes 804 2.54 0.746	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755 Yes 626 3.798 0.452			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes 612 3.904 0.18	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes 804 2.54 0.746 20.2	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755 Yes 626 3.798 0.452 13.5			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay HCM Lane LOS		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes 612 3.904 0.18 10.2 B	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes 804 2.54 0.746 20.2	81% 19% 0% Stop 235 190 45 0 283 1,0.453 5.755 Yes 626 3.798 0.452 13.5 B			
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay		0% 92% 8% Stop 91 0 84 7 110 1 0.178 5.851 Yes 612 3.904 0.18	4% 0% 96% Stop 498 21 0 477 600 1 0.757 4.54 Yes 804 2.54 0.746 20.2	81% 19% 0% Stop 235 190 45 0 283 1 0.453 5.755 Yes 626 3.798 0.452 13.5			

Intersection					
Int Delay, s/veh 0.3					
Movement EBL	FRT	WRT	WBR	SBI	SBR
Lane Configurations	<u>LD1</u>	130	יוטוי	₩.	SDIN
Traffic Vol, veh/h 4	<b>T</b>	492	2	<b>"</b>	7
Future Vol, veh/h 4	195	492	2	4	7
	195	492	6	0	0
Conflicting Peds, #/hr 6	_		_		_
			Free		
	None		None		None
Storage Length 50	-		-	0	-
Veh in Median Storage,		0	-	0	-
Grade, % -	0	0	-	0	-
Peak Hour Factor 82	82	82	82	82	82
Heavy Vehicles, % 2	2	2	2	2	2
Mvmt Flow 5	238	600	2	5	9
Major/Minor Major1	N. /	lajor2	N. A.	inor2	
					607
Conflicting Flow All 608	0	-	0		607
Stage 1 -	-	-	-	607	-
Stage 2 -	-	-			-
Critical Hdwy 4.12	-	-			6.22
Critical Hdwy Stg 1 -	-	-		5.42	-
Critical Hdwy Stg 2 -	-	-		5.42	-
Follow-up Hdwy 2.218	-	-	- (	3.518	3.318
Pot Cap-1 Maneuve@70	-	-	-	329	496
Stage 1 -	-	-	-	544	-
Stage 2 -	-	-	-	793	-
Platoon blocked, %	-	-	-		
Mov Cap-1 Maneuve64	-	-	-	323	493
Mov Cap-2 Maneuver -					-
Stage 1 -	-	_	-	538	-
Stage 2 -	- 1	- 1		788	- 1
Glaye Z -				100	
Approach EB		WB		SB	
HCM Control Delay, 9.2		0		14	
HCM LOS				В	
Mineral and Maior M.	EDI	EDT	MOZ	W/D E	DId
Minor Lane/Major Mvmt			WBT		
Capacity (veh/h)	964	-	-		414
	0.005	-	-	-1	0.032
HCM Control Delay (s)	8.8	-	-	-	14
HCM Lane LOS	Α	-	-	-	В
HCM 95th %tile Q(veh)	0	-	-	-	0.1
, ,					

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configuration	ns 🏋	ĵ.		7	ß			4			4	
Traffic Vol, veh/h	12	202	1	1	454	16	3	0	1	28	0	30
Future Vol, veh/h	12	202	1	1	454	16	3	0	1	28	0	30
Conflicting Peds, #		0	0	0	0	7	0	0	0	0	0	0
Sign Control						Free					Stop	
RT Channelized	-		None	-		None	-		None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Sto	0 .		-	-	0	-	-	0	-	-	0	-
Grade, %	- 0.4	0	- 0.4	- 0.4	0	- 0.4	- 0.4	0	- 0.4	- 0.4	0	- 0.4
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, % Mymt Flow	14	240	2	2	540	19	2	0	2	33	0	36
WWITH FIOW	14	240	- 1	- 1	340	19	4	U	- 1	33	U	30
	/lajor1		N	lajor2		N	linor1			linor2		
Conflicting Flow A	II 566	0	0	241	0	0	839	837	241	828	828	557
Stage 1	-	-	-	-	-	-	269	269	-	559	559	-
Stage 2	-	-	-	-	-	-	570	568	-	269	269	-
Critical Hdwy	4.12	-	-		-	-	7.12		6.22	7.12		6.22
Critical Hdwy Stg		-	-	-	-	-		5.52		6.12		-
Critical Hdwy Stg 2		-	-	-	-	-		5.52		6.12		-
Follow-up Hdwy		-		2.218	-				3.318			
Pot Cap-1 Maneuv		-		1326	-		285 737	303 687	798	290 513	306 511	530
Stage 1 Stage 2	-	-	-	-	-	-	506	506		737	687	-
Platoon blocked. %			-	-		-	300	500	-	131	007	-
Mov Cap-1 Maneu			-	1326			263	296	798	284	299	526
Mov Cap-1 Maneu				1320			263	296	190	284	299	J20 -
Stage 1	-						727	677		502	507	
Stage 2	-		-	-	-	-		502	-	726	677	
Stage 2							.,,	502		. 20	011	
Approach	EB			WB			NB			SB		
HCM Control Dela				0			16.6			16.8		
HCM LOS	ly, <b>b</b> .5			U			10.0 C			10.6 C		
HCW LOS							C			C		
Minor Lane/Major	MvmN		EBL	EBT		WBL	WBT	WBR				
Capacity (veh/h)		316	999	-		1326	-	-	373			
HCM Lane V/C Ra		0.015		-	-	0.001	-		0.185			
HCM Control Dela	y (s)	16.6	8.7	-	-	7.7	-	-	16.8			
HCM Lane LOS	/ 1)	С	A	-	-	A	-	-	C			
HCM 95th %tile Q	(ven)	0	0	-	-	0	-	-	0.7			

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	FRT	WRT	WBR	SRI	SRP
Lane Configuration			1 to	MDI	SBL W	ODK
Traffic Vol. veh/h	1S η 4		<b>461</b>	2	<b>"</b>	5
Future Vol. veh/h	4		461	2	6	5
Conflicting Peds, #		209	401	9	0	0
Sign Control		_	_	Free		_
RT Channelized		None		None		None
Storage Length	50	-		-	0	-
Veh in Median Sto			0		0	
Grade. %	aye,	# 0	0		0	
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %		2	2		2	2
Mymt Flow	5		569	2	7	6
IVIVIIIL FIOW	5	200	509		- 1	U
Major/Minor M	lajor1	N	lajor2	M	inor2	
Conflicting Flow Al	II 580	0	-	0	847	579
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	268	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg	1 -	-	-	-	5.42	-
Critical Hdwy Stg 2	2 -	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-:	3.518	3.318
Pot Cap-1 Maneuv		-	-	-	332	515
Stage 1	-	-	-	-	560	-
Stage 2	-	-	-	-	777	-
Platoon blocked. %	6	-	-	-		
Mov Cap-1 Maneu		-	-	-	324	511
Mov Cap-2 Maneu		-	-	-		-
Stage 1	-	-	-	_		_
Stage 2	-			_	770	-
Olago Z					110	
Approach	EB		WB		SB	
HCM Control Dela	y, <b>9</b> .2		0		14.6	
HCM LOS					В	
Minor Lane/Major	Mvmt	EBL	EBT	WBT	WBR5	BLn1
Capacity (veh/h)		985	-	-	-	
HCM Lane V/C Ra	tio (	0.005				0.035
HCM Control Dela		8.7	_	_		14.6
HCM Lane LOS	, (0)	Α				В
HCM 95th %tile Q	(veh)	0	_	_	_	
	(1011)	- 0				0.1

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	FRT	WBT	WBR	SBI	SBR
Lane Configuration			1000	TTDI\	N/	
Traffic Vol. veh/h	54	176	328	27	15	
Future Vol. veh/h	54	176	328	27	15	
			320	8	0	
Conflicting Peds, #		0		_	_	_
Sign Control			Free			
RT Channelized		None		None		None
Storage Length	100	-		-	0	
Veh in Median Sto			0	-	0	
Grade, %	-	•	0	-	0	
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6 1	1	1	1	1	1
Mvmt Flow	64	207	386	32	18	159
NA = : = :/NA ::= = :: N	A = : = = A		1-:0		i:O	
	lajor1		lajor2		linor2	
Conflicting Flow Al		0	-	0	745	
Stage 1	-	-		-		
Stage 2	-	-	-	-	335	
Critical Hdwy	4.11	-	-	-		6.21
Critical Hdwy Stg		-	-	-	0	-
Critical Hdwy Stg 2		-	-		5.41	-
Follow-up Hdwy	2.209	-	-	- :	3.509	3.309
Pot Cap-1 Maneuv	v <b>4</b> 139	-	-	-	383	644
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %	6	-	-	-		
Mov Cap-1 Maneu		-	_	-	355	639
Mov Cap-2 Maneu					355	
Stage 1	-				628	
Stage 2				-	721	
Staye 2	-	-	_	-	121	-
Approach	EB		WB		SB	
HCM Control Dela	y, s 2		0		13.6	
HCM LOS	,, _				В	
					ر	
Minor Lane/Major	Mvmt	EBL	EBT	WBT	WBR	BLn1
Capacity (veh/h)		1130	-	-	-	592
HCM Lane V/C Ra	atio	0.056	-	-	-	0.298
<b>HCM Control Dela</b>	y (s)	8.4	-	-	-	13.6
HCM Lane LOS	, ( )	Α	-	-	-	
HCM 95th %tile Q	(veh)	0.2	_	-	_	1.2
	(1011)	0.2				1.2

Intersection	elay, s/veh 3.7  ement EBL EBT EB  Configurations 4 c Vol, veh/h 40 43 icting Peds, #/hr 8 0  Control Free Free Free hannelized - Non ge Length - O e, % - O Hour Factor 82 82 82 y Vehicles, % 1 1 iFlow 49 52  **Minor Major1* icting Flow All 133 0  Stage 1 - Stage 2 - Stage 2 - Stage 2 - Stage 1 - Stage 2 - Stage 1 - Stage 1 - Stage 2 - Stage 2 - Stage 1 - Stage 2 - Stage 3 - Stage 2 - Stage 3 - Stage 3 - Stage 3 - Stage 4 - Stage 4 - Stage 4 - Stage 5 - Stage 5 - Stage 5 - Stage 5 - Stage 6 - Stage 6 - Stage 7										
•	FRT	FRP	WRI	WRT	WRP	NRI	NRT	NBR	SBL	SBT	SBR
		LDI/	VVDL	₩	AADI/	NDL	4	MDI/	ODL	3B1 ∰	SDI
		0	0	102	1	0	0	0	0	0	66
		0	0	102	1	0	0	0	0	0	66
Conflicting Peds, #/hr 8		0	0	0	8	0	0	0	0	0	0
	_	_	_		_		_	Stop	_		_
RT Channelized -		None	-		None			None	-		None
Storage Length -	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage	# 0	-	-	0	-	-	0	-	-	0	-
Grade, %	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor 82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, % 1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow 49	52	0	0	124	1	0	0	0	0	0	80
Major/Minor Major1		N	lajor2		N	linor1		M	linor2		
Conflicting Flow All 133	Ω	0	52	0	0	315	283	52	283	283	133
		-	-	-	-	150	150	-	133	133	-
		-		-	-	165	133		150	150	-
	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2 -	-	-	-	-	-	6.11		-	6.11	5.51	-
Follow-up Hdwy 2.209	-	- 2	2.209	-	- :	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuve458	-	-	1560	-	-	640		1019	671	628	919
	-	-	-	-	-	855	775	-	873	788	-
	-	-	-	-	-	839	788	-	855	775	-
Platoon blocked, %	-	-		-	-						
Mov Cap-1 Maneuvle/47	-	-	1560	-	-	568	601	1019	648	601	912
Mov Cap-2 Maneuver -	-	-	-	-	-	568	601	-	648	601	-
Stage 1 -	-	-	-	-	-	825	748	-	836	782	-
Stage 2 -	-	-	-	-	-	765	782	-	825	748	-
Approach EB			WB			NB			SB		
HCM Control Delay, §.7			0			0			9.3		
HCM LOS			- 0			A			Α.		
200						/1			,1		
Minor Long/Major M	IDI ss4	EDI	EDT	EDD	WDI	MDT	W/D D	DI ss4			
Minor Lane/Major MvmN		EBL	EBT		WBL						
Capacity (veh/h)		1447	-	-	1560	-	-	912			
HCM Lane V/C Ratio		0.034	-	-	-	-	-	880.0			
HCM Control Delay (s)	0	7.6	0	-	0	-	-	9.3			
HCM Lane LOS	Α	A	Α	-	A	-	-	A			
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.3			

Lane Group Flow (vph) 213

EBT WBT WBR SBL

82

0.31 0.33

33

716 1246

0

0.11

4.0 38.7 12.1

0.0 0.0

4.0 38.7

25 90

330 450

0

1447

196

0.0

12.1

35

97

0

982 1077

0.30 0.70

0.2 20.2

0.0 0.0

0.2 20.2

1017 748

3312 3228

362

0

0 207

0

0.57

0.0

35.8

197

345

716

0

Lane Group

Control Delay

Queue Delay

Total Delay
Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio
Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn

v/c Ratio

Existing PM Queues

	•	-	-	•	1	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>^</b>	7	*	7			
Traffic Volume (vph)	211	972	1066	81	74	194			
Future Volume (vph)	211	972	1066	81	74	194			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1656	3312	3312	1482	1656	1482			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1656	3312	3312	1482	1656	1482			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99			
Adj. Flow (vph)	213	982	1077	82	75	196			
RTOR Reduction (vph)	0	0	0	44	0	48			
	213	982	1077	38	75	148			
Lane Group Flow (vph)		982	9%	9%	9%	9%			
Heavy Vehicles (%)	9%								
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	17.1	75.5	35.2	35.2	8.2	29.3			
Effective Green, g (s)	17.1	75.5	35.2	35.2	8.2	29.3			
Actuated g/C Ratio	0.23	1.00	0.47	0.47	0.11	0.39			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	375	3312	1544	690	179	575			
v/s Ratio Prot	c0.13	0.30	c0.33		0.05	0.10			
v/s Ratio Perm				0.03					
v/c Ratio	0.57	0.30	0.70	0.06	0.42	0.26			
Uniform Delay, d1	25.9	0.0	15.9	11.0	31.4	15.7			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	2.0	0.2	1.5	0.0	1.9	0.2			
Delay (s)	27.9	0.2	17.4	11.1	33.3	15.9			
Level of Service	С	Α	В	В	С	В			
Approach Delay (s)		5.2	17.0		20.7				
Approach LOS		Α	В		С				
Intersection Summary									
HCM 2000 Control Dela	ay		12.0	F	ICM 200	00 Level of S	ervice	В	
HCM 2000 Volume to C	apacity	ratio	0.63						
Actuated Cycle Length	(s)		75.5	S	um of lo	ost time (s)		15.0	
Intersection Capacity U			60.7%			el of Service		В	
Analysis Period (min)			15						
! Phase conflict between	en lane	groups							
o Critical Lana Croup		0 1-							

c Critical Lane Group

Reduced v/c Ratio
Intersection Summary

	•	$\rightarrow$	7	1	-	•	1	1	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>*</b>	7
Traffic Volume (veh/h)	174	787	213	48	718	112	207	179	45	174	250	285
Future Volume (veh/h)	174	787	213	48	718	112	207	179	45	174	250	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	179	811	220	49	740	115	213	185	46	179	258	294
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	271	1099	490	112	1082	482	313	685	166	273	431	365
Arrive On Green	0.08	0.32	0.32	0.03	0.32	0.32	0.09	0.25	0.25	0.08	0.24	0.24
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2722	660	3319	1796	1522
Grp Volume(v), veh/h	179	811	220	49	740	115	213	114	117	179	258	294
Grp Sat Flow(s),veh/h/ln	1659	1706	1521	1659	1706	1521	1659	1706	1676	1659	1796	1522
Q Serve(g_s), s	4.0	16.3	5.7	1.1	14.6	4.3	4.8	4.1	4.3	4.0	9.8	14.0
Cycle Q Clear(g_c), s	4.0	16.3	5.7	1.1	14.6	4.3	4.8	4.1	4.3	4.0	9.8	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	271	1099	490	112	1082	482	313	429	422	273	431	365
V/C Ratio(X)	0.66	0.74	0.45	0.44	0.68	0.24	0.68	0.27	0.28	0.66	0.60	0.81
Avail Cap(c_a), veh/h	776	3102	1382	776	3102	1382	862	909	892	862	956	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	23.2	8.6	36.5	22.9	19.4	33.8	23.1	23.2	34.3	26.0	27.6
Incr Delay (d2), s/veh	2.7	1.0	0.6	1.0	0.8	0.3	2.6	0.3	0.4	2.7	1.3	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.	/In 1.6	5.7	2.8	0.4	5.1	1.4	1.9	1.6	1.6	1.6	4.1	5.1
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	37.1	24.2	9.2	37.5	23.7	19.7	36.4	23.4	23.5	36.9	27.3	31.8
LnGrp LOS	D	С	Α	D	С	В	D	С	С	D	С	С
Approach Vol, veh/h		1210			904			444			731	
Approach Delay, s/veh		23.4			23.9			29.7			31.5	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		32.1	11.3	23.8	10.3	31.7	10.3	24.7				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gma		* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+	l1)3 <i>s</i> l	18.3	6.8	16.0	6.0	16.6	6.0	6.3				
Green Ext Time (p_c), s	0.0	6.5	0.5	2.4	0.4	5.4	0.4	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Beechwood SP

2: Golden Hill Road & SR 46 E

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configuration	าร 🀧	<b>∱</b> }		7	۴ß			र्स	7		4	7
Traffic Vol, veh/h	0	935	62	282	884	0	9	0	294	0	0	0
Future Vol, veh/h	0	935	62	282	884	0	9	0	294	0	0	0
Conflicting Peds, #		0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	340	-	-	195	-	-	-	-	25	-	-	25
Veh in Median Sto	rage,	# 0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	7	7	7	7	7	7	7	7	7	7	7	7
Mvmt Flow	0	964	64	291	911	0	9	0	303	0	0	0
Major/Minor M	1ajor1		N	lajor2		N	linor1		N	linor2		
Conflicting Flow Al	II 912	0	0	1028	0	0	2034	2490	514	1976	2522	457
Stage 1	-	-	-	-	-	-	996	996	-	1494	1494	-
Stage 2	-	-	-	-	-	-	1038	1494	-	482	1028	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.64		7.04	7.64	6.64	7.04
Critical Hdwy Stg 1	1 -	-				-	6.64	5.64	-	6.64	5.64	-
Critical Hdwy Stg 2		-	-	-	-	-	6.64	5.64	-	6.64	5.64	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.57	4.07	3.37	3.57	4.07	3.37
Pot Cap-1 Maneuv	/e <b>7</b> 12	-	-	642	-	-	31	27	493	35	26	537
Stage 1	-	-	-	-	-	-	253	310	-	123	176	-
Stage 2	-	-	-	-	-	-	238	176	-	521	299	-
Platoon blocked, %	6	-	-		-	-						
Mov Cap-1 Maneu	v <i>ē</i> r11	-	-	642	-	-	20	15	493	9	14	536
Mov Cap-2 Maneu		-	-	-	-	-	20	15	-	9	14	-
Stage 1	-	-	-	-	-	-	253	310	-	123	96	-
Stage 2	-	-	-	-	-	-	130	96	-	201	299	-
-												
Approach	EB			WB			NB			SB		
HCM Control Delay	y, s 0			3.7			31.3			0		
HCM LOS							D			Α		
Minor Lane/Major I	MvmN	BLn1N	IBLn2	EBL	EBT	EBR	WBL	WBT	WBRS	BLn18	BLn2	
Capacity (veh/h)		20	493	711	-	-	642	-		_	-	
HCM Lane V/C Ra	tio	0.464					0.453	-	-	-		
HCM Control Dela				0		-	15.2	_		0	0	
HCM Lane LOS	, (0)	F	C	A	-	-	C	-	-	A	A	
HCM 95th %tile Q(	(veh)	1.3	4.1	0	_	-	2.4	-	-	-	-	
oour route of	()			0								

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configuration			44		ሻ	
Traffic Vol. veh/h	216	845	829		10	
Future Vol. veh/h	216	845	829		10	
Conflicting Peds, #		0	0_0		0	
Sign Control			_	Free	_	_
RT Channelized		None		None		None
Storage Length	580	-			0	
Veh in Median Sto			0		2	
Grade, %	лаус <u>;</u> -		0		0	
Peak Hour Factor		94	94		94	
			10		10	
Heavy Vehicles, %						
Mvmt Flow	230	899	882	13	11	347
Major/Minor N	/lajor1	N	lajor2	M	linor2	
Conflicting Flow A	II 895	0	-	0	1792	441
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	910	
Critical Hdwy	4.3	-	-	-	7	
Critical Hdwy Stg	1 -	-	-	-	6	-
Critical Hdwy Stg		-	-	-	6	
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuv		_	-	-	66	
Stage 1	-	-			346	
Stage 2	-	_	-	-	334	
Platoon blocked, 9	<b>1</b> /0	-		-	00 1	
Mov Cap-1 Maneu		_	_	-	44	543
Mov Cap-2 Maneu					184	
Stage 1	-			-	233	
Stage 2					334	
Stage 2					554	
Approach	EB		WB		SB	
HCM Control Dela	ıy, <b>Ձ</b> .6		0		22.7	
HCM LOS	,				С	
Minor Lane/Major	Mvmt			WBT		
Capacity (veh/h)		706	-		-	
HCM Lane V/C Ra		0.325	-	-	-	0.058
<b>HCM Control Dela</b>	y (s)	12.5	-	-	-	25.8
HCM Lane LOS		В	-	-	-	D
HCM 95th %tile Q	(veh)	1.4	-	-	-	0.2

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configuration	s 🏋	44	7	7	Φß			41	7		4	
Traffic Vol, veh/h	0	890	10	1	835	0	17	0	4	0	0	1
Future Vol, veh/h	0	890	10	1	835	0	17	0	4	0	0	1
Conflicting Peds, #/	/hr 0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Stor	age, #	# 0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	918	10	1	861	0	18	0	4	0	0	1
Major/Minor Ma	ajor1		N	lajor2		N	linor1		M	inor2		
Conflicting Flow All	861	0	0	928	0	0	1351	1781	459	1322	1791	431
Stage 1	-	-	-	-	-	-	918	918	-	863	863	-
Stage 2	-	-	-	-	-	-	433	863	-	459	928	-
Critical Hdwy	4.34	-	-	4.34	-	-	7.74	6.74	7.14	7.74	6.74	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-
Follow-up Hdwy	2.32	-	-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42
Pot Cap-1 Maneuve	e <b>7</b> 16	-	-	674	-	-	100	73	523	105	72	546
Stage 1	-	-	-	-	-	-	273	327	-	296	347	-
Stage 2	-	-	-	-	-	-	545	347	-	526	323	-
Platoon blocked, %	)	-	-		-	-						
Mov Cap-1 Maneuv		-	-	674	-	-	100	73	523	104	72	546
Mov Cap-2 Maneuv	ver -	-	-	-	-	-	243	236	-	258	234	-
Stage 1	-	-	-	-	-	-	273	327	-	296	347	-
Stage 2	-	-	-	-	-	-	543	347	-	522	323	-
Approach	EB			WB			NB			SB		
HCM Control Delay	/, s 0			0			19.3			11.6		
HCM LOS							С			В		
Minor Lane/Major N	√lvm <b>N</b>	BLn1N	BLn2	EBL	EBT	EBR	WBL	WBT	WBR5	BLn1		
Capacity (veh/h)		243	523	716	-	-	674	-	-	546		
HCM Lane V/C Rat	tio (	0.072		-	-	-	0.002	-	- (	0.002		
HCM Control Delay		21	11.9	0	-	-	10.3	-	-			
HCM Lane LOS	( )	С	В	A	-	-	В	-	-	В		
HCM 95th %tile Q(v	veh)	0.2	0	0	-	-	0	-	-	0		
,	,											

Intersection												
Intersection Delay, s/veh	50.5											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<u> </u>	LDIX	YVDL	î	WDIX	NOL.	<u> </u>	TVDIX	ODL	414	ODIN
Traffic Vol. veh/h	63	199	61	255	185	97	49	209	243	29	340	90
Future Vol. veh/h	63	199	61	255	185	97	49	209	243	29	340	90
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mymt Flow	68	214	66	274	199	104	53	225	261	31	366	97
Number of Lanes	1	1	0	1	1	0	1	1	1	0	2	0.
				14/5								
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			3		
Conflicting Approach Left				NB			EB			WB		
Conflicting Lanes Left	2			3			2			2		
Conflicting Approach Rig				SB			WB			EB		
Conflicting Lanes Right	3			2			2			2		
HCM Control Delay	55.8			62.5			37			47.5		
HCM LOS	F			F			Е			Е		
Lane		NBLn1	NBLn2	NBL <sub>n</sub> 3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %		100%	0%	0%	100%	0%	100%	0%	15%	0%		
Vol Thru, %		0%	100%	0%	0%	77%	0%	66%	85%	65%		
Vol Right, %		0%	0%	100%	0%	23%	0%	34%	0%	35%		
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop		
Traffic Vol by Lane		49	209	243	63	260	255	282	199	260		
LT Vol		49	0	0	63	0	255	0	29	0		
Through Vol		0	209	0	0	199	0	185	170	170		
RT Vol		0	0	243	0	61	0	97	0	90		
Lane Flow Rate		53	225	261	68	280	274	303	214	280		
Geometry Grp		8	8	8	8	8	8	8	8	8		
Degree of Util (X)		0.173	0.705	0.766	0.232	0.902	0.884	0.912	0.682	0.866		
Departure Headway (Hd)		11.815	11.289	10.553	12.316	11.619	11.602	10.827	11.479	11.145		
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Cap		303	319	342	291	310	313	334	315	324		
Service Time		9.598	9.072		10.111	9.414	9.39	8.614	9.266	8.933		
HCM Lane V/C Ratio		0.175	0.705	0.763		0.903	0.875	0.907	0.679	0.864		
HCM Control Delay		17.1	37.2	40.9	18.8	64.8	61.3	63.6	35.8	56.5		
HCM Lane LOS		С	Е	Е	С	F	F	F	Е	F		
HCM 95th-tile Q		0.6	5	6.1	0.9	8.5	8.1	9	4.7	7.9		

Beechwood	SP		
7: Riverside	Ave &	13th	Stree

Existing PM Queues

	•	-	1	-	•	1	1	1	-	¥	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	16	431	255	412	537	6	39	281	313	316	91	
v/c Ratio	0.14	0.62	0.67	0.51	0.55	0.03	0.21	0.68	0.70	0.69	0.18	
Control Delay	50.5	37.2	43.2	23.3	4.5	42.3	43.8	14.7	39.4	39.0	2.4	
Queue Delay	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.5	37.2	43.3	23.7	4.7	42.3	43.8	14.7	39.4	39.0	2.4	
Queue Length 50th (ft)	8	106	121	138	0	3	19	0	149	150	0	
Queue Length 95th (ft)	36	207	266	342	70	17	60	81	328	329	13	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	118	1089	595	1080	1122	415	437	587	693	704	716	
Starvation Cap Reductn	0	0	9	270	132	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.40	0.44	0.51	0.54	0.01	0.09	0.48	0.45	0.45	0.13	
Intersection Summary												

Beechwood SP 7: Riverside Ave & 13th Street Existing PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b> 1>		ሻ	<b>^</b>	7	ሻ	<b>†</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	15	374	31	240	387	505	6	37	264	508	84	86
Future Volume (veh/h)	15	374	31	240	387	505	6	37	264	508	84	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	16	398	33	255	412	537	6	39	281	604	0	91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	33	804	66	297	731	604	348	366	310	745	0	330
Arrive On Green	0.02	0.24	0.24	0.17	0.39	0.39	0.19	0.19	0.19	0.21	0.00	0.21
Sat Flow, veh/h	1795	3347	276	1795	1885	1559	1795	1885	1598	3591	0.00	1590
Grp Volume(v), veh/h	16	212	219	255	412	537	6	39	281	604	0	91
Grp Sat Flow(s), veh/h/ln		1791	1833	1795	1885	1559	1795	1885	1598	1795	0	1590
Q Serve(q s), s	0.8	9.5	9.6	12.9	16.0	30.0	0.3	1.6	16.1	15.0	0.0	4.5
Cycle Q Clear(g c), s	0.8	9.5	9.6	12.9	16.0	30.0	0.3	1.6	16.1	15.0	0.0	4.5
Prop In Lane	1.00	9.5	0.15	1.00	10.0	1.00	1.00	1.0	1.00	1.00	0.0	1.00
	33	430	440	297	731	604	348	366	310	745	0	330
Lane Grp Cap(c), veh/h	0.49					0.89	0.02	0.11	0.91	0.81	0.00	0.28
V/C Ratio(X)		0.49	0.50	0.86	0.56							
Avail Cap(c_a), veh/h	102	470	481	510	923	763	356	374	317	1250	0	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		30.6	30.6	37.9	22.4	26.7	30.4	31.0	36.8	35.2	0.0	31.1
Incr Delay (d2), s/veh	10.9	0.9	0.9	7.2	0.7	10.6	0.0	0.1	27.9	2.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		4.2	4.3	6.2	7.0	12.4	0.1	0.7	8.5	6.6	0.0	1.7
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	56.3	31.4	31.5	45.0	23.1	37.3	30.4	31.1	64.6	37.4	0.0	31.5
LnGrp LOS	Е	С	С	D	С	D	С	С	Е	D	Α	С
Approach Vol, veh/h		447			1204			326			695	
Approach Delay, s/veh		32.3			34.1			60.0			36.7	
Approach LOS		С			С			Е			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s19.9	26.9		23.9	6.2	40.7		22.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		24.5		32.5	5.3	45.7		18.5				
Max Q Clear Time (q c+		11.6		17.0	2.8	32.0		18.1				
Green Ext Time (p_c), s	0.6	2.2		2.3	0.0	4.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			37.6									
HCM 6th LOS			D									

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Beechwood SP	
8: Paso Robles Stre	eet & 13th Stree

Existing PM Queues

	•	$\rightarrow$	1	-	•	1	Ť		-	¥	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	89	1129	20	912	242	263	30	438	8	26	
v/c Ratio	0.38	0.62	0.13	0.63	0.32	0.62	0.05	0.73	0.02	0.04	
Control Delay	41.3	16.4	44.5	21.8	6.5	31.3	21.2	23.6	21.3	0.1	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.3	16.7	44.5	21.8	6.5	31.3	21.2	23.6	21.3	0.1	
Queue Length 50th (ft)	38	150	9	173	13	103	10	112	3	0	
Queue Length 95th (ft)	107	381	38	326	72	221	33	268	14	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	351	2454	154	2213	1042	805	1088	993	803	1017	
Starvation Cap Reductn	0	570	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.60	0.13	0.41	0.23	0.33	0.03	0.44	0.01	0.03	
Intersection Summary											

Beechwood SP 8: Paso Robles Street & 13th Street Existing PM HCM 6th Signalized Intersection Summary

	ၨ	-	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> ↑		ሻ	<b>^</b>	7	ሻ	<b>*</b>	7	ሻ	1→	
Traffic Volume (veh/h)	83	1020	30	19	848	225	245	28	407	7	0	24
Future Volume (veh/h)	83	1020	30	19	848	225	245	28	407	7	0	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	89	1097	32	20	912	0	263	30	438	8	0	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	116	1536	45	42	1401		556	616	522	410	0	522
Arrive On Green	0.06	0.43	0.43	0.02	0.39	0.00	0.33	0.33	0.33	0.33	0.00	0.33
	1795	3551	104	1795	3582	1598	1396	1885	1598	932	0	1598
Grp Volume(v), veh/h	89	553	576	20	912	0	263	30	438	8	0	26
Grp Sat Flow(s), veh/h/ln		1791	1863	1795	1791	1598	1396	1885	1598	932	0	1598
Q Serve(q s), s	3.0	15.8	15.8	0.7	12.9	0.0	9.9	0.7	15.8	0.4	0.0	0.7
Cycle Q Clear(g c), s	3.0	15.8	15.8	0.7	12.9	0.0	10.6	0.7	15.8	1.0	0.0	0.7
Prop In Lane	1.00	10.0	0.06	1.00	12.0	1.00	1.00	0.1	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	116	775	806	42	1401	1.00	556	616	522	410	0	522
V/C Ratio(X)	0.77	0.71	0.71	0.47	0.65		0.47	0.05	0.84	0.02	0.00	0.05
Avail Cap(c a), veh/h	361	1399	1455	159	2394		943	1139	965	669	0.00	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		14.5	14.5	29.9	15.4	0.0	17.9	14.3	19.4	14.7	0.0	14.3
Incr Delay (d2), s/veh	10.0	1.2	1.2	8.0	0.5	0.0	0.6	0.0	3.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/l		5.8	6.0	0.4	4.8	0.0	2.9	0.3	5.7	0.1	0.0	0.0
Unsig. Movement Delay,		0.0	0.0	0.4	4.0	0.0	2.0	0.0	0.1	0.1	0.0	0.2
LnGrp Delay(d),s/veh	38.5	15.7	15.7	38.0	16.0	0.0	18.6	14.3	23.1	14.7	0.0	14.4
LnGrp LOS	D	В	В	D	В	0.0	В	В	23.1 C	В	Α	В
Approach Vol, veh/h		1218			932	Α		731			34	
Approach Delay, s/veh		17.4			16.4	А		21.1			14.4	
		17.4 B			10.4 B			Z1.1			14.4 B	
Approach LOS		В			D			C			Б	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		31.4		24.8	8.5	28.8		24.8				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax		48.5		37.5	12.5	41.5		37.5				
Max Q Clear Time (g_c+l	l1)2 <i>≊</i> 7	17.8		3.0	5.0	14.9		17.8				
Green Ext Time (p_c), s	0.0	9.1		0.1	0.1	7.3		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			18.0									
HCM 6th LOS			В									

Notes
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP	
9: River Road & Creston F	≀oad

Existing PM Queues

	•	$\rightarrow$	1	-	1	1	-	-	. ↓	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	379	1110	63	657	240	214	67	60	517	
v/c Ratio	0.63	0.73	0.37	0.57	0.53	0.26	0.14	0.36	0.71	
Control Delay	42.2	24.1	51.3	27.4	45.0	33.7	0.6	52.0	24.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.2	24.1	51.3	27.4	45.0	33.7	0.6	52.0	24.7	
Queue Length 50th (ft)	104	259	34	153	66	55	0	33	71	
Queue Length 95th (ft)	191	414	93	262	134	106	0	90	154	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	887	2193	223	1784	598	1204	629	206	1093	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.43	0.51	0.28	0.37	0.40	0.18	0.11	0.29	0.47	
Intersection Summary										

Beechwood SP 9: River Road & Creston Road Existing PM HCM 6th Signalized Intersection Summary

	۶	-	•	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16.56	<b>↑</b> ↑		ሻ	<b>†</b> 1>		ሻሻ	<b>^</b>	7	ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	360	744	311	60	556	68	228	203	64	57	204	287
Future Volume (veh/h)	360	744	311	60	556	68	228	203	64	57	204	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	379	783	0	63	585	72	240	214	67	60	215	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	559	1378		102	900	111	381	608	271	99	413	
Arrive On Green	0.16	0.38	0.00	0.06	0.28	0.28	0.11	0.17	0.17	0.05	0.12	0.00
Sat Flow, veh/h	3483	3676	0.00	1795	3205	394	3483	3582	1598	1795	3676	0.00
Grp Volume(v), veh/h	379	783	0	63	326	331	240	214	67	60	215	0
Grp Sat Flow(s), veh/h/ln		1791	0	1795	1791	1808	1742	1791	1598	1795	1791	0
Q Serve(q s), s	5.5	9.3	0.0	1.8	8.6	8.7	3.6	2.8	2.0	1.8	3.0	0.0
Cycle Q Clear(g c), s	5.5	9.3	0.0	1.8	8.6	8.7	3.6	2.8	2.0	1.8	3.0	0.0
Prop In Lane	1.00	9.0	0.00	1.00	0.0	0.22	1.00	2.0	1.00	1.00	3.0	0.00
Lane Grp Cap(c), veh/h	559	1378	0.00	102	503	508	381	600	271	99	413	0.00
V/C Ratio(X)	0.68	0.57		0.62	0.65	0.65	0.63	608 0.35	0.25	0.61	0.52	
Avail Cap(c a), veh/h	1389	3555		350	1412	1425	937	1880	839	323	1562	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
												0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh		13.1	0.0	24.9	17.0	17.1	23.0	19.8	19.4	24.9	22.4	0.0
Incr Delay (d2), s/veh	1.5	0.4	0.0	6.0	1.4	1.4	1.7	0.3	0.5	5.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		3.2	0.0	0.9	3.3	3.3	1.4	1.1	0.7	8.0	1.2	0.0
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	22.8	13.4	0.0	30.9	18.5	18.5	24.7	20.1	19.9	30.8	23.5	0.0
LnGrp LOS	С	В		С	В	В	С	С	В	С	С	
Approach Vol, veh/h		1162	Α		720			521			275	Α
Approach Delay, s/veh		16.5			19.5			22.2			25.1	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s 7.6	25.2	10.4	10.7	13.1	19.6	7.5	13.6				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		53.5	14.5	23.5	21.5	42.5	9.7	28.3				
Max Q Clear Time (g c+		11.3	5.6	5.0	7.5	10.7	3.8	4.8				
Green Ext Time (p c), s	0.1	6.6	0.5	1.1	1.2	4.3	0.0	1.4				
Intersection Summary												
			10.0									
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			В									
Mataa												

Notes
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

	*	-	-	*	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>†</b> 1>		ሻሻ	7			
Traffic Volume (vph)	56	359	405	356	452	71			
Future Volume (vph)	56	359	405	356	452	71			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.5	4.5	4.5	1000	4.5	4.5			
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00			
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
Frt	1.00	1.00	0.93		1.00	0.85			
Flt Protected	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1787	3574	3300		3467	1599			
Flt Permitted	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1787	3574	3300		3467	1599			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97			
Adj. Flow (vph)	58	370	418	367	466	73			
RTOR Reduction (vph)	0	370	130	367	400	73 54			
Lane Group Flow (vph)	58	370	655	0	466	19			
	50	3/0	000	4	400	19			
Confl. Peds. (#/hr)	4.0/	4.0/	1%	1%	1%	1%			
Heavy Vehicles (%)	1%	1%		170					
Turn Type	Prot	NA	NA		Perm	Perm			
Protected Phases	5	2	6						
Permitted Phases					4	4			
Actuated Green, G (s)	4.4	30.4	21.5		16.0	16.0			
Effective Green, g (s)	4.4	30.4	21.5		16.0	16.0			
Actuated g/C Ratio	0.07	0.49	0.34		0.26	0.26			
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	125	1735	1133		886	408			
v/s Ratio Prot	c0.03	0.10	c0.20						
v/s Ratio Perm					c0.13	0.01			
v/c Ratio	0.46	0.21	0.58		0.53	0.05			
Uniform Delay, d1	28.0	9.2	16.8		20.0	17.5			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.7	0.1	0.7		0.6	0.0			
Delay (s)	30.7	9.3	17.6		20.6	17.6			
Level of Service	С	Α	В		С	В			
Approach Delay (s)		12.2	17.6		20.2				
Approach LOS		В	В		С				
Intersection Summary									
HCM 2000 Control Dela	ıy		17.1	H	ICM 20	00 Leve	of Service	В	
HCM 2000 Volume to C	apacity	ratio	0.51						
Actuated Cycle Length	(s)		62.6	5	Sum of l	ost time	(s)	18.0	
Intersection Capacity U	tilization		51.1%	I	CU Leve	el of Ser	vice	Α	
Analysis Period (min)			15						
c Critical Lane Group									

	==:		14/57	0.01		
Lane Group	EBL	EBT	WBT	SBL	SBR	
Lane Group Flow (vph)	58	370	785	466	73	
v/c Ratio	0.21	0.22	0.59	0.49	0.15	
Control Delay	35.3	10.7	15.9	24.8	9.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.3	10.7	15.9	24.8	9.0	
Queue Length 50th (ft)	16	24	74	63	0	
Queue Length 95th (ft)	86	124	274	222	39	
Internal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	381	3117	2521	1906	912	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.12	0.31	0.24	0.08	
Intersection Summary						

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Que	eues	

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	164	311	245	101	520	157	314	186	530	
v/c Ratio	0.58	0.60	0.40	0.47	0.64	0.57	0.43	0.60	0.66	
Control Delay	40.6	31.6	6.0	41.6	21.1	40.3	27.4	39.4	28.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.6	31.6	6.0	41.6	21.1	40.3	27.4	39.4	28.6	
Queue Length 50th (ft)	72	133	0	45	71	69	64	82	107	
Queue Length 95th (ft)	152	244	55	105	137	146	114	166	177	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	369	642	697	267	1081	369	1054	419	1155	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.44	0.48	0.35	0.38	0.48	0.43	0.30	0.44	0.46	
Intersection Summary										

Beechwood SP 11: Creston Road & Niblick Road/Sherwood Road Existing PM HCM 6th Signalized Intersection Summary

	ၨ	<b>→</b>	•	•	<b>←</b>	•	4	†	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	ሻ	<b>↑</b> ↑		7	<b>↑</b> ↑		ሻ	<b>↑</b> Ъ	
Traffic Volume (veh/h)	157	299	235	97	283	216	151	265	36	179	375	133
Future Volume (veh/h)	157	299	235	97	283	216	151	265	36	179	375	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	(
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	311	245	101	295	225	157	276	38	186	391	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	506	422	131	435	321	203	662	90	238	595	209
Arrive On Green	0.12	0.27	0.27	0.07	0.23	0.23	0.11	0.21	0.21	0.13	0.23	0.23
Sat Flow, veh/h	1781	1870	1559	1781	1927	1423	1781	3131	426	1781	2575	904
Grp Volume(v), veh/h	164	311	245	101	271	249	157	155	159	186	268	262
Grp Sat Flow(s),veh/h/ln		1870	1559	1781	1777	1574	1781	1777	1780	1781	1777	1702
Q Serve(g_s), s	5.2	8.4	7.9	3.2	8.1	8.4	5.0	4.4	4.5	5.9	7.9	8.1
Cycle Q Clear(g_c), s	5.2	8.4	7.9	3.2	8.1	8.4	5.0	4.4	4.5	5.9	7.9	8.
Prop In Lane	1.00	=00	1.00	1.00		0.90	1.00		0.24	1.00		0.53
Lane Grp Cap(c), veh/h	211	506	422	131	401	355	203	376	376	238	411	393
V/C Ratio(X)	0.78	0.61	0.58	0.77	0.68	0.70	0.77	0.41	0.42	0.78	0.65	0.67
Avail Cap(c_a), veh/h	446	775	646	323	613	543	446	644	645	507	705	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I) Uniform Delay (d), s/veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incr Delay (d2), s/veh	6.0	1.2	1.3	9.1	2.0	2.5	6.1	0.7	0.8	5.5	1.8	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1.9
%ile BackOfQ(50%),veh		3.3	2.6	1.6	3.1	2.9	2.3	1.7	1.7	2.6	3.1	3.1
Unsig. Movement Delay,		3.3	2.0	1.0	3.1	2.9	2.3	1.7	1.7	2.0	3.1	٥.
LnGrp Delay(d),s/veh	30.8	19.7	19.6	35.5	22.5	23.2	31.1	20.5	20.5	29.8	21.9	22.2
LnGrp LOS	30.6 C	19.7 B	19.0 B	33.5 D	22.5 C	23.2 C	31.1 C	20.5 C	20.5 C	29.6 C	Z 1.9	22
Approach Vol. veh/h		720		<u> </u>	621			471			716	
Approach Vol, ven/n Approach Delay, s/veh		22.2			24.9			24.0			24.1	
Approach LOS		22.2 C			24.9 C			24.0 C			24.1 C	
• •											U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		16.8	8.8	20.2	11.1	17.9	11.4	17.6				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		21.0	10.5	24.0	14.5	23.0	14.5	20.0				
Max Q Clear Time (g_c+ Green Ext Time (p_c), s	0.3	6.5 1.4	5.2 0.1	10.4	7.0 0.2	10.1 2.6	7.2 0.2	10.4 2.1				
Intersection Summary												
HCM 6th Ctrl Delay			23.7									
HCM 6th LOS			С									

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configuration	ıs	4			4		7	î,		7	•	7
Traffic Vol, veh/h	100	4	7	4	1	38	16	228	10	48	271	126
Future Vol, veh/h	100	4	7	4	1	38	16	228	10	48	271	126
Conflicting Peds, #	/hr 4	0	0	0	0	4	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Stor	age,	# 0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	101	4	7	4	1	38	16	230	10	48	274	127
Major/Minor M	inor2		N	linor1		N	lajor1		M	ajor2		
Conflicting Flow All		647	279	706	769	239	406	0	0	240	0	0
Stage 1	375	375	-	267	267	200		_	_	2-10	-	-
Stage 2	291	272	-	439	502			-	-		-	
Critical Hdwy	7.11	6.51		7.11	6.51	6.21	4.11	-	-	4.11		-
Critical Hdwy Stg 1		5.51		6.11	5.51	0.21						
Critical Hdwy Stg 2				6.11	5.51	_	_	_		_	_	_
Follow-up Hdwy 3						3.309	2.209	-	- 3	2.209	-	-
Pot Cap-1 Maneuv		391	762	352	333		1158	-		1333	-	-
Stage 1	648	619		741	690	-	-	-	-	-	-	-
Stage 2	719	686	_	599	544	-	-	_	_	_	-	_
Platoon blocked. %		000		000	0.1			-			-	-
Mov Cap-1 Maneuv		370	758	333	315	799	1152	_	-	1333	-	-
Mov Cap-2 Maneuv		370	-	333	315	-	-	-	-	-	-	-
Stage 1	636	594	-	731	680	-	-	-	-	_	-	-
Stage 2	671	676	-	568	522	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay				10.6			0.5			0.8		
HCM LOS	C.			В			0.0			0.0		
Minor Lane/Major N	<b>N</b> vmt	NBI	NBT	NBR	BLnW	BLn1	SBI	SBT	SBR			
Capacity (veh/h)		1152	-		352		1333	-				
HCM Lane V/C Rat	tio (	0.014	-	- (	0.319			-				
HCM Control Delay		8.2	_	-	19.9	10.6	7.8	_				
HCM Lane LOS	(0)	Α			C	В	Α.	_				
HCM 95th %tile Q(	veh)	0			1.3	0.2	0.1					
	. 511/	- 3			1.5	0.2	0.1					

Intersection												
Intersection Delay, s/veh	9.8											
Intersection LOS	Α											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ર્ન	7		नी
Traffic Vol, veh/h	8	2	3	77	3	58	0	7	190	123	103	165
Future Vol, veh/h	8	2	3	77	3	58	0	7	190	123	103	165
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	9	2	3	83	3	62	0	8	204	132	111	177
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Righ	nt NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	8.8			9.7				9.6			10.1	
HCM LOS	Α			Α				Α			В	
Lane		NBLn1	NBLn2		NBLn1	SBLn1	SBLn2					
Vol Left, %		4%	0%	62%	56%	56%	0%					
Vol Thru, %		96%	0%	15%	2%	44%	87%					
Vol Right, %		0%	100%	23%	42%	0%	13%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		197	123	13	138	186	95					
LT Vol		7	0	8	77	103	0					
Through Vol		190	0	2	3	83	83					
RT Vol		0	123	3	58	0	12					
Lane Flow Rate		212	132	14	148	199	102					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.31	0.167	0.022	0.215	0.307	0.146					
Departure Headway (Hd)		5.272	4.549	5.593	5.227	5.549	5.18					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Сар		678	783	633	683	644	688					
Service Time		3.033	2.309	3.686	3.292	3.313	2.944					
HCM Lane V/C Ratio		0.313	0.169	0.022	0.217	0.309	0.148					
HCM Control Delay		10.4	8.2	8.8	9.7	10.8	8.8					
HCM Lane LOS		В	Α	Α	Α	В	Α					
HCM 95th-tile Q		1.3	0.6	0.1	8.0	1.3	0.5					

Intersection			
Intersection Delay, s/v	eh		
Intersection LOS			
Movement	SBR		
Lant Configurations			
Traffic Vol, veh/h	12		
Future Vol, veh/h	12		
Peak Hour Factor	0.93		
Heavy Vehicles, %	1		
Mvmt Flow	13		
Number of Lanes	0		
Approach			
Opposing Approach			
Opposing Lanes			
Conflicting Approach L			
Conflicting Lanes Left			
Conflicting Approach F			
Conflicting Lanes Righ	nt		
HCM Control Delay			
HCM LOS			

Intersection					
Int Delay, s/veh 5.4	1				
Movement EBI	EBR	NBL	NBT	SBT	SBR
Lane Configurations			**	<u> </u>	7
Traffic Vol. veh/h 179		66	<b>TT</b>	110	123
Future Vol. veh/h 179		66	144	110	123
Conflicting Peds, #/hr		00	0	0	123
	Stop		_		
	- None		None		None
			None -	-	0
Veh in Median Storage			0	0	-
	) -		0	0	-
Peak Hour Factor 97		97	97	97	97
,,	1 1	1	1	1	1
Mvmt Flow 18	5 124	68	148	113	127
Major/Minor Minor		1ajor1		lajor2	
Conflicting Flow All 323	3 113	240	0	-	0
Stage 1 113	3 -	-	-	-	-
Stage 2 210	) -	-	-	-	-
Critical Hdwy 6.615	56.215	4.115	-	-	-
Critical Hdwy Stg 15.41	5 -	-	-	-	-
Critical Hdwy Stg 25.81		_	-	-	-
Follow-up Hdwy 3.509					
Pot Cap-1 Maneuve66		1332			_
Stage 1 914				- 0	- 3
		_	-	-	-
	-	-	-	-	-
Platoon blocked, %	7 040	1000	-	-	-
Mov Cap-1 Maneuve2		1332	-	-	-
Mov Cap-2 Maneuve2		-	-	-	-
Stage 1 86	7 -	-	-	-	-
Stage 2 808	3 -	-	-	-	-
The second second					
		NID		0.0	
Approach EB		NB		SB	
HCM Control Delay,14.6	3	2.5		0	
HCM LOS E	3				
NA: I /NA-: NA	4 NID!	NID	DI	DI C	ODT
Minor Lane/Major Mvm					
Capacity (veh/h)	1332		U	942	-
HCM Lane V/C Ratio	0.051		0.294(	0.131	-
HCM Control Delay (s)	7.8	-	13.1	9.4	-
HCM Lane LOS	Α	-	В	Α	-
HCM 95th %tile Q(veh)	0.2	_	1.2	0.5	-

Beechwood SP

15: US 101 SB Ramp & Pine Street & Riverside Avenbe M Unsignalized Intersection Capacity Analysis

	•	-	•	•	<b>←</b>	*	$ \blacktriangleleft $	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					f <sub>è</sub>	
Traffic Volume (veh/h)	27	0	67	0	112	14	0	0	0	0	283	34
Future Volume (Veh/h)	27	0	67	0	112	14	0	0	0	0	283	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	32	0	80	0	133	17	0	0	0	0	337	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	432	357	357	437	377	0	377			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	432	357	357	437	377	0	377			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	88	100	76	98	100			100		
cM capacity (veh/h)	430	571	689	470	556	1088	1187			1630		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	112	150	377									
Volume Left	32	0	0									
Volume Right	80	17	40									
cSH	588	627	1700									
Volume to Capacity	0.19	0.24	0.22									
Queue Length 95th (ft)	17	23	0									
Control Delay (s)	12.6	12.9	0.0									
Lane LOS	В	В										
Approach Delay (s)	12.6	12.9	0.0									
Approach LOS	В	В										
Intersection Summary												
Average Delay			5.2									
Intersection Capacity Ut	ilization		35.9%	16	CU Lev	el of Ser	vice		Α			
Analysis Period (min)			15									

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

Beechwood SP 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road Existing PM Queues

Synchro 10 Report Page 39

	۶	-	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	47	362	582	171	396	96	354	929	518	300	
v/c Ratio	0.17	0.66	0.57	0.31	0.39	0.52	0.65	0.69	0.70	0.32	
Control Delay	49.1	50.4	38.2	35.7	2.6	64.6	54.0	13.7	49.1	34.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.1	50.4	38.2	35.7	2.6	64.6	54.0	13.7	49.1	34.2	
Queue Length 50th (ft)	31	123	184	96	0	68	131	123	184	87	
Queue Length 95th (ft)	78	211	307	195	46	148	219	213	291	150	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	399	787	1321	717	1138	265	923	1585	1121	1515	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.46	0.44	0.24	0.35	0.36	0.38	0.59	0.46	0.20	
Intersection Summary											

Movement   EBL   EBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL   SBT   SBR   Lane Configurations   1	10. 00 101 1 tamport												
Lane Configurations		•	-	*	1	•	•	1	1	1	-	ţ	4
Traffic Volume (veh/h)	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (veh/h)	Lane Configurations	7	<b>∳</b> Љ		75	<b>*</b>	7	*	44	77	16.54	<b>↑</b> 1>	
Initial Q (Qb), veh	Traffic Volume (veh/h)	46		93			384	93					55
Ped-Bike Adj(A_pbT)	Future Volume (veh/h)	46	258	93	565	166	384	93	343	901	502	236	55
Parking Bus, Adj	Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Work Zöne On Ápproach   No	Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Adj Sat Flow, veh/h/In         1885         188			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Flow Rate, veh/h         47         266         96         582         171         396         96         354         929         518         243         57           Peak Hour Factor         0.97         0.98         4         1         1         1         1<		1				No			No			No	
Pefak   Hour Factor   0.97   0.95	Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Percent Heavy Veh, %													
Cap, veh/h	Peak Hour Factor	0.97			0.97		0.97	0.97	0.97	0.97		0.97	0.97
Arrive On Green 0.14 0.14 0.14 0.25 0.25 0.25 0.07 0.25 0.25 0.18 0.35 0.35 Sat Flow, veh/h 1795 2587 909 3483 1885 1572 1795 3582 2812 3483 2891 666 Grp Volume(v), veh/h 47 182 180 582 171 396 96 354 929 518 149 151 Grp Sat Flow(s), veh/h 1795 1791 1705 1742 1885 1572 1795 1791 1406 1742 1791 1765 Q Serve(g_s), s 2.6 10.9 11.4 16.8 8.3 21.5 5.9 9.1 27.4 16.0 6.5 6.8 Cycle Q Clear(g_c), s 2.6 10.9 11.4 16.8 8.3 21.5 5.9 9.1 27.4 16.0 6.5 6.8 Cycle Q Clear(g_c), s 2.6 10.9 11.4 16.8 8.3 21.5 5.9 9.1 27.4 16.0 6.5 6.8 Cycle Q Clear(g_c), s 2.6 10.9 11.4 16.8 8.3 21.5 5.9 9.1 27.4 16.0 6.5 6.8 Cycle Q Clear(g_c), s 2.6 10.9 11.4 16.8 8.3 21.5 5.9 9.1 27.4 16.0 6.5 6.8 Cycle Q Clear(g_c), s 2.6 10.9 11.4 16.8 8.3 21.5 5.9 9.1 27.4 16.0 6.5 6.8 Cycle Q Clear(g_c), veh/h 244 243 232 872 472 677 122 905 1414 618 631 622 V/C Ratio(X) 0.19 0.75 0.78 0.67 0.36 0.58 0.79 0.39 0.66 0.84 0.24 0.24 Avail Cap(c_a), veh/h 392 391 373 1298 703 869 261 905 1414 1101 759 748 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Percent Heavy Veh, %	1		1					1	1	1	1	1
Sat Flow, veh/h													
Grp Volume(v), veh/h	Arrive On Green	0.14	0.14	0.14							0.18		0.35
Grp Sat Flow(s),veh/h/ln 1795         1791         1705         1742         1885         1572         1795         1791         1406         1742         1791         1765           Q Serve(g, s), s         2.6         10.9         11.4         16.8         8.3         21.5         5.9         9.1         27.4         16.0         6.5         6.8           Cycle Q Clear(g_c), s         2.6         10.9         11.4         16.8         8.3         21.5         5.9         9.1         27.4         16.0         6.5         6.8           Prop In Lane         1.00         0.53         1.00         1.00         1.00         1.00         1.00         0.03           Lane Grp Cap(c), veh/h         244         243         232         872         472         677         122         905         1414         618         631         622           V/C Ratio(X)         0.19         0.75         0.78         0.67         0.36         0.58         0.79         0.39         0.66         0.84         0.24         0.24           V/C Ratio(X)         0.19         0.75         0.78         0.67         0.36         0.58         0.79         0.39         0.66         0.84	Sat Flow, veh/h	1795	2587	909	3483	1885	1572	1795	3582	2812	3483	2891	665
Q Serve(g_s), s			182	180	582				354	929	518		151
Cycle Q Clear(g_c), s         2.6         10.9         11.4         16.8         8.3         21.5         5.9         9.1         27.4         16.0         6.5         6.8           Prop In Lane         1.00         0.53         1.00         1.00         1.00         1.00         1.00         0.30           Lane Grp Cap(c), veh/h         244         243         232         872         472         677         122         905         1414         618         631         622           V/C Ratio(X)         0.19         0.75         0.78         0.67         0.36         0.58         0.79         0.39         0.66         0.84         0.24         0.24           Avail Cap(c_a), veh/h         392         391         373         1298         703         869         261         905         1414         1101         759         748           HCM Platoon Ratio         1.00         1.0	Grp Sat Flow(s),veh/h/ln	1795	1791	1705	1742	1885	1572	1795	1791	1406	1742	1791	1765
Prop In Lane													
Lane Grp Cap(c), veh/h 244 243 232 872 472 677 122 905 1414 618 631 622 V/C Ratio(X) 0.19 0.75 0.78 0.67 0.36 0.58 0.79 0.39 0.66 0.84 0.24 0.24 Avail Cap(c_a), veh/h 392 391 373 1298 703 869 261 905 1414 1101 759 748 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0			10.9			8.3			9.1		16.0	6.5	
V/C Ratio(X)													
Avail Cap(c_a), veh/h 392 391 373 1298 703 869 261 905 1414 1101 759 748 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0													
HCM Platoon Ratio	( )												
Upstream Filter(I)	1 \ = /												-
Uniform Delay (d), s/veh 42.8													
Incr Delay (d2), s/veh													
Initial Q Delay(d3),s/veh													
Wile BackOfQ(50%),veh/ln 1.2       5.2       5.2       7.1       3.8       7.8       2.9       3.9       13.0       7.2       2.8       2.9         Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh       43.2       50.9       52.1       38.6       35.0       25.2       61.8       34.9       21.7       47.5       25.7       25.8         LnGrp Delay(d),s/veh       43.2       50.9       52.1       38.6       35.0       25.2       61.8       34.9       21.7       47.5       25.7       25.8         LnGrp LOS       D       D       D       C       C       E       C       C       D       C       C         Approach Vol, veh/h       40.9       114.9       137.9       818       818       Approach LOS       D       C       C       C       D       D       D       C       C       C       D       D       D       D       C       C       D <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>													
Unsig. Movement Delay, s/veh LnGrp Delay(d), s/veh 43.2 50.9 52.1 38.6 35.0 25.2 61.8 34.9 21.7 47.5 25.7 25.8 LnGrp LOS D D D D C C E C C D C C Approach Vol, veh/h 40.9 114.9 137.9 818 Approach Delay, s/veh 50.6 33.4 27.9 39.5 Approach LOS D C C C D D D D D D D D D D D D D D D													
LnGrp Delay(d),s/veh         43.2         50.9         52.1         38.6         35.0         25.2         61.8         34.9         21.7         47.5         25.7         25.8           LnGrp LOS         D         D         D         D         C         C         E         C         C         D         C         C           Approach Vol, veh/h         409         1149         1379         818         39.5           Approach Delay, s/veh         50.6         33.4         27.9         39.5         39.5           Approach LOS         D         C         C         C         D         D           Timer - Assigned Phs         1         2         4         5         6         8         8           Phs Duration (G+Y+Rc), s²4.7         5.8         4.6         5.8         *5.8         5.4           Max Green Setting (Gmax), 35         28.2         24.4         16.2         *4         16.2         *4         16.2         *4         16.2         *4         14.6         Max Green Setting (Green Ext Time (p_c), s 1.8         0.0         1.8         0.1         1.9         4.4         Intersection Summary         HCM 6th Ctrl Delay         34.6         34.6			5.2	5.2	7.1	3.8	7.8	2.9	3.9	13.0	7.2	2.8	2.9
LnGrp LOS         D         D         D         D         C         C         E         C         C         D         C         C           Approach Vol, veh/h         409         1149         1379         818           Approach Delay, s/veh         50.6         33.4         27.9         39.5           Approach LOS         D         C         C         D           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s24.5         34.0         19.8         13.4         45.1         33.3           Change Period (Y+Rc), s * 4.7         5.8         4.6         5.8         * 5.8         5.4           Max Green Setting (Gmax), 35         28.2         24.4         16.2         * 47         41.6           Max Q Clear Time (g_c+I1)(8:0)         29.4         13.4         7.9         8.8         23.5           Green Ext Time (p_c), s 1.8         0.0         1.8         0.1         1.9         4.4           Intersection Summary           HCM 6th Ctrl Delay         34.6			=	=0.4									
Approach Vol, veh/h 409 1149 1379 818 Approach Delay, s/veh 50.6 33.4 27.9 39.5 Approach LOS D C C D  Timer - Assigned Phs 1 2 4 5 6 8  Phs Duration (G+Y+Rc), s24.5 34.0 19.8 13.4 45.1 33.3 Change Period (Y+Rc), s * 4.7 5.8 4.6 5.8 * 5.8 5.4  Max Green Setting (Gmax), 35 28.2 24.4 16.2 * 47 41.6  Max Q Clear Time (g_c+I1)(83) 29.4 13.4 7.9 8.8 23.5 Green Ext Time (p_c), s 1.8 0.0 1.8 0.1 1.9 4.4  Intersection Summary  HCM 6th Ctrl Delay 34.6	1 3 ( ).												
Approach Delay, s/veh         50.6         33.4         27.9         39.5           Approach LOS         D         C         C         D           Timer - Assigned Phs 1         2         4         5         6         8           Phs Duration (G+Y+Rc), \$\gamma^2 4.5         34.0         19.8         13.4         45.1         33.3           Change Period (Y+Rc), \$\s^2 4.7         5.8         4.6         5.8         *5.8         5.4           Max Green Setting (Gmax), \$\s^2 52         22.4         16.2         *47         41.6           Max Q Clear Time (g_ c+I10)80         29.4         13.4         7.9         8.8         23.5           Green Ext Time (p_c), \$\s^2 1.8         0.0         1.8         0.1         1.9         4.4           Intersection Summary           HCM 6th Ctrl Delay         34.6		ט		ט	ט		C	E		С	D		C
Approach LOS D C C D  Timer - Assigned Phs 1 2 4 5 6 8  Phs Duration (G+Y+Rc), \$\(\alpha\)2.5 34.0 19.8 13.4 45.1 33.3  Change Period (Y+Rc), \$\(^{\alpha}\)2.4 5 8 4.6 5.8 *5.8 5.4  Max Green Setting (Gmax), 35 28.2 24.4 16.2 *47 41.6  Max Q Clear Time (g_c+I1)(8.0 29.4 13.4 7.9 8.8 23.5  Green Ext Time (p_c), \$ 1.8 0.0 1.8 0.1 1.9 4.4  Intersection Summary  HCM 6th Ctrl Delay 34.6													
Timer - Assigned Phs 1 2 4 5 6 8 Phs Duration (G+Y+Rc), \$\(\frac{9}{2}\)4.5 34.0 19.8 13.4 45.1 33.3 Change Period (Y+Rc), \$\(\frac{4}{2}\)4.7 5.8 4.6 5.8 *5.8 5.4 Max Green Setting (Gmax), \$\(\frac{3}{2}\)5 28.2 24.4 16.2 *47 41.6 Max Q Clear Time (g_c+In)(8.0) 29.4 13.4 7.9 8.8 23.5 Green Ext Time (p_c), \$ 1.8 0.0 1.8 0.1 1.9 4.4  Intersection Summary HCM 6th Ctrl Delay 34.6													
Phs Duration (G+Y+Rc), \$24.5 34.0 19.8 13.4 45.1 33.3 Change Period (Y+Rc), \$ *4.7 5.8 4.6 5.8 *5.8 5.4 Max Green Setting (Gmax), 35 28.2 24.4 16.2 *47 41.6 Max Q Clear Time (g_c+I1)840 29.4 13.4 7.9 8.8 23.5 Green Ext Time (p_c), \$ 1.8 0.0 1.8 0.1 1.9 4.4 Intersection Summary HCM 6th Ctrl Delay 34.6	Approach LOS		D			С			С			D	
Change Period (Y+Rc), s * 4.7 5.8 4.6 5.8 * 5.8 5.4  Max Green Setting (Gmax), 35 28.2 24.4 16.2 * 47 41.6  Max Q Clear Time (g_c+11)(8.0 29.4 13.4 7.9 8.8 23.5  Green Ext Time (p_c), s 1.8 0.0 1.8 0.1 1.9 4.4  Intersection Summary  HCM 6th Ctrl Delay 34.6	Timer - Assigned Phs	1											
Max Green Setting (Gmax), 35       28.2       24.4       16.2       * 47       41.6         Max Q Clear Time (g_c+l11)8:0       29.4       13.4       7.9       8.8       23.5         Green Ext Time (p_c), s 1.8       0.0       1.8       0.1       1.9       4.4         Intersection Summary         HCM 6th Ctrl Delay       34.6	Phs Duration (G+Y+Rc),	s24.5	34.0		19.8	13.4	45.1		33.3				
Max Q Clear Time (g_c+l1f)84)       29.4       13.4       7.9       8.8       23.5         Green Ext Time (p_c), s       1.8       0.0       1.8       0.1       1.9       4.4         Intersection Summary         HCM 6th Ctrl Delay       34.6	Change Period (Y+Rc),	s * 4.7	5.8		4.6	5.8	* 5.8		5.4				
Green Ext Time (p_c), s 1.8 0.0 1.8 0.1 1.9 4.4  Intersection Summary  HCM 6th Ctrl Delay 34.6	Max Green Setting (Gma	ax), <b>3</b> 5											
Intersection Summary HCM 6th Ctrl Delay 34.6	Max Q Clear Time (g_c+	·111)8s0	29.4			7.9	8.8						
HCM 6th Ctrl Delay 34.6	Green Ext Time (p_c), s	1.8	0.0		1.8	0.1	1.9		4.4				
	Intersection Summary												
	HCM 6th Ctrl Delay			34.6									
HCM 6th LOS	HCM 6th LOS			С									

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	252	774	485	101	720	342	294	145	487	
v/c Ratio	0.55	0.61	0.55	0.49	0.68	0.62	0.38	0.57	0.68	
Control Delay	45.7	29.5	5.2	51.8	31.8	44.2	32.3	49.9	38.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.7	29.5	5.2	51.8	31.8	44.2	32.3	49.9	38.4	
Queue Length 50th (ft)	72	202	0	56	185	97	72	80	130	
Queue Length 95th (ft)	139	332	76	132	304	177	136	172	222	
Internal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	608	1639	996	293	1566	765	1096	394	1091	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.47	0.49	0.34	0.46	0.45	0.27	0.37	0.45	
Intersection Summary										

	۶	<b>→</b>	*	•	+	*	1	†	~	/	ļ.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	<b>^</b>	7		ħβ		1,4	<b>↑</b> ↑		ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	242	743	466	97	578	113	328	228	54	139	346	122
Future Volume (veh/h)	242	743	466	97	578	113	328	228	54	139	346	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	252	774	485	101	602	118	342	238	56	145	360	127
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	369	1167	521	132	877	171	474	673	155	188	525	182
Arrive On Green	0.11	0.33	0.33	0.07	0.29	0.29	0.14	0.23	0.23	0.10	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	2986	584	3483	2889	667	1795	2604	905
Grp Volume(v), veh/h	252	774	485	101	361	359	342	146	148	145	246	241
Grp Sat Flow(s),veh/h/ln		1791	1598	1795	1791	1779	1742	1791	1765	1795	1791	1718
Q Serve(g_s), s	4.8	12.7	12.1	3.8	12.2	12.3	6.4	4.7	4.8	5.4	8.7	8.9
Cycle Q Clear(g_c), s	4.8	12.7	12.1	3.8	12.2	12.3	6.4	4.7	4.8	5.4	8.7	8.9
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.38	1.00		0.53
Lane Grp Cap(c), veh/h	369	1167	521	132	526	522	474	417	411	188	361	346
V/C Ratio(X)	0.68	0.66	0.93	0.76	0.69	0.69	0.72	0.35	0.36	0.77	0.68	0.70
Avail Cap(c_a), veh/h	788	2118	945	380	1033	1026	992	719	709	511	719	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		19.8	8.1	31.1	21.4	21.4	28.3	21.9	22.0	29.9	25.3	25.4
Incr Delay (d2), s/veh	2.2	0.7	8.7	8.8	1.6	1.6	2.1	0.5	0.5	6.6	2.3	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		4.8	4.3	1.9	4.8	4.8	2.6	1.8	1.9	2.5	3.6	3.6
Unsig. Movement Delay,		00.5	40.0	20.0	00.0	00.0	20.4	00.4	22.5	20.4	07.0	27.9
LnGrp Delay(d),s/veh	31.8	20.5	16.8	39.9	23.0 C	23.0	30.4	22.4 C		36.4	27.6 C	
LnGrp LOS	С	С	В	D		С	С	_	С	D	_	<u>C</u>
Approach Vol, veh/h		1511			821			636			632	
Approach Delay, s/veh		21.2			25.1			26.8			29.7	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s 9.5	26.8	13.8	18.3	11.7	24.6	11.7	20.5				
Change Period (Y+Rc), s	s 4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma	ax),4s5	40.5	19.5	27.5	15.5	39.5	19.5	27.5				
Max Q Clear Time (g_c+	l1)5£8	14.7	8.4	10.9	6.8	14.3	7.4	6.8				
Green Ext Time (p_c), s	0.1	7.6	0.9	2.5	0.5	4.4	0.3	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			24.6									
HCM 6th LOS			С									

Intersection						
Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configuration				4	1>	
Traffic Vol, veh/h	44	2	4	343	601	83
Future Vol. veh/h	44	2	4	343	601	83
Conflicting Peds, #		0	1	0	001	
Sign Control			Free			
RT Channelized		None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Sto	rageQ:	# -	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	46	2	4	357	626	86
WWIIIL FIOW	40		4	331	020	00
Major/Minor M	linor2	M	lajor1	M	lajor2	
Conflicting Flow Al	11035	670	713	0	-	0
Stage 1	670	_	-	_	_	-
Stage 2	365	-	-	-		-
Critical Hdwy		6.22				
Critical Hdwy Stg 1		0.22	4.12	- :		
			-		_	
Critical Hdwy Stg 2		-				
Follow-up Hdwy				-	-	-
Pot Cap-1 Maneuv		457	887	-	-	-
Stage 1	509	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %	6			-	-	-
Mov Cap-1 Maneu		457	886	-	_	-
Mov Cap-2 Maneu		-	-			-
Stage 1	505					
	701					
Stage 2	701	-	-	-		-
Approach	EB		NB		SB	
HCM Control Dela			0.1		0	
	y 2 3 . 9 C		0.1		U	
HCM LOS	C					
Minor Lane/Major	Mvmt	NBL	NRT	Bl n1	SBT	SBR
Capacity (veh/h)		886		260	-	
HCM Lane V/C Ra	tio .	0.005		0.184		
HCM Control Dela	y (s)	9.1		21.9	-	
HCM Lane LOS		Α	Α	С	-	
HCM 95th %tile Q(	(veh)	0	-	0.7	-	-

Intersection   Int Delay, s/veh
Movement
Movement   EBL   EBR   NBL   NBT   SBR   SBR   Lane Configurations   Y
Lane Configurations
Traffic Vol, veh/h         35         9         12         354         541         53           Future Vol, veh/h         35         9         12         354         541         53           Conflicting Peds, #/hr         0         <
Future Vol, veh/h         35         9         12         354         541         53           Conflicting Peds, #hr         0         None         None </td
Conflicting Peds, #/hr 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Sign Control   Stop   Stop   Free   Free   Free   Free   RT Channelized   None   Non
RT Channelized         - None         - None         - None         - None           Storage Length         0         -
Storage Length   0
Veh in Median Storage2#         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         -         0         0         -         -         0         0         -         -         0         -         -         0         -         -         1         4         9         5         5         8           Major1 Major2           Conflicting Flow All1039 624 653 0 0 - 0         0         0         0         -         0
Veh in Median Storage2#         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         -         0         0         -         -         0         0         -         -         0         -         -         0         -         -         1         4         -         1         -         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         0         -         0         0         -         0         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         0         -         0         -         0         0         -         0         0         -         0         0         -         0         -
Grade, % 0 - 0 0 0 - 0 0 0 0 - 0 0 0 0 0 0 0 0
Peak Hour Factor         91         95         58           Major / Ministry         Major /
Heavy Vehicles, % 3 3 3 3 3 3 3 3 3 Mvmt Flow 38 10 13 389 595 58    Major/Minor Minor2 Major1 Major2
Mvmt Flow         38         10         13         389         595         58           Major/Minor         Minor2         Major1         Major2           Conflicting Flow All1039         624         653         0         -         0           Stage 1         624         -
Major/Minor         Minor2         Major1         Major2           Conflicting Flow All1039         624         653         0         -         0           Stage 1         624         -         -         -         -         -           Stage 2         415         -         <
Conflicting Flow All1039 624 653 0 - 0  Stage 1 624  Stage 2 415  Critical Hdwy 643 6.23 4.13  Critical Hdwy Stg 15.43  Critical Hdwy Stg 25.43  Follow-up Hdwy 3.527 3.327 2.227  Stage 1 532  Stage 2 664  Mov Cap-1 Maneuvel49 484 929  Mov Cap-2 Maneuvel42  Stage 1 522  Stage 1 522  Stage 1 522  Mov Cap-2 Maneuvel42  Stage 1 522  Stage 2 664  Approach EB NB SB  HCM Control Delay, s14 0.3 0
Conflicting Flow All1039 624 653 0 - 0  Stage 1 624  Stage 2 415  Critical Hdwy 643 6.23 4.13  Critical Hdwy Stg 15.43  Critical Hdwy Stg 25.43  Follow-up Hdwy 3.527 3.327 2.227  Stage 1 532  Stage 2 664  Mov Cap-1 Maneuvel49 484 929  Mov Cap-2 Maneuvel42  Stage 1 522  Stage 1 522  Stage 1 522  Mov Cap-2 Maneuvel42  Stage 1 522  Stage 2 664  Approach EB NB SB  HCM Control Delay, s14 0.3 0
Stage 1         624         -
Stage 1         624         -
Stage 2
Critical Hdwy 6.43 6.23 4.13 Critical Hdwy Stg 1 5.43 Critical Hdwy Stg 2 5.43
Critical Hdwy Stg 1 5.43     -     -     -     -       Critical Hdwy Stg 2 5.43     -     -     -     -       Follow-up Hdwy     3.527 3.327 2.227     -     -     -       Pot Cap-1 Maneuve£54     484     929     -     -       Stage 1     532     -     -     -     -       Platoon blocked, %     -     -     -     -       Mov Cap-1 Maneuve£49     484     929     -     -       Mov Cap-2 Maneuve£42     -     -     -     -       Stage 1     522     -     -     -     -       Stage 2     664     -     -     -     -       Approach     EB     NB     SB       HCM Control Delay, s14     0.3     0
Critical Hdwy Stg 2 5.43
Follow-up Hdwy 3.527 3.327 2.227
Pot Cap-1 Maneuve£54
Stage 1     532     -     -     -       Stage 2     664     -     -     -       Platoon blocked, %     -     -     -       Mov Cap-1 Maneuvæl49     484     929     -     -       Mov Cap-2 Maneuvæl42     -     -     -     -       Stage 1     522     -     -     -     -       Stage 2     664     -     -     -     -       Approach     EB     NB     SB       HCM Control Delay, s14     0.3     0
Stage 2   664     -     Platon blocked, %       Mov Cap-1 Maneuv@49   484   929       Mov Cap-2 Maneuv@42       Stage 1   522       Stage 2   664       Approach   EB   NB   SB     HCM Control Delay, s14   0.3   0
Platoon blocked, %
Mov Cap-1 Maneuv@49     484     929     -     -       Mov Cap-2 Maneuv@42     -     -     -     -       Stage 1     522     -     -     -     -       Stage 2     664     -     -     -     -       Approach     EB     NB     SB       HCM Control Delay, s14     0.3     0
Mov Cap-2 Maneuvelr42     -     -     -     -       Stage 1     522     -     -     -       Stage 2     664     -     -     -       Approach     EB     NB     SB       HCM Control Delay, s14     0.3     0
Stage 1         522         -
Stage 2         664         -         -         -         -         -           Approach         EB         NB         SB           HCM Control Delay, s14         0.3         0
Stage 2         664         -         -         -         -         -           Approach         EB         NB         SB           HCM Control Delay, s14         0.3         0
Approach         EB         NB         SB           HCM Control Delay, s14         0.3         0
HCM Control Delay, s14 0.3 0
HCM Control Delay, s14 0.3 0
37
HCM LOS B
Minor Lane/Major Mvmt NBL NBTEBLn1 SBT SBR
Capacity (veh/h) 929 - 450
HCM Lane V/C Ratio 0.014 -0.107
HCM Control Delay (s) 8.9 0 14
HCM Lane LOS A A B
HCM 95th %tile Q(veh) 0 - 0.4

Intersection						
Intersection Delay, s/veh		•	•	•	•	,
Intersection LOS	С					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		1>			4
Traffic Vol, veh/h	9	285	88	25	450	86
Future Vol, veh/h	9	285	88	25	450	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	310	96	27	489	93
Number of Lanes	1	0	1	0	0	1
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Let	ft NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Rig	ht SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	12.6		9.8		28.7	
HCM LOS	В		Α		D	
Lane		NBLn1\	WBLn1	SBLn1		
Vol Left. %		0%	3%	84%		
Vol Thru, %		78%	0%	16%		
Vol Right, %		22%	97%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		113	294	536		
LT Vol				550		
		0	9	450		
Through Vol		0 88	9			
Through Vol RT Vol			-	450		
		88	0	450 86		
RT Vol		88 25	0 285	450 86 0		
RT Vol Lane Flow Rate		88 25 123	0 285 320	450 86 0 583		
RT Vol Lane Flow Rate Geometry Grp	)	88 25 123 1	0 285 320 1	450 86 0 583		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)	)	88 25 123 1 0.188	0 285 320 1 0.46	450 86 0 583 1 0.835		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd	)	88 25 123 1 0.188 5.506	0 285 320 1 0.46 5.18	450 86 0 583 1 0.835 5.161		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N	)	88 25 123 1 0.188 5.506 Yes	0 285 320 1 0.46 5.18 Yes	450 86 0 583 1 0.835 5.161 Yes		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap	)	88 25 123 1 0.188 5.506 Yes 651	0 285 320 1 0.46 5.18 Yes 693	450 86 0 583 1 0.835 5.161 Yes 705 3.188		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay	)	88 25 123 1 0.188 5.506 Yes 651 3.548 0.189 9.8	0 285 320 1 0.46 5.18 Yes 693 3.223 0.462 12.6	450 86 0 583 1 0.835 5.161 Yes 705 3.188 0.827 28.7		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio	)	88 25 123 1 0.188 5.506 Yes 651 3.548 0.189	0 285 320 1 0.46 5.18 Yes 693 3.223 0.462 12.6 B	450 86 0 583 1 0.835 5.161 Yes 705 3.188 0.827 28.7 D		
RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay	)	88 25 123 1 0.188 5.506 Yes 651 3.548 0.189 9.8	0 285 320 1 0.46 5.18 Yes 693 3.223 0.462 12.6	450 86 0 583 1 0.835 5.161 Yes 705 3.188 0.827 28.7		

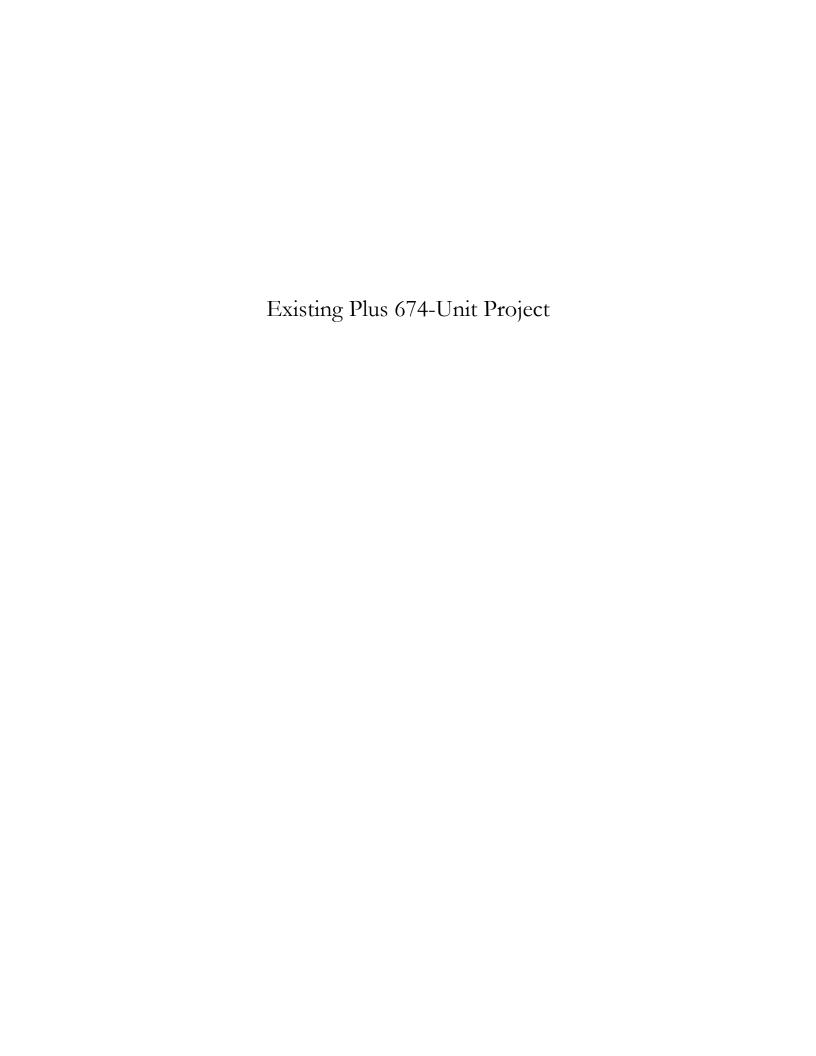
Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configuration	s ħ	<b></b>	ĵ.		W	
Traffic Vol, veh/h	5	468	273	5	4	9
Future Vol, veh/h	5	468	273	5	4	9
Conflicting Peds, #	/hr14	0	0	14	0	0
		Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	50	-	-	-	0	-
Veh in Median Stor	age-	# 0	0	-	0	-
Grade, %	- 9-, .	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	5		300	5	4	10
						. •
	ajor1		ajor2		linor2	
Conflicting Flow All	319	0	-	0		
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	O	-
Critical Hdwy	4.11	-	-			6.21
Critical Hdwy Stg 1		-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy 2		-	-	-:	3.509	3.309
Pot Cap-1 Maneuv		-	-	-	336	726
Stage 1	-	-	-	-		-
Stage 2	-	-	_	-	596	-
Platoon blocked. %	)	-	-	-	000	
Mov Cap-1 Maneu		_	_	_	326	716
Mov Cap-2 Maneuv						710
Stage 1	vei -			-		
Stage 1	-	-			588	-
Staye 2					500	
Approach	EB		WB		SB	
HCM Control Delay	/, 9.1		0		12.1	
HCM LOS					В	
Minor Lane/Major N			EBT	WBT		
Capacity (veh/h)		1230	-	-		523
HCM Lane V/C Rat		0.004	-	-		0.027
HCM Control Delay	/ (s)	7.9	-	-	-	12.1
HCM Lane LOS		Α	-	-	-	В
HCM 95th %tile Q(	veh)	0	-	-	-	0.1

Intersection											
Int Delay, s/veh 0.8	3										
Movement EBI	_ EBT	FBR	WBI	WRT	WBR	NBI	NBT	NBR	SBI	SBT	SBR
Lane Configurations			ሻ			.,,,,	4	11011	002	4	05.1
Traffic Vol. veh/h 22		2	2	269		1	0	1	11	0	20
Future Vol. veh/h 22		2	2	269		1	0	1	11	0	20
Conflicting Peds, #/hr12			0	0		0	0	0	0	0	0
	Free						_	Stop	_	-	Stop
		None	-		None	Stop		None	Stop		None
Storage Length 50			50			- 3		-			-
			-	0			0			0	
Veh in Median Storage	_		-	0		-	0			0	-
,								-			
Peak Hour Factor 95			95	95		95	95	95	95	95	95
,	3 3	_	3	3	_	3	3	3	3	3	3
Mvmt Flow 23	3 464	2	2	283	13	1	0	1	12	0	21
Major/Minor Major	1	N	1ajor2		N	linor1		N	linor2		
Conflicting Flow All 308	3 0	0	466	0	0	815	823	465	818	818	302
Stage 1			-	-		511	511	-	306	306	-
•				-		304	312		512	512	
Critical Hdwy 4.13	3 -	_	4.13	_		7.13	6.53	6.23	7.13	6.53	6.23
		-	-		-			-	6.13	5.53	-
Critical Hdwy Stg 2		_	-	-	_		5.53	_	6.13		-
Follow-up Hdwy 2.22	7 -		2.227	-	-			3.327			3.327
Pot Cap-1 Maneuve24			1090	_		295	307	595	294	309	735
4				-		543	535	-	702	660	
Stage 2		_	_	_	-	703	656	-	543	535	_
Platoon blocked. %	_						000		0.0	-000	
Mov Cap-1 Maneuvle23		_	1090	_	_	282	297	595	285	299	727
Mov Cap-2 Maneuver			-			282	297	-	285	299	- 121
Stage 1				_		533	525	-	681	651	_
				_		681	647	-	532	525	
5.mg5 L						501	541		502	320	
Approach EB			WB			NB			SB		
HCM Control Delay, §.4	1		0.1			14.5			13.2		
HCM LOS						В			В		
Minor Lane/Major Mvm	NRI p1	EBL	EBT	ERP	WBL	WBT	W/RP	RI n1			
							VVDIC				
Capacity (veh/h)		1233	-		1090	-	-	469			
HCM Cantrol Dalay (a)	0.005		-		0.002	-	-				
HCM Control Delay (s)	14.5		-	-	0.0	-	-	13.2			
HCM Lane LOS	В		-	-		-	-	В			
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.2			

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configuration		<b>A</b>	1>		W	
Traffic Vol, veh/h	8	458	255	4	4	7
Future Vol, veh/h	8	458	255	4	4	7
Conflicting Peds, #	#/hr 9	0	0	9	0	0
Sign Control				Free		
RT Channelized		None		None		None
Storage Length	50	-	-	-	0	-
Veh in Median Sto	0 .		0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %		1	1	1	1	1
Mvmt Flow	9	498	277	4	4	8
Major/Minor M	1ajor1	M	ajor2	M	linor2	
Conflicting Flow A		0	-	0	804	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg	1 -	-	-	-	5.41	-
Critical Hdwy Stg 2	2 -	-	-	-	5.41	-
Follow-up Hdwy		-	-	-;	3.509	3.309
Pot Cap-1 Maneuv	<b>∕42</b> 78	-	-	-	354	753
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneu		-	-	-	345	747
Mov Cap-2 Maneu	ıver -	-	-	-	345	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	596	-
Approach	EB		WB		SB	
HCM Control Dela	v. <b>9</b> .1		0		12	
HCM LOS	,,				B	
NAI	N 4 t	EDI	CDT	MOT	W/D E	DI 4
Minor Lane/Major		EBL		WBT		
Capacity (veh/h)		1267	-	-	-	0_0
HCM Cantral Dala		0.007	-	-		0.023
HCM Control Dela	y (s)	7.9	-	-	-	12
HCM Lane LOS	/ I- \	A 0	-	-	-	0.1
HCM 95th %tile Q	(ven)	U	-	-	-	0.1

Intersection					
Int Delay, s/veh 2.9	)				
Movement EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		1>		¥,r	
Traffic Vol. veh/h 144		190	12	8	82
Future Vol. veh/h 144		190	12	8	82
Conflicting Peds, #/hr 2		0	2	0	02
	Free	_		_	•
	None		None		None
Storage Length 100				0	140116
Veh in Median Storage:		0	-	0	-
		0	-	0	
Olddo, 70					
Peak Hour Factor 91		91	91	91	91
Heavy Vehicles, % 1		1	1	1	1
Mvmt Flow 158	333	209	13	9	90
Major/Minor Major1	N	lajor2	M	linor2	
Conflicting Flow All 224		-	0	867	218
Stage 1			-	218	
Stage 1				649	
			-		
Critical Hdwy 4.11		-	-		6.21
Critical Hdwy Stg 1		-		5.41	-
Critical Hdwy Stg 2		-		5.41	-
Follow-up Hdwy 2.209		-		3.509	
Pot Cap-1 Maneuveß51	-	-	-	325	824
Stage 1	-	-	-	821	-
Stage 2	-	-	-	522	-
Platoon blocked, %	-	-	-		
Mov Cap-1 Maneuvle 48	-	-	-	286	822
Mov Cap-2 Maneuver -		-	-	286	-
Stage 1		-	-	723	-
Stage 2				521	
9					
Approach EE		WB		SB	
HCM Control Delay, 2.6	5	0		10.9	
HCM LOS				В	
Min 1 /M - i M	EDI	EDT	MOT	MODE	DI4
Minor Lane/Major Mvmt			WBT		
Capacity (veh/h)	1348	-	-	-	705
HCM Lane V/C Ratio	0.117	-	-	-	0
HCM Control Delay (s)	8	-	-	-	10.0
HCM Lane LOS	Α	-	-	-	В
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5

Intersection											
Int Delay, s/veh 3											
Movement EBL	EBT	FRR	WRI	WRT	WBR	NBL	NRT	NBR	SBL	SBT	SBR
Lane Configurations	4	LDI	WDL	4	WDIX	NDL	4	NUIT	ODL	₩	ODIT
Traffic Vol. veh/h 53	77	0	0	61	0	0	0	0	2	0	31
Future Vol, veh/h 53	77	0	0	61	0	0	0	0	2	0	31
Conflicting Peds, #/hr 1	0	0	0	0	1	0	0	0	0	0	0
Sign Control Free					Free			Stop			
RT Channelized -		None	-		None	-		None	-		None
Storage Length -		-			-		_	-			-
Veh in Median Storage				0	-		0		-	0	_
Grade, %		-	-	0	-	-	0	-	-	0	-
Peak Hour Factor 97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, % 1	1	1	1	1	1	1	1	1	1	1	1
Mymt Flow 55	79	0	0	63	0	0	0	0	2	0	32
	. •										
Major/Minor Majord			laia			linar4		B. /	line "O		
Major/Minor Major1			lajor2	_		linor1	0.50		linor2	050	0.
Conflicting Flow All 64	0	0	79	0	0	268	253	79	253	253	64
Stage 1 -	-	-	-	-	-	189	189	-	64	64	-
Stage 2 -	-	-	-	-	-	79	64	-	189	189	-
Critical Hdwy 4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1 -	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2 -	-	-	-	-	-	6.11	5.51	-	6.11	5.51	- 000
Follow-up Hdwy 2.209	-		2.209	-	-:			3.309			
Pot Cap-1 Maneuv <b>6</b> 545	-		1526	-	-	687	652	984	702		1003
Stage 1 -	-	-	-	-	-	815	746	-	949	844	-
Stage 2 -	-	-	-	-	-	932	844	-	815	746	-
Platoon blocked, %	-	-	1500	-	-	640	607	004	600	607	1000
Mov Cap-1 Maneuvle 44	-	-	1526	-	-	646	627	984	682		1002
Mov Cap-2 Maneuver -	-	-	-	-	-	646	627	-	682	627	-
Stage 1 -	-	-	-	-	-	785	718	-	913	843	-
Stage 2 -	-	-	-	-	-	902	843	-	785	718	-
Approach EB			WB			NB			SB		
HCM Control Delay, s 3			0			0			8.8		
HCM LOS						Α			Α		
Minor Lane/Major Mvm	IRI n1	EBL	EBT	ERD	WBL	\M/RT	W/R DC	RI n1			
		1544			1526			974			
Capacity (veh/h) HCM Lane V/C Ratio		0.035	-			-	-	0.035			
		7.4	-		-	-	-1				
HCM Control Delay (s)	0		0	-	0 A	-		8.8 A			
HCM Lane LOS	Α	0.1	Α	-	A 0	-	-	0.1			
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1			



Existing Plus 674 Unit Project AM Queues

	•	$\rightarrow$	-	•	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	265	1168	1125	111	133	238
v/c Ratio	0.66	0.36	0.80	0.16	0.55	0.35
Control Delay	44.5	0.3	29.1	4.1	51.0	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	0.3	29.1	4.1	51.0	15.1
Queue Length 50th (ft)	146	0	309	0	78	63
Queue Length 95th (ft)	252	0	382	22	143	123
Internal Link Dist (ft)		942	856		514	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	516	3223	2870	1296	516	1008
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.36	0.39	0.09	0.26	0.24
Intersection Summary						

Beechwood SP 1: SR 46 E & Buena Vista Drive

	۶	<b>→</b>	<b>←</b>	*	-	✓			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>^</b>	7	ች	7			
Traffic Volume (vph)	209	923	889	88	105	188			
Future Volume (vph)	209	923	889	88	105	188			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1612	3223	3223	1442	1612	1442			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1612	3223	3223	1442	1612	1442			
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79			
Adj. Flow (vph)	265	1168	1125	111	133	238			
RTOR Reduction (vph)	0	0	0	62	0	39			
Lane Group Flow (vph)	265	1168	1125	49	133	199			
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	24.5	97.2	42.9	42.9	14.8	43.3			
Effective Green, g (s)	24.5	97.2	42.9	42.9	14.8	43.3			
Actuated g/C Ratio	0.25	1.00	0.44	0.44	0.15	0.45			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	406	3223	1422	636	245	642			
v/s Ratio Prot	c0.16	0.36	c0.35		c0.08	0.14			
v/s Ratio Perm				0.03					
v/c Ratio	0.65	0.36	0.79	0.08	0.54	0.31			
Uniform Delay, d1	32.5	0.0	23.3	15.7	38.1	17.3			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	3.7	0.3	3.3	0.1	2.7	0.3			
Delay (s)	36.3	0.3	26.6	15.8	40.8	17.6			
Level of Service	D	Α	С	В	D	В			
Approach Delay (s)		7.0	25.6		25.9				
Approach LOS		Α	С		С				
Intersection Summary									
HCM 2000 Control Delay	-		16.9	Н	ICM 2000	Level of Servic	e	В	
HCM 2000 Volume to Capa	acity ratio		0.70						
Actuated Cycle Length (s)			97.2	S	um of lost	t time (s)		15.0	
Intersection Capacity Utiliz	ation		55.7%	10	CU Level o	of Service		В	
Analysis Period (min)			15						
! Phase conflict between	lane groups								

! Phase conflict between lane groups.c Critical Lane Group

234 771

49.2 30.3

49.2 30.3

73 231

128

225

582

0

0.60

329

1323

0

305

0.40

5.0 43.9

5.0 43.9 37.3

0

43

485 125

0

0.27

1130

39 841

29 358

0

37.3

0.0

254

2509

0

0.36 0.16

180

0.30

5.5 48.2

5.5 48.2

37 148

390

0

280

0.59

0.0

87

160

0

0.43 0.22

301

0.40

35.8

0.0

35.8

85

140

853

0

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn

Total Delay

98 178

0.34

51.9

51.9

64 196

140

0

51.6

0.0

51.6

108

0

0.25 0.23

163

0.43

10.4

0.0

10.4

0

46

0

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	†	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	194	640	253	32	698	149	232	233	17	81	148	135
Future Volume (veh/h)	194	640	253	32	698	149	232	233	17	81	148	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	234	771	305	39	841	180	280	281	20	98	178	163
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	334	1067	476	252	1130	504	387	693	49	167	266	225
Arrive On Green	0.10	0.32	0.32	0.08	0.34	0.34	0.12	0.22	0.22	0.05	0.15	0.15
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	3123	221	3209	1737	1472
Grp Volume(v), veh/h	234	771	305	39	841	180	280	148	153	98	178	163
Grp Sat Flow(s),veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1694	1605	1737	1472
Q Serve(g_s), s	5.2	15.2	7.8	0.8	16.6	6.7	6.2	5.6	5.7	2.2	7.1	7.8
Cycle Q Clear(g_c), s	5.2	15.2	7.8	0.8	16.6	6.7	6.2	5.6	5.7	2.2	7.1	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	334	1067	476	252	1130	504	387	366	376	167	266	225
V/C Ratio(X)	0.70	0.72	0.64	0.15	0.74	0.36	0.72	0.40	0.41	0.59	0.67	0.72
Avail Cap(c_a), veh/h	784	3136	1399	784	3136	1399	871	918	943	871	967	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	22.0	7.5	31.7	21.4	18.1	31.2	24.5	24.5	34.1	29.4	29.7
Incr Delay (d2), s/veh	2.7	0.9	1.4	0.1	1.0	0.4	2.6	0.7	0.7	3.3	2.9	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	5.1	3.8	0.3	5.5	2.1	2.4	2.1	2.2	0.9	3.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	23.0	9.0	31.8	22.4	18.6	33.8	25.2	25.2	37.4	32.3	34.1
LnGrp LOS	С	С	Α	С	С	В	С	С	С	D	С	C
Approach Vol, veh/h		1310			1060			581			439	
Approach Delay, s/veh		21.8			22.1			29.3			34.1	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	31.1	12.9	16.6	11.7	32.5	7.8	21.6				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q_c+l1), s	2.8	17.2	8.2	9.8	7.2	18.6	4.2	7.7				
Green Ext Time (p_c), s	0.0	6.6	0.7	1.5	0.5	6.7	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	۸ß		7	۸ß			4	7		4	7
Traffic Vol, veh/h	1	705	27	255	891	0	5	0	230	0	0	0
Future Vol. veh/h	1	705	27	255	891	0	5	0	230	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	340	-		195		-			25			25
Veh in Median Storage,	# -	0		-	0	-		0	-		0	
Grade, %		0			0	-		0			0	
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	1	860	33	311	1087	0	6	0	280	0	0	0
						_	_	_			-	_
Major/Minor N	lajor1			Major2		1	Vinor1		N	/linor2		
Conflicting Flow All	1087	0	0	893	0	0	2045	2588	447	2141	2604	544
Stage 1		-	-	-		-	879	879	-	1709	1709	-
Stage 2							1166	1709		432	895	
Critical Hdwy	4.32			4.32			7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1						-	6.72	5.72	-	6.72	5.72	
Critical Hdwy Stg 2						-	6.72	5.72	-	6.72	5.72	
Follow-up Hdwy	2.31	-	-	2.31		-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	587			701			29	22	535	25	21	461
Stage 1						-	291	343		86	132	
Stage 2							192	132		549	337	
Platoon blocked, %												
Mov Cap-1 Maneuver	587			701			19	12	535	8	12	461
Mov Cap-2 Maneuver	-			-			19	12	-	8	12	-
Stage 1	-						290	342		86	73	
Stage 2							107	73		261	336	
g							/	. 0				
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.2			24.2			0		
HCM LOS							С			A		
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1	SBLn2	
Capacity (veh/h)		19	535	587	-	-	701	-	-	-	-	
HCM Lane V/C Ratio		0.321	0.524	0.002			0.444					
HCM Control Delay (s)		266.9	18.9	11.1			14.2			0	0	
HCM Lane LOS		F	С	В			В			A	A	
HCM 95th %tile Q(veh)		0.9	3	0			2.3			-	-	
3(101)												

5.8						
	EDT	MDT	MDD	CD:	CDC	
-	-	-	_	-	_	
		-				
	-	-				
2,# -	0	0	-		-	
-	0	0	-	0	-	
84	84	84	84	84	84	
10	10	10	10	10	10	
396	708	1120	20	6	205	
Maior1	D	Maior2	ħ	Minor2		
		viajui Z			560	
	U					
		-				
		-	-			
				-		
	-	-	-			
			-			
	-	-				
	-	-		249	-	
	-	-	-			
	-	-	-			
-	-	-	-		-	
	-	-	-		-	
-	-	-	-	249	-	
FB		WR		SB		
7		U				
				U		
nt	EBL	EBT	WBT	WBR:	SBLn1	SBLn2
	565	-	-	-	69	452
	0.702	-	-	-	0.086	0.453
1	25	-	-	-	62	19.4
	С	-	-	-	F	С
						2.3
	EBL 3333 3333 333 333 30 0 Free 50 50 50 50 50 50 50 50 50 50 50 50 50	BBL BBT  333 595 333 595 0 0 0 Free Free - None 580 - 0 84 84 10 10 396 708  Major1 1140 0	BBL BBT WBT  333 595 941 333 595 941 333 595 941 333 595 941 333 695 941 333 695 941 333 695 941 346 84 84 34 84 84 34 10 10 10 10 396 708 1120  Major1 Major2 1140 0	BEL EBT WBT WBR  333 595 941 17 333 595 941 17 0 0 0 0 0 Free Free Free Free - None 580 - 165 580 - 165 2, # 0 0 0 - 84 84 84 84 84 84 84 84 84 84 84 84 84 8	BBL BBT WBT WBR SBL  333 595 941 17 5 333 595 941 17 5 0 0 0 0 0 0 Free Free Free Free Stop - None - None - 165 580 - 165 0 0 0 0 - 2 - 0 0 0 - 2 - 0 0 0 - 2 - 0 0 0 - 2 - 0 10 10 10 10 396 708 1120 20 6  Major1 Major2 Minor2 1140 0 - 0 2266 1146 4.3 1120 1146 4.3 1146 4.3 1146 4.3 165 565 31 257 6 6 2.3 36 565 249 249 249 77 69 77 249 77	BBL   BBT   WBT   WBR   SBL   SBR   SBR

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	0.1											
ini Delay, S/veri	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	7	<b>↑</b> ↑			ની	7		4	
Traffic Vol, veh/h	0	549	18	2	1010	0	8	0	1	0	0	0
Future Vol, veh/h	0	549	18	2	1010	0	8	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	None			None	-	-	None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-		2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow	0	631	21	2	1161	0	9	0	1	0	0	0
Major/Minor N	Major1			Major2			Minor1		ħ	∕linor2		
	1161	0	0	652	0	0	1216	1796	316	1481	1817	581
Conflicting Flow All	1101	U	U	002	U			631		1165	1165	180
Stage 1	-					-	631		-			
Stage 2 Critical Hdwy	4.36	-		4.36		-	585 7.76	1165	7.16	316 7.76	652	7.16
	4.30			4.30			6.76	5.76		6.76	5.76	7.10
Critical Hdwy Stg 1	-			-	-	-		5.76				-
Critical Hdwy Stg 2	2.33	-	-	2.33			6.76 3.63	4.13	3.43	6.76	5.76	3.43
Follow-up Hdwy		-	-		-					3.63	4.13	
Pot Cap-1 Maneuver	539			860			125	71	648	78	68	430
Stage 1	-	-		-	-	-	410 438	446	-	189	245	
Stage 2	-					-	438	245	-	640	436	
Platoon blocked, %	F20	-		0/0	-	-	105	71	/ 40	70	/0	420
Mov Cap-1 Maneuver	539	-		860	-	-	125	71	648	78	68	430
Mov Cap-2 Maneuver	-	-	-	-	-	-	307	211	-	176	210	-
Stage 1	-				-		410 437	446 245		189 639	245	-
Stage 2	-			-	-	-	437	245	-	639	436	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			16.4			0		
HCM LOS							С			Α		
Minor Lane/Major Mvm	ıt	NBLn1	NRI n2	EBL	EBT	EBR	WBL	WBT	WBR S	SRI n1		
Capacity (veh/h)		307	648	539	LUI	LDIN	860	1101	,voit	JULIT		
HCM Lane V/C Ratio			0.002	539			0.003					
HCM Control Delay (s)		17.1	10.6	0			9.2			0		
HCM Lane LOS		17.1	В	A			9.2 A			A		
HCM 05th %tilo O(voh)		0.1	D	Α 0			Α 0			А		

Intersection Delay, s/veh	64.2											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	, A	f)		ሻ	f.		ሻ	<b>^</b>	7		413-	
Traffic Vol, veh/h	87	113	92	252	96	66	40	319	194	39	277	50
Future Vol, veh/h	87	113	92	252	96	66	40	319	194	39	277	50
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	107	140	114	311	119	81	49	394	240	48	342	62
Number of Lanes	1	1	0	1	1	0	1	1	1	0	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			3			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			2			2			2		
HCM Control Delay	39			62.4			96.3			37.8		
HCM LOS	Е			F			F			Е		
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %		100%	0%	0%	100%	0%	100%	0%	22%	0%		
Vol Thru, %		0%	100%	0%	0%	55%	0%	59%	78%	73%		
Vol Right, %		0%	0%	100%	0%	45%	0%	41%	0%	27%		
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop		
Traffic Vol by Lane		40	319	194	87	205	252	162	178	189		
LT Vol		40	0	0	87	0	252	0	39	0		
Through Vol		0	319	0	0	113	0	96	139	139		
RT Vol		0	0	194	0	92	0	66	0	50		
Lane Flow Rate		49	394	240	107	253	311	200	219	233		
Geometry Grp		8	8	8	8	8	8	8	8	8		
Degree of Util (X)		0.157	1.193	0.677	0.357	0.783	0.985	0.59	0.689	0.713		
Departure Headway (Hd)		11.434	10.909	10.175	12.545	11.689	11.945	11.122	11.87	11.556		
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
		313	335	354	289	311	305	326	307	314		
Cap							0 / 4 E	8.822	9.57	9.256		
Cap Service Time		9.217	8.692	7.957	10.245	9.389	9.645					
Cap Service Time HCM Lane V/C Ratio		9.217 0.157	1.176	0.678	0.37	0.814	1.02	0.613	0.713	0.742		
Cap Service Time HCM Lane V/C Ratio HCM Control Delay		9.217 0.157 16.3	1.176 145.4	0.678	0.37 22.1	0.814 46.2	1.02 84.1	0.613 28.6	0.713 37.2	0.742 38.4		
Cap Service Time HCM Lane V/C Ratio HCM Control Delay HCM Lane LOS		9.217 0.157 16.3 C	1.176 145.4 F	0.678 32 D	0.37 22.1 C	0.814 46.2 E	1.02 84.1 F	0.613 28.6 D	0.713 37.2 E	0.742 38.4 E		
Cap Service Time HCM Lane V/C Ratio HCM Control Delay		9.217 0.157 16.3	1.176 145.4	0.678	0.37 22.1	0.814 46.2	1.02 84.1	0.613 28.6	0.713 37.2	0.742 38.4		

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft) Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

Existing Plus 674 Unit Project AM

301

0.72

42.9

0.0

42.9

157

150

0

0.53 0.53

303

42.2

0.0

42.2

158

295

0

35

0.07

0.3

0.0

0.3

0

0

185

605

0

0

Beechwood SP 7: Riverside Ave & 13th Street

## Existing Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	-	*	1	-	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	7	<b>†</b> 1>		Ţ	<b>*</b>	7	7	<b>*</b>	7		ની	
Traffic Volume (veh/h)	1	265	28	317	357	570	6	19	128	427	87	3
Future Volume (veh/h)	1	265	28	317	357	570	6	19	128	427	87	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.9
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	185
Adj Flow Rate, veh/h	1	312	33	373	420	671	7	22	151	575	0	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.8
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	
Cap, veh/h	2	755	79	420	875	741	210	221	187	716	0	31
Arrive On Green	0.00	0.23	0.23	0.24	0.47	0.47	0.12	0.12	0.12	0.20	0.00	0.2
Sat Flow, veh/h	1767	3214	337	1767	1856	1572	1767	1856	1569	3534	0	155
Grp Volume(v), veh/h	1	170	175	373	420	671	7	22	151	575	0	3
Grp Sat Flow(s), veh/h/ln	1767	1763	1788	1767	1856	1572	1767	1856	1569	1767	0	155
Q Serve(g_s), s	0.0	7.1	7.3	17.8	13.5	34.4	0.3	0.9	8.2	13.6	0.0	1
Cycle Q Clear(g_c), s	0.0	7.1	7.3	17.8	13.5	34.4	0.3	0.9	8.2	13.6	0.0	1
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.0
Lane Grp Cap(c), veh/h	2	414	420	420	875	741	210	221	187	716	0	31
V/C Ratio(X)	0.41	0.41	0.42	0.89	0.48	0.91	0.03	0.10	0.81	0.80	0.00	0.1
Avail Cap(c a), veh/h	101	463	470	656	1071	907	363	382	323	1151	0	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.0
Uniform Delay (d), s/veh	43.7	28.3	28.4	32.2	15.8	21.3	34.1	34.4	37.6	33.2	0.0	28
Incr Delay (d2), s/veh	85.1	0.7	0.7	9.3	0.4	10.9	0.1	0.2	8.1	2.2	0.0	0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
%ile BackOfQ(50%),veh/ln	0.1	3.1	3.2	8.5	5.5	13.9	0.1	0.4	3.5	5.8	0.0	0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.8	29.0	29.1	41.5	16.2	32.3	34.2	34.6	45.7	35.4	0.0	28
LnGrp LOS	F	С	С	D	В	С	С	С	D	D	Α	
Approach Vol, veh/h	<u> </u>	346			1464			180			610	
Approach Delay, s/veh		29.3			30.0			43.9			35.0	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.3	25.1		22.2	4.6	45.7		14.9				
Change Period (Y+Rc), s	25.3 4.5	25.1 4.5		4.5	4.6	45.7		4.5				
Max Green Setting (Gmax), s	32.5	23.0		28.5	5.0	50.5		18.0				
Max Q Clear Time (g c+l1), s		9.3				36.4		10.2				
Green Ext Time (g_c+11), s	19.8 1.0	9.3 1.7		15.6 1.9	2.0	36.4 4.8		0.3				
* '	1.0	1.7		1.9	0.0	4.8		0.3				
Intersection Summary			22.0									
HCM 6th Ctrl Delay			32.0									
HCM 6th LOS			С									

User approved volume balancing among the lanes for turning movement.

WBT

420

0.47

18.9

0.5

19.3

142

290

1116

329 161

0

0.53

671

0.61

4.1 44.5

4.5 44.5

0

44 18

0

0.64 0.02

0.0

140

0

22 151

45.5

0.0

45.5

12

37

0

0.06 0.34

0.56

16.4

0.0

16.4

51 296

165

450

0

345

0.59

39.4

0.0

92 187

346

0

0.36

49.0

49.0 39.4

6 153

65

104

0

373

0.77

42.4

42.6

333

125

678

0

Lane Group

v/c Ratio

Control Delay

Queue Delay

Lane Group Flow (vph)

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft) Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

Existing Plus 674 Unit Project AM

0.02

0.0

0.0

0.0

0

0

575

752

Beechwood SP 8: Paso Robles Street & 13th Street

## Existing Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	-	$\rightarrow$	•	<b>—</b>	*		<b>†</b>	1	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b> 1>		ሻ	<b>^</b>	7	7	<b>†</b>	7	ሻ	1>	
Traffic Volume (veh/h)	61	701	46	45	1020	328	201	11	218	5	0	7
Future Volume (veh/h)	61	701	46	45	1020	328	201	11	218	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	876	58	56	1275	0	251	14	272	6	0	9
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	1706	113	87	1762		429	429	363	357	0	363
Arrive On Green	0.06	0.51	0.51	0.05	0.50	0.00	0.23	0.23	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1767	3355	222	1767	3526	1572	1395	1856	1572	1085	0	1572
Grp Volume(v), veh/h	76	460	474	56	1275	0	251	14	272	6	0	9
Grp Sat Flow(s), veh/h/ln	1767	1763	1814	1767	1763	1572	1395	1856	1572	1085	0	1572
Q Serve(q s), s	2.7	11.1	11.1	2.0	18.1	0.0	10.9	0.4	10.3	0.3	0.0	0.3
Cycle Q Clear(q_c), s	2.7	11.1	11.1	2.0	18.1	0.0	11.1	0.4	10.3	0.6	0.0	0.3
Prop In Lane	1.00	11.1	0.12	1.00	10.1	1.00	1.00	0.4	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	102	896	922	87	1762	1.00	429	429	363	357	0	363
V/C Ratio(X)	0.74	0.51	0.51	0.64	0.72		0.59	0.03	0.75	0.02	0.00	0.02
Avail Cap(c a), veh/h	290	1414	1455	263	2773		776	891	755	627	0.00	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	0.00	
Upstream Filter(I)	29.7		1.00				1.00		22.9			1.00
Uniform Delay (d), s/veh		10.5	10.5	29.8	12.5	0.0		19.0		19.3	0.0	
Incr Delay (d2), s/veh	10.1		0.4	7.7		0.0	1.3	0.0	3.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.8	3.9	1.0	6.1	0.0	3.4	0.2	3.8	0.1	0.0	0.1
Unsig. Movement Delay, s/veh		100	100						010	100		
LnGrp Delay(d),s/veh	39.7	10.9	10.9	37.5	13.1	0.0	24.6	19.1	26.0	19.3	0.0	19.0
LnGrp LOS	D	В	В	D	В		С	В	С	В	Α	В
Approach Vol, veh/h		1010			1331	Α		537			15	
Approach Delay, s/veh		13.1			14.1			25.1			19.2	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	37.0		19.3	8.2	36.5		19.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	51.3		30.7	10.5	50.3		30.7				
Max Q Clear Time (q_c+l1), s	4.0	13.1		2.6	4.7	20.1		13.1				
Green Ext Time (p_c), s	0.0	7.3		0.0	0.1	11.8		1.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.8									
HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

WBT

20.7

0.0

2206

0

410 251

0.45 0.71

7.2 43.8

7.2 43.8

42 142

88 200

145 130

0

0.39 0.45

0.0

0

14 273

0.46

7.7 27.2

7.7 27.2

45

110

0

12

95

0 0

0.03

27.3

0.0

27.3

19

836

0

0.02

56 1275

0.33 0.72

48.2 20.7

33 295

67 365

220

0

0.26 0.58

934

0.52

16.2 48.2

16.5

646

0

0.60

0.40

48.9

44 181

85 236

120

242 2213

0

Existing Plus 674 Unit Project AM

9: River Road/Union Road & Creston Road

	<b>*</b>	-	1	<b>—</b>	1	<b>†</b>	1	1	<b>+</b>	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	224	929	70	990	440	216	56	148	640	
v/c Ratio	0.61	0.67	0.47	0.82	0.75	0.26	0.13	0.63	0.90dr	
Control Delay	55.1	27.9	61.0	37.8	52.4	35.6	2.4	58.2	38.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.1	27.9	61.0	37.8	52.4	35.6	2.4	58.2	38.1	
Queue Length 50th (ft)	80	270	49	335	157	66	0	103	167	
Queue Length 95th (ft)	113	302	89	366	197	95	2	155	202	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	420	1542	182	1489	690	962	499	320	941	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.60	0.38	0.66	0.64	0.22	0.11	0.46	0.68	

ntersection Summar

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Beechwood SP 9: River Road/Union Road & Creston Road Existing Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>†</b> }		, J	<b>†</b> î>		77	<b>^</b>	7	Ţ	<b>↑</b> ↑	
Traffic Volume (veh/h)	179	484	259	56	705	87	352	173	45	118	175	337
Future Volume (veh/h)	179	484	259	56	705	87	352	173	45	118	175	337
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	605	0	70	881	109	440	216	56	148	219	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	331	1468		96	1179	146	578	584	261	190	369	
Arrive On Green	0.10	0.41	0.00	0.05	0.37	0.37	0.17	0.16	0.16	0.11	0.10	0.00
Sat Flow, veh/h	3456	3647	0	1781	3177	393	3456	3554	1585	1781	3647	0
Grp Volume(v), veh/h	224	605	0	70	493	497	440	216	56	148	219	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1777	1794	1728	1777	1585	1781	1777	0
Q Serve(g_s), s	4.3	8.3	0.0	2.7	16.6	16.6	8.4	3.7	2.1	5.6	4.0	0.0
Cycle Q Clear(g_c), s	4.3	8.3	0.0	2.7	16.6	16.6	8.4	3.7	2.1	5.6	4.0	0.0
Prop In Lane	1.00		0.00	1.00		0.22	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	331	1468		96	659	665	578	584	261	190	369	
V/C Ratio(X)	0.68	0.41		0.73	0.75	0.75	0.76	0.37	0.21	0.78	0.59	
Avail Cap(c_a), veh/h	628	2352		272	1124	1135	1031	1422	634	479	1318	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.0	14.3	0.0	32.0	18.8	18.8	27.3	25.6	24.9	29.9	29.4	0.0
Incr Delay (d2), s/veh	2.4	0.2	0.0	10.3	1.7	1.7	2.1	0.4	0.4	6.7	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.1	0.0	1.4	6.4	6.4	3.3	1.5	0.8	2.5	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	14.4	0.0	42.3	20.5	20.5	29.4	25.9	25.3	36.6	30.9	0.0
LnGrp LOS	С	В		D	С	С	С	С	С	D	С	
Approach Vol, veh/h		829	Α		1060			712			367	А
Approach Delay, s/veh		19.3			22.0			28.0			33.2	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	32.9	16.0	11.6	11.1	30.0	11.9	15.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5	20.5	25.5	12.5	43.5	18.5	27.5				
Max Q Clear Time (g c+l1), s	4.7	10.3	10.4	6.0	6.3	18.6	7.6	5.7				
Green Ext Time (p_c), s	0.1	4.7	1.2	1.1	0.4	6.9	0.3	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			24.1									
HCM 6th LOS			C									
Notes												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

1034

0.72

392

0

0.25 0.15 0.49 0.39 0.16

509

31.7

31.7

97

245

120

0

105

0.22

8.8

0.0

8.8

0

43

670

0

429

0.22

10.1 20.5

0.0 0.0

10.1 20.5

36 147

134

1151 2310

0

0.33

41.6

41.6

29

103

125

302

0

Lane Group

v/c Ratio

Control Delay Queue Delay

Lane Group Flow (vph)

Total Delay
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn

Storage Cap Reductn Reduced v/c Ratio

Intersection Summary

	<b>→</b>	<b>→</b>	←	*	-	1			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>↑</b> ₽		ሻሻ	7			
Traffic Volume (vph)	65	373	494	405	443	91			
Future Volume (vph)	65	373	494	405	443	91			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5			
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00			
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
Frt	1.00	1.00	0.93		1.00	0.85			
Flt Protected	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1752	3505	3246		3400	1568			
Flt Permitted	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1752	3505	3246		3400	1568			
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87			
Adj. Flow (vph)	75	429	568	466	509	105			
RTOR Reduction (vph)	0	0	115	0	0	80			
Lane Group Flow (vph)	75	429	919	0	509	25			
Confl. Peds. (#/hr)				3					
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%			
Turn Type	Prot	NA	NA		Perm	Perm			
Protected Phases	5	2	6						
Permitted Phases					4	4			
Actuated Green, G (s)	6.9	40.5	29.1		17.8	17.8			
Effective Green, g (s)	6.9	40.5	29.1		17.8	17.8			
Actuated g/C Ratio	0.09	0.54	0.39		0.24	0.24			
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	161	1892	1259		806	372			
v/s Ratio Prot	c0.04	0.12	c0.28						
v/s Ratio Perm					c0.15	0.02			
v/c Ratio	0.47	0.23	0.73		0.63	0.07			
Uniform Delay, d1	32.3	9.0	19.6		25.7	22.2			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.1	0.1	2.2		1.6	0.1			
Delay (s)	34.4	9.1	21.8		27.3	22.2			
Level of Service	С	Α	С		С	С			
Approach Delay (s)		12.9	21.8		26.4				
Approach LOS		В	С		С				
Intersection Summary									
HCM 2000 Control Delay			21.0	H	CM 2000	Level of Service	е	С	
HCM 2000 Volume to Cap	acity ratio		0.63						
Actuated Cycle Length (s)			75.0		um of los			18.0	
Intersection Capacity Utiliz	ation		54.9%	IC	U Level	of Service		Α	
Analysis Period (min)			15						
c Critical Lano Group									

#### Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

### Existing Plus 674 Unit Project AM

	<i>&gt;</i>	-	*	1	-	4	<b>†</b>	-	ļ
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	150	252	159	52	620	246	657	194	690
v/c Ratio	0.61	0.42	0.26	0.36	0.77	0.76	0.77	0.68	0.75
Control Delay	45.9	26.3	5.5	46.0	27.5	50.0	35.2	46.4	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	26.3	5.5	46.0	27.5	50.0	35.2	46.4	24.0
Queue Length 50th (ft)	77	115	0	28	112	128	171	100	113
Queue Length 95th (ft)	128	168	33	59	151	#212	215	158	153
Internal Link Dist (ft)		1092			186		1440		2310
Turn Bay Length (ft)	150			170		230		245	
Base Capacity (vph)	302	641	640	154	970	370	1020	347	1087
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.39	0.25	0.34	0.64	0.66	0.64	0.56	0.63

Beechwood SP

Existing Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

11: Creston Road & Niblick Road/Sherwood Road

	۶	<b>→</b>	$\rightarrow$	•	<b>—</b>	•	1	†	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	, j	<b>^</b>	7	7	<b>†</b> }		7	<b>↑</b> ↑		7	<b>↑</b> ↑	
Traffic Volume (veh/h)	123	207	130	43	284	225	202	503	36	159	288	278
Future Volume (veh/h)	123	207	130	43	284	225	202	503	36	159	288	278
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		0.92	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	150	252	159	52	346	274	246	613	44	194	351	339
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	187	548	458	76	431	334	289	936	67	235	445	394
Arrive On Green	0.11	0.30	0.30	0.04	0.24	0.24	0.17	0.29	0.29	0.14	0.26	0.26
Sat Flow, veh/h	1739	1826	1526	1739	1828	1416	1739	3262	234	1739	1735	1537
Grp Volume(v), veh/h	150	252	159	52	328	292	246	325	332	194	351	339
Grp Sat Flow(s), veh/h/ln	1739	1826	1526	1739	1735	1509	1739	1735	1761	1739	1735	1537
Q Serve(g_s), s	6.5	8.6	6.3	2.3	13.7	14.1	10.6	12.7	12.7	8.3	14.5	16.2
Cycle Q Clear(q_c), s	6.5	8.6	6.3	2.3	13.7	14.1	10.6	12.7	12.7	8.3	14.5	16.2
Prop In Lane	1.00		1.00	1.00		0.94	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	187	548	458	76	409	356	289	498	505	235	445	394
V/C Ratio(X)	0.80	0.46	0.35	0.69	0.80	0.82	0.85	0.65	0.66	0.82	0.79	0.86
Avail Cap(c_a), veh/h	305	632	528	156	451	393	373	519	527	350	496	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	21.9	21.0	36.3	27.7	27.8	31.2	24.1	24.1	32.4	26.7	27.3
Incr Delay (d2), s/veh	7.7	0.6	0.5	10.4	9.2	12.0	13.9	2.8	2.8	9.6	7.6	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.5	2.1	1.1	6.3	5.9	5.3	5.2	5.3	4.0	6.6	7.2
Unsig. Movement Delay, s/veh		0.0	2		0.0	0.7	0.0	0.2	0.0	110	0.0	7.2
LnGrp Delay(d),s/veh	41.2	22.5	21.5	46.7	36.9	39.8	45.0	26.8	26.9	41.9	34.2	41.9
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	D
Approach Vol, veh/h		561			672			903			884	
Approach Delay, s/veh		27.2			38.9			31.8			38.9	
Approach LOS		C C			J0.7			C C			J0.7	
					D						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	26.6	7.9	27.6	17.3	24.2	12.8	22.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	23.0	6.9	26.6	16.5	22.0	13.5	20.0				
Max Q Clear Time (q c+l1), s	10.3	14.7	4.3	10.6	12.6	18.2	8.5	16.1				
Green Ext Time (p_c), s	0.2	2.5	0.0	1.7	0.3	1.5	0.2	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			34.6									

HCM 6th LOS С

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Int Delay, s/veh	19.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	1₃		7	•	7
Traffic Vol. veh/h	92	6	39	7	15	95	31	425	3	33	367	76
Future Vol. veh/h	92	6	39	7	15	95	31	425	3	33	367	76
Conflicting Peds, #/hr	1	0	0	0	0	1	6	0	2	2	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-		None
Storage Length	-		-			-	30	-	-	70		60
Veh in Median Storage	e.# -	0	-	-	0		-	0	-	-	0	-
Grade, %	-	0			0	-	-	0		-	0	
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	7	46	8	18	113	37	506	4	39	437	90
Major/Minor	Minor2			Minor1			Major1		1	Major2		
Conflicting Flow All	1170	1107	443	1171	1195	511	533	0	0	512	0	0
Stage 1	521	521		584	584	-	-	-		-		
Stage 2	649	586		587	611	-	-	-		-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52		6.12	5.52		-	-		-	-	-
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52		-	-		-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	170	210	615	170	186	563	1035	-	-	1053	-	
Stage 1	539	532	-	498	498	-	-	-	-	-	-	-
Stage 2	458	497		496	484	-	-	-		-		
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	193	611	144	171	561	1029	-	-	1051	-	-
Mov Cap-2 Maneuver	117	193	-	144	171	-	-	-	-	-	-	-
Stage 1	517	509	-	479	479	-		-		-	-	-
Stage 2	339	478	-	435	463	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s				19.7			0.6			0.6		
HCM LOS	F			С								
		ND:	NDT	NDC	EDI #	VDL 1	CDI	CDT	CDC			
Minor Lane/Major Mvn	nt	NBL	NBT	NBR	EBLn1\		SBL	SBT	SBR			
Capacity (veh/h)		1029	-	-	155	383	1051	-	-			
HCM Lane V/C Ratio		0.036	-	-	1.052		0.037	-	-			
HCM Control Delay (s	)	8.6	-	-	145.5	19.7	8.6	-	-			
HCM Lane LOS		Α	-	-	F	С	Α	-	-			
HCM 95th %tile Q(veh	١	0.1			8.3	1.6	0.1					

26.9											
D											
EDI	EDT	EDD	WDI	MDT	WDD	MDH	NIDI	NDT	NDD	CDI	SBT
EDL		EDK	WDL		NDK	NDU	INDL			SDL	
20		7	102		224	0	0			211	<b>417∌</b> 188
											188
							-				0.85
											0.63
											221
						-					221
-	'	0		'	0	U	-	'	'		
										NB	
В			E				С			D	
	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
	4%	0%	56%	46%	69%	0%					
	96%	0%	25%	1%	31%	90%					
	0%	100%	19%	53%	0%	10%					
	Stop	Stop	Stop	Stop	Stop	Stop					
	223	104	36	421	305	104					
	8	0	20	192	211	0					
	215	0	9	5	94	94					
	0	104	7	224	0	10					
	262	122	42	495	359	122					
	7	7		2	7	7					
	0.541	0.227	0.095	0.869	0.752	0.242					
	7.429	6.689	8.042	6.314	7.542	7.117					
	Yes	Yes	Yes	Yes	Yes	Yes					
	485	535	443	575	477	503					
	5.194	4.453	6.133	4.357	5.302	4.877					
	0.54	0.228	0.095	0.861	0.753	0.243					
	18.7	11.4	12	37.8	29.9	12.2					
	C 3.2	В	В	Е	D	В					
		0.9	0.3	9.7	6.4	0.9					
		BEBL EBT  20 9 20 9 20 9 0.85 0.85 2 2 2 24 11 0 1 EB  WB 1 SB 2 NB 2 NB 2 NB 2 NB 2 12 B  NBLn1  4% 96% 96% 96% 0% Stopp 223 8 215 0 0 262 7 0.541 7.429 Yes 485 5.194 0.54 18.7	BEL EBT EBR  20 9 7 20 9 7 0.85 0.85 0.85 2 2 2 2 24 111 8 0 1 0  EB  WB 1 SB 2 NB 2 N	BBL BBT BBR WBL 20 9 7 192 20 9 7 192 20 85 0.85 0.85 0.85 2 2 2 2 2 24 111 8 226 0 1 0 0 0  BB WB WB EB 1 1 1 SB NB 2 2 2 NB SB 2 2 3 NB SB 2 1 2 NB SB 2 1 37.8 B EB  NB 2 1 2 1 NB SB 2 1 2 NB SB 2 2 2 2 2 NB SB NB 2 2 2 2 2 NB NB NB NB 2 2 2 2 2 2 NB NB NB NB NB 2 2 2 2 2 2 NB NB NB NB 2 2 2 2 2 2 NB NB NB NB 2 2 2 2 2 2 NB NB NB NB 2 2 2 2 2 NB	BBL BBT BBR WBL WBT  20 9 7 192 5 20 9 7 192 5 20 9 7 192 5 20 85 0.85 0.85 0.85 0.85 2 2 2 2 2 2 2 2 24 11 8 226 6 0 1 0 0 0 1  BB WB EB 1 1 1 SB NB 2 2 2 2 NB SB SB 2 2 2 2 NB SB 2 5 2 5 NB SB 3 SB 4 SB 2 5 5 8 3 SB 4 SB 5	BBL	BBL	BBL	BBL   BBT   BBR   WBL   WBT   WBR   NBU   NBL   NBT	BBL	BBL

### 13: Creston Road & Alamo Creek Terrace/Meadowlark Road

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lactions	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.85
Heavy Vehicles, %	2
Mvmt Flow	12
Number of Lanes	0

Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left
Conflicting Approach Righ
Conflicting Lanes Right
HCM Control Delay
HCM LOS

### Beechwood SP 14: Creston Road & Charolais Road

LIBI	7.0						_
Int Delay, s/veh	7.3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	?
Lane Configurations	7	7	7	44	<b>^</b>	7	•
Traffic Vol, veh/h	143	127	204	183	117	269	9
Future Vol, veh/h	143	127	204	183	117	269	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	е
RT Channelized	-	None	-	None	-	None	Э
Storage Length	0	145	105	-	-	0	0
Veh in Median Storage	, # 0	-		0	0	-	-
Grade, %	0	-	-	0	0	-	-
Peak Hour Factor	86	86	86	86	86	86	6
Heavy Vehicles, %	3	3	3	3	3	3	3
Mymt Flow	166	148	237	213	136	313	3

Major/Minor	Minor2		Major1	M	ajor2	
Conflicting Flow All	717	136	449	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-		-	-	-
Follow-up Hdwy	3.5285	3.3285	2.2285	-	-	-
Pot Cap-1 Maneuver	378	909	1103		-	-
Stage 1	887	-	-	-	-	-
Stage 2	521	-			-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	297	909	1103	-	-	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	521	-	-	-	-	-
			ND		0.0	

Approach	EB	NB	SB
HCM Control Delay, s	21.2	4.8	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT E	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1103	-	297	909	-	-
HCM Lane V/C Ratio	0.215	-	0.56	0.162	-	-
HCM Control Delay (s)	9.2		31.5	9.7		-
HCM Lane LOS	А	-	D	Α	-	-
HCM 95th %tile Q(veh)	0.8	-	3.2	0.6	-	-

### Beechwood SP 15: US 101 SB Ramp & Pine Street & Riverside Avenue

# Existing Plus 674 Unit Project AM HCM Unsignalized Intersection Capacity Analysis

	۶	<b>→</b>	*	•	+	4	1	<b>†</b>	1	1	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					ĵ.	
Traffic Volume (veh/h)	27	0	24	1	89	9	0	0	0	0	324	15
Future Volume (Veh/h)	27	0	24	1	89	9	0	0	0	0	324	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	0	26	1	98	10	0	0	0	0	356	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX. platoon unblocked												
vC, conflicting volume	418	364	364	390	372	0	372			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	418	364	364	390	372	0	372			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	96	100	82	99	100			100		
cM capacity (veh/h)	467	564	681	547	558	1085	1186			1623		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	56	109	372									
Volume Left	30	1	0									
Volume Right	26	10	16									
cSH	547	614	1700									
Volume to Capacity	0.10	0.18	0.22									
Queue Length 95th (ft)	9	16	0.22									
Control Delay (s)	12.3	12.4	0.0									
Lane LOS	В	В	0.0									
Approach Delay (s)	12.3	12.4	0.0									
Approach LOS	В	В	0.0									
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utiliza	tion		34.3%	IC	III evel	of Service			Α			
Analysis Period (min)			15			50, 1,00						

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

Beechwood SP

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Existing Plus 674 Unit Project AM

	۶	<b>→</b>	<b>*</b>	<b>—</b>	4	4	†	~	<b>/</b>	<b></b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	21	347	1124	244	496	77	308	557	337	280	
v/c Ratio	0.10	0.71	0.77	0.31	0.45	0.54	0.65	0.34	0.66	0.35	
Control Delay	55.6	50.9	36.1	26.6	2.9	75.5	61.2	5.4	59.7	43.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.6	50.9	36.1	26.6	2.9	75.5	61.2	5.4	59.7	43.6	
Queue Length 50th (ft)	17	118	403	131	11	65	136	39	145	108	
Queue Length 95th (ft)	43	170	522	213	42	122	186	58	197	147	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	296	626	1734	941	1159	177	673	1836	684	1006	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.55	0.65	0.26	0.43	0.44	0.46	0.30	0.49	0.28	
Intersection Summary											

Central Coast Transportation Consulting
Synchro 10 Report
Page 39

Existing Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>†</b> 1>		77	<b>†</b>	7	*	<b>^</b>	77	ሻሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	18	176	115	944	205	417	65	259	468	283	197	38
Future Volume (veh/h)	18	176	115	944	205	417	65	259	468	283	197	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	210	137	1124	244	496	77	308	557	337	235	45
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	278	173	1373	743	815	99	558	1546	423	636	120
Arrive On Green	0.13	0.13	0.13	0.40	0.40	0.40	0.06	0.16	0.16	0.12	0.21	0.21
Sat Flow, veh/h	1781	2101	1310	3456	1870	1564	1781	3554	2790	3456	2983	562
Grp Volume(v), veh/h	21	176	171	1124	244	496	77	308	557	337	138	142
Grp Sat Flow(s), veh/h/ln	1781	1777	1635	1728	1870	1564	1781	1777	1395	1728	1777	1768
Q Serve(q s), s	1.1	10.2	10.9	31.1	9.7	23.9	4.6	8.6	11.9	10.2	7.1	7.3
	1.1			31.1	9.7	23.9				10.2	7.1	7.3
Cycle Q Clear(g_c), s		10.2	10.9		9.7		4.6	8.6	11.9		7.1	
Prop In Lane	1.00	005	0.80	1.00	7.40	1.00	1.00	FFO	1.00	1.00	070	0.32
Lane Grp Cap(c), veh/h	235	235	216	1373	743	815	99	558	1546	423	379	377
V/C Ratio(X)	0.09	0.75	0.79	0.82	0.33	0.61	0.78	0.55	0.36	0.80	0.37	0.38
Avail Cap(c_a), veh/h	339	338	311	1986	1075	1093	203	769	1712	784	585	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	44.8	45.1	28.8	22.4	18.1	49.9	41.7	13.3	45.7	36.0	36.0
Incr Delay (d2), s/veh	0.2	5.5	8.5	1.8	0.3	0.7	12.2	0.9	0.1	3.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.9	4.9	12.5	4.1	8.1	2.3	3.7	7.3	4.5	3.1	3.2
Unsig. Movement Delay, s/veh	1											
LnGrp Delay(d),s/veh	41.0	50.3	53.6	30.7	22.6	18.8	62.1	42.6	13.4	49.2	36.5	36.7
LnGrp LOS	D	D	D	С	С	В	Е	D	В	D	D	D
Approach Vol, veh/h		368			1864			942			617	
Approach Delay, s/veh		51.3			26.5			26.9			43.5	
Approach LOS		D			С			С			D	
**	1			4		,						
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s	17.8	22.6		18.8	11.8	28.7		48.0				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 24	23.2		20.4	12.2	* 35		61.6				
Max Q Clear Time (g_c+l1), s	12.2	13.9		12.9	6.6	9.3		33.1				
Green Ext Time (p_c), s	0.9	2.9		1.3	0.1	1.6		9.4				
Intersection Summary												
HCM 6th Ctrl Delay			31.8									
HCM 6th LOS			С									
Motoc												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 41 Central Coast Transportation Consulting

Beechwood SP 17: S. River Road & Niblick Road Existing Plus 674 Unit Project AM

	•	$\rightarrow$	*	1	<b>—</b>	1	1	-	¥
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	620	279	101	1186	652	382	298	446
v/c Ratio	0.55	0.50	0.38	0.56	0.88	0.87	0.61	0.82	0.73
Control Delay	62.2	30.7	5.0	60.3	39.5	54.8	45.2	61.0	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	30.7	5.0	60.3	39.5	54.8	45.2	61.0	43.3
Queue Length 50th (ft)	41	179	0	69	387	231	133	200	134
Queue Length 95th (ft)	73	253	53	126	#512	#334	178	#328	182
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	208	1255	741	222	1425	776	848	416	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.49	0.38	0.45	0.83	0.84	0.45	0.72	0.49

#### Intersection Summary

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	۶	<b>→</b>	$\rightarrow$	•	-	*		<b>†</b>	1	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>^</b>	7	ሻ	<b>↑</b> 1>		1/1	<b>†</b> 1>		ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	100	539	243	88	799	233	567	295	37	259	254	134
Future Volume (veh/h)	100	539	243	88	799	233	567	295	37	259	254	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	620	279	101	918	268	652	339	43	298	292	154
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1301	580	128	1050	306	733	624	78	334	391	201
Arrive On Green	0.05	0.37	0.37	0.07	0.39	0.39	0.21	0.20	0.20	0.19	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	2709	789	3456	3173	399	1781	2271	1167
Grp Volume(v), veh/h	115	620	279	101	601	585	652	189	193	298	227	219
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1721	1728	1777	1795	1781	1777	1660
Q Serve(q_s), s	3.3	13.6	7.2	5.7	31.8	32.0	18.6	9.7	9.8	16.5	12.3	12.8
Cycle Q Clear(q_c), s	3.3	13.6	7.2	5.7	31.8	32.0	18.6	9.7	9.8	16.5	12.3	12.8
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.22	1.00		0.70
Lane Grp Cap(c), veh/h	175	1301	580	128	688	667	733	349	353	334	306	286
V/C Ratio(X)	0.66	0.48	0.48	0.79	0.87	0.88	0.89	0.54	0.55	0.89	0.74	0.77
Avail Cap(c a), veh/h	222	1307	583	237	776	752	822	456	460	443	475	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	24.7	6.8	46.3	28.8	28.8	38.8	36.6	36.7	40.2	39.8	40.0
Incr Delay (d2), s/veh	4.7	0.3	0.6	10.2	9.9	10.5	11.0	1.3	1.3	16.2	3.5	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.5	4.5	2.8	14.6	14.3	8.7	4.2	4.3	8.5	5.5	5.4
Unsig. Movement Delay, s/veh		0.0	110	2.0	1 110	1 110	0.7		110	0.0	0.0	0.1
LnGrp Delay(d),s/veh	52.0	24.9	7.4	56.4	38.7	39.3	49.7	37.9	38.0	56.3	43.3	44.3
LnGrp LOS	D	С	Α	Е	D	D	D	D	D	Е	D	D
Approach Vol, veh/h		1014			1287			1034			744	
Approach Delay, s/veh		23.2			40.4			45.4			48.8	
Approach LOS		C C			D			D			D	
Approach E03					_			_			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	41.6	26.0	22.0	9.6	43.8	23.5	24.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	37.3	24.1	27.1	6.5	44.3	25.2	26.0				
Max Q Clear Time (g_c+I1), s	7.7	15.6	20.6	14.8	5.3	34.0	18.5	11.8				
Green Ext Time (p_c), s	0.1	5.0	0.9	2.0	0.0	5.3	0.5	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			38.9									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			લી	ĵ.	
Traffic Vol, veh/h	82	1	5	731	339	33
Future Vol. veh/h	82	1	5	731	339	33
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Jiup -	None	1166	None	1100	None
	0	None -				None -
Storage Length	-		-	-		
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	99	1	6	881	408	40
Marian/Minan	Minor2		NA-!1		Major2	
	1321		Major1 448	0		0
Conflicting Flow All		429			-	0
Stage 1	428	-	-	-	-	-
Stage 2	893	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	172	624	1107	-	-	-
Stage 1	655	-	-		-	
Stage 2	398					
Platoon blocked. %	0,0					
Mov Cap-1 Maneuver	170	623	1107			
Mov Cap-2 Maneuver	170	-	-	-	-	-
Stage 1	648	-	-	-		-
Stage 2	398	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	51.5		0.1		0	
HCM LOS	51.5 F		0.1		U	
HCW LUS	г					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1107	-	172		-
HCM Lane V/C Ratio		0.005	-	0.581	-	-
HCM Control Delay (s)	)	8.3	0	51.5	-	
HCM Lane LOS		Α	Α	F	-	-
HCM 95th %tile Q(veh	)	0	-	3.1		
TOW 7541 7641C Q(VCII	')	U		5.1		

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	¥			4	ĵ.	
Traffic Vol, veh/h	55	8	13	681	299	19
Future Vol, veh/h	55	8	13	681	299	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0			-		-
Veh in Median Storage	. # 2	-	-	0	0	-
Grade, %	0			0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	65	10	15	811	356	23
	00	.0	10	011	000	20
A 4 = i = = /A 4i = = =	W:		M-!1		4-10	
	Minor2		Major1		Major2	
Conflicting Flow All	1209	368	379	0	-	0
Stage 1	368	-	-	-		-
Stage 2	841		-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-		-
Critical Hdwy Stg 1	5.42		-	-	-	-
Critical Hdwy Stg 2	5.42	-		-	-	-
Follow-up Hdwy		3.318		-	-	-
Pot Cap-1 Maneuver	202	677	1179	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	197	677	1179		-	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	423	-	-	-	-	-
, and the second						
Approach	EB		NB		SB	
	16.2		0.2		<u> </u>	
HCM Control Delay, s			0.2		U	
HCM LOS	С					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1179	-	397	-	-
HCM Lane V/C Ratio		0.013	-	0.189	-	-
HCM Control Delay (s)		8.1	0	16.2		-
HCM Lane LOS		Α	Α	С		
LICM OF the Of tile Of year	١	0		0.7		

Intersection						
Intersection Delay, s/veh	41.8					
Intersection LOS	E					
	_					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	<b>Y</b>	WEIN	î,	HUIT	ODL	4
Traffic Vol, veh/h	21	601	84	7	259	45
Future Vol. veh/h	21	601	84	7	259	45
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0.63	0.63	0.63	0.63	0.63	0.63
Mymt Flow	25	724	101	8	312	54
Number of Lanes	25 1	724	101	0	312	1
		0		U		'
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	56.9		11.4		19.9	
HCM LOS	F		В		С	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	3%	85%		
Vol Thru, %		92%	0%	15%		
Vol Right, %		8%	97%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		91	622	304		
LT Vol		0	21	259		
Through Vol		84	0	45		
RT Vol		7	601	0		
Lane Flow Rate		110	749	366		
Geometry Grp		1	1	1		
Degree of Util (X)		0.201	1.008	0.639		
Departure Headway (Hd)		6.59	4.843	6.285		
Convergence, Y/N		Yes	Yes	Yes		
Cap		541	742	571		
Service Time		4.683	2.907	4.351		
HCM Lane V/C Ratio		0.203	1.009	0.641		
HCM Control Delay		11.4	56.9	19.9		
HCM Lane LOS		В	F	С		
HCM 95th-tile Q		0.7	17	4.5		
		0.7	.,	5		

-						
Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<u> </u>	1₃	7701	₩.	ODIN
Traffic Vol, veh/h	4	264	616	2	4	7
Future Vol. veh/h	4	264	616	2	4	7
Conflicting Peds, #/hr	6	0	010	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	Jiop -	None
Storage Length	50	NOTIC -		INUITE -	0	NUITE -
Veh in Median Storage		0	0		0	
Grade, %	-, #	0	0		0	
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	322	751	2	5	9
IVIVIIIL FIOW	0	322	731		0	9
Major/Minor	Major1	1	Najor2		Minor2	
Conflicting Flow All	759	0	-	0	1090	758
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-		5.42	
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-		3.518	3.318
Pot Cap-1 Maneuver	852	-	-	-	238	407
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	847		-		234	405
Mov Cap-2 Maneuver					234	-
Stage 1		-	-		457	
Stage 2					723	
			MD		00	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		16.7	
HCM LOS					С	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		847	-			320
HCM Lane V/C Ratio		0.006		-		0.042
HCM Control Delay (s)		9.3				16.7
HCM Lane LOS		A				С

Intersection					_							
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1		*	1,			44			44	
Traffic Vol, veh/h	12	271	1	1	578	20	3	0	1	30	0	30
Future Vol. veh/h	12	271	1	1	578	20	3	0	1	30	0	30
Conflicting Peds, #/hr	7	0	0	0	0.0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	- 100	-	None	-	- 100	None	-	Otop	None	Otop -	-	None
Storage Length	50		-	50		-			-			-
Veh in Median Storage		0		-	0			0			0	
Grade. %		0			0			0			0	
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	14	323	1	1	688	24	4	0	1	36	0	36
			·									
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	719	0	0	324	0	0	1072	1073	324	1061	1061	707
Stage 1				-	-		352	352		709	709	-
Stage 2			-		-		720	721	-	352	352	
Critical Hdwy	4.12			4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-		6.12	5.52	-	6.12	5.52	
Critical Hdwy Stg 2					-		6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	882	-	-	1236	-	-	198	220	717	202	224	435
Stage 1	-	-	-	-	-	-	665	632	-	425	437	-
Stage 2	-		-	-	-	-	419	432	-	665	632	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876			1236	-		179	215	717	198	219	432
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	215	-	198	219	-
Stage 1	-		-	-	-	-	654	622	-	415	434	-
Stage 2	-	-	-	-	-	-	384	429	-	653	622	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0			21.7			22.9		
HCM LOS							С			С		
Minor Lane/Major Mvn	nt I	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		220	876	-	-	1236	-	-	272			
HCM Lane V/C Ratio		0.022	0.016		-	0.001			0.263			
HCM Control Delay (s)		21.7	9.2	-	-	7.9	-		22.9			
HCM Lane LOS		С	Α		-	Α			С			
HCM 95th %tile Q(veh	)	0.1	0.1		-	0			1			
•												

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	<u>+</u>	1>	ALDI(	¥/	ODIN
Traffic Vol, veh/h	4	280	589	2	6	5
Future Vol. veh/h	4	280	589	2	6	5
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	- -	None
Storage Length	50	-		-	0	-
Veh in Median Storage		0	0		0	
Grade. %		0	0		0	
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	346	727	2	7	6
WWITE I IOW	J	340	121		- /	U
	Major1		Najor2		Vinor2	
Conflicting Flow All	738	0	-	0	1093	737
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	868	-	-	-	237	418
Stage 1			-	-	473	
Stage 2				-	709	
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	861				231	414
Mov Cap-2 Maneuver	-				231	
Stage 1					466	
Stage 2					703	
Jiage 2					,00	
A 1			MA		0.0	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		18.1	
HCM LOS					С	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		861		-		289
HCM Lane V/C Ratio		0.006				
HCM Control Delay (s)		9.2				18.1
HCM Lane LOS		Α.Δ				C
HCM 95th %tile Q(veh	١	0				0.1
HOW FORT JOINE CI(VEI)	,	U				0.1

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	<b>†</b>	1		W	
Traffic Vol, veh/h	54	247	456	39	21	135
Future Vol. veh/h	54	247	456	39	21	135
Conflicting Peds, #/hr	8	0	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- 100	None	- 1100	None	-	None
Storage Length	100	-		-	0	-
Veh in Median Storage	2.# -	0	0		0	
Grade. %		0	0		0	
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	64	291	536	46	25	159
WWITH TIOW	04	2/1	330	40	20	137
	Major1		Major2		Minor2	
Conflicting Flow All	590	0	-	0	986	567
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	419	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-		-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	990	-	-	-	276	525
Stage 1	-	-		-	570	
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	982	-	-	-	254	521
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	529	-
Stage 2					661	
Olago L					001	
Approach	EB		WB		SB	
HCM Control Delay, s	1.6		0		18.1	
HCM LOS					С	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		982	-			456
HCM Lane V/C Ratio		0.065				0.402
HCM Control Delay (s)	1	8.9				18.1
HCM Lane LOS		Α.				C
HCM 95th %tile Q(veh	)	0.2				1.9
HOW FOUT JOUILE CO(VEI)	1	0.2				1.9

Central Coast Transportation Consulting

Intersection				
Intersection Delay, s/veh	3.9			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	157	180	67	82
Demand Flow Rate, veh/h	158	182	68	83
Vehicles Circulating, veh/h	4	112	130	239
Vehicles Exiting, veh/h	318	86	32	55
Ped Vol Crossing Leg, #/h	0	0	0	8
Ped Cap Adj	1.000	1.000	1.000	0.999
Approach Delay, s/veh	3.5	4.2	3.5	4.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	158	182	68	83
			00	
Cap Entry Lane, veh/h	1374	1231	1209	1081
Entry HV Adj Factor	0.995	1231 0.990	1209 0.985	0.988
Entry HV Adj Factor Flow Entry, veh/h	0.995 157	1231 0.990 180	1209 0.985 67	0.988 82
Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	0.995 157 1367	1231 0.990 180 1219	1209 0.985 67 1190	0.988 82 1067
Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	0.995 157 1367 0.115	1231 0.990 180 1219 0.148	1209 0.985 67 1190 0.056	0.988 82 1067 0.077
Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	0.995 157 1367 0.115 3.5	1231 0.990 180 1219 0.148 4.2	1209 0.985 67 1190	0.988 82 1067
Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	0.995 157 1367 0.115	1231 0.990 180 1219 0.148	1209 0.985 67 1190 0.056	0.988 82 1067 0.077

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Intersection Summary

Reduced v/c Ratio

#### Movement 213 982 1077 88 196 Lane Configurations 0.30 0.12 0.32 Traffic Volume (vph) 0.2 20.6 4.0 39.3 12.2 Future Volume (vph) 211 972 1066 87 83 194 36.5 Ideal Flow (vphpl) 0.0 0.0 0.0 1900 1900 1900 1900 1900 1900 36.5 0.2 20.6 4.0 39.3 12.2 Total Lost time (s) 3.5 4.0 7.3 7.3 4.2 3.7 92 0 212 0 37 35 Lane Util. Factor 1.00 0.95 0.95 1.00 1.00 1.00 201 0 370 26 99 98 1.00 1 00 1.00 0.85 1.00 0.85 748 Flt Protected 0.95 1.00 1.00 0.95 345 330 450 Satd. Flow (prot) 1656 3312 3312 1482 1656 1482 Flt Permitted 3218 1442 0.95 1.00 1.00 1.00 0.95 1.00 Satd. Flow (perm) 1656 3312 3312 1482 1656 1482 Peak-hour factor, PHF 0.99 0.99 0.99 0.99 0.99 0.99 0 0 0 0 0 0 Adj. Flow (vph) 213 982 1077 84 196 88 0.30 0.33 0.06 0.12 0.16 RTOR Reduction (vph) Lane Group Flow (vph) 213 982 1077 41 84 148 Heavy Vehicles (%) 9% 9% 9% Turn Type Prot NA NA Perm Prot Prot Protected Phases 8 Free! Permitted Phases Actuated Green, G (s) 35.6 29.8 Effective Green, g (s) 76.4 35.6 35.6 29.8 Actuated g/C Ratio 0.23 1.00 0.47 0.47 0.11 0.39 Clearance Time (s) 3.5 7.3 7.3 4.2 3.7 Vehicle Extension (s) 3.0 3.0 4.0 3.5 3312 1543 690 186 578 Lane Grp Cap (vph) 372 v/s Ratio Prot c0.13 0.30 c0.05 0.10 v/s Ratio Perm 0.03 v/c Ratio 0.57 0.30 0.06 0.45 0.26 Uniform Delay, d1 26.3 0.0 16.1 11.2 31.7 15.8 Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00 Incremental Delay, d2 2.1 0.2 1.5 0.0 2.1 0.2 Delay (s) 28.5 17.7 11.3 33.8 16.0 0.2 Level of Service С Α В В В Approach Delay (s) Approach LOS Α В С Intersection Summary HCM 2000 Control Delay 12.2 HCM 2000 Level of Service В HCM 2000 Volume to Capacity ratio 0.63 Sum of lost time (s) Actuated Cycle Length (s) 15.0 76.4 Intersection Capacity Utilization 60.7% ICU Level of Service

! Phase conflict between lane groups.

15

179

47.7 32.2

52 225

112

225

0

811

32.2

382

1323

0

0.32

229

5.2 48.0

5.2 48.0

0 14 208

56

485 125

1173

0

0.20 0.08

49 740

40 356

0

0.73

36.3

0.0

36.3

2509

0

0.29 0.10

115

6.7 46.8

6.7

43 131

390

1145

0

0.22

220

0.51

0.0 0.0

46.8

64

160

0

0.31

243

0.31

31.0

31.0

58

117

0

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn

Total Delay

Existing Plus 674 Unit Project PM

179

47.7

0.0

47.7

52 153

112

140

702

0

0.25 0.35

276 294

46.5

0.0

46.5

304

0

0.53

9.5

0.0

9.5

9

90

0

Beechwood SP 2: Golden Hill Road & SR 46 E

## Existing Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	<b>^</b>	7	1,1	<b>^</b>	7	77	<b>†</b> 1>		1,1	<b>†</b>	7
Traffic Volume (veh/h)	174	787	222	48	718	112	213	191	45	174	268	285
Future Volume (veh/h)	174	787	222	48	718	112	213	191	45	174	268	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	179	811	229	49	740	115	220	197	46	179	276	294
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	270	1098	489	112	1080	481	320	703	160	272	432	366
Arrive On Green	0.08	0.32	0.32	0.03	0.32	0.32	0.10	0.25	0.25	0.08	0.24	0.24
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2758	630	3319	1796	1522
Grp Volume(v), veh/h	179	811	229	49	740	115	220	120	123	179	276	294
Grp Sat Flow(s), veh/h/ln	1659	1706	1521	1659	1706	1521	1659	1706	1681	1659	1796	1522
Q Serve(q s), s	4.1	16.4	6.0	1.1	14.7	4.3	5.0	4.4	4.6	4.1	10.7	14.1
Cycle Q Clear(q_c), s	4.1	16.4	6.0	1.1	14.7	4.3	5.0	4.4	4.6	4.1	10.7	14.1
Prop In Lane	1.00	10.4	1.00	1.00	14.7	1.00	1.00	4.4	0.37	1.00	10.7	1.00
Lane Grp Cap(c), veh/h	270	1098	489	112	1080	481	320	435	428	272	432	366
V/C Ratio(X)	0.66	0.74	0.47	0.44	0.69	0.24	0.69	0.28	0.29	0.66	0.64	0.80
Avail Cap(c a), veh/h	769	3077	1371	769	3077	1371	855	901	888	855	948	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	34.6	23.4	8.7		23.2		34.0	23.2				27.8
Uniform Delay (d), s/veh Incr Delay (d2), s/veh	2.8	1.0	0.7	36.8 1.0	0.8	19.6 0.3	2.6	0.3	23.3	34.6 2.7	26.5 1.6	4.1
Initial Q Delay(d3),s/veh		0.0								0.0		
	0.0	5.8	0.0	0.0	0.0 5.2	0.0	0.0	0.0 1.7	0.0 1.7		0.0	0.0 5.2
%ile BackOfQ(50%),veh/ln	1.6	5.8	2.9	0.4	5.2	1.4	2.0	1.7	1.7	1.7	4.4	5.2
Unsig. Movement Delay, s/veh	07.4	04.4	0.4	07.0	00.0	10.0	0//	00.5	00 /	07.0	00.0	24.0
LnGrp Delay(d),s/veh	37.4	24.4	9.4	37.8	23.9	19.9	36.6	23.5	23.6	37.3	28.0	31.9
LnGrp LOS	D	С	A	D	С	В	D	С	С	D	С	<u>C</u>
Approach Vol, veh/h		1219			904			463			749	
Approach Delay, s/veh		23.5			24.2			29.8			31.8	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	32.3	11.5	24.0	10.3	31.9	10.4	25.1				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q c+l1), s	3.1	18.4	7.0	16.1	6.1	16.7	6.1	6.6				
Green Ext Time (p_c), s	0.0	6.6	0.6	2.6	0.4	5.4	0.4	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			26.4									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	Φß		*	<b>†</b> 1>			4	7		4	7
Traffic Vol, veh/h	0	935	62	291	884	0	9	0	300	0	0	0
Future Vol. veh/h	0	935	62	291	884	0	9	0	300	0	0	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None			None	-	-	None	-	-	None
Storage Length	340	-	-	195		-			25			25
Veh in Median Storage,		0	-	-	0	-		0		-	0	-
Grade. %		0			0			0			0	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	7	7	7	7	7	7	7	7	7	7	7	7
Mymt Flow	0	964	64	300	911	0	9	0	309	0	0	0
		701	01	000	,,,		,		007			
Major/Minor N	lajor1		1	Major2		N	/linor1		. 1	/linor2		
Conflicting Flow All	912	0	0	1028	0	0	2052	2508	514	1994	2540	457
Stage 1		-	-	-	-	-	996	996		1512	1512	-
Stage 2							1056	1512		482	1028	
Critical Hdwy	4.24			4.24			7.64	6.64	7.04	7.64	6.64	7.04
Critical Hdwy Stg 1				-			6.64	5.64	-	6.64	5.64	-
Critical Hdwy Stg 2							6.64	5.64		6.64	5.64	
Follow-up Hdwy	2.27			2.27			3.57	4.07	3.37	3.57	4.07	3.37
Pot Cap-1 Maneuver	712			642			30	26	493	34	25	537
Stage 1				- 12			253	310	.,,	120	173	
Stage 2	-				-	-	232	173	-	521	299	-
Platoon blocked, %					-						,	
Mov Cap-1 Maneuver	711			642			19	14	493	8	13	536
Mov Cap-2 Maneuver	-		-	-			19	14	-	8	13	-
Stage 1							253	310		120	92	
Stage 2			-		-		124	92		194	299	
g											,	
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.8			32.2			0		
HCM LOS							D			Α		
Minor Lane/Major Mvmt		NBLn1 I		EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1	SBLn2	
Capacity (veh/h)		19	493	711	-	-	642	-	-	-	-	
HCM Lane V/C Ratio		0.488	0.627	-	-	-	0.467	-	-	-	-	
HCM Control Delay (s)	\$	313.6	23.8	0	-	-	15.4	-	-	0	0	
HCM Lane LOS		F	С	Α	-	-	С	-	-	Α	Α	
HCM 95th %tile Q(veh)		1.4	4.3	0		-	2.5					

Intersection							
Intersection Int Delay, s/veh	4.7						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	ሻ	<b>^</b>	<b>^</b> ^	7	ሻ	7	
Traffic Vol, veh/h	219	848	833	12	10	330	
Future Vol, veh/h	219	848	833	12	10	330	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-		-	None	
Storage Length	580	-	-	165	0	25	
Veh in Median Storage,		0	0	-	2	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	10	10	10	10	10	10	
Mvmt Flow	233	902	886	13	11	351	
Major/Minor N	Najor1	1	Major2	. 1	Minor2		
Conflicting Flow All	899	0	-	0	1803	443	
Stage 1	-	-	_	-	886	-	
Stage 2					917		
Critical Hdwy	4.3				717	7.1	
Critical Hdwy Stg 1	7.5				6	7.1	
Critical Hdwy Stg 2					6		
Follow-up Hdwy	2.3				3.6	3.4	
Pot Cap-1 Maneuver	703				65	541	
Stage 1	703		- 1		344	341	
Stage 2			-		331		
Platoon blocked, %			- 1		JJI		
Mov Cap-1 Maneuver	703				43	541	
Mov Cap-1 Maneuver	703				182	341	
Stage 1					230		
Stage 2					331		
Staye 2	-		-		331		
Approach	EB		WB		SB		
HCM Control Delay, s	2.6		0		23.2		
HCM LOS					С		
Minor Lane/Major Mvmt	+	EBL	EBT	WBT	WRD	SBLn1	CRI n2
	ı						
Capacity (veh/h)		703	-	-	-	182	541
HCM Carter Dalay (a)		0.331	-				0.649
HCM Control Delay (s)		12.6	-	-	-	26	23.1
HCM Lane LOS		В	-	-	-	D	С
HCM 95th %tile Q(veh)		1.5	-	-	-	0.2	4.6

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	44	7	7	ħβ			ની	7		44	
Traffic Vol, veh/h	0	893	10	1	839	0	17	0	4	0	0	1
Future Vol, veh/h	0	893	10	1	839	0	17	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-		None	-	-	None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-		2	-	-	2	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	921	10	1	865	0	18	0	4	0	0	1
Major/Minor N	Najor1		1	Major2			Vinor1		-	Minor2		
Conflicting Flow All	865	0	0	931	0	0	1356	1788	461	1328	1798	433
Stage 1				-			921	921	-	867	867	-
Stage 2							435	867		461	931	
Critical Hdwy	4.34		-	4.34			7.74	6.74	7.14	7.74	6.74	7.14
Critical Hdwy Stg 1							6.74	5.74	-	6.74	5.74	
Critical Hdwy Stg 2							6.74	5.74		6.74	5.74	
Follow-up Hdwy	2.32		-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42
Pot Cap-1 Maneuver	713		-	672			99	72	521	104	71	544
Stage 1	-		-	-			272	326		294	346	
Stage 2	-		-	-			544	346	-	524	322	
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	713			672			99	72	521	103	71	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	235	-	256	233	-
Stage 1	-	-	-	-	-	-	272	326	-	294	346	-
Stage 2	-	-	-	-	-	-	542	346	-	520	322	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			19.3			11.6		
HCM LOS	- 3			- 3			C			В		
Minor Lane/Major Mvm	1	VBLn1 I	NRI n2	EBL	EBT	EBR	WBL	WBT	WBR :	SRI n1		
Capacity (veh/h)		242	521	713	LUI	LDI	672	WDI	WDI(	544		
HCM Lane V/C Ratio		0.072		/13						0.002		
HCM Control Delay (s)		21	12	0			10.4		-	11.6		
HCM Lane LOS		C	B	A			10.4 B			11.0 B		
HOM CELL OVER CO. 17		0.0	D	A	-	-	D	-	-	D		

0.2 0 0 - - 0 - -

Intersection												
Intersection Delay, s/veh	64.9											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EDL		EDR	WDL		NDK			NDK 7	SDL		JDR
Traffic Vol, veh/h	<b>6</b> 3	<b>↑</b>	61	268	<b>1</b> 35	97	49	234	252	29	<b>41 3</b> 76	90
Future Vol, veh/h	63	199	61	268	185	97	49	234	252	29	376	90
	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Peak Hour Factor Heavy Vehicles, %	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Mvmt Flow	68	214	66	288	199	104	53	252	271	31	404	97
Number of Lanes	1	1	00	288	199	0	1	202	1	0	404	97
			0			0		- 1	- 1		2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			3			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			2			2			2		
HCM Control Delay	67.6			79.7			48.2			64.9		
HCM LOS	F			F			Е			F		
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %		100%	0%	0%	100%	0%	100%	0%	13%	0%		
Vol Thru, %		0%	100%	0%	0%	77%	0%	66%	87%	68%		
Vol Right, %		0%	0%	100%	0%	23%	0%	34%	0%	32%		
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop		
Traffic Vol by Lane		49	234	252	63	260	268	282	217	278		
LT Vol		49	0	0	63	0	268	0	29	0		
Through Vol		0	234	0	0	199	0	185	188	188		
RT Vol		0	0	252	0	61	0	97	0	90		
Lane Flow Rate		53	252	271	68	280	288	303	233	299		
Geometry Grp		8	8	8	8	8	8	8	8	8		
Degree of Util (X)		0.18	0.824	0.831	0.245	0.957	0.976	0.962	0.777	0.969		
Departure Headway (Hd)		12.311	11.783	11.045	13.017	12.319	12.194	11.416	11.983	11.671		
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Cap		292	309	328	276	294	300	318	303	311		
Service Time		10.042	9.514	8.776	10.785	10.086	9.929	9.151	9.718	9.406		
		0.182	0.816	0.826	0.246	0.952	0.96	0.953	0.769	0.961		
HCM Lane V/C Ratio		0.102										
		17.7	52	50.5	20	79.1	83	76.5	46.5	79.2		
HCM Lane V/C Ratio HCM Control Delay HCM Lane LOS				50.5 F	20 C	79.1 F	83 F	76.5 F				
HCM Control Delay		17.7	52	50.5	20	79.1			46.5	79.2		

#### Beechwood SP 7: Riverside Ave & 13th Street

# Existing Plus 674 Unit Project PM Queues

	•	-	•	<b>←</b>	•	1	<b>†</b>	1	1	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	16	460	255	432	557	6	39	281	324	334	91	
v/c Ratio	0.14	0.64	0.68	0.53	0.56	0.03	0.21	0.68	0.71	0.72	0.18	
Control Delay	51.5	38.1	44.6	24.1	4.5	43.2	44.7	14.9	40.3	40.6	2.4	
Queue Delay	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.5	38.1	44.6	24.6	4.8	43.2	44.7	14.9	40.3	40.6	2.4	
Queue Length 50th (ft)	8	118	128	153	0	3	20	0	164	169	0	
Queue Length 95th (ft)	36	222	266	362	72	17	60	81	341	351	13	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	115	1060	579	1050	1115	404	425	579	674	685	700	
Starvation Cap Reductn	0	0	9	286	145	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.43	0.45	0.57	0.57	0.01	0.09	0.49	0.48	0.49	0.13	
Intersection Summary												

Beechwood SP 7: Riverside Ave & 13th Street

# Existing Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		ň	<b>*</b>	7	ሻ	<b>^</b>	7		ર્ન	7
Traffic Volume (veh/h)	15	401	31	240	406	524	6	37	264	535	84	86
Future Volume (veh/h)	15	401	31	240	406	524	6	37	264	535	84	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	16	427	33	255	432	557	6	39	281	633	0	91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	32	840	65	295	746	617	339	356	302	766	0	339
Arrive On Green	0.02	0.25	0.25	0.16	0.40	0.40	0.19	0.19	0.19	0.21	0.00	0.21
Sat Flow, veh/h	1795	3368	259	1795	1885	1559	1795	1885	1598	3591	0	1590
Grp Volume(v), veh/h	16	226	234	255	432	557	6	39	281	633	0	91
Grp Sat Flow(s), veh/h/ln	1795	1791	1836	1795	1885	1559	1795	1885	1598	1795	0	1590
Q Serve(g_s), s	0.9	10.6	10.7	13.5	17.6	32.9	0.3	1.7	16.9	16.5	0.0	4.7
Cycle Q Clear(g_c), s	0.9	10.6	10.7	13.5	17.6	32.9	0.3	1.7	16.9	16.5	0.0	4.7
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	32	447	458	295	746	617	339	356	302	766	0	339
V/C Ratio(X)	0.49	0.51	0.51	0.86	0.58	0.90	0.02	0.11	0.93	0.83	0.00	0.27
Avail Cap(c_a), veh/h	97	448	460	486	880	728	339	356	302	1193	0	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	31.5	31.6	39.8	23.2	27.8	32.3	32.9	39.0	36.8	0.0	32.1
Incr Delay (d2), s/veh	11.2	0.9	0.9	8.7	0.7	13.2	0.0	0.1	34.0	2.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.7	4.9	6.6	7.7	14.0	0.1	0.8	9.3	7.3	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	32.5	32.5	48.5	23.9	41.0	32.3	33.0	73.0	39.6	0.0	32.5
LnGrp LOS	Е	С	С	D	С	D	С	С	Е	D	Α	С
Approach Vol, veh/h		476			1244			326			724	
Approach Delay, s/veh		33.4			36.6			67.5			38.7	
Approach LOS		С			D			Е			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.6	28.9		25.4	6.3	43.2		23.0				_
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	24.5		32.5	5.3	45.7		18.5				
Max Q Clear Time (q c+l1), s	15.5	12.7		18.5	2.9	34.9		18.9				
Green Ext Time (p c), s	0.6	2.2		2.4	0.0	3.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			40.2									
HCM 6th LOS			40.2 D									
TIOW OUI EOS			U									

Notes
User approved volume balancing among the lanes for turning movement.

Central Coast Transportation Consulting

Existing Plus 674 Unit Project PM
Queues

Beechwood SP 8: Paso Robles Street & 13th Street

# Existing Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	•	-	•	-	*		<b>†</b>		-	ļ	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	89	1187	20	952	252	263	30	438	8	26	
v/c Ratio	0.39	0.64	0.13	0.64	0.33	0.62	0.05	0.74	0.02	0.04	
Control Delay	42.5	17.0	45.5	22.1	6.8	32.1	21.7	24.9	21.7	0.1	
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.5	17.3	45.5	22.1	6.8	32.1	21.7	24.9	21.7	0.1	
Queue Length 50th (ft)	40	168	9	189	17	108	10	122	3	0	
Queue Length 95th (ft)	107	408	38	344	79	221	33	273	14	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	339	2408	149	2173	1027	791	1069	975	789	1001	
Starvation Cap Reductn	0	587	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.65	0.13	0.44	0.25	0.33	0.03	0.45	0.01	0.03	
Intersection Summary											

	ၨ	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	ħβ		ň	<b>^</b>	7	Ť	<b>^</b>	7		- 1}	
Traffic Volume (veh/h)	83	1074	30	19	885	234	245	28	407	7	0	24
Future Volume (veh/h)	83	1074	30	19	885	234	245	28	407	7	0	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	89	1155	32	20	952	0	263	30	438	8	0	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	116	1584	44	42	1447		547	611	518	402	0	518
Arrive On Green	0.06	0.45	0.45	0.02	0.40	0.00	0.32	0.32	0.32	0.32	0.00	0.32
Sat Flow, veh/h	1795	3557	99	1795	3582	1598	1396	1885	1598	932	0	1598
Grp Volume(v), veh/h	89	581	606	20	952	0	263	30	438	8	0	26
Grp Sat Flow(s), veh/h/ln	1795	1791	1864	1795	1791	1598	1396	1885	1598	932	0	1598
Q Serve(g_s), s	3.2	17.4	17.4	0.7	14.0	0.0	10.4	0.7	16.6	0.4	0.0	0.7
Cycle Q Clear(g_c), s	3.2	17.4	17.4	0.7	14.0	0.0	11.1	0.7	16.6	1.1	0.0	0.7
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	798	830	42	1447		547	611	518	402	0	518
V/C Ratio(X)	0.77	0.73	0.73	0.48	0.66		0.48	0.05	0.85	0.02	0.00	0.05
Avail Cap(c_a), veh/h	345	1335	1389	152	2284		899	1086	920	638	0	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	14.8	14.8	31.4	15.8	0.0	18.9	15.1	20.5	15.5	0.0	15.1
Incr Delay (d2), s/veh	10.0	1.3	1.2	8.2	0.5	0.0	0.7	0.0	3.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	6.5	6.7	0.4	5.2	0.0	3.1	0.3	6.1	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	16.1	16.1	39.6	16.3	0.0	19.6	15.1	24.4	15.5	0.0	15.2
LnGrp LOS	D	В	В	D	В		В	В	С	В	Α	В
Approach Vol, veh/h		1276			972	А		731			34	
Approach Delay, s/veh		17.8			16.7			22.3			15.2	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	33.5		25.6	8.7	30.8		25.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	48.5		37.5	12.5	41.5		37.5				
Max Q Clear Time (g c+l1), s	2.7	19.4		3.1	5.2	16.0		18.6				
Green Ext Time (p_c), s	0.0	9.6		0.1	0.1	7.6		2.5				
Intersection Summary			10.5									
HCM 6th Ctrl Delay			18.5									
HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

### Beechwood SP 9: River Road & Creston Road

# Existing Plus 674 Unit Project PM Queues

	•	$\rightarrow$	•	-	1	1	1	-	ţ
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	379	1168	63	684	263	217	67	60	521
v/c Ratio	0.63	0.75	0.38	0.58	0.57	0.26	0.14	0.37	0.72
Control Delay	43.6	25.0	53.0	27.8	46.8	34.5	0.6	53.6	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	25.0	53.0	27.8	46.8	34.5	0.6	53.6	25.7
Queue Length 50th (ft)	109	288	36	167	76	59	0	34	76
Queue Length 95th (ft)	191	447	93	275	145	108	0	90	155
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	861	2128	216	1731	581	1168	614	200	1070
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.55	0.29	0.40	0.45	0.19	0.11	0.30	0.49
Intersection Summary									

Beechwood SP 9: River Road & Creston Road Existing Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	-	•	1	-	•	4	<b>†</b>	-	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	75	<b>↑</b> 1>		*	ħβ		ሻሻ	<b>^</b>	7	*	<b>↑</b> ↑	
Traffic Volume (veh/h)	360	771	338	60	581	68	250	206	64	57	208	287
Future Volume (veh/h)	360	771	338	60	581	68	250	206	64	57	208	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	379	812	0	63	612	72	263	217	67	60	219	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	553	1397		100	925	109	404	633	282	97	412	
Arrive On Green	0.16	0.39	0.00	0.06	0.29	0.29	0.12	0.18	0.18	0.05	0.12	0.00
Sat Flow, veh/h	3483	3676	0	1795	3223	378	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	379	812	0	63	340	344	263	217	67	60	219	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1811	1742	1791	1598	1795	1791	0
Q Serve(q_s), s	5.7	10.0	0.0	1.9	9.3	9.3	4.0	3.0	2.0	1.8	3.2	0.0
Cycle Q Clear(q_c), s	5.7	10.0	0.0	1.9	9.3	9.3	4.0	3.0	2.0	1.8	3.2	0.0
Prop In Lane	1.00	10.0	0.00	1.00	7.0	0.21	1.00	0.0	1.00	1.00	0.2	0.00
Lane Grp Cap(c), veh/h	553	1397	0.00	100	514	520	404	633	282	97	412	0.00
V/C Ratio(X)	0.69	0.58		0.63	0.66	0.66	0.65	0.34	0.24	0.62	0.53	
Avail Cap(c a), veh/h	1345	3441		338	1367	1382	907	1820	812	313	1511	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.1	13.4	0.0	25.7	17.5	17.5	23.5	20.1	19.7	25.8	23.2	0.0
Incr Delay (d2), s/veh	1.5	0.4	0.0	6.3	1.5	1.5	1.8	0.3	0.4	6.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	3.5	0.0	0.9	3.5	3.6	1.6	1.1	0.7	0.9	1.2	0.0
Unsig. Movement Delay, s/veh		3.3	0.0	0.7	3.3	3.0	1.0	1.1	0.7	0.7	1.2	0.0
LnGrp Delay(d),s/veh	23.6	13.8	0.0	32.0	18.9	18.9	25.3	20.4	20.1	31.9	24.3	0.0
LnGrp LOS	C	В	0.0	C	В	В	C	C	C	C	C C	0.0
Approach Vol, veh/h		1191	А		747			547			279	А
Approach Delay, s/veh		16.9	А		20.0			22.7			25.9	М
Approach LOS		В			20.0 C			C C			23.7 C	
					C						C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	26.2	11.0	10.9	13.3	20.5	7.5	14.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	53.5	14.5	23.5	21.5	42.5	9.7	28.3				
Max Q Clear Time (g_c+l1), s	3.9	12.0	6.0	5.2	7.7	11.3	3.8	5.0				
Green Ext Time (p_c), s	0.1	6.9	0.6	1.1	1.1	4.5	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			19.8									
HCM 6th LOS			В									

Notes
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

WBT

0.63

94

0

0.14 0.35 0.30 0.09

313

522

0.54

26.4

0.0

26.4

256

120

0

80

73

9.1

0.0

9.1

0

40

0

416 861

0.24

10.9 16.9

0.0

10.9 16.9

1151 2310

0

3008 2439

0.23

37.4

37.4

19 31

88 139

125

353

0

Lane Group

Control Delay Queue Delay

v/c Ratio

Lane Group Flow (vph)

Total Delay
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn

Storage Cap Reductn Reduced v/c Ratio

Intersection Summary

10. Cleston Road	& Coluc	11 1 11111 1	toau				Treivi Signalized Intersection capacity And
	*	-	•	*	-	4	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	*	<b>^</b>	<b>†</b> 1>		ሻሻ	7	
Traffic Volume (vph)	56	404	442	393	506	71	
Future Volume (vph)	56	404	442	393	506	71	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.93		1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3574	3298		3467	1599	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)	1787	3574	3298		3467	1599	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	58	416	456	405	522	73	
RTOR Reduction (vph)	0	0	128	0	0	54	
Lane Group Flow (vph)	58	416	733	0	522	19	
Confl. Peds. (#/hr)	30	410	733	4	322	17	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
Turn Type	Prot	NA	NA	1 70	Perm	Perm	
Protected Phases	5	2	NA 6		reiiii	reilli	
Permitted Phases	3		O		4	4	
Actuated Green, G (s)	4.4	32.7	23.8		17.4	17.4	
Effective Green, g (s)	4.4	32.7	23.8		17.4	17.4	
Actuated g/C Ratio	0.07	0.49	0.36		0.26	0.26	
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	
	118	1760	1182		908	419	
Lane Grp Cap (vph) v/s Ratio Prot					908	419	
	c0.03	0.12	c0.22		0.45	0.04	
v/s Ratio Perm	0.40	0.24	0.72		c0.15	0.01	
v/c Ratio	0.49	0.24	0.62		0.57	0.05	
Uniform Delay, d1	29.9	9.7	17.6		21.3	18.3	
Progression Factor	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.2	0.1	1.0		0.9	0.0	
Delay (s)	33.1	9.7	18.6		22.2	18.3	
Level of Service	С	A	B		C	В	
Approach Delay (s)		12.6	18.6		21.7		
Approach LOS		В	В		С		
Intersection Summary			10.1		014.0000	1 1 60 1	
HCM 2000 Control Delay			18.1	Н	CM 2000	Level of Servic	е В
HCM 2000 Volume to Capa	acity ratio		0.56				***
Actuated Cycle Length (s)			66.4		um of lost		18.0
Intersection Capacity Utiliza	ation		54.9%	IC	:U Level o	of Service	A
Analysis Period (min)			15				

### Beechwood SP

#### 11: Creston Road & Niblick Road/Sherwood Road

### Existing Plus 674 Unit Project PM

	<b>*</b>	-	*	1	←	4	1	-	. ↓	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	164	325	301	110	542	193	392	205	622	
v/c Ratio	0.61	0.64	0.47	0.52	0.66	0.67	0.48	0.67	0.73	
Control Delay	43.8	34.1	6.1	45.5	22.4	45.9	28.6	43.9	31.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.8	34.1	6.1	45.5	22.4	45.9	28.6	43.9	31.9	
Queue Length 50th (ft)	81	157	0	55	83	95	90	101	148	
Queue Length 95th (ft)	152	256	61	113	144	#193	142	182	217	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	345	600	705	249	1028	345	986	392	1079	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.54	0.43	0.44	0.53	0.56	0.40	0.52	0.58	

Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Existing Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>—</b>	*	4	†	1	/	<b>+</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b>	7	ሻ	<b>↑</b> ↑		ሻ	<b>↑</b> ↑		ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	157	312	289	106	292	228	185	334	42	197	464	133
Future Volume (veh/h)	157	312	289	106	292	228	185	334	42	197	464	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	325	301	110	304	238	193	348	44	205	483	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	487	406	142	424	322	241	750	94	256	667	191
Arrive On Green	0.12	0.26	0.26	0.08	0.22	0.22	0.14	0.24	0.24	0.14	0.24	0.24
Sat Flow, veh/h	1781	1870	1559	1781	1901	1445	1781	3168	397	1781	2724	779
Grp Volume(v), veh/h	164	325	301	110	283	259	193	194	198	205	314	308
Grp Sat Flow(s),veh/h/ln	1781	1870	1559	1781	1777	1569	1781	1777	1788	1781	1777	1726
Q Serve(g_s), s	5.8	10.0	11.4	3.9	9.5	9.9	6.8	6.0	6.1	7.2	10.4	10.6
Cycle Q Clear(g_c), s	5.8	10.0	11.4	3.9	9.5	9.9	6.8	6.0	6.1	7.2	10.4	10.6
Prop In Lane	1.00		1.00	1.00		0.92	1.00		0.22	1.00		0.45
Lane Grp Cap(c), veh/h	209	487	406	142	396	350	241	421	423	256	435	423
V/C Ratio(X)	0.78	0.67	0.74	0.77	0.72	0.74	0.80	0.46	0.47	0.80	0.72	0.73
Avail Cap(c_a), veh/h	401	697	581	290	552	487	401	579	583	456	634	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	21.3	21.8	29.1	23.1	23.3	27.0	21.1	21.1	26.7	22.3	22.4
Incr Delay (d2), s/veh	6.4	1.6	3.0	8.5	2.7	3.7	6.0	0.8	0.8	5.8	2.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	4.1	4.0	1.9	3.9	3.6	3.1	2.4	2.4	3.2	4.2	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	22.9	24.9	37.6	25.8	27.0	33.0	21.8	21.9	32.5	24.6	24.8
LnGrp LOS	С	С	С	D	С	С	С	С	С	С	С	С
Approach Vol, veh/h		790			652			585			827	
Approach Delay, s/veh		26.0			28.3			25.6			26.6	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	19.8	9.7	21.3	13.2	20.3	12.1	18.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	21.0	10.5	24.0	14.5	23.0	14.5	20.0				
Max Q Clear Time (q_c+l1), s	9.2	8.1	5.9	13.4	8.8	12.6	7.8	11.9				
Green Ext Time (p_c), s	0.3	1.8	0.1	2.2	0.2	2.7	0.2	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.6									
HCM 6th LOS			С									

Synchro 10 Report Page 27 Synchro 10 Report Page 29 Central Coast Transportation Consulting Central Coast Transportation Consulting

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Intersection Delay, s/veh	14.9											
Intersection LOS	В											
intersection 203												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		44			4				ર્ન	7		414
Traffic Vol, veh/h	8	2	7	124	3	142	0	10	231	190	219	223
Future Vol, veh/h	8	2	7	124	3	142	0	10	231	190	219	223
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	9	2	8	133	3	153	0	11	248	204	235	240
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	10.2			14.5				12.6			17.5	
HCM LOS	В			В				В			С	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		4%	0%	47%	46%	66%	0%					
Vol Thru, %		96%	0%	12%	1%	34%	90%					
Vol Right, %		0%	100%	41%	53%	0%	10%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		241	190	17	269	331	124					
LT Vol		10	0	8	124	219	0					
Through Vol		231	0	2	3	112	112					
RT Vol		0	190	7	142	0	12					
Lane Flow Rate		259	204	18	289	355	133					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.45	0.313	0.035	0.481	0.639	0.224					
Departure Headway (Hd)		6.249	5.516	6.855	5.986	6.477	6.071					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Сар		575	648	518	599	554	590					
Service Time		4.011	3.277	4.954	4.046	4.236	3.83					
HCM Lane V/C Ratio		0.45	0.315	0.035	0.482	0.641	0.225					
HCM Control Dolay		1/1	10.0	10.2	115	20.1	10 /					

Intersection Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	Դ		7		- 7
Traffic Vol, veh/h	100	4	11	4	1	38	19	350	10	48	440	126
Future Vol, veh/h	100	4	11	4	1	38	19	350	10	48	440	126
Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	
Grade, %		0			0		-	0		-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	101	4	11	4	1	38	19	354	10	48	444	127
Major/Minor 1	Minor2			Minor1			Wajor1			Major2		
Conflicting Flow All	966	947	449	1008	1069	363	576	0	0	364	0	0
Stage 1	545	545		397	397		-	-		-		
Stage 2	421	402		611	672		-	-		-		-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	235	262	612	220	222	684	1002	-		1200		
Stage 1	524	520	-	631	605	-	-	-	-	-	-	-
Stage 2	612	602	-	483	456	-	-	-	-	-		
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	209	245	609	204	208	681	997	-		1200		
Mov Cap-2 Maneuver	209	245	-	204	208	-	-	-	-	-	-	-
Stage 1	511	497	-	619	594	-	-	-	-	-	-	-
Stage 2	563	591	-	452	435	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	37.2			12.3			0.4			0.6		
HCM LOS	F			В			0.1			0.0		
	_											
Minor Lane/Major Mvm	ıt	NBL	NBT	NRP	EBLn1\	NRI n1	SBL	SBT	SBR			
Capacity (veh/h)		997	INDI	TTDA	224	536	1200	351	JUIN			
HCM Lane V/C Ratio		0.019					0.04					
HCM Control Delay (s)		8.7			37.2	12.3	8.1					
HCM Lane LOS		Α.			57.2 F	12.3 B	Α					
LICM OF the O/tile O/trob)		0.1			2.7	0.2	0.1					

0.1 - - 2.7 0.3 0.1 - -

14.1 10.8

2.3

1.3

10.2

0.1

14.5

2.6

20.1

4.5

10.6

HCM Control Delay HCM Lane LOS

HCM 95th-tile Q

Beechwood SP

14: Creston Road & Charolais Road

Intersection		
Intersection Delay, s/veh Intersection LOS		
Intersection LOS		

La	onfigurations						
	once of illyurations						
Ti	raffic Vol, veh/h	12					
F	uture Vol, veh/h	12					
P	eak Hour Factor	0.93					
Н	eavy Vehicles, %	1					
M	lvmt Flow	13					
N	umber of Lanes	0					

# Approach Opposing Approach Opposing Lanes Conflicting Approach Left Conflicting Lanes Left Conflicting Approach Right

Conflicting Lanes Right HCM Control Delay HCM LOS

### Beechwood SP

# Existing Plus 674 Unit Project PM HCM Unsignalized Intersection Capacity Analysis

15: US 101 SB Ramp & Pine Street & Riverside Avenue

	•	-	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					ĵ»	
Traffic Volume (veh/h)	27	0	67	0	125	14	0	0	0	0	283	34
Future Volume (Veh/h)	27	0	67	0	125	14	0	0	0	0	283	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	32	0	80	0	149	17	0	0	0	0	337	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	440	357	357	437	377	0	377			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	440	357	357	437	377	0	377			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	88	100	73	98	100			100		
cM capacity (veh/h)	413	571	689	470	556	1088	1187			1630		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	112	166	377									
Volume Left	32	0	0									
Volume Right	80	17	40									
:SH	579	603	1700									
Volume to Capacity	0.19	0.28	0.22									
Queue Length 95th (ft)	18	28	0									
Control Delay (s)	12.7	13.2	0.0									
Lane LOS	В	В										
Approach Delay (s)	12.7	13.2	0.0									
Approach LOS	В	В										
Intersection Summary												
Average Delay			5.5									
Intersection Capacity Utilizat	ion		39.2%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

Beechwood SP

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Existing Plus 674 Unit Project PM

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	•	<b>→</b>	•	<b>←</b>	4	4	†	~	/	Ţ	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	47	381	637	184	408	96	354	1007	549	300	
//c Ratio	0.17	0.69	0.61	0.32	0.40	0.54	0.66	0.75	0.73	0.32	
Control Delay	50.4	53.7	40.1	36.7	2.8	67.5	56.7	16.9	51.4	35.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.4	53.7	40.1	36.7	2.8	67.5	56.7	16.9	51.4	35.0	
Queue Length 50th (ft)	33	143	214	109	4	74	142	157	212	94	
Queue Length 95th (ft)	79	226	342	212	52	149	221	258	309	150	
nternal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	379	748	1255	681	1128	252	877	1513	1065	1441	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.51	0.51	0.27	0.36	0.38	0.40	0.67	0.52	0.21	
ntersection Summary											

Central Coast Transportation Consulting
Synchro 10 Report
Page 39

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Existing Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	•	$\rightarrow$	7	1	-	•	1	1		-	¥	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> ↑		ሻሻ	<b>*</b>	7	*	<b>^</b>	77	ሻሻ	<b>∱</b> β	
Traffic Volume (veh/h)	46	276	93	618	178	396	93	343	977	533	236	55
Future Volume (veh/h)	46	276	93	618	178	396	93	343	977	533	236	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	47	285	96	637	184	408	96	354	1007	549	243	57
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	251	368	121	885	479	696	121	872	1399	647	1018	234
Arrive On Green	0.14	0.14	0.14	0.25	0.25	0.25	0.07	0.24	0.24	0.19	0.35	0.35
Sat Flow, veh/h	1795	2636	868	3483	1885	1572	1795	3582	2812	3483	2891	665
Grp Volume(v), veh/h	47	191	190	637	184	408	96	354	1007	549	149	151
Grp Sat Flow(s), veh/h/ln	1795	1791	1713	1742	1885	1572	1795	1791	1406	1742	1791	1765
Q Serve(q s), s	2.7	11.9	12.4	19.3	9.3	22.7	6.1	9.6	28.2	17.6	6.8	7.0
Cycle Q Clear(q_c), s	2.7	11.9	12.4	19.3	9.3	22.7	6.1	9.6	28.2	17.6	6.8	7.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	251	250	239	885	479	696	121	872	1399	647	630	621
V/C Ratio(X)	0.19	0.77	0.79	0.72	0.38	0.59	0.79	0.41	0.72	0.85	0.24	0.24
Avail Cap(c a), veh/h	378	377	361	1251	677	861	251	872	1399	1062	731	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	48.0	48.2	39.4	35.7	24.5	53.2	36.8	21.7	45.6	26.5	26.6
Incr Delay (d2), s/veh	0.4	5.1	6.8	1.2	0.5	0.8	10.8	0.3	1.8	3.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.7	5.8	8.2	4.3	8.2	3.0	4.1	14.7	7.9	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	53.1	55.0	40.6	36.2	25.3	64.0	37.1	23.5	49.2	26.7	26.8
LnGrp LOS	D	D	Е	D	D	С	Е	D	С	D	С	С
Approach Vol, veh/h		428			1229			1457			849	
Approach Delay, s/yeh		53.0			34.9			29.5			41.3	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.2	34.0		20.8	13.6	46.6		34.8				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 35	28.2		24.4	16.2	* 47		41.6				
Max Q Clear Time (q c+l1), s	19.6	30.2		14.4	8.1	9.0		24.7				
Green Ext Time (p_c), s	1.9	0.0		1.8	0.1	1.9		4.7				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Beechwood SP 17: S. River Road & Niblick Road Existing Plus 674 Unit Project PM

	<b>≯</b>	<b>→</b>	$\rightarrow$	1	<b>←</b>	4	<b>†</b>	-	ļ
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	252	821	578	101	758	400	323	158	525
v/c Ratio	0.57	0.64	0.64	0.51	0.69	0.70	0.40	0.62	0.72
Control Delay	48.9	31.2	8.3	55.4	33.4	48.3	34.1	53.9	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	31.2	8.3	55.4	33.4	48.3	34.1	53.9	41.8
Queue Length 50th (ft)	79	237	30	62	215	126	87	97	157
Queue Length 95th (ft)	139	358	152	132	324	207	151	185	243
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	568	1531	976	274	1465	715	1026	368	1021
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.54	0.59	0.37	0.52	0.56	0.31	0.43	0.51
Intersection Summary									

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	<b>^</b>	7	ሻ	<b>↑</b> ↑		1,1	<b>∱</b> ∱		7	<b>♦</b> ⊅	
Traffic Volume (veh/h)	242	788	555	97	606	122	384	256	54	152	382	122
Future Volume (veh/h)	242	788	555	97	606	122	384	256	54	152	382	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	252	821	578	101	631	127	400	267	56	158	398	127
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	357	1202	536	132	910	183	520	720	149	200	550	174
Arrive On Green	0.10	0.34	0.34	0.07	0.31	0.31	0.15	0.24	0.24	0.11	0.21	0.21
Sat Flow, veh/h	3483	3582	1598	1795	2970	597	3483	2956	610	1795	2676	844
Grp Volume(v), veh/h	252	821	578	101	380	378	400	160	163	158	265	260
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1795	1791	1776	1742	1791	1775	1795	1791	1729
Q Serve(g_s), s	5.3	15.1	15.3	4.2	14.2	14.3	8.4	5.7	5.8	6.5	10.5	10.7
Cycle Q Clear(g_c), s	5.3	15.1	15.3	4.2	14.2	14.3	8.4	5.7	5.8	6.5	10.5	10.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.34	1.00		0.49
Lane Grp Cap(c), veh/h	357	1202	536	132	549	544	520	436	432	200	368	356
V/C Ratio(X)	0.71	0.68	1.08	0.77	0.69	0.69	0.77	0.37	0.38	0.79	0.72	0.73
Avail Cap(c_a), veh/h	708	1903	849	342	928	920	891	646	640	459	646	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	21.8	9.0	34.7	23.3	23.3	31.2	24.0	24.0	33.0	28.2	28.3
Incr Delay (d2), s/veh	2.6	0.7	51.1	9.0	1.6	1.6	2.4	0.5	0.5	6.8	2.6	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.8	11.7	2.1	5.7	5.7	3.5	2.3	2.3	3.1	4.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	22.5	60.2	43.7	24.9	24.9	33.6	24.5	24.6	39.8	30.9	31.2
LnGrp LOS	D	С	F	D	С	С	С	С	С	D	С	С
Approach Vol, veh/h		1651			859			723			683	
Approach Delay, s/veh		37.7			27.1			29.5			33.1	
Approach LOS		D			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	30.1	15.9	20.2	12.3	27.9	13.0	23.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	40.5	19.5	27.5	15.5	39.5	19.5	27.5				
Max Q Clear Time (q c+l1), s	6.2	17.3	10.4	12.7	7.3	16.3	8.5	7.8				
Green Ext Time (p_c), s	0.1	8.3	1.0	2.6	0.5	4.6	0.3	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			33.1									
HCM 6th LOS			С									

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	LDIN	INDL	4	<u>381</u>	JUIN
Traffic Vol, veh/h	44	2	4	440	744	83
Future Vol. veh/h	44	2	4	440	744	83
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None	riee -	None	Free	None
	-					
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	2	4	458	775	86
Major/Minor	Minor2		Major1	1	Major2	
Conflicting Flow All	1285	819	862	0	-	0
Stage 1	819	-	-	-	-	-
Stage 2	466		-			-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-				
Critical Hdwy Stg 2	5.42					
Follow-up Hdwy		3.318				
Pot Cap-1 Maneuver	182	3.316	780		-	
	433			-	-	
Stage 1		-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	180	375	779	-	-	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	631	-	-	-	-	-
, and the second						
Approach	EB		NB		SB	
	31.3		0.1		0	
HCM Control Delay, s			0.1		0	
HCM LOS	D					
	nt	NBL	NBT	EBLn1	SBT	SBR
Minor Lane/Major Mvm			-	184	-	
Minor Lane/Major Mvm Capacity (veh/h)		779	-			
		0.005		0.26	-	-
Capacity (veh/h)	)					-
Capacity (veh/h) HCM Lane V/C Ratio	)	0.005	-	0.26		
Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)		0.005 9.6	0	0.26 31.3	-	-

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Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
	EBL	EBK	NRL			SBK
Lane Configurations		10	15	4	<b>♣</b>	FO
Traffic Vol, veh/h	35	13	15	451	684	53
Future Vol, veh/h	35	13	15	451	684	53
Conflicting Peds, #/hr			0	0	0	·
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storag		-	-	0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	14	16	496	752	58
Major/Minor	Minor2		Major1	N	/lajor2	
Conflicting Flow All	1309	781	810	0	nujoiz	0
Stage 1	781	701	-	-		-
Stage 2	528					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.23	4.13			
Critical Hdwy Stg 2	5.43					
Follow-up Hdwy		3.327	2 227			
Pot Cap-1 Maneuver	175	393	811			
	450		811	-		
Stage 1		-	-		-	
Stage 2	590			-		-
Platoon blocked, %	470				-	-
Mov Cap-1 Maneuver		393	811	-		-
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Approach	FB		NB		SB	
HCM Control Delay, s			0.3		0	
HCM LOS	C.		0.5		U	
TICIVI EUS	C					
Minor Lane/Major Mvi	mt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		811		372	-	-
HCM Lane V/C Ratio		0.02	-	0.142	-	
HCM Control Delay (s	5)	9.5	0	16.3	-	
HCM Lane LOS		Α	Α	С	-	
HCM 95th %tile Q(vel	h)	0.1		0.5		
	,					

Intersection						
Intersection Delay, s/veh	68.9					
Intersection LOS	F					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		₽			4
Traffic Vol, veh/h	9	385	88	25	597	86
Future Vol. veh/h	9	385	88	25	597	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	418	96	27	649	93
Number of Lanes	1	0	1	0	0	1
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB		•		WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB		•	
Conflicting Lanes Right	1		1		0	
HCM Control Delay	18.8		11		107.3	
HCM LOS	С		В		F	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left. %		0%	2%	87%		
Vol Thru, %		78%	0%	13%		
Vol Right, %		22%	98%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		113	394	683		
LT Vol		0	9	597		
Through Vol		88	0	86		
RT Vol		25	385	0		
Lane Flow Rate		123	428	742		
Geometry Grp		1	1	1		
Degree of Util (X)		0.207	0.647	1.154		
Departure Headway (Hd)		6.337	5.818	5.594		
Convergence, Y/N		Yes	Yes	Yes		
Cap		570	625	653		
Service Time		4.337	3.818	3.6		
HCM Lane V/C Ratio		0.216	0.685	1.136		
HCM Control Delay		11	18.8	107.3		
HCM Lane LOS		В	С	F		
HCM 95th-tile Q		0.8	4.7	24		

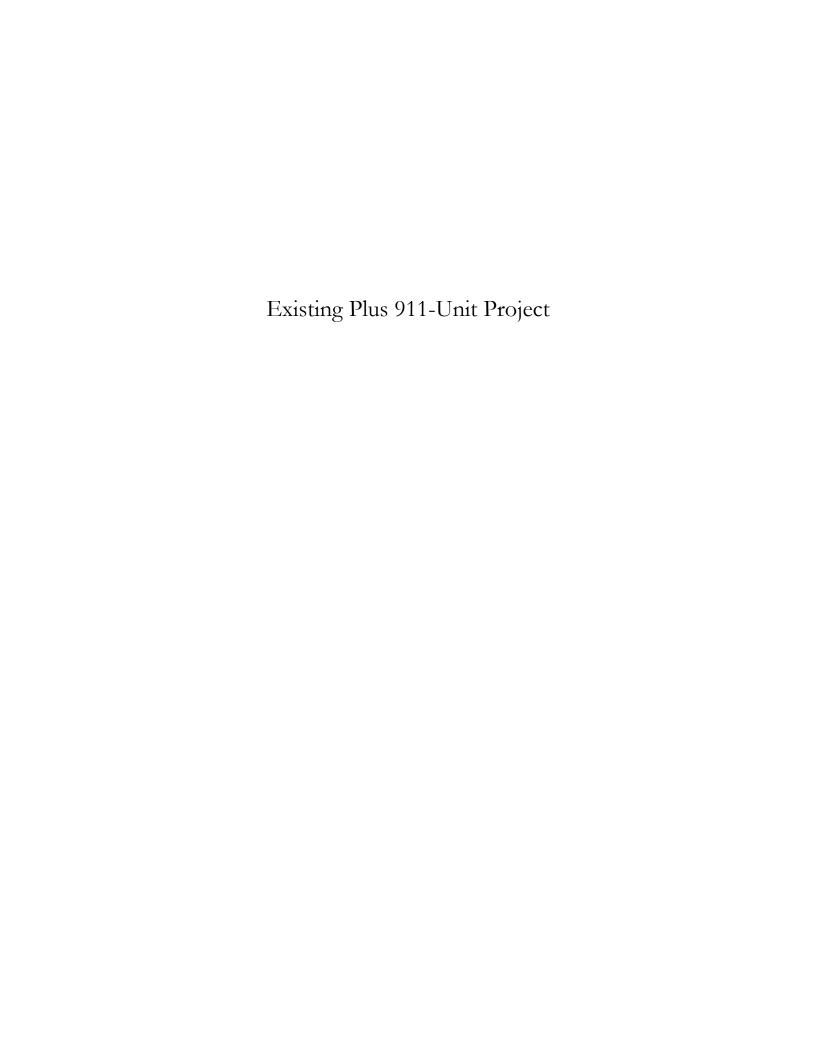
Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	<b>↑</b>	₽		Y	
Traffic Vol, veh/h	5	615	373	5	4	9
Future Vol, veh/h	5	615	373	5	4	9
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	e,# -	0	0		0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	5	676	410	5	4	10
A A		_		_		
	Major1		Major2		Minor2	105
Conflicting Flow All	429	0	-	0	1113	427
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	686	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2			-		5.41	
Follow-up Hdwy	2.209	-	-	-	3.509	
Pot Cap-1 Maneuver	1136	-	-	-	232	630
Stage 1			-	-	660	-
Stage 2					502	
Platoon blocked, %						
Mov Cap-1 Maneuver	1121				225	622
Mov Cap-2 Maneuver	1121				225	- 022
Stage 1					649	
Stage 2					495	
Jiaye 2					470	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		14.3	
HCM LOS					В	
h.a. 1 (h.a. 1 h.a.		EDI	EDT	WDT	WDD	CDL 4
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1121	-	-	-	403
HCM Lane V/C Ratio		0.005	-	-	-	0.035
HCM Control Delay (s)		8.2	-	-	-	14.3
HCM Lane LOS		Α	-	-	-	В
HCM 95th %tile Q(veh	)	0	-	-		0.1

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ,		7	ĵ,			4			44	
Traffic Vol. veh/h	22	588	2	2	369	15	1	0	1	15	0	20
Future Vol. veh/h	22	588	2	2	369	15	1	0	1	15	0	20
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-		None			None			None
Storage Length	50		-	50		-			-			-
Veh in Median Storage	.# -	0			0			0			0	
Grade, %		0			0			0			0	
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	23	619	2	2	388	16	1	0	1	16	0	21
Major/Minor N	Major1		, N	Major2			Minor1			Minor2		
Conflicting Flow All	416	0	0	621	0	0	1077	1086	620	1079	1079	408
Stage 1	-	-	U	021	-	-	666	666	020	412	412	400
Stage 2							411	420		667	667	
Critical Hdwy	4.13			4.13			7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	7.13			7.13			6.13	5.53	0.23	6.13	5.53	0.23
Critical Hdwy Stg 2							6.13	5.53		6.13	5.53	
Follow-up Hdwy	2.227			2.227			3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1138			955			196	215	486	195	217	641
Stage 1	1130		_	755			447	456		615	593	041
Stage 2							616	588		447	455	
Platoon blocked. %							010	300		77/	433	
Mov Cap-1 Maneuver	1125			955			186	208	486	189	210	634
Mov Cap-1 Maneuver	1123			733			186	208	400	189	210	034
Stage 1							438	447		595	585	
Stage 2							594	580		437	446	
Jiayc 2							374	300		TJ/	770	
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0			18.5			17.9		
HCM LOS	0.5			U			10.5			17.9 C		
I IGIVI EUS							C			C		
Minor Lane/Major Mvm		NBLn1	EBL	EBT	FBR	WBL	WBT	WRD	SBLn1			
		269	1125	LDI	LDIK	955	WDI	NOK	316			
Capacity (veh/h)				-	-	0.002	-	-	0.117			
HCM Cantrol Doloy (s)			0.021	-	-		-					
HCM Control Delay (s)		18.5	8.3	-	-	8.8	-	-				
HCM Lane LOS		С	Α	-	-	A	-	-	C			
HCM 95th %tile Q(veh)		0	0.1	-	-	0	-	-	0.4			

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	<b>†</b>	1>		*/*	
Traffic Vol, veh/h	8	610	358	4	4	7
Future Vol. veh/h	8	610	358	4	4	7
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None	-	None
Storage Length	50	-			0	
Veh in Median Storage	2.# -	0	0	-	0	-
Grade. %		0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	9	663	389	4	4	8
IVIVIIIL FIOW	9	003	309	4	4	0
	Major1		Najor2	- 1	Vinor2	
Conflicting Flow All	402	0	-	0	1081	400
Stage 1	-	-			400	
Stage 2	-	-	-	-	681	-
Critical Hdwy	4.11	-		-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-			5.41	
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1162	-		-	242	652
Stage 1	-	-		-	679	-
Stage 2	-	-		-	504	-
Platoon blocked, %				-		
Mov Cap-1 Maneuver	1152				236	646
Mov Cap-2 Maneuver	- 1102				236	-
Stage 1					667	
Stage 2					499	
Stage 2					477	
			11/0			
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		14.4	
HCM LOS					В	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1152				396
HCM Lane V/C Ratio		0.008				0.03
HCM Control Delay (s	١	8.1				14.4
HCM Lane LOS	,	Α.				В
HCM 95th %tile Q(veh	1)	0				0.1
TICINI 90III 70IIIE Q(VEI	')	U	-	-		U. I

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	T T	<u></u>	13	ושייי	₩.	SDI
Traffic Vol, veh/h	144	455	293	21	21	82
Future Vol. veh/h	144	455	293	21	21	82
Conflicting Peds, #/hr	144	400	293	21	0	0
Sign Control	Free	Free	Free	Free		
					Stop	Stop
RT Channelized	100	None	-	None	-	None
Storage Length		-	-	-	0	
Veh in Median Storage		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	158	500	322	23	23	90
Major/Minor	Major1	٨	/lajor2	1	Minor2	
Conflicting Flow All	347	0	- 10	0	1152	336
Stage 1	347	-		-	336	330
Stage 2	4 1 1	-	-	-	816	- ( 21
Critical Hdwy	4.11	-		-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-		3.509	
Pot Cap-1 Maneuver	1218	-	-		220	708
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-		436	-
Platoon blocked, %		-				
Mov Cap-1 Maneuver	1216	-			191	707
Mov Cap-2 Maneuver	-				191	-
Stage 1		-			630	
	-				435	
Stage 2	-		-	-	435	-
Approach	EB		WB		SB	
HCM Control Delay, s	2		0		15.5	
HCM LOS					С	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR:	SBI n1
Capacity (veh/h)		1216	-			456
HCM Lane V/C Ratio		0.13	- 1			0.248
		8.4	-	-	-	
HCM Control Delay (s)						15.5
HCM Lane LOS HCM 95th %tile Q(veh	,	A	-	-	-	C
HE I'VE USTE VATIO () (VOE	1	0.4	-	-	-	1

Intersection					
Intersection Delay, s/veh	3.8				
Intersection LOS	А				
Approach	E	3 W	В	NB	SB
Entry Lanes		1	1	1	1
Conflicting Circle Lanes		•	1	1	1
Adj Approach Flow, veh/h	23	5 10	2	44	38
Demand Flow Rate, veh/h	239			44	38
Vehicles Circulating, veh/h	10			189	141
Vehicles Exiting, veh/h	169	9 13	6	60	59
Ped Vol Crossing Leg, #/h			0	0	1
Ped Cap Adj	1.00			1.000	1.000
Approach Delay, s/veh	4.1	1 3.	6	3.5	3.3
Approach LOS	,	Α	4	A	Α
Lane	Left	Left	Left	Left	
Designated Moves	LTR	LTR	LTR	LTR	
Assumed Moves	LTR	LTR	LTR	LTR	
RT Channelized					
Lane Util	1.000	1.000	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	2.609	2.609	
Critical Headway, s	4.976	4.976	4.976	4.976	
Entry Flow, veh/h	239	103	44	38	
Cap Entry Lane, veh/h	1366	1250	1138	1195	
Entry HV Adj Factor	0.986	0.990	0.999	0.999	
Flow Entry, veh/h	236	102	44	38	
Cap Entry, veh/h	1347	1238	1137	1194	
V/C Ratio	0.175	0.082	0.039	0.032	
Control Delay, s/veh	4.1	3.6	3.5	3.3	
LOS	Α	A	А	Α	
95th %tile Queue, veh	1	0	0	0	



Existing Plus 911 Unit Project AM

Beechwood SP 1: SR 46 E & Buena Vista Drive

# Existing Plus 911 Unit Project AM HCM Signalized Intersection Capacity Analysis

	•	<b>→</b>	<b>←</b>	•	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	265	1168	1125	114	134	238
v/c Ratio	0.66	0.36	0.80	0.16	0.55	0.35
Control Delay	44.6	0.3	29.2	4.1	51.1	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	0.3	29.2	4.1	51.1	15.1
Queue Length 50th (ft)	146	0	310	0	79	63
Queue Length 95th (ft)	253	0	382	22	144	124
Internal Link Dist (ft)		942	856		514	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	515	3223	2866	1295	515	1007
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.36	0.39	0.09	0.26	0.24
Intersection Summary						
intersection Julillary						

	•	-	-	•	-	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	*	<b>^</b>	<b>^</b>	7	ሻ	7	
Traffic Volume (vph)	209	923	889	90	106	188	
Future Volume (vph)	209	923	889	90	106	188	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1612	3223	3223	1442	1612	1442	
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1612	3223	3223	1442	1612	1442	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	
Adj. Flow (vph)	265	1168	1125	114	134	238	
RTOR Reduction (vph)	0	0	0	64	0	39	
Lane Group Flow (vph)	265	1168	1125	50	134	199	
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	
Turn Type	Prot	NA	NA	Perm	Prot	Prot	
Protected Phases	8	Free!	6		7!	4	
Permitted Phases				6		4	
Actuated Green, G (s)	24.6	97.5	43.0	43.0	14.9	43.5	
Effective Green, g (s)	24.6	97.5	43.0	43.0	14.9	43.5	
Actuated g/C Ratio	0.25	1.00	0.44	0.44	0.15	0.45	
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7	
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0	
Lane Grp Cap (vph)	406	3223	1421	635	246	643	
v/s Ratio Prot	c0.16	0.36	c0.35		c0.08	0.14	
v/s Ratio Perm				0.03			
v/c Ratio	0.65	0.36	0.79	0.08	0.54	0.31	
Uniform Delay, d1	32.6	0.0	23.4	15.8	38.2	17.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.7	0.3	3.3	0.1	2.7	0.3	
Delay (s)	36.4	0.3	26.7	15.9	40.9	17.6	
Level of Service	D	Α	С	В	D	В	
Approach Delay (s)		7.0	25.7		26.0		
Approach LOS		Α	С		С		
Intersection Summary							
HCM 2000 Control Delay			16.9	Н	CM 2000	Level of Service	е
HCM 2000 Volume to Capa	acity ratio		0.71				
Actuated Cycle Length (s)	,		97.5	S	um of lost	t time (s)	
Intersection Canacity Litiliza	ation		EE 70/			of Convice	

Analysis Period (min)

Phase conflict between lane groups.

C Critical Lane Group ICU Level of Service 15

234 771

49.4 30.4

49.4

74 232

129

225

0

0.60

30.4

331

1323

2323

0

306

0.40

5.0 44.1

5.0 44.1

0

43

485 125

1126

0.27

39 841

29 360

0

37.5

0.0

37.5

255

2509

0

0.36

180

0.30

5.5 48.4

5.5 48.4

37 150

390

0

282

0.59

88

160

0

0.44

306

0.41

35.9

0.0 0.0

35.9

87

142

853

0

0.23

Lane Group

v/c Ratio

Control Delay

Queue Delay

Lane Group Flow (vph)

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn 98 181

0.35 0.62

52.1

0.0

52.1 51.7

64 200

140

0

51.7

110

0

0.25 0.23

163

0.42

10.3

0.0

10.3

0

46

0

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>∱</b> 1>		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	194	640	254	32	698	149	234	237	17	81	150	135
Future Volume (veh/h)	194	640	254	32	698	149	234	237	17	81	150	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	234	771	306	39	841	180	282	286	20	98	181	163
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	333	1067	476	252	1130	504	389	697	48	167	266	226
Arrive On Green	0.10	0.32	0.32	0.08	0.34	0.34	0.12	0.22	0.22	0.05	0.15	0.15
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	3127	217	3209	1737	1472
Grp Volume(v), veh/h	234	771	306	39	841	180	282	150	156	98	181	163
Grp Sat Flow(s), veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1694	1605	1737	1472
Q Serve(g_s), s	5.2	15.2	7.8	0.8	16.6	6.8	6.2	5.7	5.8	2.2	7.3	7.8
Cycle Q Clear(g_c), s	5.2	15.2	7.8	0.8	16.6	6.8	6.2	5.7	5.8	2.2	7.3	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	333	1067	476	252	1130	504	389	368	377	167	266	226
V/C Ratio(X)	0.70	0.72	0.64	0.16	0.74	0.36	0.72	0.41	0.41	0.59	0.68	0.72
Avail Cap(c_a), veh/h	783	3130	1396	783	3130	1396	870	917	941	870	965	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	22.1	7.5	31.7	21.4	18.2	31.2	24.5	24.6	34.2	29.5	29.7
Incr Delay (d2), s/veh	2.7	0.9	1.5	0.1	1.0	0.4	2.6	0.7	0.7	3.3	3.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	5.1	3.8	0.3	5.5	2.1	2.4	2.2	2.2	0.9	3.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	23.0	9.0	31.8	22.4	18.6	33.8	25.3	25.3	37.5	32.6	34.1
LnGrp LOS	С	С	Α	С	С	В	С	С	С	D	С	С
Approach Vol, veh/h		1311			1060			588			442	
Approach Delay, s/veh		21.8			22.1			29.4			34.2	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	31.1	13.0	16.6	11.7	32.6	7.8	21.7				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q_c+l1), s	2.8	17.2	8.2	9.8	7.2	18.6	4.2	7.8				
Green Ext Time (p_c), s	0.0	6.6	0.7	1.5	0.5	6.7	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection													
Int Delay, s/veh	4.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	ħβ		7	ħβ			ની	7		4	7	
Traffic Vol, veh/h	1	705	27	256	891	0	5	0	232	0	0	0	
Future Vol, veh/h	1	705	27	256	891	0	5	0	232	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-		None	-	-	None	-		None	
Storage Length	340	-	-	195	-	-	-	-	25	-	-	25	
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %		0		-	0	-	-	0	-	-	0	-	
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82	
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11	
Mvmt Flow	1	860	33	312	1087	0	6	0	283	0	0	0	
Major/Minor N	/lajor1			Major2		- 1	/linor1		N	/linor2			
Conflicting Flow All	1087	0	0	893	0	0	2047	2590	447	2143	2606	544	
Stage 1	-	-	-	-	-	-	879	879		1711	1711		
Stage 2							1168	1711		432	895		
Critical Hdwy	4.32			4.32			7.72	6.72	7.12	7.72	6.72	7.12	
Critical Hdwy Stg 1							6.72	5.72	-	6.72	5.72		
Critical Hdwy Stg 2		-					6.72	5.72		6.72	5.72		
Follow-up Hdwy	2.31			2.31		-	3.61	4.11	3.41	3.61	4.11	3.41	
Pot Cap-1 Maneuver	587			701			29	22	535	24	21	461	
Stage 1	-			-			291	343	-	86	132	-	
Stage 2							191	132		549	337		
Platoon blocked, %						-							
Mov Cap-1 Maneuver	587			701			19	12	535	7	12	461	
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	12		7	12	-	
Stage 1	-	-	-	-	-	-	290	342	-	86	73	-	
Stage 2	-	-	-	-	-	-	106	73	-	258	336	-	
Ÿ													
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			3.2			24.2			0			
HCM LOS	J			0.2			C C			A			
Minor Lane/Major Mvmt	t N	NBLn1 N	VRI n2	EBL	EBT	EBR	WBL	WBT	WRR	SBLn1:	SBI n2		
Capacity (veh/h)		19	535	587			701			-	-		
HCM Lane V/C Ratio			0.529	0.002			0.445						
HCM Control Delay (s)		266.9	19	11.1			14.2			0	0		
HCM Lane LOS		F	C	В			В			A	A		

0.9 3.1 0 - - 2.3 - - -

Intersection							
Int Delay, s/veh	5.8						
		CD.	MOT	WDD	CD	CDD	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations Traffic Vol, veh/h	334	<b>^</b>	<b>↑↑</b> 941	<b>17</b>	<b>ሻ</b> 5	172	
Future Vol. veh/h	334	596 596	941	17	5	172	
Conflicting Peds, #/hr	334	0 0	941	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	1166	None	1166	None	Siup -	None	
Storage Length	580	-		165	0	25	
Veh in Median Storage		0	0	-	2	-	
Grade. %	-	0	0		0		
Peak Hour Factor	84	84	84	84	84	84	
Heavy Vehicles, %	10	10	10	10	10	10	
Mymt Flow	398	710	1120	20	6	205	
	270	. 10	20	20			
Maian/Minan	4-14		4-10		Min 0		
	//ajor1		Major2		Minor2	F/0	
Conflicting Flow All	1140	0	-	0	2271	560	
Stage 1	-	-	-	-	1120	-	
Stage 2	4.2		-	-	1151	7 1	
Critical Hdwy	4.3		-			7.1	
Critical Hdwy Stg 1	-	-	-	-	6		
Critical Hdwy Stg 2 Follow-up Hdwy	2.3		-	-	3.6	3.4	
			-	-	3.6		
Pot Cap-1 Maneuver	565	-		-	257	452	
Stage 1 Stage 2		-	-	-	257		
Platoon blocked. %	-		- 1		247		
Mov Cap-1 Maneuver	565		-		9	452	
Mov Cap-1 Maneuver	505		- 1		68	452	
Stage 1			-	-	76		
Stage 2					247		
Staye 2	-				241	-	
Approach	EB		WB		SB		
HCM Control Delay, s	9		0		20.6		
HCM LOS					С		
Minor Lane/Major Mvm	t	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)		565	-			68	452
HCM Lane V/C Ratio		0.704				0.088	0.453
HCM Control Delay (s)		25.1				63	19.4
HCM Lane LOS		D				F	C
HCM 95th %tile Q(veh)		5.6				0.3	2.3
/ 0 / 0 2 (4011)		0.0				0.0	2.0

Intersection Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	T T	<b>^</b>	LDIK	WDL	<b>↑</b> 1>	WDIX	NDL	4	NDK	JUL	4	JUIN
Traffic Vol, veh/h	0	550	18	2	1010	0	8	0	1	0	0	0
Future Vol. veh/h	0	550	18	2	1010	0	8	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	1100	1100	None	1100	1100	None	Jiop -	Jiop -	None	Jiop -	Jiop -	None
Storage Length	275		275	305		- IVOITC			25			-
Veh in Median Storage		0	-	-	0			2	-		2	
Grade, %	-	0			0			0			0	
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow	0	632	21	2	1161	0	9	0	1	0	0	0
Major/Minor N	Major1			Major2			Minor1		N	/linor2		
Conflicting Flow All	1161	0	0	653	0	0	1217	1797	316	1481	1818	581
Stage 1	1101	-	U	000	U	U	632	632	310	1165	1165	301
Stage 2							585	1165		316	653	
Critical Hdwy	4.36			4.36			7.76	6.76	7.16	7.76	6.76	7.16
Critical Hdwy Stg 1	4.30			4.30			6.76	5.76	7.10	6.76	5.76	7.10
Critical Hdwy Stg 2							6.76	5.76		6.76	5.76	
Follow-up Hdwy	2.33			2.33			3.63	4.13	3.43	3.63	4.13	3.43
Pot Cap-1 Maneuver	539		-	859			125	71	648	78	68	430
Stage 1	-			-			409	446	0-10	189	245	-100
Stage 2			-				438	245		640	436	
Platoon blocked, %								0				
Mov Cap-1 Maneuver	539			859			125	71	648	78	68	430
Mov Cap-2 Maneuver	-	-	-	-	-	-	307	211	-	176	210	
Stage 1	-	-	-	-	-	-	409	446	-	189	245	-
Stage 2	-	-	-	-	-	-	437	245	-	639	436	-
, ,												
Approach	FB			WB			NB			SB		
HCM Control Delay, s				0			16.4			0		
HCM LOS							C			A		
Minor Lane/Major Mvm	t N	VBLn1	MRI n2	EBL	EBT	EBR	WBL	WBT	WBR S	CRI n1		
	ıt l'		648	539	EDI	EDR	859	WDI	WDR.	DULITI		
Capacity (veh/h) HCM Lane V/C Ratio		307	0.002	539			0.003	-		-		
HCM Control Delay (s)		17.1	10.6	0			0.003		-	0		

HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh) 17.1 10.6 0 - 9.2 C B A - A

Intersection												
Intersection Delay, s/veh	68.3											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	LDL *	<u>₽</u>	LDI	WDL.	₩ <u>Ы</u>	WDIX	NDL T	ND1	NDK	JUL	413	JUIN
Traffic Vol, veh/h	87	113	92	253	96	66	40	<b>T</b> 328	197	39	280	50
Future Vol. veh/h	87	113	92	253	96	66	40	328	197	39	280	50
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	3	3	0.81
Mvmt Flow	107	140	114	312	119	81	49	405	243	48	346	62
	107	140	0	312	119	0	49	405	243	48	340	02
Number of Lanes		ı	0			0			'		2	U
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			3			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			2			2			2		
HCM Control Delay	39.6			63.8			105.6			38.8		
HCM LOS	Е			F			F			Е		
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %		100%	0%	0%	100%	0%	100%	0%	22%	0%		
Vol Thru, %		0%	100%	0%	0%	55%	0%	59%	78%	74%		
Vol Right, %		0%	0%	100%	0%	45%	0%	41%	0%	26%		
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop		
Traffic Vol by Lane		40	328	197	87	205	253	162	179	190		
LT Vol		40	0	0	87	0	253	0	39	0		
Through Vol		0	328	0	0	113	0	96	140	140		
RT Vol		0	0	197	0	92	0	66	0	50		
Lane Flow Rate		49	405	243	107	253	312	200	221	235		
Geometry Grp		8	8	8	8	8	8	8	8	8		
Degree of Util (X)		0.157	1.232	0.69	0.358	0.787	0.992	0.592	0.697	0.721		
Departure Headway (Hd)		11.478	10.953	10.219	12.641	11.785	12.029	11.206	11.945	11.634		
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Cap		312	332	353	287	309	303	324	305	312		
Service Time		9.256	8.731	7.996	10.341	9.485	9.729	8.906	9.645	9.334		
JULINICE THING		0.157	1.22	0.688	0.373	0.819	1.03	0.617	0.725	0.753		
		0.157	1.22	0.000								
HCM Lane V/C Ratio		16.4	160	33	22.2	47	86.2	28.9	38.1	39.4		
HCM Lane V/C Ratio HCM Control Delay HCM Lane LOS					22.2 C	47 E	86.2 F	28.9 D	38.1 E	39.4 E		

Lane Group

Control Delay

Queue Delay

Total Delay

v/c Ratio

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft) Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Existing Plus 911 Unit Project AM

303

0.72

43.1

160

150

0

304

42.3

0.0

42.3

160

297

0

0.53

35

0.07

0.3

0.0

0.3

0

0

185

603

0

0

Beechwood SP 7: Riverside Ave & 13th Street

# Existing Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	ၨ	<b>→</b>	$\rightarrow$	•	<b>—</b>	•	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	7	<b>↑</b> Ъ		ሻ	<b>↑</b>	7	Ť	<b>↑</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	1	267	28	317	364	577	6	19	128	429	87	30
Future Volume (veh/h)	1	267	28	317	364	577	6	19	128	429	87	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	(
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	314	33	373	428	679	7	22	151	578	0	35
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	
Cap, veh/h	2	768	80	419	881	747	210	220	186	716	0	315
Arrive On Green	0.00	0.24	0.24	0.24	0.47	0.47	0.12	0.12	0.12	0.20	0.00	0.20
Sat Flow, veh/h	1767	3216	335	1767	1856	1572	1767	1856	1569	3534	0	155
Grp Volume(v), veh/h	1	171	176	373	428	679	7	22	151	578	0	35
Grp Sat Flow(s), veh/h/ln	1767	1763	1788	1767	1856	1572	1767	1856	1569	1767	0	1553
Q Serve(g_s), s	0.1	7.3	7.4	18.1	14.0	35.5	0.3	0.9	8.3	13.9	0.0	1.0
Cycle Q Clear(g_c), s	0.1	7.3	7.4	18.1	14.0	35.5	0.3	0.9	8.3	13.9	0.0	1.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2	421	427	419	881	747	210	220	186	716	0	315
V/C Ratio(X)	0.41	0.41	0.41	0.89	0.49	0.91	0.03	0.10	0.81	0.81	0.00	0.1
Avail Cap(c_a), veh/h	99	456	463	646	1054	894	358	376	318	1133	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.3	28.5	28.6	32.8	15.9	21.6	34.7	34.9	38.2	33.8	0.0	28.9
Incr Delay (d2), s/veh	85.2	0.6	0.6	9.7	0.4	11.7	0.1	0.2	8.2	2.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	3.2	8.7	5.7	14.5	0.1	0.4	3.5	6.0	0.0	0.6
Unsig. Movement Delay, s/veh		00.4	00.0	10.5	4/4	22.2	047	05.4	47.4	0/4	0.0	00.4
LnGrp Delay(d),s/veh	129.5	29.1	29.2	42.5	16.4	33.3	34.7	35.1	46.4	36.1	0.0	29.1
LnGrp LOS	F	С	С	D	В	С	С	D	D	D	Α	(
Approach Vol, veh/h		348			1480			180			613	
Approach Delay, s/veh		29.5			30.7			44.6			35.7	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.6	25.7		22.5	4.6	46.7		15.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	23.0		28.5	5.0	50.5		18.0				
Max Q Clear Time (g_c+I1), s	20.1	9.4		15.9	2.1	37.5		10.3				
Green Ext Time (p_c), s	1.0	1.7		1.9	0.0	4.7		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			32.7									
HCM 6th LOS			С									

Notes
User approved volume balancing among the lanes for turning movement.

WBT

428

0.48

19.1

19.6

146

296

1114

37 326

0

0.54

679

0.61

4.1 44.7

4.5 44.7

0

45 18

161

0

0.64 0.02

140

0

22 151

45.5

0.0

45.5

12

37

0

0.06 0.34

0.56

16.4 43.1

0.0 0.0

16.4

51 297

165

449

0

347

0.59

39.5 42.5

93 188

0

49.0

49.0 39.5

6 155

65

104

0

373

42.7

333

125

Central Coast Transportation Consulting

Synchro 10 Report Page 17 Existing Plus 911 Unit Project AM
Queues

8: Paso Robles Street & 13th Street

	•	$\rightarrow$	1	-	•	1	1		-	Ţ	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	941	56	1293	414	251	14	273	6	9	
v/c Ratio	0.41	0.52	0.33	0.72	0.45	0.71	0.03	0.46	0.02	0.02	
Control Delay	49.2	16.2	48.4	20.9	7.3	44.1	27.4	7.9	27.2	0.0	
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.2	16.5	48.4	20.9	7.3	44.1	27.4	7.9	27.2	0.0	
Queue Length 50th (ft)	45	183	33	301	44	143	7	9	3	0	
Queue Length 95th (ft)	85	238	67	373	91	200	19	46	12	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	240	2201	217	2193	1057	556	740	781	553	747	
Starvation Cap Reductn	0	653	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.61	0.26	0.59	0.39	0.45	0.02	0.35	0.01	0.01	
Intersection Summary											

Beechwood SP 8: Paso Robles Street & 13th Street Existing Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	-	•	•	<b>←</b>	*	4	†	1	1	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	×	<b>†</b> }		Ţ	<b>^</b>	7	, N	<b>^</b>	7	7	1>	
Traffic Volume (veh/h)	61	706	46	45	1034	331	201	11	218	5	0	7
Future Volume (veh/h)	61	706	46	45	1034	331	201	11	218	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	882	58	56	1292	0	251	14	272	6	0	9
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	1718	113	87	1775		427	428	362	355	0	362
Arrive On Green	0.06	0.51	0.51	0.05	0.50	0.00	0.23	0.23	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1767	3356	221	1767	3526	1572	1395	1856	1572	1085	0	1572
Grp Volume(v), veh/h	76	463	477	56	1292	0	251	14	272	6	0	9
Grp Sat Flow(s), veh/h/ln	1767	1763	1814	1767	1763	1572	1395	1856	1572	1085	0	1572
Q Serve(g_s), s	2.7	11.3	11.3	2.0	18.6	0.0	11.0	0.4	10.4	0.3	0.0	0.3
Cycle Q Clear(g_c), s	2.7	11.3	11.3	2.0	18.6	0.0	11.3	0.4	10.4	0.7	0.0	0.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	902	929	87	1775		427	428	362	355	0	362
V/C Ratio(X)	0.75	0.51	0.51	0.65	0.73		0.59	0.03	0.75	0.02	0.00	0.02
Avail Cap(c_a), veh/h	287	1397	1438	259	2740		767	880	746	619	0	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.0	10.5	10.5	30.2	12.6	0.0	23.6	19.3	23.2	19.6	0.0	19.3
Incr Delay (d2), s/veh	10.4	0.5	0.4	7.8	0.6	0.0	1.3	0.0	3.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.8	3.9	1.0	6.3	0.0	3.5	0.2	3.8	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	10.9	10.9	38.0	13.2	0.0	24.9	19.3	26.3	19.6	0.0	19.3
LnGrp LOS	D	В	В	D	В		С	В	С	В	Α	В
Approach Vol, veh/h		1016			1348	А		537			15	
Approach Delay, s/veh		13.1			14.2			25.5			19.4	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	37.6		19.4	8.2	37.1		19.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	51.3		30.7	10.5	50.3		30.7				
Max Q Clear Time (q c+l1), s	4.0	13.3		2.7	4.7	20.6		13.3				
Green Ext Time (p_c), s	0.0	7.4		0.0	0.1	12.0		1.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.9									
HCM 6th LOS			13.9 B									
TIOW OUI EOS			D									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Existing Plus 911 Unit Project AM

9: River Road/Union Road & Creston Road

	۶	<b>→</b>	•	←	4	<b>†</b>	-	-	. ↓	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	224	934	70	1002	450	218	56	148	640	
v/c Ratio	0.61	0.67	0.47	0.82	0.76	0.26	0.12	0.63	0.91dr	
Control Delay	55.4	28.0	61.4	38.4	52.9	35.7	2.4	58.7	38.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.4	28.0	61.4	38.4	52.9	35.7	2.4	58.7	38.6	
Queue Length 50th (ft)	81	275	50	344	162	67	0	105	170	
Queue Length 95th (ft)	113	304	89	372	202	96	2	155	203	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	417	1530	180	1479	684	958	498	318	934	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.54	0.61	0.39	0.68	0.66	0.23	0.11	0.47	0.69	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Beechwood SP 9: River Road/Union Road & Creston Road Existing Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>†</b> }		Ţ	<b>†</b> î>		77	<b>^</b>	7	Ţ	<b>↑</b> ↑	
Traffic Volume (veh/h)	179	486	261	56	714	87	360	174	45	118	175	337
Future Volume (veh/h)	179	486	261	56	714	87	360	174	45	118	175	337
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	608	0	70	892	109	450	218	56	148	219	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	1475		95	1187	145	587	591	264	190	367	
Arrive On Green	0.10	0.42	0.00	0.05	0.37	0.37	0.17	0.17	0.17	0.11	0.10	0.00
Sat Flow, veh/h	3456	3647	0	1781	3182	389	3456	3554	1585	1781	3647	0
Grp Volume(v), veh/h	224	608	0	70	498	503	450	218	56	148	219	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1795	1728	1777	1585	1781	1777	0
Q Serve(g_s), s	4.4	8.4	0.0	2.7	17.0	17.0	8.7	3.8	2.1	5.6	4.1	0.0
Cycle Q Clear(g_c), s	4.4	8.4	0.0	2.7	17.0	17.0	8.7	3.8	2.1	5.6	4.1	0.0
Prop In Lane	1.00		0.00	1.00		0.22	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	330	1475		95	662	669	587	591	264	190	367	
V/C Ratio(X)	0.68	0.41		0.74	0.75	0.75	0.77	0.37	0.21	0.78	0.60	
Avail Cap(c_a), veh/h	620	2322		269	1110	1121	1017	1403	626	473	1301	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.5	14.4	0.0	32.5	19.0	19.0	27.6	25.8	25.1	30.3	29.8	0.0
Incr Delay (d2), s/veh	2.4	0.2	0.0	10.6	1.8	1.7	2.1	0.4	0.4	6.7	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.1	0.0	1.4	6.6	6.6	3.5	1.5	0.8	2.6	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	14.6	0.0	43.1	20.8	20.8	29.7	26.2	25.5	37.0	31.4	0.0
LnGrp LOS	С	В		D	С	С	С	С	С	D	С	
Approach Vol, veh/h		832	Α		1071			724			367	A
Approach Delay, s/veh		19.5			22.2			28.3			33.7	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	33.4	16.3	11.7	11.2	30.5	11.9	16.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5	20.5	25.5	12.5	43.5	18.5	27.5				
Max Q Clear Time (g c+l1), s	4.7	10.4	10.7	6.1	6.4	19.0	7.6	5.8				
Green Ext Time (p_c), s	0.1	4.7	1.2	1.1	0.4	6.9	0.3	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			24.3									
HCM 6th LOS			C									
Notes												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

1066

0.73 0.61

411

0

515

32.4

32.4

101

248

120

0

105

0.23

8.8

8.8

0

43

0

433

0.22

10.1 20.8

10.1 20.8

37 156

135

1151 2310

0

2733 2095

42.5

42.5

30

103

125

294

0

Lane Group

Control Delay Queue Delay

v/c Ratio

Lane Group Flow (vph)

Total Delay
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn

Storage Cap Reductn Reduced v/c Ratio

Intersection Summary

	•	<b>→</b>	+	4	<b>/</b>	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>†</b> }		77	7			
Traffic Volume (vph)	65	377	508	419	448	91			
Future Volume (vph)	65	377	508	419	448	91			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5			
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00			
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
Frt	1.00	1.00	0.93		1.00	0.85			
Flt Protected	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1752	3505	3245		3400	1568			
Flt Permitted	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1752	3505	3245		3400	1568			
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87			
Adj. Flow (vph)	75	433	584	482	515	105			
RTOR Reduction (vph)	0	0	114	0	0	80			
Lane Group Flow (vph)	75	433	952	0	515	25			
Confl. Peds. (#/hr)				3					
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%			
Turn Type	Prot	NA	NA		Perm	Perm			
Protected Phases	5	2	6						
Permitted Phases					4	4			
Actuated Green, G (s)	6.9	41.7	30.3		18.0	18.0			
Effective Green, g (s)	6.9	41.7	30.3		18.0	18.0			
Actuated g/C Ratio	0.09	0.55	0.40		0.24	0.24			
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	158	1910	1285		800	368			
v/s Ratio Prot	c0.04	0.12	c0.29						
v/s Ratio Perm					c0.15	0.02			
v/c Ratio	0.47	0.23	0.74		0.64	0.07			
Uniform Delay, d1	33.1	9.0	19.7		26.4	22.7			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.2	0.1	2.3		1.8	0.1			
Delay (s)	35.3	9.1	22.1		28.1	22.8			
Level of Service	D	Α	С		С	С			
Approach Delay (s)		13.0	22.1		27.2				
Approach LOS		В	С		С				
Intersection Summary									
HCM 2000 Control Delay			21.4	H	CM 2000	Level of Service	е	С	
HCM 2000 Volume to Capa	city ratio		0.64						
Actuated Cycle Length (s)			76.5	Sı	um of lost	time (s)		18.0	
Intersection Capacity Utiliza	ation		55.8%	IC	U Level	of Service		В	
Analysis Period (min)			15						

### Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

## Existing Plus 911 Unit Project AM

	•	$\rightarrow$	*	1	←	4	<b>†</b>	-	. ↓	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	150	254	165	54	629	262	691	196	700	
v/c Ratio	0.62	0.43	0.27	0.38	0.78	0.79	0.80	0.69	0.77	
Control Delay	46.4	26.5	5.5	46.8	28.2	52.0	36.6	47.1	25.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.4	26.5	5.5	46.8	28.2	52.0	36.6	47.1	25.3	
Queue Length 50th (ft)	79	117	0	29	116	140	184	102	120	
Queue Length 95th (ft)	128	169	34	61	154	#234	227	159	160	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	298	635	639	152	959	365	1006	343	1072	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.40	0.26	0.36	0.66	0.72	0.69	0.57	0.65	

Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Existing Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	1	1	<b>+</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b>	7	ሻ	ħβ		ሻ	<b>↑</b> ↑		ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	123	208	135	44	287	229	215	529	38	161	296	278
Future Volume (veh/h)	123	208	135	44	287	229	215	529	38	161	296	278
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		0.93	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	150	254	165	54	350	279	262	645	46	196	361	339
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	187	545	455	77	428	334	303	955	68	237	441	391
Arrive On Green	0.11	0.30	0.30	0.04	0.23	0.23	0.17	0.29	0.29	0.14	0.25	0.25
Sat Flow, veh/h	1739	1826	1526	1739	1821	1421	1739	3264	232	1739	1735	1536
Grp Volume(v), veh/h	150	254	165	54	333	296	262	342	349	196	361	339
Grp Sat Flow(s), veh/h/ln	1739	1826	1526	1739	1735	1508	1739	1735	1762	1739	1735	1536
Q Serve(g_s), s	6.6	8.9	6.7	2.4	14.3	14.7	11.5	13.7	13.7	8.6	15.4	16.6
Cycle Q Clear(q_c), s	6.6	8.9	6.7	2.4	14.3	14.7	11.5	13.7	13.7	8.6	15.4	16.6
Prop In Lane	1.00		1.00	1.00		0.94	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	187	545	455	77	408	354	303	508	516	237	441	391
V/C Ratio(X)	0.80	0.47	0.36	0.71	0.82	0.84	0.86	0.67	0.68	0.83	0.82	0.87
Avail Cap(c_a), veh/h	299	618	516	153	441	384	365	508	516	343	485	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	22.5	21.7	37.1	28.5	28.6	31.6	24.5	24.5	33.1	27.6	28.0
Incr Delay (d2), s/veh	7.9	0.6	0.5	11.2	10.7	13.9	16.6	3.5	3.5	10.6	9.8	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.6	2.3	1.2	6.7	6.3	6.0	5.8	5.9	4.2	7.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	23.1	22.2	48.3	39.2	42.5	48.2	28.0	28.0	43.7	37.4	43.9
LnGrp LOS	D	С	С	D	D	D	D	С	С	D	D	D
Approach Vol, veh/h		569			683			953			896	
Approach Delay, s/veh		27.9			41.4			33.6			41.2	
Approach LOS		С			D			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	27.5	8.0	28.0	18.2	24.5	12.9	23.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	23.0	6.9	26.6	16.5	22.0	13.5	20.0				
Max Q Clear Time (q_c+I1), s	10.6	15.7	4.4	10.9	13.5	18.6	8.6	16.7				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.7	0.2	1.4	0.1	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			36.5									
HCM 6th LOS			D									

HCM 6th LOS

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Central Coast Transportation Consulting

13: Creston F	Road & Alamo	Creek	Terrace/Meadowlark	Road

ntersection	
ntersection Delay, s/veh	39.3
ntersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ની	7		नी
Traffic Vol, veh/h	20	9	7	210	5	255	0	9	231	109	220	193
Future Vol, veh/h	20	9	7	210	5	255	0	9	231	109	220	193
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	11	8	247	6	300	0	11	272	128	259	227
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	12.7			63.1				19.1			31.7	
HCM LOS	В			F				С			D	

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	56%	45%	70%	0%
Vol Thru, %	96%	0%	25%	1%	30%	91%
Vol Right, %	0%	100%	19%	54%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	109	36	470	317	107
LT Vol	9	0	20	210	220	0
Through Vol	231	0	9	5	97	97
RT Vol	0	109	7	255	0	10
Lane Flow Rate	282	128	42	553	372	125
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.613	0.252	0.102	0.997	0.82	0.261
Departure Headway (Hd)	7.81	7.066	8.704	6.493	7.927	7.5
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	505	414	558	454	476
Service Time	5.595	4.85	6.704	4.55	5.709	5.282
HCM Lane V/C Ratio	0.613	0.253	0.101	0.991	0.819	0.263
HCM Control Delay	22.3	12.2	12.7	63.1	38	12.9
HCM Lane LOS	С	В	В	F	Е	В
HCM 95th-tile Q	4	1	0.3	14.2	7.7	1

Intersection													
Int Delay, s/veh	24.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4		ሻ	ĵ.		ሻ	<b>↑</b>	7	
Traffic Vol, veh/h	92	6	39	7	15	95	32	471	3	33	381	76	
uture Vol, veh/h	92	6	39	7	15	95	32	471	3	33	381	76	
Conflicting Peds, #/hr	1	0	0	0	0	1	6	0	2	2	0	6	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-		None	
Storage Length	-	-	-	-	-	-	30	-	-	70		60	
/eh in Median Storage,	# -	0			0		-	0		-	0	-	
Grade, %		0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
/lvmt Flow	110	7	46	8	18	113	38	561	4	39	454	90	
	110	•	10			110	00	001	·	0,	101	,,	
lajor/Minor M	linor2			Minor1			Major1		- 1	Major2			
	1244	1181	460	1245	1269	566	550	0	0	567	0	0	
Stage 1	538	538	-	641	641	-		-	-	-	-	-	
Stage 2	706	643		604	628								
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12			4.12			
Critical Hdwy Stg 1	6.12	5.52	0.22	6.12	5.52	O.LL							
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52								
	3.518		3.318	3.518	4.018	3.318	2.218			2.218			
ot Cap-1 Maneuver	151	190	601	151	168	524	1020			1005			
Stage 1	527	522		463	469		.020						
Stage 2	427	468	-	485	476	-	-	-	-	-			
Platoon blocked, %	127	100		100	170								
Nov Cap-1 Maneuver	~ 101	174	598	127	154	523	1014			1003			
	- 101	174		127	154	020	-			-			
Stage 1	504	499		445	451								
Stage 2	309	450		424	455								
Stago E	557	.50			.50								
Approach	EB			WB			NB			SB			
HCM Control Delay, s 2				21.9			0.5			0.6			
HCM LOS	F			C			0.0			0.0			
IOW EOS													
Minor Lane/Major Mvmt		NBL	NBT	NBR	EBLn1\	VBLn1	SBL	SBT	SBR				
Capacity (veh/h)		1014		-	136	350	1003						
HCM Lane V/C Ratio		0.038				0.398	0.039						
ICM Control Delay (s)		8.7			203.9	21.9	8.7						
ICM Lane LOS		Α.			203.7 F	C C	Α						
HCM 95th %tile Q(veh)		0.1			9.7	1.9	0.1						
` ′		0.1			7.1	1.7	0.1						
Votes													
: Volume exceeds capa	acity	\$: De	elay exc	eeds 3	00s	+: Com	putatior	Not D	etined	*: All	major v	volume i	n platoon

### 13: Creston Road & Alamo Creek Terrace/Meadowlark Road

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBR
Lacconfigurations	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.85
Heavy Vehicles, %	2
Mvmt Flow	12
Number of Lanes	0

## Approach

Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left
Conflicting Approach Right Conflicting Lanes Right HCM Control Delay HCM LOS

intersection									
Int Delay, s/veh	8.9						-		
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	ሻ	7	ሻ	<b>^</b>	<b>↑</b>	7			
Traffic Vol, veh/h	148	136	229	200	123	287			
Future Vol, veh/h	148	136	229	200	123	287			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None		None			
Storage Length	0	145	105	-	-	0			
Veh in Median Storag	e,# 0	-	-	0	0	-			
Grade, %	0	-	-	0	0	-			
Peak Hour Factor	86	86	86	86	86	86			
Heavy Vehicles, %	3	3	3	3	3	3			
Mvmt Flow	172	158	266	233	143	334			
Major/Minor	Minor2	- 1	Major1	- 1	Major2				
Conflicting Flow All	792	143	477	0	-	0			
Stage 1	143	-	-	-	-	-			
Stage 2	649	-	-		-	-			
Critical Hdwy	6.645	6.245	4.145		-				
Critical Hdwy Stg 1	5.445	-	-	-	-	-			
Critical Hdwy Stg 2	5.845		-		-				
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-			
Pot Cap-1 Maneuver	340	901	1077	-	-	-			
Stage 1	881	-	-		-	-			
Stage 2	481	-	-		-				
Platoon blocked, %				-	-	-			
Mov Cap-1 Maneuver		901	1077		-	-			
Mov Cap-2 Maneuver	256	-	-	-	-	-			
Stage 1	663	-	-	-	-	-			
Stage 2	481	-	-	-	-	-			
Approach	EB		NB		SB				
HCM Control Delay, s	27.5		5		0				
HCM LOS	D								
Minor Lana/Major Mu		NIDI	NDT	EDI n1 I	EDI O	CDT	CDD		

Approach	EB		NB		SB						
HCM Control Delay, s	27.5		5		0						
HCM LOS	D										
Minor Lane/Major Mvm	t	NBL	NBT E	BLn1 E	EBLn2	SBT	SBR				
Canacity (yeh/h)		1077	-	256	901	-	-				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	1077	-	256	901	-	-	
HCM Lane V/C Ratio	0.247	-	0.672	0.176	-	-	
HCM Control Delay (s)	9.4	-	43.8	9.8	-	-	
HCM Lane LOS	Α	-	Ε	Α	-	-	
HCM 95th %tile Q(veh)	1	-	4.3	0.6	-	-	

### Beechwood SP

Intersection Capacity Utilization

Analysis Period (min)

# Existing Plus 911 Unit Project AM HCM Unsignalized Intersection Capacity Analysis

Α

15: US 101 SB Ramp & Pine Street & Riverside Avenue Movement Lane Configurations Traffic Volume (veh/h) 324 Future Volume (Veh/h) 27 24 90 0 0 0 324 15 Sign Control Free Grade 0% 0% 0% 0% Peak Hour Factor 0.91 0.91 0.91 0.91 0.91 Hourly flow rate (vph) 26 99 10 0 0 0 356 Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage Right turn flare (veh) Median type None None Median storage veh) Upstream signal (ft) pX, platoon unblocked vC, conflicting volume 418 364 364 390 372 372 0 0 vC1, stage 1 conf vol vC2, stage 2 conf vol vCu, unblocked vol 372 tC, single (s) 6.5 6.2 7.1 6.5 6.2 4.1 4.1 tC, 2 stage (s) tF (s) 3.5 4.0 3.3 3.5 4.0 3.3 2.2 2.2 p0 queue free % 100 cM capacity (veh/h) 558 1085 466 564 681 547 1186 1623 Direction, Lane # Volume Total 56 110 372 30 Volume Left Volume Right 26 10 16 614 1700 Volume to Capacity 0.10 0.18 0.22 Queue Length 95th (ft) Control Delay (s) 12.3 12.4 0.0 Lane LOS Approach Delay (s) 12.3 12.4 0.0 Approach LOS Intersection Summary Average Delay 3.8

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

ICU Level of Service

34.3%

Beechwood SP

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Existing Plus 911 Unit Project AM

	۶	-	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	21	349	1148	249	501	77	308	564	339	280	
v/c Ratio	0.10	0.72	0.78	0.31	0.45	0.54	0.66	0.34	0.67	0.35	
Control Delay	55.7	51.8	36.7	26.7	3.0	75.9	61.8	5.5	60.3	43.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.7	51.8	36.7	26.7	3.0	75.9	61.8	5.5	60.3	43.9	
Queue Length 50th (ft)	17	121	418	135	13	66	138	40	147	109	
Queue Length 95th (ft)	43	172	537	217	44	122	186	60	198	147	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	292	617	1713	930	1160	175	665	1828	675	994	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.57	0.67	0.27	0.43	0.44	0.46	0.31	0.50	0.28	
Intersection Summary											

Central Coast Transportation Consulting
Synchro 10 Report
Page 39

Existing Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Movement Lane Configurations Traffic Volume (veh/h) Future Volume (veh/h) 18 178 115 964 209 421 65 259 474 285 197 38 Initial Q (Qb), veh Ped-Bike Adj(A\_pbT) 1.00 1.00 1.00 0.99 1.00 1.00 1.00 1.00 Parking Bus, Adj 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Work Zone On Approach No Adj Sat Flow, veh/h/ln 1870 Adj Flow Rate, veh/h 212 137 1148 249 501 77 308 564 339 235 45 Peak Hour Factor 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 Percent Heavy Veh, % Cap, veh/h 235 824 1559 423 278 172 1391 753 99 555 635 120 Arrive On Green 0.13 0.13 0.13 0.40 0.40 0.40 0.06 0.16 0.16 0.12 0.21 0.21 Sat Flow, veh/h 1870 1564 1781 2983 562 Grp Volume(v), veh/h 21 177 172 1148 249 501 77 308 564 339 138 142 Grp Sat Flow(s), veh/h/ln 1564 1777 1395 1728 1777 1768 Q Serve(g\_s), s 1.1 10.5 11.2 32.6 10.1 24.5 4.7 8.8 12.3 10.5 7.3 7.5 Cycle Q Clear(g\_c), s 24.5 12.3 1.1 10.5 11.2 32.6 10.1 4.7 8.8 10.5 7.3 7.5 Prop In Lane 1.00 0.80 1.00 1.00 1.00 1.00 1.00 0.32 Lane Grp Cap(c), veh/h 824 99 423 376 V/C Ratio(X) 0.09 0.55 0.76 0.80 0.83 0.33 0.61 0.78 0.36 0.80 0.37 0.38 Avail Cap(c\_a), veh/h 569 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Upstream Filter(I) 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Uniform Delay (d), s/veh 29.3 22.6 18.2 51.1 42.7 13.4 46.8 36.8 36.9 Incr Delay (d2), s/veh 0.6 Initial Q Delay(d3),s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 %ile BackOfQ(50%),veh/ln 5.1 5.1 13.2 4.3 8.4 2.4 7.6 4.7 3.2 Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 22.8 LnGrp LOS D D С D В D D D 370 Approach Vol, veh/h 949 619 1898 Approach Delay, s/veh 53.1 27.0 27.3 44.5 Approach LOS D Timer - Assigned Phs Phs Duration (G+Y+Rc), s 49.5 18.1 22.9 11.9 29.1 Change Period (Y+Rc), s \* 4.7 5.8 4.6 5.8 \* 5.8 5.4 Max Green Setting (Gmax), s 23.2 12.2 61.6 Max Q Clear Time (g\_c+l1), s 12.5 14.3 13.2 6.7 34.6 0.9 2.9 9.6 Green Ext Time (p\_c), s 0.1 1.3 Intersection Summary HCM 6th Ctrl Delay 32.4 HCM 6th LOS

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Central Coast Transportation Consulting
Synchro 10 Report
Page 41

Beechwood SP 17: S. River Road & Niblick Road Existing Plus 911 Unit Project AM

Lane Group EBL EBT EBR WBL WBT NBL NBT	SBL	SBT
Lane Group Flow (vph) 115 624 289 101 1201 676 394	299	449
v/c Ratio 0.56 0.51 0.39 0.57 0.90 0.88 0.61	0.83	0.73
Control Delay 62.9 31.0 5.0 61.0 40.9 56.7 45.4	62.4	43.9
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0	0.0
Total Delay 62.9 31.0 5.0 61.0 40.9 56.7 45.4	62.4	43.9
Queue Length 50th (ft) 41 181 0 69 397 243 137	201	136
Queue Length 95th (ft) 73 255 53 126 #532 #356 183	#329	184
Internal Link Dist (ft) 1510 1609 962		896
Turn Bay Length (ft) 140 80 150	110	
Base Capacity (vph) 205 1246 744 219 1404 764 837	409	891
Starvation Cap Reductn 0 0 0 0 0 0	0	0
Spillback Cap Reductn 0 0 0 0 0 0	0	0
Storage Cap Reductn 0 0 0 0 0 0	0	0
Reduced v/c Ratio 0.56 0.50 0.39 0.46 0.86 0.88 0.47	0.73	0.50

#### Intersection Summary

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer

Synchro 10 Report Page 46

	۶	<b>→</b>	•	•	<b>←</b>	*	1	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>^</b>	7		<b>↑</b> ↑		14.54	Φ₽			ħβ	
Traffic Volume (veh/h)	100	543	251	88	809	236	588	305	37	260	257	134
Future Volume (veh/h)	100	543	251	88	809	236	588	305	37	260	257	134
Initial Q (Qb), veh	0	0	1.00	0	0	0.99	0	0	0.99	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj Work Zone On Approach	1.00	1.00 No	1.00	1.00	1.00 No	1.00	1.00	1.00 No	1.00	1.00	1.00 No	1.00
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	624	289	101	930	271	676	351	43	299	295	154
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1301	580	128	1051	305	748	640	78	334	392	199
Arrive On Green	0.05	0.37	0.37	0.07	0.39	0.39	0.22	0.20	0.20	0.19	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	2711	788	3456	3187	387	1781	2279	1160
Grp Volume(v), veh/h	115	624	289	101	609	592	676	195	199	299	228	221
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1721	1728	1777	1797	1781	1777	1662
Q Serve(q s), s	3.4	14.0	7.6	5.8	33.1	33.3	19.8	10.2	10.3	17.0	12.7	13.1
Cycle Q Clear(q_c), s	3.4	14.0	7.6	5.8	33.1	33.3	19.8	10.2	10.3	17.0	12.7	13.1
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.22	1.00		0.70
Lane Grp Cap(c), veh/h	174	1301	580	128	689	667	748	357	361	334	305	286
V/C Ratio(X)	0.66	0.48	0.50	0.79	0.88	0.89	0.90	0.55	0.55	0.89	0.75	0.77
Avail Cap(c_a), veh/h	217	1301	580	232	759	735	803	446	451	433	464	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	25.3	6.9	47.4	29.6	29.6	39.6	37.2	37.3	41.1	40.8	41.0
Incr Delay (d2), s/veh	5.2	0.3	0.7	10.3	11.3	12.0	13.0	1.3	1.3	17.3	3.7	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.7	4.8	2.9	15.4	15.1	9.4	4.4	4.5	8.8	5.7	5.6
Unsig. Movement Delay, s/veh	53.5	25.5	7.6	F7 /	40.8	41 /	F2 /	20.5	20.7	FO 4	44.5	45.7
LnGrp Delay(d),s/veh LnGrp LOS	53.5 D	25.5 C		57.6 E	40.8 D	41.6 D	52.6 D	38.5 D	38.6 D	58.4 E	44.5 D	
Approach Vol, veh/h	D	1028	A		1302	U	U	1070	D		748	D
Approach Delay, s/veh		23.6			42.5			47.4			50.4	
Approach LOS		23.0 C			42.3 D			47.4 D			50.4 D	
**					_						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	42.5	26.9	22.3	9.7	44.7	24.0	25.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	37.3	24.1	27.1	6.5	44.3	25.2	26.0				
Max Q Clear Time (g_c+I1), s	7.8	16.0	21.8	15.1	5.4	35.3	19.0	12.3				
Green Ext Time (p_c), s	0.1	5.0	0.7	2.0	0.0	4.9	0.5	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			40.5									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	LDI	TVDL	4	1	ODIN
Traffic Vol. veh/h	82	1	5	768	351	33
Future Vol. veh/h	82	1	5	768	351	33
Conflicting Peds, #/hr	02	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop -	None	riee -	None	riee -	None
Storage Length	0	None -		None -		None -
				0	0	
Veh in Median Storage		-	-		-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	99	1	6	925	423	40
Major/Minor N	Minor2		Major1	N	Major2	
Conflicting Flow All	1380	444	463	0	najorz.	0
Stage 1	443		-	-		-
Stage 2	937					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.23	4.13			
	5.43					
Critical Hdwy Stg 2		2 227	2 227	-		
	3.527	3.327		-	-	-
Pot Cap-1 Maneuver	158	612	1093		-	-
Stage 1	645	-	-	-	-	-
Stage 2	380	-	-	-		-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	156	611	1093	-	-	-
Mov Cap-2 Maneuver	156	-	-	-	-	-
Stage 1	638	-	-	-		-
Stage 2	380	-	-	-		-
			ND		00	
Approach	EB		NB		SB	
HCM Control Delay, s	61.3		0.1		0	
HCM LOS	F					
Minor Lane/Major Mvm	t	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1093		157	-	-
HCM Lane V/C Ratio		0.006				
HCM Control Delay (s)		8.3	0	61.3		
		6.3 A	A	01.3 F		
, , ,					-	-
HCM Lane LOS HCM 95th %tile Q(veh)		0	-	3.5		

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	LDIN	INDL	4	)  }	JUIN
Traffic Vol. veh/h	55	8	14	718	311	19
Future Vol. veh/h	55	8	14	718	311	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stup -	None	riee -	None	riee -	None
Storage Length	0	NOTICE -		NOTIC -		None
	-			0	0	
Veh in Median Storag				0	0	
Grade, % Peak Hour Factor	0 84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	10	17	855	370	23
Major/Minor	Minor2		Major1	N	Major2	
Conflicting Flow All	1271	382	393	0	-	0
Stage 1	382	-	-	-		-
Stage 2	889					
Critical Hdwy	6.42	6.22	4.12	-		-
Critical Hdwy Stg 1	5.42	0.22	1.12	-		
Critical Hdwy Stg 2	5.42					
Follow-up Hdwy		3.318				
Pot Cap-1 Maneuver	185	665	1166			
Stage 1	690	000	1100			
Stage 2	402	-	-	-	-	-
Platoon blocked, %	402	-	-	-		
	400	//5	2211		-	-
Mov Cap-1 Maneuver		665	1166	-		-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	671	-	-	-		-
Stage 2	402	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	16.9		0.2		0	
HCM LOS	С					
Minor Lone/Major Mur	m#	NBL	NDT	EDI 51	CDT	SBR
Minor Lane/Major Mvr	nı			EBLn1	SBT	
Capacity (veh/h)		1166	-	378	-	-
HCM Lane V/C Ratio		0.014		0.198	-	-
HCM Control Delay (s	)	8.1	0			-
HCM Lane LOS		Α	Α	С	-	-
HCM 95th %tile Q(veh	1)	0	-	0.7	-	
	,					

Intersection	_		_		_	
Intersection Delay, s/veh	56.9					
Intersection LOS	50.9 F					
Intersection Edg						
Mayamant	WBL	WBR	NBT	NDD	SBL	SBT
Movement Lang Configurations	WBL	WBR		NBR	SRF	
Lane Configurations Traffic Vol, veh/h	<b>"</b> 21	639	<b>1₃</b> 84	7	272	<b>€</b> 1 45
Future Vol. veh/h	21	639	84	7	272	45
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	0.03	0.03	2	0.03	0.03
Mymt Flow	25	770	101	8	328	54
Number of Lanes	1	0	101	0	0	1
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	80.4		11.6		20.9	
HCM LOS	F		В		С	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	3%	86%		
Vol Left, % Vol Thru, %		0% 92%	3% 0%	86% 14%		
Vol Left, % Vol Thru, % Vol Right, %		0% 92% 8%	3% 0% 97%	86% 14% 0%		
Vol Left, % Vol Thru, % Vol Right, % Sign Control		0% 92% 8% Stop	3% 0% 97% Stop	86% 14% 0% Stop		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane		0% 92% 8% Stop 91	3% 0% 97% Stop 660	86% 14% 0% Stop 317		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol		0% 92% 8% Stop 91	3% 0% 97% Stop 660 21	86% 14% 0% Stop 317 272		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol		0% 92% 8% Stop 91 0 84	3% 0% 97% Stop 660 21	86% 14% 0% Stop 317 272 45		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol		0% 92% 8% Stop 91 0 84	3% 0% 97% Stop 660 21 0	86% 14% 0% Stop 317 272 45		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate		0% 92% 8% Stop 91 0 84 7	3% 0% 97% Stop 660 21 0 639 795	86% 14% 0% Stop 317 272 45 0		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp		0% 92% 8% Stop 91 0 84 7 110	3% 0% 97% Stop 660 21 0 639 795	86% 14% 0% Stop 317 272 45 0 382		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)		0% 92% 8% Stop 91 0 84 7 110 1	3% 0% 97% Stop 660 21 0 639 795 1	86% 14% 0% Stop 317 272 45 0 382 1 0.652		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd)		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877 Yes	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921 Yes	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514 Yes		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877 Yes 525	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921 Yes 740	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514 Yes 558		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877 Yes 525 4.877	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921 Yes 740 2.927	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514 Yes 558 4.514		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877 Yes 525 4.877 0.21	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921 Yes 740 2.927	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514 Yes 558 4.514 0.685		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877 Yes 525 4.877 0.21 11.6	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921 Yes 740 2.927 1.074 80.4	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514 Yes 558 4.514 0.685 20.9		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio		0% 92% 8% Stop 91 0 84 7 110 1 0.2 6.877 Yes 525 4.877 0.21	3% 0% 97% Stop 660 21 0 639 795 1 1.087 4.921 Yes 740 2.927	86% 14% 0% Stop 317 272 45 0 382 1 0.652 6.514 Yes 558 4.514 0.685		

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b>†</b>	₽		Y	
Traffic Vol, veh/h	4	277	654	2	4	7
Future Vol, veh/h	4	277	654	2	4	7
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	50	-			0	-
Veh in Median Storage	,# -	0	0		0	
Grade. %	-	0	0		0	
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	5	338	798	2	5	9
WWITH FIOW	0	338	198	2	0	9
Major/Minor N	Najor1	- 1	Major2		Vinor2	
Conflicting Flow All	806	0	-	0	1153	805
Stage 1	-	-			805	-
Stage 2					348	
Critical Hdwy	4.12				6.42	6.22
Critical Hdwy Stg 1	4.12				5.42	0.22
Critical Hdwy Stg 1	-	-	-		5.42	
Follow-up Hdwy	2.218		- 1	- 1		
	819	-				
Pot Cap-1 Maneuver		-	-	-	218	382
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-		715	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	814				214	380
Mov Cap-2 Maneuver	-	-	-	-	214	-
Stage 1		-			435	-
Stage 2		-			711	-
-1-30 2						
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		17.7	
HCM LOS					С	
Minor Long/Major Mum	+	EDI	EDT	WDT	WIDD	CDI n1
Minor Lane/Major Mvm	l	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		814	-	-	-	296
HCM Lane V/C Ratio		0.006	-	-	-	0.045
HCM Control Delay (s)		9.4	-	-	-	17.7
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh)		0	-	-	-	0.1

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ.		7	ĵ,			4			4	
Traffic Vol, veh/h	12	284	1	1	616	21	3	0	1	30	0	30
Future Vol, veh/h	12	284	1	1	616	21	3	0	1	30	0	30
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0		-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	338	1	1	733	25	4	0	1	36	0	36
Major/Minor N	/lajor1		1	Major2		1	Minor1			Minor2		
Conflicting Flow All	765	0	0	339	0	0	1133	1134	339	1122	1122	753
Stage 1	-	-	-	-	-		367	367	-	755	755	-
Stage 2	-	-	-	-	-	-	766	767	-	367	367	-
Critical Hdwy	4.12		-	4.12	-		7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-		-	-	-		6.12	5.52	-	6.12	5.52	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	848	-	-	1220	-		180	203	703	183	206	410
Stage 1	-	-	-	-	-	-	653	622	-	401	417	-
Stage 2	-		-	-	-		395	411	-	653	622	
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	842	-	-	1220	-		162	198	703	179	201	407
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	198	-	179	201	-
Stage 1	-	-	-	-	-	-	642	611	-	392	414	-
Stage 2	-	-	-	-	-	-	360	408	-	641	611	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0			23.3			25.2		
HCM LOS							С			D		
Minor Lane/Major Mvm	t	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBI n1			
Capacity (veh/h)		201	842			1220			249			
HCM Lane V/C Ratio		0.024	0.017			0.001			0.287			
HCM Control Delay (s)		23.3	9.3	-	-	8	-		25.2			
HCM Lane LOS		C	Α.			A			D			
HCM 95th %tile Q(veh)		0.1	0.1			0			1.1			
7041 70410 2(4011)		0.1	0.1			- 0						

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
				WBR		SBK
Lane Configurations	7	<b>†</b>	₽		Y	-
Traffic Vol, veh/h	4	293	628	2	6	5
Future Vol, veh/h	4	293	628	2	6	5
Conflicting Peds, #/hr		0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	
Storage Length	50	-	-	-	0	-
Veh in Median Storag		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	362	775	2	7	6
Major/Minor	Major1	N	Major2		Minor2	
Conflicting Flow All	786	0	viajui 2 -	0	1157	785
Stage 1	780	U	-	-	785	785
Stage 1 Stage 2		-	- 1		372	- 1
	4.12	-			6.42	6.22
Critical Hdwy		-			5.42	
Critical Hdwy Stg 1	-	-	-	-		-
Critical Hdwy Stg 2	2 210	-	-	-	5.42	2 212
Follow-up Hdwy	2.218	-	-	-		
Pot Cap-1 Maneuver	833	-		-	217	393
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	697	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver		-			212	390
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-		442	
Stage 2	-	-	-	-	691	-
· ·						
Annroach	EB		WB		SB	
Approach					19.2	
HCM Control Delay, s	0.1		0			
HCM LOS					С	
Minor Lane/Major Mvr	mt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		826	-			267
HCM Lane V/C Ratio		0.006				0.051
HCM Control Delay (s	;)	9.4				19.2
HCM Lane LOS		Α				С

Interception						
Intersection Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	•	Þ		W	
Traffic Vol, veh/h	54	260	495	42	22	135
Future Vol, veh/h	54	260	495	42	22	135
Conflicting Peds, #/hr	8	0	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		-	None
Storage Length	100	-		-	0	-
Veh in Median Storage		0	0		0	
Grade, %	-	0	0		0	
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
	64		582	49	26	159
Mvmt Flow	64	306	582	49	26	159
	Major1	١	Major2	N	√linor2	
Conflicting Flow All	639	0	-	0	1049	615
Stage 1	-	-		-	615	-
Stage 2	-				434	
Critical Hdwy	4.11				6.41	6.21
Critical Hdwy Stg 1	7.11				5.41	0.21
Critical Hdwy Stg 2					5.41	
	2.209				3.509	3.309
Follow-up Hdwy			-			
Pot Cap-1 Maneuver	950	-			253	493
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	655	
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	232	489
Mov Cap-2 Maneuver	-	-	-	-	232	
Stage 1	-				500	
Stage 2	-				650	
Stuge 2					550	
Approach	EB		WB		SB	
HCM Control Delay, s	1.6		0		19.9	
HCM LOS					С	
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR:	CDI n1
	iit'		EDI	WDI	WDR:	
Capacity (veh/h)		943	-	-		423
HCM Lane V/C Ratio		0.067	-	-	-	0.437
HCM Control Delay (s)	)	9.1	-	-	-	19.9
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	1)	0.2	-	-	-	2.2

Intersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	A			
Approach	EE	B WB	NB	SB
Entry Lanes		1	1	1
Conflicting Circle Lanes	•		1	1
Adj Approach Flow, veh/h	167	196	86	82
Demand Flow Rate, veh/h	168	3 198	87	83
Vehicles Circulating, veh/h	4		135	272
Vehicles Exiting, veh/h	351	92	37	56
Ped Vol Crossing Leg, #/h	(		0	8
Ped Cap Adj	1.000		1.000	0.999
Approach Delay, s/veh	3.6	5 4.4	3.6	4.2
Approach LOS	A	Α Α	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	168	198	87	83
Cap Entry Lane, veh/h	1374	1209	1202	1046
Entry HV Adj Factor	0.995	0.990	0.988	0.988
Flow Entry, veh/h	167	196	86	82
Cap Entry, veh/h	1367	1197	1188	1032
V/C Ratio	0.122	0.164	0.072	0.079
Control Delay, s/veh	3.6	4.4	3.6	4.2
1.00				
LOS 95th %tile Queue, veh	A 0	A 1	A 0	A 0

Existing Plus 911 Unit Project PM
Queues

1: SR 46 E & Buena Vista Drive

Beechwood SP

# Existing Plus 911 Unit Project PM HCM Signalized Intersection Capacity Analysis

	<b>→</b>	-	-	*	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	213	982	1077	90	86	196
v/c Ratio	0.57	0.30	0.70	0.12	0.35	0.32
Control Delay	36.7	0.2	20.6	4.0	39.5	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	0.2	20.6	4.0	39.5	12.2
Queue Length 50th (ft)	93	0	212	0	38	35
Queue Length 95th (ft)	201	0	372	27	102	98
Internal Link Dist (ft)		1017	748		574	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	707	3312	3216	1441	707	1232
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.30	0.33	0.06	0.12	0.16
Intersection Summary						

	۶	<b>→</b>	<b>←</b>	4	<b>\</b>	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>^</b>	7	ሻ	7			
Traffic Volume (vph)	211	972	1066	89	85	194			
Future Volume (vph)	211	972	1066	89	85	194			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1656	3312	3312	1482	1656	1482			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1656	3312	3312	1482	1656	1482			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99			
Adj. Flow (vph)	213	982	1077	90	86	196			
RTOR Reduction (vph)	0	0	0	48	0	48			
Lane Group Flow (vph)	213	982	1077	42	86	148			
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	17.2	76.6	35.7	35.7	8.7	29.9			
Effective Green, g (s)	17.2	76.6	35.7	35.7	8.7	29.9			
Actuated g/C Ratio	0.22	1.00	0.47	0.47	0.11	0.39			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	371	3312	1543	690	188	578			
v/s Ratio Prot	c0.13	0.30	c0.33		c0.05	0.10			
v/s Ratio Perm				0.03					
v/c Ratio	0.57	0.30	0.70	0.06	0.46	0.26			
Uniform Delay, d1	26.4	0.0	16.2	11.2	31.7	15.8			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	2.1	0.2	1.5	0.1	2.1	0.2			
Delay (s)	28.6	0.2	17.7	11.3	33.8	16.0			
Level of Service	С	Α	В	В	С	В			
Approach Delay (s)		5.3	17.2		21.5				
Approach LOS		Α	В		С				
Intersection Summary									
HCM 2000 Control Delay			12.3	Н	CM 2000	Level of Service	е	В	
HCM 2000 Volume to Capa	city ratio		0.63						
Actuated Cycle Length (s)			76.6		um of lost			15.0	
Intersection Capacity Utiliza	tion		60.7%	IC	CU Level o	of Service		В	
Analysis Period (min)			15						
! Phase conflict between la	ane groups								

c Critical Lane Group

811

32.6

385

1323

0

0.32

48.2 32.6

48.2

53 228

112

225

627 2513 1167

0

231

5.2 48.5

5.2 48.5 36.7

0 14 211

56

485 125

0

0.20

49 740

40 360

0

36.7

0.0

2509

0

0.29 0.10

115 222

6.7 47.2

6.7 47.2

43 134

390

0

1137

0.51

0.0

65

160

0

0.32

0.22

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Existing Plus 911 Unit Project PM

179

0.46 0.70

48.2

0.0

48.2

53 158

112

140

0

0.26 0.36

281 294

46.8

0.0

46.8

312

0

0.53

9.5

0.0

9.5

9

90

0

246

0.31

31.0

0.0

31.0

60

119

853

0

Beechwood SP 2: Golden Hill Road & SR 46 E Existing Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>—</b>	*	1	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>+</b>	7
Traffic Volume (veh/h)	174	787	224	48	718	112	215	194	45	174	273	285
Future Volume (veh/h)	174	787	224	48	718	112	215	194	45	174	273	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	179	811	231	49	740	115	222	200	46	179	281	294
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	270	1098	489	111	1079	481	322	707	159	272	432	366
Arrive On Green	0.08	0.32	0.32	0.03	0.32	0.32	0.10	0.26	0.26	0.08	0.24	0.24
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2767	622	3319	1796	1522
Grp Volume(v), veh/h	179	811	231	49	740	115	222	122	124	179	281	294
Grp Sat Flow(s),veh/h/ln	1659	1706	1521	1659	1706	1521	1659	1706	1682	1659	1796	1522
Q Serve(g_s), s	4.1	16.5	6.1	1.1	14.7	4.4	5.0	4.4	4.6	4.1	11.0	14.1
Cycle Q Clear(g_c), s	4.1	16.5	6.1	1.1	14.7	4.4	5.0	4.4	4.6	4.1	11.0	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	270	1098	489	111	1079	481	322	436	430	272	432	366
V/C Ratio(X)	0.66	0.74	0.47	0.44	0.69	0.24	0.69	0.28	0.29	0.66	0.65	0.80
Avail Cap(c_a), veh/h	768	3070	1368	768	3070	1368	853	899	886	853	946	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	23.5	8.7	36.9	23.2	19.7	34.0	23.2	23.3	34.7	26.6	27.8
Incr Delay (d2), s/veh	2.8	1.0	0.7	1.0	0.8	0.3	2.6	0.3	0.4	2.7	1.7	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.8	3.0	0.4	5.2	1.5	2.0	1.7	1.8	1.7	4.5	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	24.5	9.4	37.9	24.0	19.9	36.7	23.6	23.7	37.4	28.2	31.9
LnGrp LOS	D	С	Α	D	С	В	D	С	С	D	С	С
Approach Vol, veh/h		1221			904			468			754	
Approach Delay, s/veh		23.5			24.2			29.8			31.8	
Approach LOS		С			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	32.3	11.5	24.0	10.3	31.9	10.4	25.2				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q_c+l1), s	3.1	18.5	7.0	16.1	6.1	16.7	6.1	6.6				
Green Ext Time (p_c), s	0.0	6.6	0.6	2.6	0.4	5.4	0.4	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			26.5									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>ት</b> ֆ		*	Φß			41	7		4	7
Traffic Vol, veh/h	0	935	62	293	884	0	9	0	302	0	0	0
Future Vol. veh/h	0	935	62	293	884	0	9	0	302	0	0	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None			None	-	-	None	-	-	None
Storage Length	340		-	195					25			25
Veh in Median Storage,	# -	0		-	0		-	0	-	-	0	-
Grade, %		0			0			0			0	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	7	7	7	7	7	7	7	7	7	7	7	7
Mymt Flow	0	964	64	302	911	0	9	0	311	0	0	0
Major/Minor M	lajor1		1	Major2		1	Vinor1		N	Minor2		
Conflicting Flow All	912	0	0	1028	0	0	2056	2512	514	1998	2544	457
Stage 1		-	-	-	-	-	996	996	-	1516	1516	-
Stage 2							1060	1516		482	1028	
Critical Hdwy	4.24		-	4.24			7.64	6.64	7.04	7.64	6.64	7.04
Critical Hdwy Stg 1	-		-				6.64	5.64	-	6.64	5.64	
Critical Hdwy Stg 2							6.64	5.64		6.64	5.64	
Follow-up Hdwy	2.27		-	2.27			3.57	4.07	3.37	3.57	4.07	3.37
Pot Cap-1 Maneuver	712	-	-	642		-	30	26	493	33	25	537
Stage 1	-		-			-	253	310		119	172	
Stage 2	-		-	-			231	172	-	521	299	
Platoon blocked, %					-	-						
Mov Cap-1 Maneuver	711			642		-	19	14	493	8	13	536
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	14	-	8	13	-
Stage 1	-		-	-	-	-	253	310		119	91	-
Stage 2	-	-	-	-	-	-	122	91	-	192	299	-
Approach	EB	_		WB		_	NB	_		SB		_
HCM Control Delay, s	0			3.9			32.4			0		
HCM LOS							D			Α		
Minor Lane/Major Mvmt		NBLn1 I		EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1	SBLn2	
Capacity (veh/h)		19	493	711	-	-	642	-	-	-	-	
HCM Lane V/C Ratio			0.632	-	-	-	0.471	-	-	-	-	
HCM Control Delay (s)	\$	313.6	24	0	-	-	15.5	-	-	0	0	
HCM Lane LOS		F	С	Α	-	-	С	-	-	Α	Α	
HCM 95th %tile Q(veh)		1.4	4.3	0	-	-	2.5	-	-	-	-	

Intersection							
Intersection	4.0						
Int Delay, s/veh	4.8						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	ሻ	<b>^</b>	<b>^</b>	7	ሻ	7	
Traffic Vol, veh/h	220	849	835	12	10	332	
Future Vol, veh/h	220	849	835	12	10	332	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	580	-	-	165	0	25	
Veh in Median Storage,	# -	0	0	-	2	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	10	10	10	10	10	10	
Mvmt Flow	234	903	888	13	11	353	
Major/Minor N	Najor1	1	Major2	N	Minor2		
Conflicting Flow All	901	0	viajui z	0	1808	444	
Stage 1	901	U		U	888	444	
Stage 2		- 1			920		
Critical Hdwy	4.3				720	7.1	
Critical Hdwy Stg 1	4.5				6	7.1	
Critical Hdwy Stg 2					6		
Follow-up Hdwy	2.3				3.6	3.4	
Pot Cap-1 Maneuver	702				64	540	
Stage 1	702				343	340	
Stage 2	- 1				330		
Platoon blocked, %					330		
Mov Cap-1 Maneuver	702				43	540	
Mov Cap-1 Maneuver	702				181	340	
Stage 1					229		
Stage 2					330		
Staye 2					330		
Approach	EB		WB		SB		
HCM Control Delay, s	2.6		0		23.5		
HCM LOS					С		
Minor Lane/Major Mvmt	1	EBL	EBT	WBT	WRD	SRI n1	SBLn2
		702		WDI	WDR.	181	540
Capacity (veh/h) HCM Lane V/C Ratio		0.333	-		- 1		0.654
		12.7	-	-		26.1	23.4
HCM Control Delay (s)		12.7 B	-		- 1	26.1 D	23.4 C
HCM Lane LOS							
HCM 95th %tile Q(veh)		1.5	-	-	-	0.2	4.7

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	44	7	*	<b>†</b> 1>			4	7		4	
Traffic Vol, veh/h	0	894	10	1	841	0	17	0	4	0	0	1
Future Vol. veh/h	0	894	10	1	841	0	17	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None	-		None	-	-	None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-		2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	922	10	1	867	0	18	0	4	0	0	1
Major/Minor N	lajor1			Major2		1	Minor1		1	Minor2		
Conflicting Flow All	867	0	0	932	0	0	1358	1791	461	1330	1801	434
Stage 1	-		-			-	922	922	-	869	869	
Stage 2	-	-	-	-		-	436	869	-	461	932	
Critical Hdwy	4.34		-	4.34		-	7.74	6.74	7.14	7.74	6.74	7.14
Critical Hdwy Stg 1	-		-	-		-	6.74	5.74	-	6.74	5.74	
Critical Hdwy Stg 2	-		-	-		-	6.74	5.74	-	6.74	5.74	
Follow-up Hdwy	2.32	-	-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42
Pot Cap-1 Maneuver	712		-	671		-	98	72	521	103	71	543
Stage 1	-	-	-	-	-	-	272	325	-	293	345	-
Stage 2	-	-	-	-	-	-	543	345	-	524	322	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	712	-	-	671	-	-	98	72	521	102	71	543
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	234	-	255	233	-
Stage 1	-	-	-	-	-	-	272	325	-	293	345	-
Stage 2	-	-	-	-	-	-	541	345		520	322	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			19.3			11.6		
HCM LOS							С			В		
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1		
Capacity (veh/h)		242	521	712			671			543		
HCM Lane V/C Ratio			0.008	-			0.002			0.002		
HCM Control Delay (s)		21	12	0	-	-	10.4	-	-	11.6		
HCM Lane LOS		С	В	Α	-	-	В	-	-	В		
HOMOER OVER OVER		0.0	_				_			^		

Intersection												
Intersection Delay, s/veh	69.3											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1>		ች	1>		*	<b>*</b>	7		414	
Traffic Vol, veh/h	63	199	61	272	185	97	49	240	255	29	386	90
Future Vol, veh/h	63	199	61	272	185	97	49	240	255	29	386	90
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	68	214	66	292	199	104	53	258	274	31	415	97
Number of Lanes	1	1	0	1	1	0	1	1	1	0	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			3			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			2			2			2		
HCM Control Delay	70.7			84.6			51.8			70.4		
HCM LOS	F			F			F			F		
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %		100%	0%	0%	100%	0%	100%	0%	13%	0%		
Vol Thru, %		0%	100%	0%	0%	77%	0%	66%	87%	68%		
Vol Right, %		0%	0%	100%	0%	23%	0%	34%	0%	32%		
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop		
Traffic Vol by Lane		49	240	255	63	260	272	282	222	283		
LT Vol		49	0	0	63	0	272	0	29	0		
Through Vol		0	240	0	0	199	0	185	193	193		
RT Vol		0	0	255	0	61	0	97	0	90		
Lane Flow Rate		53	258	274	68	280	292	303	239	304		
Geometry Grp		8	8	8	8	8	8	8	8	8		
Degree of Util (X)		0.182	0.852	0.849	0.248	0.97	1.001	0.972	0.802	0.996		
Departure Headway (Hd)		12.415	11.887	11.149	13.191	12.493	12.322	11.543	12.089	11.783		
		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
		000	307	326	272	291	295	315	301	310		
Сар		290										
Сар		10.146	9.618	8.88	10.962	10.263	10.059	9.28	9.825	9.519		
Cap Service Time HCM Lane V/C Ratio		10.146	9.618 0.84	8.88 0.84	10.962	0.962	0.99	0.962	0.794	0.981		
Cap Service Time HCM Lane V/C Ratio HCM Control Delay		10.146 0.183 17.9	9.618 0.84 56.7	8.88 0.84 53.6	10.962 0.25 20.3	0.962 82.9	0.99 89.9	0.962 79.4	0.794 50	0.981 86.4		
Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay HCM Lane LOS		10.146 0.183 17.9 C	9.618 0.84 56.7 F	8.88 0.84 53.6 F	10.962 0.25 20.3 C	0.962 82.9 F	0.99 89.9 F	0.962 79.4 F	0.794 50 E	0.981 86.4 F		
Cap Service Time HCM Lane V/C Ratio HCM Control Delay		10.146 0.183 17.9	9.618 0.84 56.7	8.88 0.84 53.6	10.962 0.25 20.3	0.962 82.9	0.99 89.9	0.962 79.4	0.794 50	0.981 86.4		

Existing Plus 911 Unit Project PM

Beechwood SP 7: Riverside Ave & 13th Street

# Existing Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

7. Triverside Ave d	. 100100	1001									Queut
	۶	<b>→</b>	•	<b>←</b>	*	4	†	1	-	↓ ¯	1
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Group Flow (vph)	16	467	255	436	562	6	39	281	329	337	91
v/c Ratio	0.14	0.65	0.68	0.54	0.57	0.03	0.21	0.69	0.72	0.72	0.17
Control Delay	51.7	38.3	44.8	24.2	4.6	43.2	44.9	15.0	40.7	40.9	2.4
Queue Delay	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
otal Delay	51.7	38.3	44.8	24.8	4.8	43.2	44.9	15.0	40.7	40.9	2.4
Queue Length 50th (ft)	9	121	129	156	0	3	20	0	167	172	0
Queue Length 95th (ft)	36	225	266	366	72	17	60	81	347	354	13
nternal Link Dist (ft)	30	346	200	307	12	- 17	744	01	517	674	
Furn Bay Length (ft)	65	0.0	125	- 007		140	,.,	165	150	0, 1	185
Sase Capacity (vph)	115	1055	576	1045	1114	402	422	577	671	681	698
Starvation Cap Reductn	0	0	9	287	144	0	0	0	0/1	001	0
pillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.44	0.45	0.58	0.58	0.01	0.09	0.49	0.49	0.49	0.13
	0.11	0.11	0.10	0.00	0.00	5.01	0.07	0.17	0.17	0.17	0.10
Intersection Summary											

User approved volume balancing among the lanes for turning movement.

D

HCM 6th LOS

1203

0.65

17.2

17.5

586

0

0.66

42.7

40 172

107 416

120

337 2402

0

20 961

0.14

45.6

45.6

38 348

220

148 2167

0

22.3

22.3

192

0

0.44

255

0.33 0.62

7.0 32.2

7.0 32.2

18 109

80 221

145 130

0

0.25 0.33

263

0.0

0

30 438

0.74

0.0

25.1

123

110

972

0

0.05

21.8 25.1

21.8

33 273

836

0

0.03

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

Total Delay

Existing Plus 911 Unit Project PM

21.7

21.7

14

95

0 0

26

0.04

0.1

0.0

0.1

0

0

575

Beechwood SP 8: Paso Robles Street & 13th Street Existing Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

Lane Configurations Traffic Volume (veh/h) 83 1089 30 19 894 237 245 28 407 7 0 10 101161 (20b), veh 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	-	<b>↓</b>	4
Traffic Volume (vehrh) 83 1089 30 19 894 237 245 28 407 7 0 Future Volume (vehrh) 83 1089 30 19 894 237 245 28 407 7 0 Initial O (Ob), veh 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Movement	EBL	EBT	EBR		WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Volume (veh/h)  83 1089 30 19 894 237 245 28 407 7 0 Initial Q (Qb), veh  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Parking Bus, Adj  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Lane Configurations												
Initial O (Ob), veh		83		30			237			407	7	0	24
Ped-Bike Adj(A_pbT)						894							24
Parking Bus, Adj			0			0	-		0			0	C
Work Zöne On Approach													1.00
Adj Sat Flow, veh/h/ln  1885		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Adj Flow Rate, veh/h Peak Hour Factor O.93 O.93 O.93 O.93 O.93 O.93 O.93 O.93													
Peak Hour Factor 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93													1885
Percent Heavy Veh, % 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1													26
Cap, veh/h 116 1597 44 42 1459 545 609 516 400 0 151 Arrive On Green 0.06 0.45 0.45 0.45 0.02 0.41 0.00 0.32 0.32 0.32 0.32 0.32 0.00 0 0 153 251 Flow, veh/h 1795 3558 97 1795 3582 1598 1396 1385 1598 932 0 15 Grp Volume(v), veh/h 1795 1791 1865 1795 1791 1598 1396 1885 1598 932 0 15 Grp Sal Flow(s), veh/h/ln 1795 1791 1865 1795 1791 1598 1396 1885 1598 932 0 15 0 0 Serve(g_s), s 3.2 17.8 17.8 0.7 14.3 0.0 10.5 0.7 16.9 0.4 0.0 0 0 0 Serve(g_s), s 3.2 17.8 17.8 0.7 14.3 0.0 10.5 0.7 16.9 0.4 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0													0.93
Arrive On Green						-	1		-	-			1
Sat Flow, veh/h			1597			1459				516	400		516
Grp Volume(v), veh/h 89 589 614 20 961 0 263 30 438 8 0 Grp Sal Flow(s), veh/h/ln 1795 1791 1865 1795 1791 1598 1396 1885 1598 932 0 15 0 2 erve(g_s), s 3.2 17.8 17.8 0.7 14.3 0.0 10.5 0.7 16.9 0.4 0.0 Cycle O Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 10.5 0.7 16.9 0.4 0.0 Cycle O Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 11.3 0.7 16.9 1.1 0.0 Prop In Lane 1.00 0.05 1.00 1.00 1.00 1.00 1.00 1.00													0.32
Grp Sat Flow(s), veh/h/ln 1795 1791 1865 1795 1791 1598 1396 1885 1598 932 0 15   O Serve(g_s), s 3.2 17.8 17.8 0.7 14.3 0.0 10.5 0.7 16.9 0.4 0.0   Cycle Q Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 11.3 0.7 16.9 1.1 0.0   Cycle Q Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 11.3 0.7 16.9 1.1 0.0   Cycle Q Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 11.3 0.7 16.9 1.1 0.0   Cycle Q Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 11.3 0.7 16.9 1.1 0.0   Cycle Q Clear(g_c), s 3.2 17.8 17.8 0.7 14.3 0.0 11.3 0.7 16.9 1.1 0.0   Cycle Q Clear(g_c), veh/h 16 804 837 42 1459 545 609 516 400 0 5   Cycle Q Clear(g_c), veh/h 16 804 837 42 1459 545 609 516 400 0 5   Cycle Q Clear(g_c), veh/h 170 170 0.73 0.73 0.73 0.48 0.66 0.48 0.05 0.85 0.02 0.00 0.0   Cycle Q Clear(g_c), veh/h 180 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Sat Flow, veh/h	1795	3558	97	1795	3582	1598	1396	1885	1598	932	0	1598
Q Serve(g_s), s	Grp Volume(v), veh/h	89	589	614	20	961	0	263	30	438	8	0	26
Cycle Q Clear(g_c), s         3.2         17.8         17.8         0.7         14.3         0.0         11.3         0.7         16.9         1.1         0.0           Prop In Lane         1.00         0.05         1.00<	Grp Sat Flow(s), veh/h/ln	1795	1791	1865	1795	1791	1598	1396	1885	1598	932		1598
Prop In Lane	Q Serve(g_s), s	3.2	17.8	17.8	0.7	14.3	0.0	10.5	0.7	16.9	0.4	0.0	0.7
Lane Grp Cap(c), veh/h 116 804 837 42 1459 545 609 516 400 0 1 VIC Ratio(X) 0.77 0.73 0.73 0.48 0.66 0.48 0.05 0.85 0.02 0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Cycle Q Clear(q_c), s	3.2	17.8	17.8	0.7	14.3	0.0	11.3	0.7	16.9	1.1	0.0	0.7
V/C Ratio(X)	Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Avail Cap(c_a), veh/h 340 1317 1372 150 2255 887 1072 909 629 0 640 160M Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Lane Grp Cap(c), veh/h	116	804	837	42	1459		545	609	516	400	0	516
HCM Platon Ratio	V/C Ratio(X)	0.77	0.73	0.73	0.48	0.66		0.48	0.05	0.85	0.02	0.00	0.05
Upstream Filter(I)         1.00 <td>Avail Cap(c_a), veh/h</td> <td>340</td> <td>1317</td> <td>1372</td> <td>150</td> <td>2255</td> <td></td> <td>887</td> <td>1072</td> <td>909</td> <td>629</td> <td>0</td> <td>909</td>	Avail Cap(c_a), veh/h	340	1317	1372	150	2255		887	1072	909	629	0	909
Uniform Delay (d), s/veh 30.3 14.9 14.9 31.8 15.8 0.0 19.2 15.3 20.8 15.7 0.0 1 Incr Delay (d2), s/veh 10.0 1.3 1.3 8.3 0.5 0.0 0.7 0.0 4.0 0.0 0.0 0.0 Incr Delay (d2), s/veh 10.0 1.3 1.3 8.3 0.5 0.0 0.7 0.0 4.0 0.0 0.0 0.0 S/lie BackOfQ(50%), veh/ln 1.7 6.6 6.9 0.4 5.3 0.0 3.2 0.3 6.2 0.1 0.0 Unsig. Movement Delay, s/veh LnGrp Delay(d), s/veh 40.3 16.2 16.2 40.1 16.3 0.0 19.9 15.4 24.8 15.7 0.0 1 Incr Delay (s/veh 10.0 D B B B D B B B B C B A A Approach Vol, veh/h 1292 981 A 731 34 Approach Delay, s/veh 17.9 16.8 22.6 15.5 Approach LOS B B C B B C B A Physolath LOS B B C B B C B A Approach LOS B B B C B C B A Approach LOS B B B C C B B Timer - Assigned Phs 1 2 4 5 6 8 Phys Duration (G+Y+RC), s 6.0 34.1 25.8 8.8 31.3 25.8 Change Period (Y+RC), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 Max Green Setting (Gmax), s 5.5 48.5 37.5 12.5 41.5 37.5 Max Green Setting (Gmax), s 5.5 48.5 37.5 12.5 41.5 37.5 Max Green Setting (Cmax), s 0.9 8 0.1 0.1 7.6 2.5 Intersection Summary HCM 6th Ctrl Delay 18.7	HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incr Delay (d2), siveh   10.0   1.3   1.3   8.3   0.5   0.0   0.7   0.0   4.0   0.0   0.0	Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Initial Q Delay(d3),s/veh	Uniform Delay (d), s/veh	30.3	14.9	14.9	31.8	15.8	0.0	19.2	15.3	20.8	15.7	0.0	15.3
%ile BackOfÓ(50%), veh/ln 1.7 6.6 6.9 0.4 5.3 0.0 3.2 0.3 6.2 0.1 0.0 Unsig. Movement Delay, s/veh LnGrp Delay(d), s/veh 40.3 16.2 16.2 40.1 16.3 0.0 19.9 15.4 24.8 15.7 0.0 1 LnGrp LOS D B B D B B B B C B A Approach Vol, veh/h 1292 981 A 731 34 Approach Delay, s/veh 17.9 16.8 22.6 15.5 Approach LOS B C B B C B A TO THE PROPRIED OF	Incr Delay (d2), s/veh	10.0	1.3	1.3	8.3	0.5	0.0	0.7	0.0	4.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 40.3 16.2 16.2 40.1 16.3 0.0 19.9 15.4 24.8 15.7 0.0 1 16.8 Approach Vol, veh/h 17.9 16.8 Approach Delay, s/veh 17.9 16.8 B C B Approach LOS B C B B C B C B B C B C B C B C B C B	Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d), s/veh         40.3         16.2         16.2         40.1         16.3         0.0         19.9         15.4         24.8         15.7         0.0         1           LnGrp LOS         D         B         B         D         B         B         B         B         B         C         B         A           Approach Vol, veh/h         1292         981         A         731         34         34           Approach Delay, s/veh         17.9         16.8         22.6         15.5         5         Approach LOS         B         C         B         B           Timer - Assigned Phs         1         2         4         5         6         8         B         C         B         B           Timer - Assigned Phs         1         2         4         5         6         8         B         C         B         B         C         B         B         C         B         B         C         B         A         7.5         A         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.5         4.	%ile BackOfQ(50%),veh/ln	1.7	6.6	6.9	0.4	5.3	0.0	3.2	0.3	6.2	0.1	0.0	0.3
LnGrp LOS         D         B         B         D         B         B         B         C         B         A           Approach Vol, veh/h         1292         981         A         731         34           Approach Delay, s/veh         17.9         16.8         22.6         15.5           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         6.0         34.1         25.8         8.8         31.3         25.8           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         5.5         48.5         37.5         12.5         41.5         37.5           Max Green Ext Time (g_c+I1), s         2.7         19.8         3.1         5.2         16.3         18.9           Green Ext Time (p_c), s         0.0         9.8         0.1         0.1         7.6         2.5           Intersection Summary         HCM 6th Ctrl Delay         18.7	Unsig. Movement Delay, s/veh												
Approach Vol, veh/h         1292         981         A         731         34           Approach Delay, siveh         17.9         16.8         22.6         15.5           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         6.0         34.1         25.8         8.8         31.3         25.8           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         5.5         48.5         37.5         12.5         41.5         37.5           Green Ext Time (p_c-l), s         0.0         9.8         0.1         0.1         7.6         2.5           Intersection Summary           HCM 6th Ctrl Delay         18.7	LnGrp Delay(d),s/veh	40.3	16.2	16.2	40.1	16.3	0.0	19.9	15.4	24.8	15.7	0.0	15.4
Approach Vol, veh/h         1292         981         A         731         34           Approach Delay, s/veh         17.9         16.8         22.6         15.5           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+V+Rc), s         6.0         34.1         25.8         8.8         31.3         25.8           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         5.5         48.5         37.5         12.5         41.5         37.5           Green Ext Time (p_c, e), s         0.0         9.8         0.1         0.1         7.6         2.5           Intersection Summary           HCM 6th Ctrl Delay         18.7	LnGrp LOS	D	В	В	D	В		В	В	С	В	Α	В
Approach Delay, s/veh         17.9         16.8         22.6         15.5           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         6.0         34.1         25.8         8.8         31.3         25.8           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         5.5         48.5         37.5         12.5         41.5         37.5           Max O Clear Time (g_c+II), s         2.7         19.8         3.1         5.2         16.3         18.9           Green Ext Time (p_c), s         0.0         9.8         0.1         0.1         7.6         2.5           Intersection Summary           HCM 6th Ctrl Delay         18.7			1292			981	А		731			34	
Approach LOS B B C B  Timer - Assigned Phs 1 2 4 5 6 8  Phs Duration (G+Y+Rc), s 6.0 34.1 25.8 8.8 31.3 25.8  Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5  Max Green Setting (Gmax), s 5.5 48.5 37.5 12.5 41.5 37.5  Max O Clear Time (g_c+II), s 2.7 19.8 3.1 5.2 16.3 18.9  Green Ext Time (p_c), s 0.0 9.8 0.1 0.1 7.6 2.5  Intersection Summary  HCM 6th Ctrl Delay 18.7			17.9			16.8			22.6			15.5	
Phs Duration (G+Y+Rc), s 6.0 34.1 25.8 8.8 31.3 25.8 Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 A.5 A.5 A.5 A.5 A.5 A.5 A.5 A.5 A.5 A	Approach LOS												
Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 Max Green Setting (Gmax), s 5.5 48.5 37.5 12.5 41.5 37.5 Max Q Clear Time (g_c+I1), s 2.7 19.8 3.1 5.2 16.3 18.9 Green Ext Time (p_c), s 0.0 9.8 0.1 0.1 7.6 2.5 Intersection Summary  HCM 6th Ctrl Delay 18.7	Timer - Assigned Phs	1	2		4	5	6		8				
Max Green Setting (Gmax), s       5.5       48.5       37.5       12.5       41.5       37.5         Max Q Clear Time (g_c+l1), s       2.7       19.8       3.1       5.2       16.3       18.9         Green Ext Time (p_c), s       0.0       9.8       0.1       0.1       7.6       2.5         Intersection Summary         HCM 6th Ctrl Delay       18.7	Phs Duration (G+Y+Rc), s	6.0	34.1		25.8	8.8	31.3		25.8				
Max Green Setting (Gmax), s       5.5       48.5       37.5       12.5       41.5       37.5         Max Q Clear Time (g_c+l1), s       2.7       19.8       3.1       5.2       16.3       18.9         Green Ext Time (p_c), s       0.0       9.8       0.1       0.1       7.6       2.5         Intersection Summary         HCM 6th Ctrl Delay       18.7		4.5	4.5		4.5	4.5	4.5		4.5				
Max Q Clear Time (g_c+l1), s     2.7     19.8     3.1     5.2     16.3     18.9       Green Ext Time (p_c), s     0.0     9.8     0.1     0.1     7.6     2.5       Intersection Summary       HCM 6th Ctrl Delay     18.7	Max Green Setting (Gmax), s	5.5			37.5	12.5	41.5		37.5				
Green Ext Time (p_c), s       0.0       9.8       0.1       0.1       7.6       2.5         Intersection Summary         HCM 6th Ctrl Delay       18.7													
HCM 6th Ctrl Delay 18.7	Green Ext Time (p_c), s												
· · · · · · · · · · · · · · · · · · ·	Intersection Summary												
HCM 6th LOS B	HCM 6th Ctrl Delay			18.7									
	HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Central Coast Transportation Consulting
Synchro 10 Report
Page 18

Central Coast Transportation Consulting
Synchro 10 Report
Page 20

#### Beechwood SP 9: River Road & Creston Road

# Existing Plus 911 Unit Project PM Queues

	<b>≯</b>	-	1	←	4	<b>†</b>	1	1	↓	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	379	1182	63	690	268	218	67	60	523	
v/c Ratio	0.64	0.76	0.38	0.58	0.58	0.26	0.14	0.38	0.72	
Control Delay	44.3	25.3	53.8	28.0	47.7	34.7	0.6	54.4	26.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.3	25.3	53.8	28.0	47.7	34.7	0.6	54.4	26.4	
Queue Length 50th (ft)	113	298	37	172	80	61	0	35	82	
Queue Length 95th (ft)	192	456	94	280	148	108	0	90	158	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	850	2102	214	1709	573	1154	608	197	1055	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.45	0.56	0.29	0.40	0.47	0.19	0.11	0.30	0.50	
Intersection Summary										

Beechwood SP 9: River Road & Creston Road Existing Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	1/4	<b>†</b> 1>		ň	<b>†</b> 1>		ሻሻ	<b>^</b>	7	7	<b>↑</b> ↑	
Traffic Volume (veh/h)	360	778	345	60	587	68	255	207	64	57	210	28
Future Volume (veh/h)	360	778	345	60	587	68	255	207	64	57	210	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	379	819	0	63	618	72	268	218	67	60	221	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	
Cap, veh/h	552	1400		100	930	108	409	640	285	97	413	
Arrive On Green	0.16	0.39	0.00	0.06	0.29	0.29	0.12	0.18	0.18	0.05	0.12	0.0
Sat Flow, veh/h	3483	3676	0	1795	3227	375	3483	3582	1598	1795	3676	
Grp Volume(v), veh/h	379	819	0	63	342	348	268	218	67	60	221	
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1811	1742	1791	1598	1795	1791	
Q Serve(q s), s	5.8	10.1	0.0	1.9	9.4	9.5	4.1	3.0	2.0	1.8	3.3	0.
Cycle Q Clear(q_c), s	5.8	10.1	0.0	1.9	9.4	9.5	4.1	3.0	2.0	1.8	3.3	0.
Prop In Lane	1.00		0.00	1.00		0.21	1.00		1.00	1.00		0.0
Lane Grp Cap(c), veh/h	552	1400	0.00	100	516	522	409	640	285	97	413	0.0
V/C Ratio(X)	0.69	0.58		0.63	0.66	0.67	0.66	0.34	0.23	0.62	0.54	
Avail Cap(c_a), veh/h	1334	3414		336	1356	1371	900	1806	805	310	1499	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.0
Uniform Delay (d), s/veh	22.3	13.5	0.0	25.9	17.6	17.6	23.7	20.2	19.8	26.0	23.4	0.
Incr Delay (d2), s/veh	1.5	0.4	0.0	6.4	1.5	1.5	1.8	0.3	0.4	6.2	1.1	0.
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	2.3	3.6	0.0	0.9	3.6	3.6	1.6	1.1	0.7	0.9	1.3	0.
Unsig. Movement Delay, s/veh		3.0	0.0	0.7	3.0	3.0	1.0	1.1	0.7	0.7	1.0	U.
LnGrp Delay(d),s/veh	23.8	13.9	0.0	32.3	19.0	19.1	25.5	20.5	20.2	32.2	24.5	0.
LnGrp LOS	23.0 C	В	0.0	32.3 C	В	В	23.5 C	20.5 C	20.2 C	C	24.5 C	U.
Approach Vol, veh/h		1198	А		753	ь		553			281	
Approach Delay, s/veh		17.0	А		20.2			22.9			26.1	
Approach LOS		17.0 B			20.2 C			22.7 C			20. T	
**		_			-						C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	26.4	11.1	11.0	13.4	20.7	7.5	14.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	53.5	14.5	23.5	21.5	42.5	9.7	28.3				
Max Q Clear Time (g_c+l1), s	3.9	12.1	6.1	5.3	7.8	11.5	3.8	5.0				
Green Ext Time (p_c), s	0.1	6.9	0.6	1.1	1.1	4.5	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			20.0									
HCM 6th LOS			В									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

879

17.2

323

0

0.14 0.36 0.29 0.08

537

26.7

26.7

85

263

120

0

73

9.1

9.1

0

40

0

429

0.25

11.0

11.0 17.2

33 100

1151 2310

0

0.23

37.8

37.8

19

88 143

125

0

Lane Group

v/c Ratio

Control Delay Queue Delay

Lane Group Flow (vph)

Total Delay
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn
Storage Cap Reductn
Reduced v/c Ratio

Intersection Summary

	•		-	4	Λ.	1			
		<b>→</b>			*	*			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	7	<b>^</b>	۴Þ		ሻሻ	7			
Traffic Volume (vph)	56	416	451	402	521	71			
Future Volume (vph)	56	416	451	402	521	71			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5			
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00			
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
Frt	1.00	1.00	0.93		1.00	0.85			
Flt Protected	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1787	3574	3298		3467	1599			
Flt Permitted	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1787	3574	3298		3467	1599			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97			
Adj. Flow (vph)	58	429	465	414	537	73			
RTOR Reduction (vph)	0	0	127	0	0	54			
Lane Group Flow (vph)	58	429	752	0	537	19			
Confl. Peds. (#/hr)				4					
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%			
Turn Type	Prot	NA	NA		Perm	Perm			
Protected Phases	5	2	6						
Permitted Phases					4	4			
Actuated Green, G (s)	4.4	33.1	24.2		17.7	17.7			
Effective Green, q (s)	4.4	33.1	24.2		17.7	17.7			
Actuated g/C Ratio	0.07	0.49	0.36		0.26	0.26			
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	117	1763	1189		914	421			
v/s Ratio Prot	c0.03	0.12	c0.23						
v/s Ratio Perm	00.00	0.12	55.25		c0.15	0.01			
v/c Ratio	0.50	0.24	0.63		0.59	0.05			
Uniform Delay, d1	30.3	9.8	17.8		21.5	18.4			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.3	0.1	1.1		1.00	0.0			
Delay (s)	33.6	9.9	18.9		22.5	18.5			
Level of Service	C	A	В.		C	B			
Approach Delay (s)		12.7	18.9		22.0				
Approach LOS		12.7 B	В		22.0 C				
••		D	D						
Intersection Summary									
HCM 2000 Control Delay			18.3	H	CM 2000	Level of Servic	е	В	
HCM 2000 Volume to Capa	city ratio		0.57						
Actuated Cycle Length (s)			67.1		um of lost			18.0	
Intersection Capacity Utiliza	tion		55.9%	IC	CU Level of	of Service		В	
Analysis Period (min)			15						

#### Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

# Existing Plus 911 Unit Project PM \_\_\_\_Queues

	<b>→</b>	<b>→</b>	>	6	-	4	<b>†</b>	-	Ţ	
			•	•		,			•	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	164	329	317	113	548	202	411	210	648	
v/c Ratio	0.61	0.64	0.48	0.54	0.67	0.70	0.50	0.68	0.75	
Control Delay	44.2	34.6	6.1	46.3	22.9	47.7	28.9	44.7	33.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.2	34.6	6.1	46.3	22.9	47.7	28.9	44.7	33.0	
Queue Length 50th (ft)	83	161	0	58	86	102	96	106	158	
Queue Length 95th (ft)	152	259	62	116	146	#206	149	#187	229	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	339	591	711	246	1015	339	972	386	1064	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.56	0.45	0.46	0.54	0.60	0.42	0.54	0.61	

Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Existing Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	4	1	1	1	1	<b>+</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>↑</b>	7	ሻ	<b>∱</b> β		ሻ	<b>↑</b> ↑		ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	157	316	304	108	295	231	194	350	44	202	489	133
Future Volume (veh/h)	157	316	304	108	295	231	194	350	44	202	489	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	329	317	112	307	241	202	365	46	210	509	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	482	402	145	422	322	250	770	96	260	686	186
Arrive On Green	0.12	0.26	0.26	0.08	0.22	0.22	0.14	0.24	0.24	0.15	0.25	0.25
Sat Flow, veh/h	1781	1870	1559	1781	1898	1447	1781	3169	396	1781	2759	749
Grp Volume(v), veh/h	164	329	317	112	287	261	202	203	208	210	327	321
Grp Sat Flow(s), veh/h/ln	1781	1870	1559	1781	1777	1569	1781	1777	1788	1781	1777	1731
Q Serve(q s), s	5.9	10.5	12.5	4.1	9.9	10.3	7.3	6.5	6.6	7.6	11.2	11.3
Cycle Q Clear(g_c), s	5.9	10.5	12.5	4.1	9.9	10.3	7.3	6.5	6.6	7.6	11.2	11.3
Prop In Lane	1.00		1.00	1.00	***	0.92	1.00		0.22	1.00		0.43
Lane Grp Cap(c), veh/h	208	482	402	145	395	349	250	432	434	260	442	430
V/C Ratio(X)	0.79	0.68	0.79	0.77	0.73	0.75	0.81	0.47	0.48	0.81	0.74	0.75
Avail Cap(c_a), veh/h	390	678	565	283	537	474	390	564	567	444	617	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	22.1	22.9	29.8	23.9	24.0	27.6	21.4	21.5	27.4	22.9	22.9
Incr Delay (d2), s/veh	6.5	1.7	4.9	8.5	3.2	4.4	6.8	0.8	0.8	5.9	3.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.3	4.6	2.0	4.1	3.9	3.4	2.6	2.6	3.4	4.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	23.8	27.8	38.3	27.1	28.4	34.4	22.2	22.3	33.2	25.9	26.2
LnGrp LOS	C	C	C	D	C	C	C	C	C	C	C	20.2
Approach Vol, veh/h		810			660			613			858	
Approach Delay, s/veh		27.6			29.5			26.3			27.8	
Approach LOS		27.0 C			27.3 C			20.3 C			27.0 C	
**	1	2	3	4	5	6	7	8				
Timer - Assigned Phs Phs Duration (G+Y+Rc), s	14.2	20.6	9.9	21.6	13.8	21.0	12.2	19.2				
	4.5	20.6 4.5	9.9 4.5	4.5	4.5	4.5	4.5	4.5				
Change Period (Y+Rc), s							14.5					
Max Green Setting (Gmax), s	16.5	21.0	10.5	24.0	14.5	23.0		20.0				
Max Q Clear Time (g_c+l1), s	9.6	8.6	6.1	14.5	9.3	13.3	7.9	12.3				
Green Ext Time (p_c), s	0.3	1.8	0.1	2.1	0.2	2.7	0.2	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.8									
HCM 6th LOS			0									

HCM 6th LOS С

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	Þ		7	•	7
Traffic Vol, veh/h	100	4	13	4	1	38	20	379	10	48	488	126
Future Vol, veh/h	100	4	13	4	1	38	20	379	10	48	488	126
Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-		None	-		None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Storage	e,# -	0		-	0		-	0		-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	101	4	13	4	1	38	20	383	10	48	493	127
Major/Minor	Minor2			Minor1			Major1		I	Major2		
Conflicting Flow All	1046	1027	498	1089	1149	392	625	0	0	393	0	0
Stage 1	594	594		428	428		-			-		-
Stage 2	452	433	-	661	721	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11			4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-		-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	207	235	574	194	199	659	961	-	-	1171	-	-
Stage 1	493	495	-	607	586	-	-	-	-	-	-	-
Stage 2	589	583	-	453	433	-		-	-	-	-	-
Platoon blocked, %								-	-		-	-

Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51		6.11	5.51	-	-	-	-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-	
Pot Cap-1 Maneuver	207	235	574	194	199	659	961	-	-	1171	-	-	
Stage 1	493	495	-	607	586	-	-	-	-	-	-	-	
Stage 2	589	583	-	453	433	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	183	219	571	178	186	656	956	-	-	1171	-	-	
Mov Cap-2 Maneuver	183	219	-	178	186	-	-	-	-	-	-	-	
Stage 1	480	472	-	594	574	-	-	-	-	-	-	-	
Stage 2	540	571	-	421	413	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	46.5			12.9			0.4			0.6			
HCM LOS	Ε			В									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1\	NBLn1	SBL	SBT	SBR
Capacity (veh/h)	956	-	-	199	501	1171	-	-
HCM Lane V/C Ratio	0.021	-	-	0.594	0.087	0.041	-	-
HCM Control Delay (s)	8.8	-	-	46.5	12.9	8.2	-	-
HCM Lane LOS	Α	-	-	Ε	В	Α	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.3	0.3	0.1	-	-

18											
C											
EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
	43-			43-				4	7		474
8	2	9	135	3	162	0	11	240	209	252	239
8	2	9	135	3	162	0	11	240	209	252	239
0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
1	1	1	1	1	1	2	1	1	1	1	1
9	2	10	145	3	174	0	12	258	225	271	257
0	1	0	0	1	0	0	0	1	1	0	2
EB			WB				NB			SB	
WB			EB				SB			NB	
1			1				2			2	
SB			NB				EB			WB	
2			2				1			1	
NB			SB				WB			EB	
2							1			1	
10.7							13.9			22.8	
В			С				В			С	
_											
_											
-	VBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
1	4%	0%	42%	45%	68%	0%					
N	4% 96%	0% 0%	42% 11%	45% 1%	68% 32%	0% 91%					
N	4% 96% 0%	0% 0% 100%	42% 11% 47%	45% 1% 54%	68% 32% 0%	0% 91% 9%					
N	4% 96% 0% Stop	0% 0% 100% Stop	42% 11% 47% Stop	45% 1% 54% Stop	68% 32% 0% Stop	0% 91% 9% Stop					
N	4% 96% 0% Stop 251	0% 0% 100% Stop 209	42% 11% 47% Stop 19	45% 1% 54% Stop 300	68% 32% 0% Stop 372	0% 91% 9% Stop 132					
N	4% 96% 0% Stop 251 11	0% 0% 100% Stop 209	42% 11% 47% Stop 19	45% 1% 54% Stop 300 135	68% 32% 0% Stop 372 252	0% 91% 9% Stop 132					
N	4% 96% 0% Stop 251 11 240	0% 0% 100% Stop 209 0	42% 11% 47% Stop 19 8 2	45% 1% 54% Stop 300 135 3	68% 32% 0% Stop 372 252 120	0% 91% 9% Stop 132 0					
N	4% 96% 0% Stop 251 11 240	0% 0% 100% Stop 209 0 0	42% 11% 47% Stop 19 8 2	45% 1% 54% Stop 300 135 3	68% 32% 0% Stop 372 252 120 0	0% 91% 9% Stop 132 0 120					
N	4% 96% 0% Stop 251 11 240 0 270	0% 0% 100% Stop 209 0 0 209 225	42% 11% 47% Stop 19 8 2 9	45% 1% 54% Stop 300 135 3 162 323	68% 32% 0% Stop 372 252 120 0 399	0% 91% 9% Stop 132 0 120 12					
N	4% 96% 0% Stop 251 11 240 0 270	0% 0% 100% Stop 209 0 0 209 225 7	42% 11% 47% Stop 19 8 2 9 20	45% 1% 54% Stop 300 135 3 162 323	68% 32% 0% Stop 372 252 120 0 399	0% 91% 9% Stop 132 0 120 12 141					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49	0% 0% 100% Stop 209 0 0 209 225 7	42% 11% 47% Stop 19 8 2 9 20 2	45% 1% 54% Stop 300 135 3 162 323 2 0.555	68% 32% 0% Stop 372 252 120 0 399 7	0% 91% 9% Stop 132 0 120 12 141 7					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531	0% 0% 100% Stop 209 0 0 209 225 7 0.362 5.794	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531 Yes	0% 0% 100% Stop 209 0 0 209 225 7 0.362 5.794 Yes	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342 Yes	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19 Yes	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723 Yes	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312 Yes					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531 Yes 548	0% 0% 100% Stop 209 0 0 209 225 7 0.362 5.794 Yes 616	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342 Yes 491	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19 Yes 581	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723 Yes 535	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312 Yes 566					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531 Yes 548 4.316	0% 0% 100% Stop 209 0 0 225 7 0.362 5.794 Yes 616 3.579	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342 Yes 491 5.342	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19 Yes 581 4.266	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723 Yes 535 4.504	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312 Yes 566 4.092					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531 Yes 548 4.316 0.493	0% 0% 100% Stop 209 0 0 209 225 7 0.362 5.794 Yes 616 3.579 0.365	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342 Yes 491 5.342 0.041	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19 Yes 581 4.266 0.556	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723 Yes 535 4.504 0.746	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312 Yes 566 4.092 0.249					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531 Yes 548 4.316 0.493 15.5	0% 0% 100% Stop 209 0 0 209 225 7 0.362 5.794 Yes 616 3.579 0.365 11.9	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342 Yes 491 5.342 0.041	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19 Yes 581 4.266 0.556 16.8	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723 Yes 535 4.504 0.746 26.9	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312 Yes 566 4.092 0.249 11.2					
	4% 96% 0% Stop 251 11 240 0 270 7 0.49 6.531 Yes 548 4.316 0.493	0% 0% 100% Stop 209 0 0 209 225 7 0.362 5.794 Yes 616 3.579 0.365	42% 11% 47% Stop 19 8 2 9 20 2 0.042 7.342 Yes 491 5.342 0.041	45% 1% 54% Stop 300 135 3 162 323 2 0.555 6.19 Yes 581 4.266 0.556	68% 32% 0% Stop 372 252 120 0 399 7 0.746 6.723 Yes 535 4.504 0.746	0% 91% 9% Stop 132 0 120 12 141 7 0.248 6.312 Yes 566 4.092 0.249					
	EBL  8 8 8 0.93 1 9 0 EB WB 1 SB 2 10.7	C  EBL EBT  8 2 8 2 0.93 0.93 1 1 1 9 2 0 1  EB  WB 1 58 2 NB 2 10.7	C  EBL EBT EBR  8 2 9 8 2 9 0.93 0.93 0.93 1 1 1 1 1 9 2 10 0 1 0  EB  WB 1 5B 2 NB 2 10.7	C  EBL EBT EBR WBL  8 2 9 135 8 2 9 135 0.93 0.93 0.93 0.93 1 1 1 1 1 1 9 2 10 145 0 1 0 0  EB WB  WB EB 1 1 1 1 1 1 1 1 1 1 2 0 2 0 0 8 8 NB 0 8 8 NB 2 2 2 0 8 8 SB 2 2 2 10.7 16.8	C  EBL EBT EBR WBL WBT  8 2 9 135 3 8 2 9 135 3 0.93 0.93 0.93 0.93 0.93 1 1 1 1 1 1 9 2 10 145 3 0 1 0 0 1  EB WB  WB EB 1 1 1 SB NB 2 2 2 NB SB 2 2 2 10.7 16.8	C  EBL EBT EBR WBL WBT WBR  8 2 9 135 3 162 8 2 9 135 3 162 0.93 0.93 0.93 0.93 0.93 1 1 1 1 1 1 1 1 9 2 10 145 3 174 0 1 0 0 1 0  EB WB  WB EB 1 1 1 1 SB NB 2 2 2 NB SB 2 2 2 10.7 16.8	C  EBL EBT EBR WBL WBT WBR NBU  8 2 9 135 3 162 0 8 2 9 135 3 162 0 0.93 0.93 0.93 0.93 0.93 0.92 1 1 1 1 1 1 1 1 2 9 2 10 145 3 174 0 0 1 0 0 1 10 0 0  EB WB  WB EB 1 1 1 1 1 SB NB 2 2 2 NB SB 2 2 2 10.7 16.8	C         EBL         EBT         EBR         WBL         WBT         WBR         NBU         NBL           4         4         4         4         4         4         4         4         8         2         9         135         3         162         0         11         8         2         9         135         3         162         0         11         0         11         0         11         0         11         0         0         11         0         0         11         0         0         0.93         0.93         0.93         0.93         0.93         0.92         0.93         0.93         0.93         0.92         0.93         0.93         0.93         0.93         0.92         0.93         0.93         0.92         0.93         0.93         0.92         0.93         0.93         0.92         0.93         0.93         0.92         0.93         0.93         0.93         0.93         0.93         0.92         0.93         0.93         0.93         0.93         0.93         0.92         0.93         0.93         0.93         0.93         0.93         0.93         0.93         0.93         0.93         0.93         0.	C         EBL         EBT         EBR         WBL         WBT         WBR         NBU         NBL         NBT           4	C         EBL         EBT         EBR         WBL         WBT         WBR         NBU         NBL         NBT         NBR           8         2         9         135         3         162         0         11         240         209           8.8         2         9         135         3         162         0         11         240         209           0.93         0.93         0.93         0.93         0.93         0.92         0.93         0.93         0.93           1         1         1         1         1         2         1 <td< td=""><td>C         EBL         EBT         EBR         WBL         WBT         WBR         NBU         NBL         NBT         NBR         SBL           4         4         4         4         4         7         7         7         7         7         8         2         9         135         3         162         0         11         240         209         252         252         20.93         0.</td></td<>	C         EBL         EBT         EBR         WBL         WBT         WBR         NBU         NBL         NBT         NBR         SBL           4         4         4         4         4         7         7         7         7         7         8         2         9         135         3         162         0         11         240         209         252         252         20.93         0.

ntersection	
ntersection Delay, s/veh	
ntersection LOS	

Lact Configurations Traffic Vol, veh/h 12
Traffic Vol, veh/h 12
Future Vol, veh/h 12
Peak Hour Factor 0.93
Heavy Vehicles, % 1
Mvmt Flow 13
Number of Lanes 0

### Approach

Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left
Conflicting Lanes Right
Conflicting Lanes Right
HCM Control Delay
HCM LOS

ITICISCOUOTI						
Int Delay, s/veh	10.4	Ť				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	7	ሻ	<b>^</b>	<b>†</b>	7
Traffic Vol, veh/h	265	246	147	198	190	181
Future Vol, veh/h	265	246	147	198	190	181
Conflicting Peds, #/hi	r 0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None	-	None	-	None
Storage Length	0	145	105	-	-	0
Veh in Median Storag	ge,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	273	254	152	204	196	187
Major/Minor	Minor2	- 1	Major1	1	Major2	
Conflicting Flow All	602	196	383	0	-	0
Stage 1	196	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.615	6.215	4.115	-	-	-
Critical Hdwy Stg 1	5.415	-	-	-	-	-
Critical Hdwy Stg 2	5.815	-	-	-	-	-
Follow up Udwy	2 EUUE	3 3005 3	2005			

Stage i	196	-			-	
Stage 2	406	-	-	-	-	
Critical Hdwy	6.615	6.215	4.115	-	-	
Critical Hdwy Stg 1	5.415	-	-	-	-	
Critical Hdwy Stg 2	5.815	-	-	-	-	
Follow-up Hdwy	3.5095	3.30952	2.2095	-	-	
Pot Cap-1 Maneuver	449	847	1180	-	-	
Stage 1	839	-	-	-	-	
Stage 2	645	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	391	847	1180	-	-	
Mov Cap-2 Maneuver	391	-	-	-	-	
Stage 1	731	-	-	-	-	
Stage 2	645	-	-	-	-	
, and the second						
Annroach	EB		NB		SB	
Approach						
HCM Control Delay, s	22.5		3.6		0	

Approach	EB	NB	SB	
HCM Control Delay, s	22.5	3.6	0	
HCM LOS	С			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	1180	-	391	847	-	-	
HCM Lane V/C Ratio	0.128	-	0.699	0.299	-	-	
HCM Control Delay (s)	8.5	-	33	11.1		-	
HCM Lane LOS	Α	-	D	В	-	-	
HCM 95th %tile Q(veh)	0.4	-	5.2	1.3	-	-	

### Beechwood SP

# Existing Plus 911 Unit Project PM HCM Unsignalized Intersection Capacity Analysis

15: US 101 SB Ramp & Pine Street & Riverside Avenue

	•	<b>→</b>	*	•	<b>←</b>	*	4	†	1	1	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					1>	
Traffic Volume (veh/h)	27	0	67	0	129	14	0	0	0	0	283	34
Future Volume (Veh/h)	27	0	67	0	129	14	0	0	0	0	283	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	32	0	80	0	154	17	0	0	0	0	337	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	442	357	357	437	377	0	377			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	442	357	357	437	377	0	377			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	88	100	72	98	100			100		
cM capacity (veh/h)	408	571	689	470	556	1088	1187			1630		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	112	171	377									
Volume Left	32	0	0									
Volume Right	80	17	40									
cSH	576	601	1700									
Volume to Capacity	0.19	0.28	0.22									
Queue Length 95th (ft)	18	29	0.22									
Control Delay (s)	12.8	13.4	0.0									
Lane LOS	12.8 B	13.4 B	0.0									
Approach Delay (s)	12.8	13.4	0.0									
	12.8 B	13.4 B	0.0									
Approach LOS	Б	Б										
Intersection Summary												
Average Delay			5.6									
Intersection Capacity Utiliza	ation		39.4%	IC	:U Level	of Service			Α			
Analysis Period (min)			15									

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

Beechwood SP

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Existing Plus 911 Unit Project PM

	۶	<b>→</b>	€	<b>—</b>	4	1	†	~	<b>/</b>	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	47	386	651	187	411	96	354	1029	559	300	
v/c Ratio	0.17	0.70	0.61	0.33	0.40	0.55	0.67	0.76	0.75	0.32	
Control Delay	50.8	54.6	40.5	36.9	2.8	68.5	57.6	17.9	52.4	35.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.8	54.6	40.5	36.9	2.8	68.5	57.6	17.9	52.4	35.3	
Queue Length 50th (ft)	34	148	223	112	5	76	145	167	221	97	
Queue Length 95th (ft)	79	228	351	215	53	149	221	269	315	150	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	372	735	1232	668	1126	247	861	1488	1046	1415	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.53	0.53	0.28	0.37	0.39	0.41	0.69	0.53	0.21	
Intersection Summary											

Central Coast Transportation Consulting
Synchro 10 Report
Page 39

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Existing Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	-	•	1	-	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b> 1>		ሻሻ	<b>*</b>	7	*	<b>^</b>	77	ሻሻ	ħβ	
Traffic Volume (veh/h)	46	281	93	631	181	399	93	343	998	542	236	55
Future Volume (veh/h)	46	281	93	631	181	399	93	343	998	542	236	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	47	290	96	651	187	411	96	354	1029	559	243	57
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	252	373	121	888	480	701	121	863	1394	656	1019	234
Arrive On Green	0.14	0.14	0.14	0.25	0.25	0.25	0.07	0.24	0.24	0.19	0.35	0.35
Sat Flow, veh/h	1795	2649	857	3483	1885	1572	1795	3582	2812	3483	2891	665
Grp Volume(v), veh/h	47	194	192	651	187	411	96	354	1029	559	149	151
Grp Sat Flow(s), veh/h/ln	1795	1791	1715	1742	1885	1572	1795	1791	1406	1742	1791	1765
Q Serve(q s), s	2.7	12.2	12.7	20.0	9.6	23.1	6.2	9.7	28.2	18.2	6.9	7.1
Cycle Q Clear(q c), s	2.7	12.2	12.7	20.0	9.6	23.1	6.2	9.7	28.2	18.2	6.9	7.1
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	252	252	241	888	480	701	121	863	1394	656	631	622
V/C Ratio(X)	0.19	0.77	0.80	0.73	0.39	0.59	0.79	0.41	0.74	0.85	0.24	0.24
Avail Cap(c a), veh/h	374	374	358	1239	670	860	249	863	1394	1051	724	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	48.4	48.6	39.9	36.1	24.6	53.7	37.4	22.0	45.9	26.8	26.8
Incr Delay (d2), s/veh	0.4	5.6	7.4	1.4	0.5	0.8	10.9	0.3	2.1	4.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.9	6.0	8.5	4.4	8.4	3.1	4.2	15.3	8.2	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	54.0	56.0	41.4	36.6	25.3	64.6	37.7	24.1	49.9	27.0	27.0
LnGrp LOS	D	D	Е	D	D	С	Е	D	С	D	С	С
Approach Vol, veh/h		433			1249			1479			859	
Approach Delay, s/veh		53.9			35.4			30.0			41.9	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.7	34.0		21.1	13.7	47.0		35.2				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 35	28.2		24.4	16.2	* 47		41.6				
Max Q Clear Time (q c+l1), s	20.2	30.2		14.7	8.2	9.1		25.1				
Green Ext Time (p_c), s	1.9	0.0		14.7	0.1	1.9		4.8				
* '	1.7	0.0		1.0	0.1	1.9		4.0				
Intersection Summary HCM 6th Ctrl Delay			36.8									
HCM 6th LOS			30.8 D									
Notes			U					_	_		_	

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 41 Central Coast Transportation Consulting

Beechwood SP 17: S. River Road & Niblick Road Existing Plus 911 Unit Project PM

	<b>*</b>	<b>→</b>	•	•	←	4	†	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	252	833	604	101	769	415	330	163	535
v/c Ratio	0.58	0.65	0.67	0.52	0.70	0.72	0.40	0.63	0.72
Control Delay	49.8	31.8	9.8	56.4	34.1	49.6	34.6	55.1	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	31.8	9.8	56.4	34.1	49.6	34.6	55.1	42.4
Queue Length 50th (ft)	84	253	46	66	229	138	94	106	168
Queue Length 95th (ft)	139	364	186	132	331	215	154	191	249
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	558	1505	967	269	1440	703	1009	362	1004
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.55	0.62	0.38	0.53	0.59	0.33	0.45	0.53
Intersection Summary									

	۶	<b>→</b>	*	•	<b>←</b>	4	1	1	/	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	<b>^</b>	7	ሻ	<b>↑</b> ↑		1,1	<b>∱</b> î≽		ሻ	<b>∱</b> î≽	
Traffic Volume (veh/h)	242	800	580	97	613	125	398	263	54	156	392	122
Future Volume (veh/h)	242	800	580	97	613	125	398	263	54	156	392	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	252	833	604	101	639	130	415	274	56	162	408	127
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	354	1203	537	131	911	185	532	732	147	204	558	172
Arrive On Green	0.10	0.34	0.34	0.07	0.31	0.31	0.15	0.25	0.25	0.11	0.21	0.21
Sat Flow, veh/h	3483	3582	1598	1795	2964	602	3483	2970	598	1795	2693	829
Grp Volume(v), veh/h	252	833	604	101	386	383	415	164	166	162	270	265
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1795	1791	1775	1742	1791	1778	1795	1791	1732
Q Serve(g_s), s	5.5	15.7	15.6	4.3	14.8	14.9	8.9	5.9	6.1	6.9	11.0	11.2
Cycle Q Clear(g_c), s	5.5	15.7	15.6	4.3	14.8	14.9	8.9	5.9	6.1	6.9	11.0	11.2
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.34	1.00		0.48
Lane Grp Cap(c), veh/h	354	1203	537	131	550	546	532	441	438	204	371	359
V/C Ratio(X)	0.71	0.69	1.13	0.77	0.70	0.70	0.78	0.37	0.38	0.79	0.73	0.74
Avail Cap(c_a), veh/h	693	1861	830	334	907	900	871	632	627	449	632	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	22.4	9.2	35.5	23.8	23.8	31.8	24.4	24.4	33.7	28.9	28.9
Incr Delay (d2), s/veh	2.6	0.7	70.3	9.0	1.6	1.7	2.5	0.5	0.5	6.8	2.7	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.1	14.7	2.1	6.0	5.9	3.7	2.4	2.5	3.2	4.7	4.6
Unsig. Movement Delay, s/veh			70.5		0.5.5		0.1.0	0.1.0	0.5.0		011	010
LnGrp Delay(d),s/veh	36.5	23.1	79.5	44.5	25.5	25.5	34.3	24.9	25.0	40.5	31.6	31.9
LnGrp LOS	D	С	F	D	С	С	С	С	С	D	С	С
Approach Vol, veh/h		1689			870			745			697	
Approach Delay, s/veh		45.3			27.7			30.1			33.8	
Approach LOS		D			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	30.7	16.4	20.6	12.4	28.5	13.4	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	40.5	19.5	27.5	15.5	39.5	19.5	27.5				
Max Q Clear Time (g_c+I1), s	6.3	17.7	10.9	13.2	7.5	16.9	8.9	8.1				
Green Ext Time (p_c), s	0.1	8.5	1.0	2.6	0.5	4.6	0.3	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			36.6									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
		EDR	INDL			SBR
Lane Configurations	W	2		4	704	02
Traffic Vol, veh/h	44	2	4	463	784	83
Future Vol, veh/h	44	2	4	463	784	83
Conflicting Peds, #/hr	0	0	_ 1	0	0	_ 1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	e, # 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	46	2	4	482	817	86
WWITE FIOW	-10	_	-	102	017	00
	Minor2		Major1	N	Najor2	
Conflicting Flow All	1351	861	904	0	-	0
Stage 1	861	-	-	-		-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-		-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42			-		
Follow-up Hdwy	3.518	3.318	2.218			-
Pot Cap-1 Maneuver	166	355	752			
Stage 1	414	-				
Stage 2	616		-			-
Platoon blocked, %	010					
Mov Cap-1 Maneuver	165	355	751			
				_		-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	411	-	-		-	-
Stage 2	615	-	-	-	-	-
Approach	EB		NB		SB	
	34.5		0.1		0	
HCM Control Delay, s			0.1		U	
HCM LOS	D					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		751	-	169	301	JDIC -
HCM Lane V/C Ratio		0.006	- 1			
HCM Control Delay (s)	١	9.8	0	34.5		
			-			
HCM Lane LOS	,	A	Α	D	-	-
HCM 95th %tile Q(veh	)	0	-	1.1	-	-

Synchro 10 Report Page 50

Intersection						
Int Delay, s/veh	0.8					
	EDI	בסס	NIDI	NOT	CDT	CDD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	4.5		4	₽	=0
Traffic Vol, veh/h	35	15	16	474	724	53
Future Vol, veh/h	35	15	16	474	724	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-		0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	16	18	521	796	58
A A = i = u/A Aire = u	N 10.4		M-!1		4-10	
	Minor2		Major1		/lajor2	
Conflicting Flow All	1382	825	854	0	-	0
Stage 1	825	-	-	-	-	-
Stage 2	557		-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43		-	-	-	-
Follow-up Hdwy		3.327		-	-	-
Pot Cap-1 Maneuver	158	371	781	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	153	371	781	-		-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	415	-	-	-		-
Stage 2	572	-	-	-		-
			ND		CD	
Approach	EB		NB		SB	
HCM Control Delay, s			0.3		0	
HCM LOS	С					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		781		353		-
HCM Lane V/C Ratio		0.023		0.156		
HCM Control Delay (s)	)	9.7	0	17.1		
HCM Lane LOS	)	9.7 A	A	17.1 C		
HCM 95th %tile Q(veh	,)	0.1	A -	0.5	-	
ncivi 95tii %tile Q(ven	IJ	U. I		0.0	-	

-						
Intersection						
Intersection Delay, s/veh	90.2					
Intersection LOS	90.2 F					
IIICISCUIUII EUS	Г					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		<b>1</b> >			લ
Traffic Vol, veh/h	9	409	88	25	639	86
Future Vol, veh/h	9	409	88	25	639	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	0.72	0.72	0.72	0.72	0.72
Mymt Flow	10	445	96	27	695	93
Number of Lanes	10	0	1	0	093	1
Manual of Fallez	ı	0	ı	U	U	1
Approach	WB		NB	_	SB	_
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right			WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	21.1		11.3		142.3	
HCM LOS	21.1 C		11.3 B		142.3 F	
HUM LUS	C		Б		Г	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	2%	88%		
Vol Thru, %		78%	0%	12%		
Vol Right, %		22%	98%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		113	418	725		
LT Vol		0	410	639		
Through Vol		88	0	86		
RT Vol		25	409	00		
Lane Flow Rate		123	409	788		
Geometry Grp		1	1	1		
Degree of Util (X)		0.21	0.687	1.244		
Departure Headway (Hd)		6.536	5.983	5.682		
Convergence, Y/N			Yes	Yes		
		Yes				
Cap		553	609	646		
Service Time		553 4.536	3.983	3.688		
		553	3.983 0.745	3.688 1.22		
Service Time		553 4.536	3.983 0.745 21.1	3.688 1.22 142.3		
Service Time HCM Lane V/C Ratio		553 4.536 0.222	3.983 0.745	3.688 1.22		
Service Time HCM Lane V/C Ratio HCM Control Delay		553 4.536 0.222 11.3	3.983 0.745 21.1	3.688 1.22 142.3		

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	0.2					
		EDT	MOT	WDD	CD	CDD
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	<b>↑</b>	₽	_	¥	
Traffic Vol, veh/h	5	657	397	5	4	9
Future Vol, veh/h	5	657	397	5	4	9
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	e,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	5	722	436	5	4	10
Major/Minor	Mojor1		Anior2		Minor	
	Major1		Major2		Minor2	450
Conflicting Flow All	455	0	-	0	1185	453
Stage 1	-	-	-	-	453	-
Stage 2		-	-	-	732	
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2		-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	
Pot Cap-1 Maneuver	1111	-	-	-	210	609
Stage 1	-	-	-	-	642	-
Stage 2		-			478	
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1096				203	601
Mov Cap-2 Maneuver	-		-		203	-
Stage 1					630	
Stage 2					472	
			1A/F		0.0	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		15	
HCM LOS					С	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBI n1
Capacity (veh/h)		1096	-			375
HCM Lane V/C Ratio		0.005				0.038
HCM Control Delay (s)		8.3				15
HCM Lane LOS		Α				C
LICINI FUIL FOS		А	-	-	-	U

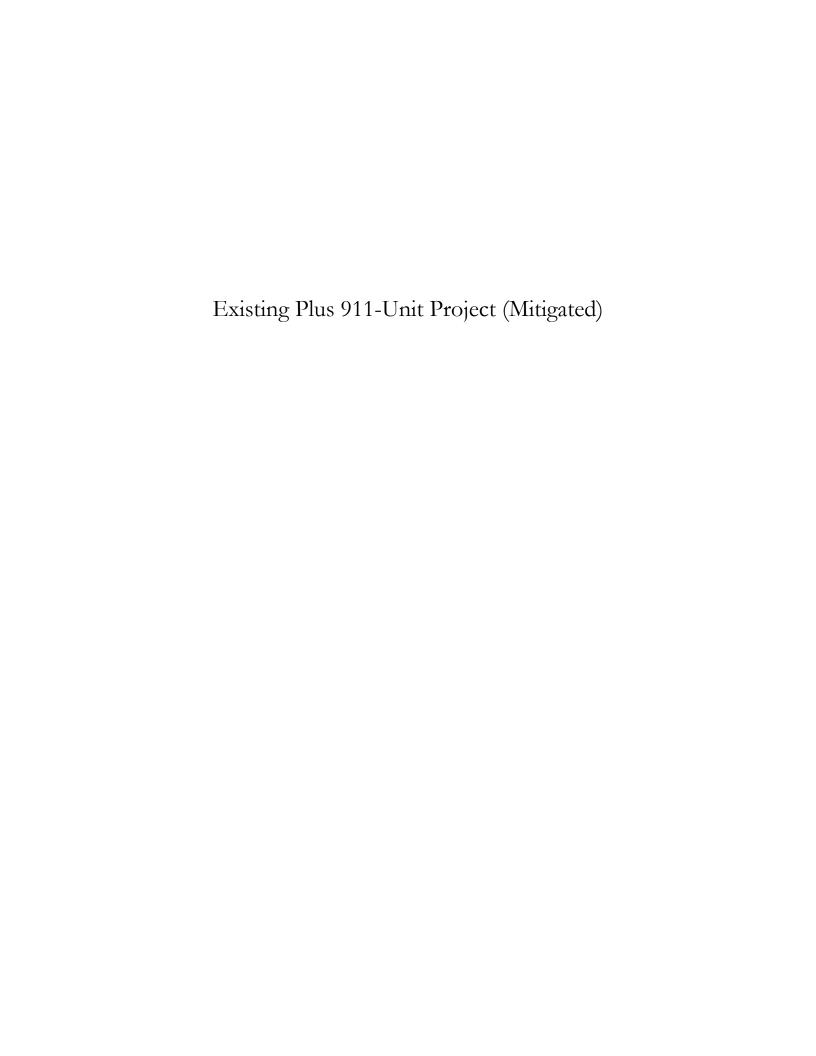
Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1>		ሻ	1>			4			4	
Traffic Vol, veh/h	22	630	2	2	393	16	1	0	1	17	0	20
Future Vol. veh/h	22	630	2	2	393	16	1	0	1	17	0	20
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	_	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50		-	-	-	-		-	-
Veh in Median Storage	. # -	0	-	-	0	-		0			0	
Grade. %		0	-		0			0			0	
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mymt Flow	23	663	2	2	414	17	1	0	1	18	0	21
			_									
Major/Minor I	Major1		N	Najor2		- 1	Minor1			Minor2		
Conflicting Flow All	443	0	0	665	0	0	1147	1157	664	1150	1150	435
Stage 1	-	-	U	003	-	-	710	710	- 004	439	439	433
Stage 2							437	447		711	711	
Critical Hdwy	4.13			4.13			7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	7.13			7.13			6.13	5.53	0.23	6.13	5.53	0.23
Critical Hdwy Stg 2							6.13	5.53		6.13	5.53	
Follow-up Hdwy	2.227			2.227			3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1112			919			175	195	459	174	197	619
Stage 1	1112			717			423	435	- 437	595	576	017
Stage 2							596	572		422	435	
Platoon blocked, %							370	312		722	733	
Mov Cap-1 Maneuver	1099			919			166	188	459	169	190	612
Mov Cap-1 Maneuver	1077			717			166	188	437	169	190	012
Stage 1							414	426		576	569	
Stage 2							574	565		412	426	
Jiago Z							3/4	303		-712	-120	
Annroach	FB			WB			NB			SB		
Approach HCM Control Delay, s	0.3			0			19.9			20		
HCM LOS	0.3			0			19.9 C			20 C		
I IGIVI EUS							C			C		
Minor Lane/Major Mvm	+ 1	VBLn1	EBL	EBT	EBR	WBL	WBT	WBR	CDI n1			
	it l		1099	EDI	EDR	919	WDI	WDR	278			
Capacity (veh/h)		244			-			-				
HCM Control Doloy (c)		0.009	0.021	-	-	0.002	-		0.14			
HCM Control Delay (s)		19.9	8.3		-	8.9	-	-	20			
HCM Lane LOS		С	A	-	-	A	-	-	С			
HCM 95th %tile Q(veh)		0	0.1	-	-	0	-	-	0.5			

Synchro 10 Report Page 58

None							
Section   Sect	Intersection						
ane Configurations araffic Vol, veh/h 8 652 383 4 4 7 7 onflicting Peds, #hr 9 0 0 9 0 0 0 19 19 19 19 19 19 19 19 19 19 19 19 19	Int Delay, s/veh	0.2					
raffic Vol, veh/h raffic Vol, veh/raffic Veh/ra	Movement	EBL	EBT	WBT	WBR	SBL	SBR
raffic Vol, veh/h raffic Vol, veh/rafic Ve	Lane Configurations	- 15	<b>*</b>	ĵ.		W	
conflicting Peds, #/hr         9         0         0         9         0         0           ign Control         Free         Free         Free         Free         Free         Free         Slop	Traffic Vol, veh/h				4		7
Granticol	Future Vol, veh/h	8	652	383	4	4	7
TChannelized	Conflicting Peds, #/hr	9	0	0	9	0	0
torage Length 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 - 0 0 0 - 0	Sign Control	Free	Free	Free	Free	Stop	Stop
lajor/Minor Major1 Major2 Minor2 lajor/Minor Major1 Lajor Lajor/Minor Lajor	RT Channelized		None		None	-	None
First   Firs	Storage Length	50	-	-	-	0	-
reak Hour Factor 92 92 92 92 92 92 92 eavy Vehicles, % 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Veh in Median Storage	2,# -	0	0	-	0	-
leavy Vehicles, % 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Grade, %		0	0	-	0	-
Internation   Page 2   Internation   Page 3   Internation   Internatio	Peak Hour Factor	92	92	92	92	92	92
Number         9         709         416         4         4         8           Iajor/Minor         Major1         Major2         Minor2           Iajor/Minor         Major1         Major2         Minor2           Iajor/Minor         Major2         Minor2           Iajor/Minor         Major2         Minor2           Stage 1	Heavy Vehicles, %	1	1	1	1	1	1
Tajor/Minor   Major1   Major2   Minor2	Mvmt Flow	9	709	416	4	4	8
Stage 1							
Stage 1	Major/Minor	Major1	, h	Majora		/linor2	
Stage 1				viajoi 2			427
Stage 2		429	U				
Irritical Hidwy 4.11 - 6.41 6.21  ritical Hidwy Stg 1 - 5.41 - 5.41 - 6.21  ritical Hidwy Stg 2 - 5.41 - 5.41 - 6.21  ritical Hidwy Stg 2 - 5.41 - 6.41  ritical Hidwy Stg 2 - 5.41 - 6.41  ritical Hidwy 2.209 - 3.509 3.009  rol Cap-1 Maneuver 1136 - 219 630  Stage 1 - 660 - 600 - 600  Stage 2 - 480 - 600  rol Cap-1 Maneuver 1126 - 213 625  rol Cap-1 Maneuver 1126 - 213 625  rol Cap-2 Maneuver - 213 - 649  Stage 1 - 649 - 649  Stage 2 - 476 - 649  Stage 2 - 476 - 649  Stage 2 - 760  Rol Control Delay, s 0.1 0 15.1  CM LOS - C   Tinor Lane/Major Mymt EBL EBT WBT WBR SBLn1  apacity (veh/h) 1126 - 367  CM Lane V/C Ratio 0.008 - 0.033  CM Control Delay (s) 8.2 - 15.13  CM CM Control Delay (s) 8.2 - 15.11  CM LOS - C		-	-	-	-		
riflical Hdwy Stg 1 5.41 - riflical Hdwy Stg 2 5.41 6.41 - 6.41					-		
iritical Hdwy Stg 2							
ollow-up Hdwy         2.209         -         3.509         3.309           ot Cap-1 Maneuver         1136         -         219         630           Stage 1         -         -         660         -           Stage 2         -         -         480         -           Ialoon blocked, %         -         -         -         213         625           fov Cap-1 Maneuver         1126         -         213         625           fov Cap-2 Maneuver         -         -         649         -           Stage 1         -         -         649         -           Stage 2         -         -         476         -           -         -         -         476         -           -         -         -         476         -           -			-	-	-		-
136   -     219   630			-		-		-
Stage 1			-	-	-		
Stage 2			-	-	-		
Alatoon blocked, %   -   -   -			-	-	-		-
flov Cap-1 Maneuver         1126         -         -         213         625           flov Cap-2 Maneuver         -         -         -         213         -           Stage 1         -         -         -         649         -           Stage 2         -         -         476         -           pproach         EB         WB         SB           ICM Control Delay, s         0.1         0         15.1           ICM LOS         C         C    Tinor Lane/Major Mvmt  EBL  EBT  WBT  WBR SBLn1  apacity (veh/h)  1126  367  CM Lane V/C Ratio 0.008  0.033  CM Control Delay (s) 8.2  15.1  CM Lane LOS  A  C		-	-	-	-	480	-
Nov Cap-2 Maneuver	Platoon blocked, %		-	-	-		
Stage 1	Mov Cap-1 Maneuver	1126	-	-	-	213	625
Stage 2	Mov Cap-2 Maneuver	-	-	-	-		-
Deproach   EB   WB   SB	Stage 1		-		-	649	-
CM Control Delay, s   0.1   0   15.1   CM LOS   C   C	Stage 2	-	-	-	-	476	-
CM Control Delay, s   0.1   0   15.1   CM LOS   C   C							
CM Control Delay, s   0.1   0   15.1   CM LOS   C   C	Annroach	FR		WR		SB	
CM LOS   C							
Section   Sect		0.1		U			
Apacity (veh/h)   1126	TIOW EOS					C	
Apacity (veh/h)   1126					III DT		001 4
CM Lane V/C Ratio         0.008         -         -         0.033           ICM Control Delay (s)         8.2         -         -         15.1           ICM Lane LOS         A         -         -         C		nt			WBI	WBR	
CM Control Delay (s)         8.2         -         -         -         15.1           ICM Lane LOS         A         -         -         C				-	-		
ICM Lane LOS A C	HCM Lane V/C Ratio			-	-	-	
	HCM Control Delay (s)		8.2	-	-	-	
CM OF the Of tille Of to b)	HCM Lane LOS			-	-	-	
CIVI 95(11 %(IIIe Q(VeII)	HCM 95th %tile Q(veh)	)	0		-		0.1

Intersection			_			
Int Delay, s/veh	2.8					
		EDT	WDT	WDD	CDI	CDD
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	<b>↑</b>	1>		¥	
Traffic Vol, veh/h	144	497	318	24	25	82
Future Vol, veh/h	144	497	318	24	25	82
Conflicting Peds, #/hr	_ 2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage	2,# -	0	0		0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	158	546	349	26	27	90
Major/Minor	Major1	N	Major2	- 1	Minor2	
Conflicting Flow All	377	0	-	0	1226	364
Stage 1	-	-			364	-
Stage 2					862	
Critical Hdwy	4.11				6.41	6.21
Critical Hdwy Stg 1	-				5.41	0.21
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209				3.509	3 309
Pot Cap-1 Maneuver	1187				198	683
Stage 1	- 1107				705	-
Stage 2					415	
Platoon blocked. %					413	
Mov Cap-1 Maneuver	1185				171	682
Mov Cap-1 Maneuver	1100				171	002
Stage 1		-			610	
Stage 2	-		-	-	414	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.9		0		17.6	
HCM LOS					С	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SRI n1
	IL	1185	LDI	WDI	WDIN	
Capacity (veh/h)						402 0.292
HCM Cantral Dalay (a)		0.134	-	-	-	
HCM Control Delay (s)	)	8.5	-	-	-	17.6
HCM Lane LOS	,	A	-	-	-	C
HCM 95th %tile Q(veh	)	0.5	-	-	-	1.2

ntersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	А			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	264	113	55	40
Demand Flow Rate, veh/h	267	114	55	40
Vehicles Circulating, veh/h	14	107	203	161
Vehicles Exiting, veh/h	187	151	78	60
Ped Vol Crossing Leg, #/h	0	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.3	3.7	3.6	3.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	267	114	55	40
Cap Entry Lane, veh/h	1360	1237	1122	1171
Entry HV Adj Factor	0.987	0.991	0.999	0.999
Flow Entry, veh/h	264	113	55	40
Cap Entry, veh/h	1343	1226	1121	1169
V/C Ratio	0.196	0.092	0.049	0.034
Control Delay, s/veh	4.3	3.7	3.6	3.4
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0



Movement   EBL   EBT   EBR   WBL   WBT   WBR   NBL   NBR   NBR   SBL   SBR	Intersection												
Cane Configurations	Int Delay, s/veh 3	.9											
Traffic Vol, veh/h 1 705 27 256 891 0 0 0 237 0 0 0 0 cuture Vol, veh/h 1 705 27 256 891 0 0 0 237 0 0 0 0 cuture Vol, veh/h 1 705 27 256 891 0 0 0 237 0 0 0 0 0 conflicting Peds, #hr 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Movement EE	BL I	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Vol, veh/h	Lane Configurations		ħβ		ሻ	۴ß				7		4	7
Conflicting Peds, #/hr 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Traffic Vol, veh/h	1	705	27	256	891	0	0	0	237	0	0	0
Stage 1	Future Vol, veh/h	1	705	27	256	891	0	0	0	237	0	0	-
RT Channelized			_	_	_	_	_		_			•	•
Storage Length   340		ee F									Stop		
Veh in Median Storage; #       0       -       0       0       2       82		-		None		-	None	-	-	None	-	-	
Pack Hour Factor   82   82   82   82   82   82   82   8						-	-	-	-	-	-	-	
Peak Hour Factor   82   82   82   82   82   82   82   8							-	-			-		
Heavy Vehicles, %   11   11   11   11   11   11   11	- /		-			-						-	
Major/Minor   Major1   Major2   Minor1   Minor2   Minor		_											
Major/Minor   Major1   Major2   Minor1   Minor2   Minor1   Minor2   Minor1   Minor2   Minor2   Minor3   Minor4   Minor5   Minor													
Conflicting Flow Allf\u00e487	MIVMT Flow	1	860	33	312	1087	U	0	0	289	0	0	0
Conflicting Flow Allf\u00e487													
Stage 1	Major/Minor Major	r1		M	lajor2		N	linor1		M	linor2		
Stage 2	Conflicting Flow All108	37	0	0	893	0	0	-	-	447	2143	2606	544
Critical Hdwy 4.32 4.32 7.12 7.72 6.72 7.12 Critical Hdwy Stg 1	Stage 1	-	-	-	-	-	-	-	-	-	1711	1711	-
Critical Hdwy Stg 1 6.72 5.72 - Critical Hdwy Stg 2 6.72 5.72 - Critical Hdwy Stg 2 6.72 5.72 - Critical Hdwy Stg 2 3.41 3.61 4.11 3.41 Pot Cap-1 Maneuve687 701 0 0 535 24 21 461 Stage 1 0 0 535 24 21 461 Stage 1 0 0 0 535 24 21 461 Stage 2 0 0 0 549 337 - Platon blocked, % 0 0 0 549 337 - Platon blocked, %		-	-	-		-	-	-	-	-	432	895	-
Critical Hdwy Stg 2 6.72 5.72 Collow-up Hdwy 2.31 2.31 3.41 3.61 4.11 3.41 2.01 Cap-1 Maneuve687 701 0 0 535 24 21 461 Stage 1 0 0 0 - 86 132 8 132 2 0 0 0 - 549 337 8 132 2		32	-	-	4.32	-	-	-	-	7.12	7.72	6.72	7.12
Follow-up Hdwy 2.31 2.31 3.41 3.61 4.11 3.41 Pot Cap-1 Maneuve687 - 701 0 0 535 24 21 461 Stage 1 0 0 0 - 86 132 0 0 0 - 549 337		-	-	-	-	-	-	-	-	-			-
Pot Cap-1 Maneuve687		-	-	-	-	-	-	-	-	-			-
Stage 1			-	-		-	-						
Stage 2		37	-	-	701	-	-	_	_				
Platoon blocked, %		-	-	-	-	-	-						-
Mov Cap-1 Maneuvef887         -         701         -         -         535         7         12         461           Mov Cap-2 Maneuver         -         -         -         -         -         -         7         12         -           Stage 1         -         -         -         -         -         86         73         -           Stage 2         -         -         -         -         -         86         73         -           Approach         EB         WB         NB         SB         -         -         -         252         336         -           4CM Control Delay, s 0         3.2         19.4         0         -<		-	-	-	-	-	-	0	0	-	549	337	-
Mov Cap-2 Maneuver 7 12 - Stage 1		. 7	-	-	704	-	-			505	-	40	101
Stage 1			-	-		-	-		-				461
Stage 2		-	-	-	-	-	-	-	-	-			-
Approach EB WB NB SB HCM Control Delay, s 0 3.2 19.4 0 HCM LOS C A  Minor Lane/Major MvmNBLn1 EBL EBT EBR WBL WBT WBRSBLnSBLn2 Capacity (veh/h) 535 587 - 701 HCM Lane V/C Ratio 0.540.0020.445 HCM Los Control Delay (s) 19.4 11.1 - 14.2 - 0 0 HCM Lane LOS C B - B - A A		-	-	-	-	-	-	-	-	-			-
HCM Control Delay, s 0   3.2   19.4   0	Stage 2		_		_					_	252	330	_
HCM Control Delay, s 0   3.2   19.4   0													
C   A   A   A   A   A   A   A   A   A	-	_											
Minor Lane/Major MvmNBLn1		0			3.2								
Capacity (veh/h) 535 587 - 701	HCM LOS							С			Α		
Capacity (veh/h) 535 587 - 701													
Capacity (veh/h) 535 587 - 701	Minor Lane/Major Mvn	n <b>N</b> B	3Ln1	EBL	EBT	EBR	WBL	WBT	WBRS	BLn1S	BLn2		
HCM Lane V/C Ratio 0.54 0.002 0.445 HCM Control Delay (s) 19.4 11.1 14.2 0 0 HCM Lane LOS C B - B - A A	Capacity (veh/h)			587	-	-	701	-	-	-	-		
HCM Control Delay (s) 19.4 11.1 14.2 0 0 HCM Lane LOS C B B A A	HCM Lane V/C Ratio	(			-	-		-	-	-	-		
	HCM Control Delay (s	)	19.4	11.1	-	-	14.2	-	-	0	0		
HCM 95th %tile Q(veh) 3.2 0 2.3	HCM Lane LOS		С	В	-	-	В	-	-	Α	Α		
	HCM 95th %tile Q(veh	1)	3.2	0	-	-	2.3	-	-	-	-		

Existing Plus 911 Unit Project AM MITIGATED HCM 6th TWSC

Intersection					
Intersection Delay, s/vel	h 15.6				
Intersection LOS	C				
Annroach		EB	WB	NB	SB
Approach					1
Entry Lanes		1	1	1	1
Conflicting Circle Lanes		•	512		456
Adj Approach Flow, veh		361		697	
Demand Flow Rate, veh		371 726	527 577	717	469
Vehicles Circulating, vel		237	443	303 794	494 610
Vehicles Exiting, veh/h				794	
Ped Vol Crossing Leg, #		0	0		0
Ped Cap Adj		.000	1.000	1.000	1.000
Approach Delay, s/veh		15.5	18.2	15.5	12.8
Approach LOS		С	С	С	В
Lane	Left	Left		ft Left	
Designated Moves	LTR	LTR	LTI	R LTR	
			LTI	R LTR	
Designated Moves	LTR	LTR	LTI	R LTR	
Designated Moves Assumed Moves RT Channelized Lane Util	LTR	LTR	LTF LTF	R LTR R LTR	
Designated Moves Assumed Moves RT Channelized	LTR LTR 1.000 2.609	LTR LTR	LTF LTF 1.00	R LTR R LTR	
Designated Moves Assumed Moves RT Channelized Lane Util	LTR LTR	LTR LTR	LTI LTI 1.00 2.60	R LTR R LTR 0 1.000 9 2.609	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR LTR 1.000 2.609 4.976 371	LTR LTR 1.000 2.609 4.976 527	LTI LTI 1.00 2.60 4.97 71	R LTR R LTR 0 1.000 9 2.609 6 4.976	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTI LTI 1.00 2.60 4.97 71	R LTR R LTR 0 1.000 9 2.609 6 4.976 7 469	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR LTR 1.000 2.609 4.976 371	LTR LTR 1.000 2.609 4.976 527	LTI LTI 1.00 2.60 4.97 71 101	R LTR R 1.000 9 2.609 6 4.976 7 469 3 834	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	LTR LTR 1.000 2.609 4.976 371 658	LTR LTR 1.000 2.696 4.976 527 766	LTI LTI 1.00 2.60 4.97 71 1011	R LTR R 1.000 9 2.609 6 4.976 7 469 3 834 2 0.971	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h	LTR LTR 1.000 2.609 4.976 371 658 0.973	LTR LTR 1.000 2.609 4.976 527 766 0.972	LTI LTI 1.00 2.60 4.97 71 101 0.97 69	R LTR 0 1.000 9 2.609 6 4.976 7 469 3 834 2 0.971 7 456	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Entry HV Adj Factor Flow Entry, veh/h	LTR LTR 1.000 2.609 4.976 371 658 0.973 361	LTR LTR 1.000 2.609 4.976 527 766 0.972 512	LTI LTI 1.00 2.60 4.97 71 101 0.97 69 98	R LTR R LTR 0 1.000 9 2.609 6 4.976 7 469 3 834 2 0.971 7 456 4 810	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	LTR LTR 1.000 2.609 4.976 371 658 0.973 361 640	LTR LTR 1.000 2.609 4.976 527 766 0.972 512 745	LTI LTI 1.00 2.60 4.97 71 101 0.97 69 98 0.70	R LTR 0 1.000 9 2.609 6 4.976 7 469 3 834 2 0.971 7 456 4 810 8 0.563	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 371 658 0.973 361 640 0.564	LTR LTR 1.000 2.609 4.976 527 766 0.972 512 745 0.688	LTI LTI 1.00 2.60 4.97 71 101 0.97 69 98 0.70 15.	R LTR 0 1.000 9 2.609 6 4.976 7 469 3 834 2 0.971 7 456 4 810 8 0.563	

Existing Plus 911 Unit Project AM MITIGATED Queues

	۶	-	•	<b>←</b>	*	4	<b>†</b>	1	-	Į.	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	1	347	373	428	679	7	22	151	303	304	35	
v/c Ratio	0.01	0.35	0.86	0.42	0.46	0.07	0.20	0.28	0.70	0.69	0.07	
Control Delay	41.0	29.5	41.0	13.4	4.8	42.7	45.8	7.0	40.8	40.0	0.2	
Queue Delay	0.0	0.0	0.4	0.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.0	29.5	41.3	14.2	6.1	42.7	45.8	7.0	40.8	40.0	0.2	
Queue Length 50th (ft)	1	97	210	195	153	4	12	9	157	157	0	
Queue Length 95th (ft)	5	120	#317	294	235	17	35	43	#254	251	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	100	1089	469	1031	1465	105	111	562	449	458	540	
Starvation Cap Reductn	0	0	7	327	535	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.32	0.81	0.61	0.73	0.07	0.20	0.27	0.67	0.66	0.06	

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Beechwood SP 7: Riverside Ave & 13th Street Existing Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	*	1	†	<i>&gt;</i>	1	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ř	<b>†</b> 1>		7	<b>^</b>	7	7	<b>^</b>	7	7	ની	7
Traffic Volume (veh/h)	1	267	28	317	364	577	6	19	128	429	87	30
Future Volume (veh/h)	1	267	28	317	364	577	6	19	128	429	87	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	314	33	373	428	679	7	22	151	578	0	35
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	2	1027	107	416	1027	1177	96	101	455	690	0	303
Arrive On Green	0.00	0.32	0.32	0.08	0.18	0.18	0.05	0.05	0.05	0.20	0.00	0.20
Sat Flow, veh/h	1767	3217	335	1767	1856	1572	1767	1856	1564	3534	0	1552
Grp Volume(v), veh/h	1	171	176	373	428	679	7	22	151	578	0	35
Grp Sat Flow(s), veh/h/ln	1767	1763	1790	1767	1856	1572	1767	1856	1564	1767	0	1552
Q Serve(g s), s	0.1	6.7	6.8	19.3	18.8	21.3	0.3	1.0	5.0	14.5	0.0	1.7
Cycle Q Clear(g c), s	0.1	6.7	6.8	19.3	18.8	21.3	0.3	1.0	5.0	14.5	0.0	1.7
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2	563	572	416	1027	1177	96	101	455	690	0	303
V/C Ratio(X)	0.41	0.30	0.31	0.90	0.42	0.58	0.07	0.22	0.33	0.84	0.00	0.12
Avail Cap(c a), veh/h	96	563	572	471	1027	1177	96	101	455	849	0	373
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		23.6	23.6	41.3	24.5	10.2	41.3	41.6	25.7	35.6	0.0	30.5
Incr Delay (d2), s/veh	85.3	1.4	1.4	13.4	0.2	0.5	0.3	1.1	0.4	6.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		3.0	3.1	10.6	9.3	15.9	0.2	0.5	2.6	6.6	0.0	0.6
Unsig. Movement Delay,		0.0	0	10.0	0.0	10.0	0.2	0.0	2.0	0.0	0.0	0.0
	131.2	25.0	25.0	54.7	24.7	10.7	41.6	42.7	26.1	41.8	0.0	30.6
LnGrp LOS	F	C	C	D	C	В	D	D	C	D	Α	C
Approach Vol, veh/h		348			1480			180			613	
Approach Delay, s/veh		25.3			25.8			28.7			41.1	
Approach LOS		23.3 C			23.0 C			20.7 C			41.1 D	
• •											D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		33.9		22.5	4.6	55.4		9.5				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		22.4		22.1	5.0	41.9		5.0				
Max Q Clear Time (g_c+		8.8		16.5	2.1	23.3		7.0				
Green Ext Time (p_c), s	0.4	1.7		1.2	0.0	5.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			29.5									
HCM 6th LOS			С									
Notes												

User approved volume balancing among the lanes for turning movement.

Existing Plus 911 Unit Project AM MITIGATED Queues

8: Paso Robles Street & 13th Street

	•	-	1	-	•	1	1		-	†	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	941	56	1293	414	251	14	273	6	9	
v/c Ratio	0.50	0.50	0.24	0.66	0.41	0.80	0.03	0.50	0.02	0.02	
Control Delay	57.1	8.4	37.0	17.8	4.8	52.6	25.6	8.3	25.4	0.0	
Queue Delay	0.0	0.1	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	
Total Delay	57.1	8.4	37.0	17.8	4.8	53.1	25.6	8.3	25.4	0.0	
Queue Length 50th (ft)	42	143	26	295	28	135	6	10	3	0	
Queue Length 95th (ft)	m75	144	58	317	57	186	18	47	11	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	164	2067	242	1973	1000	369	491	601	367	574	
Starvation Cap Reductn	0	155	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	60	0	12	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.49	0.23	0.68	0.41	0.70	0.03	0.45	0.02	0.02	

Intersection Summary

Beechwood SP 8: Paso Robles Street & 13th Street Existing Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	•	1	†	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ř	<b>↑</b> ↑		7	<b>^</b>	7	7	<b>†</b>	7	7	<b>f</b>	
Traffic Volume (veh/h)	61	706	46	45	1034	331	201	11	218	5	0	7
Future Volume (veh/h)	61	706	46	45	1034	331	201	11	218	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	882	58	56	1292	0	251	14	272	6	0	9
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	1160	76	523	2067		367	392	332	301	0	332
Arrive On Green	0.02	0.11	0.11	0.30	0.59	0.00	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1767	3356	221	1767	3526	1572	1395	1856	1572	1085	0	1572
Grp Volume(v), veh/h	76	463	477	56	1292	0	251	14	272	6	0	9
Grp Sat Flow(s),veh/h/ln		1763	1814	1767	1763	1572	1395	1856	1572	1085	0	1572
Q Serve(g_s), s	3.9	23.5	23.5	2.1	22.0	0.0	16.0	0.6	15.2	0.4	0.0	0.4
Cycle Q Clear(g_c), s	3.9	23.5	23.5	2.1	22.0	0.0	16.4	0.6	15.2	1.0	0.0	0.4
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	609	627	523	2067		367	392	332	301	0	332
V/C Ratio(X)	0.77	0.76	0.76	0.11	0.63		0.68	0.04	0.82	0.02	0.00	0.03
Avail Cap(c_a), veh/h	163	895	921	523	2067		443	494	419	361	0	419
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		37.1	37.1	23.5	12.4	0.0	35.3	28.8	34.6	29.2	0.0	28.8
Incr Delay (d2), s/veh	10.8	7.7	7.5	0.1	1.4	0.0	3.3	0.0	9.8	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		12.3	12.6	0.9	8.3	0.0	5.6	0.2	6.5	0.1	0.0	0.2
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	55.3	44.8	44.6	23.6	13.9	0.0	38.6	28.9	44.4	29.2	0.0	28.8
LnGrp LOS	E	D	D	С	В		D	С	D	С	Α	С
Approach Vol, veh/h		1016			1348	Α		537			15	
Approach Delay, s/veh		45.4			14.3			41.3			29.0	
Approach LOS		D			В			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s31.7	36.3		23.9	9.6	58.4		23.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	ax),7s3	46.7		24.5	8.5	45.5		24.5				
Max Q Clear Time (g_c+		25.5		3.0	5.9	24.0		18.4				
Green Ext Time (p_c), s	0.0	6.3		0.0	0.0	10.3		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			30.2									
HCM 6th LOS			С									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Page 6

m Volume for 95th percentile queue is metered by upstream signal.

12: Creston Road &	Stone	y Cree	k Roa	ıd				Queues
	<b>→</b>	<b>←</b>	4	†	1	ļ	4	
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	163	139	38	565	39	454	90	
v/c Ratio	0.50	0.46	0.24	0.69	0.25	0.56	0.12	
Control Delay	25.2	14.2	32.3	24.6	32.4	20.1	3.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.2	14.2	32.3	24.6	32.4	20.1	3.2	
Queue Length 50th (ft)	39	7	11	138	12	102	0	
Queue Length 95th (ft)	98	49	41	#392	42	#269	16	
Internal Link Dist (ft)	560	1033		1337		2227		
Turn Bay Length (ft)			30		70		60	
Base Capacity (vph)	846	850	158	813	158	814	734	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.19	0.16	0.24	0.69	0.25	0.56	0.12	
Intersection Summary								
# 95th percentile volum	ne exce	eds car	pacity, c	queue m	ay be lo	onger.		
Queue shown is maxi					,	3		
			,					

	ၨ	-	•	•	<b>←</b>	•	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		"	1•		7	<b>↑</b>	7
Traffic Volume (veh/h)	92	6	39	7	15	95	32	471	3	33	381	76
Future Volume (veh/h)	92	6	39	7	15	95	32	471	3	33	381	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	7	46	8	18	113	38	561	4	39	454	90
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	10	64	11	25	158	71	720	5	72	728	612
Arrive On Green	0.13	0.13	0.13	0.12	0.12	0.12	0.04	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	1158	74	484	93	210	1320	1781	1855	13	1781	1870	1573
Grp Volume(v), veh/h	163	0	0	139	0	0	38	0	565	39	454	90
Grp Sat Flow(s),veh/h/ln		0	0	1624	0	0	1781	0	1868	1781	1870	1573
Q Serve(g_s), s	5.1	0.0	0.0	4.7	0.0	0.0	1.2	0.0	15.0	1.2	11.1	2.1
Cycle Q Clear(g_c), s	5.1	0.0	0.0	4.7	0.0	0.0	1.2	0.0	15.0	1.2	11.1	2.1
Prop In Lane	0.67		0.28	0.06		0.81	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	228	0	0	194	0	0	71	0	726	72	728	612
V/C Ratio(X)	0.71	0.00	0.00	0.72	0.00	0.00	0.54	0.00	0.78	0.54	0.62	0.15
Avail Cap(c_a), veh/h	820	0	0	776	0	0	158	0	726	158	728	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	24.0	0.0	0.0	26.6	0.0	15.2	26.6	13.9	11.2
Incr Delay (d2), s/veh	4.1	0.0	0.0	4.9	0.0	0.0	6.2	0.0	8.1	6.2	4.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		0.0	0.0	2.0	0.0	0.0	0.6	0.0	6.9	0.6	4.7	0.7
Unsig. Movement Delay,		0.0	0.0	00.0	0.0	0.0	00.0	0.0	00.0	00.0	47.0	44.7
LnGrp Delay(d),s/veh	27.6	0.0	0.0	28.8	0.0	0.0	32.8	0.0	23.2	32.8	17.9	11.7
LnGrp LOS	С	Α	A	С	Α	A	С	Α	С	С	В	В
Approach Vol, veh/h		163			139			603			583	
Approach Delay, s/veh		27.6			28.8			23.8			18.0	
Approach LOS		С			С			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		26.5		12.0	6.7	26.5		11.2				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		18.0		27.0	5.0	22.0		27.0				
Max Q Clear Time (g_c+	l1)3£2	17.0		7.1	3.2	13.1		6.7				
Green Ext Time (p_c), s	0.0	0.4		0.8	0.0	2.0		8.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.4									
HCM 6th LOS			С									

	<b>→</b>	<b>—</b>	*	1	†	1	-	ţ	
Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	43	253	300	11	272	128	259	239	
v/c Ratio	0.34	0.63	0.53	0.09	0.48	0.21	0.75	0.12	
Control Delay	40.5	34.2	6.9	40.4	28.3	2.4	45.7	11.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.5	34.2	6.9	40.4	28.3	2.4	45.7	11.1	
Queue Length 50th (ft)	17	117	0	5	116	0	122	27	
Queue Length 95th (ft)	49	176	47	22	202	12	#237	65	
Internal Link Dist (ft)	284	314			712			1337	
Turn Bay Length (ft)			100	150			250		
Base Capacity (vph)	128	659	737	121	563	605	401	1940	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.38	0.41	0.09	0.48	0.21	0.65	0.12	

#### Intersection Summary

Queue shown is maximum after two cycles.

Beechwood SP Existing Plus 911 Unit Project AM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark RoadCM 6th Signalized Intersection Summary

	ၨ	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7	1	<b>^</b>	7	1	<b>↑</b> ↑	
Traffic Volume (veh/h)	20	9	7	210	5	255	9	231	109	220	193	10
Future Volume (veh/h)	20	9	7	210	5	255	9	231	109	220	193	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	ı	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	11	8	247	6	300	11	272	128	259	227	12
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	17	12	461	11	397	24	525	439	301	1497	79
Arrive On Green	0.04	0.04	0.04	0.26	0.26	0.26	0.01	0.28	0.28	0.17	0.44	0.44
Sat Flow, veh/h	948	435	316	1741	42	1498	1781	1870	1565	1781	3433	180
Grp Volume(v), veh/h	43	0	0	253	0	300	11	272	128	259	117	122
Grp Sat Flow(s), veh/h/ln		0	0	1783	0	1498	1781	1870	1565	1781	1777	1836
Q Serve(q s), s	2.0	0.0	0.0	9.6	0.0	14.6	0.5	9.7	5.1	11.2	3.1	3.2
	2.0	0.0	0.0	9.6	0.0	14.6	0.5	9.7	5.1	11.2	3.1	3.2
Cycle Q Clear(g_c), s		0.0			0.0			9.7			3.1	
Prop In Lane	0.56	^	0.19	0.98	0	1.00	1.00	505	1.00	1.00	775	0.10
Lane Grp Cap(c), veh/h	66	0	0	473	0	397	24	525	439	301	775	801
V/C Ratio(X)	0.65	0.00	0.00	0.54	0.00	0.76	0.46	0.52	0.29	0.86	0.15	0.15
Avail Cap(c_a), veh/h	107	0	0	609	0	512	113	525	439	372	775	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	24.9	0.0	26.7	38.7	23.9	22.3	31.9	13.5	13.5
Incr Delay (d2), s/veh	10.5	0.0	0.0	0.9	0.0	4.7	12.8	3.6	1.7	15.4	0.4	0.4
nitial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		0.0	0.0	4.1	0.0	5.6	0.3	4.4	1.9	5.9	1.2	1.3
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	48.0	0.0	0.0	25.8	0.0	31.4	51.5	27.6	24.0	47.4	13.9	13.9
LnGrp LOS	D	Α	Α	С	Α	С	D	С	С	D	В	В
Approach Vol, veh/h		43			553			411			498	
Approach Delay, s/veh		48.0			28.9			27.1			31.3	
Approach LOS		D			С			С			С	
••						_						
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		28.2		7.6	5.6	40.5		25.5				
Change Period (Y+Rc), s		6.0		4.5	4.5	* 6		4.5				
Max Green Setting (Gma		22.0		5.0	5.0	* 35		27.0				
Max Q Clear Time (g_c+		11.7		4.0	2.5	5.2		16.6				
Green Ext Time (p_c), s	0.2	1.3		0.0	0.0	1.3		2.1				
Intersection Summary												
HCM 6th Ctrl Delay			29.7									
HCM 6th LOS			С									
Notes												

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Existing Plus 911 Unit Project AM MITIGATED Queues

	ၨ	-	*	*	←	*	4	<b>†</b>	-	Į.	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	115	624	289	101	930	271	676	394	251	497	
v/c Ratio	0.70	0.73	0.33	0.60	0.91	0.42	0.84	0.38	0.78	0.68	
Control Delay	73.9	43.6	2.8	62.4	50.4	5.9	49.3	31.7	57.4	36.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.9	43.6	2.8	62.4	50.4	5.9	49.3	31.7	57.4	36.3	
Queue Length 50th (ft)	42	216	9	69	332	0	230	112	185	150	
Queue Length 95th (ft)	#82	271	33	122	#423	54	286	161	259	200	
Internal Link Dist (ft)		1510			1609			962		896	
Turn Bay Length (ft)	140			80			150		110		
Base Capacity (vph)	164	860	917	191	1060	652	886	1027	415	731	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.70	0.73	0.32	0.53	0.88	0.42	0.76	0.38	0.60	0.68	

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Beechwood SP 17: S. River Road & Niblick Road Existing Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	*	1	†	~	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	<b>^</b>	7	ሻ	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻ	4î∌	
Traffic Volume (veh/h)	100	543	251	88	809	236	588	305	37	260	257	134
Future Volume (veh/h)	100	543	251	88	809	236	588	305	37	260	257	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	624	289	101	930	271	676	351	43	249	365	154
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	1052	835	129	1121	495	796	836	102	294	494	205
Arrive On Green	0.05	0.30	0.30	0.07	0.32	0.32	0.23	0.26	0.26	0.16	0.20	0.20
Sat Flow, veh/h	3456	3554	1585	1781	3554	1570	3456	3187	387	1781	2511	1042
Grp Volume(v), veh/h	115	624	289	101	930	271	676	194	200	249	270	249
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1570	1728	1777	1798	1781	1870	1683
Q Serve(q s), s	2.9	13.2	2.4	4.9	21.4	12.6	16.5	8.0	8.1	12.0	12.0	12.3
Cycle Q Clear(g c), s	2.9	13.2	2.4	4.9	21.4	12.6	16.5	8.0	8.1	12.0	12.0	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		0.62
Lane Grp Cap(c), veh/h	184	1052	835	129	1121	495	796	466	472	294	368	331
V/C Ratio(X)	0.62	0.59	0.35	0.78	0.83	0.55	0.85	0.42	0.42	0.85	0.73	0.75
Avail Cap(c a), veh/h	200	1052	835	232	1286	568	1078	554	561	556	583	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		26.5	4.1	40.2	28.0	25.0	32.5	26.9	27.0	35.7	33.3	33.4
Incr Delay (d2), s/veh	5.3	0.9	0.2	9.7	4.2	0.9	4.9	0.6	0.6	6.7	2.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		5.4	1.0	2.4	9.1	4.5	7.1	3.3	3.4	5.5	5.5	5.1
Unsig. Movement Delay,		0. 1	1.0		0.1			0.0	0.1	0.0	0.0	0.1
LnGrp Delay(d),s/veh	46.1	27.4	4.4	49.9	32.2	25.9	37.4	27.5	27.6	42.5	36.1	36.8
LnGrp LOS	D	C	A	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1028			1302			1070			768	
Approach Delay, s/veh		23.0			32.3			33.8			38.4	
Approach LOS		23.0 C			32.3 C			33.6 C			30.4 D	
		_			_						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		30.6	24.8	21.8	9.2	32.3	19.0	27.6				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		25.5	27.5	27.5	5.1	31.9	27.5	27.5				
Max Q Clear Time (g_c+	,,	15.2	18.5	14.3	4.9	23.4	14.0	10.1				
Green Ext Time (p_c), s	0.1	3.6	1.8	2.4	0.0	4.4	0.6	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			С									
Notes												

User approved volume balancing among the lanes for turning movement.

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				_
Intersection				
Intersection Delay, s/s/e/h				
Intersection LOS A				
Approach	WB	NB	SB	
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	795	109	382	
Demand Flow Rate, veh/h		111	390	
Vehicles Circulating, veh/h		335	25	
	343	80	888	
Ped Vol Crossing Leg, #/h		0	0	
Ped Cap Adj 1.	.000	1.000	1.000	
Approach Delay, s/veh	11.6	4.8	5.3	
Approach LOS	В	Α	Α	
Lane Left	Left		Left	
Designated Moves LR	TR		LT	
Assumed Moves LR	TR		LT	
RT Channelized				
Lane Util 1.000	1.000	1	1.000	
	1.000 2.609		1.000 2.609	
Lane Util 1.000 Follow-Up Headw2y689		2		
Lane Util 1.000	2.609	2	2.609	
Lane Util 1.000 Follow-Up Headw2y669 Critical Headway, <b>4</b> .976	2.609 4.976	2 4	2.609 1.976	
Lane Util 1.000 Follow-Up Headw2y689 Critical Headway, 4.976 Entry Flow, veh/h 811 Cap Entry Lane, veh/242	2.609 4.976 111	2 4	2.609 1.976 390	
Lane Util 1.000 Follow-Up Headw2y689 Critical Headway, <b>4.</b> 976 Entry Flow, veh/h 811 Cap Entry Lane, veh242 Entry HV Adj Fact0c980	2.609 4.976 111 981	2 4	2.609 1.976 390 1345	
Lane Util 1.000 Follow-Up Headw2y689 Critical Headway, <b>4.</b> 976 Entry Flow, veh/h 811 Cap Entry Lane, vet/242 Entry HV Adj Fact@:980	2.609 4.976 111 981 0.982	2 4	2.609 4.976 390 1345 0.979	
Lane Util 1.000 Follow-Up Headw2y689 Critical Headway, 4.976 Entry Flow, veh/h 811 Cap Entry Lane, vet/242 Entry HV Adj Fact@1980 Flow Entry, veh/h 795	2.609 4.976 111 981 0.982 109	2 4	2.609 4.976 390 1345 0.979	
Lane Util 1.000 Follow-Up Headway,689 Critical Headway, 4.976 Entry Flow, veh/h 811 Cap Entry Lane, veh/242 Entry HV Adj Fact@:980 Flow Entry, veh/h 795 Cap Entry, veh/h 1218 V/C Ratio 0.653	2.609 4.976 111 981 0.982 109 963	2 4	2.609 1.976 390 1345 0.979 382 1317	
Lane Util 1.000 Follow-Up Headway,689 Critical Headway, 6.976 Entry Flow, veh/h 811 Cap Entry Lane, veh/2/42 Entry HV Adj Fact0:980 Flow Entry, veh/h 795 Cap Entry, veh/h 1218	2.609 4.976 111 981 0.982 109 963 0.113	2 4	2.609 1.976 390 1345 0.979 382 1317	

Intersection											
Int Delay, s/veh 4.8											
Movement EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ħβ		7	ħ۵				7		र्स	7
Traffic Vol, veh/h 0		62	293	884	0	0	0	302	0	0	0
Future Vol, veh/h 0	935	62	293	884	0	0	0	302	0	0	0
Conflicting Peds, #/hr 1	0	0	0	0	1	0	0	0	0	0	0
Sign Control Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized -	-	None	-		None	-		None	-		None
Storage Length 340	-	-	195	-	-	-	-	-	-	-	25
Veh in Median Storage,	# 0	-	-	0	-	-	0	-	-	0	-
Grade, %	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor 97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, % 7	7	7	7	7	7	7	7	7	7	7	7
Mvmt Flow 0	964	64	302	911	0	0	0	311	0	0	0
Major/Minor Major1		N	lajor2		N	linor1		N	linor2		
Conflicting Flow All 912			1028	0	0	-	_		1998	2544	457
Stage 1 -		-	1020	-	-	_	_		1516		-
Stage 2		-		-		-				1028	
Critical Hdwy 4.24		_	4.24	_	_	_	_	7.04			7.04
Critical Hdwy Stg 1		_			-	_	-		6.64	5.64	
Critical Hdwy Stg 2 -	_	-	-		-		-			5.64	-
Follow-up Hdwy 2.27	_	-	2.27					3.37	3.57	4.07	3.37
Pot Cap-1 Maneuve 712		-	642		-	0	0	493	33	25	537
Stage 1 -	-	-	-	-	-	0	0	-	119	172	-
Stage 2 -	_	-	-	-	-	0	0	-	521	299	-
Platoon blocked, %	-	-		-	-	_	-				
Mov Cap-1 Maneuver11	-	-	642	-	-	-	-	493	8	13	536
Mov Cap-2 Maneuver -		-	-	-	-	-	-	-	8	13	-
Stage 1 -	_	-	-	-	-	-	-	-	119	91	-
Stage 2 -	-	-	-	-	-	-	-	-	192	299	-
Approach EB			WB			NB			SB		
HCM Control Delay, s 0			3.9			24			0		
HCM LOS			0.0			C			A		
TIOM EOU						Ŭ			,,		
Minor Lane/Major Mvmt	JRI n1	EBL	EBT	FRR	WRI	WRT	WBRS	RI n1S	RI n2		
Capacity (veh/h)	493	711	-		642	-	.,,,,,	JEHO	JEHZ		
HCM Lane V/C Ratio	0.632	711			0.471						
HCM Control Delay (s)	24	0	-		15.5			0	0		
HCM Lane LOS	C	A			13.3 C			A	A		
HCM 95th %tile Q(veh)	4.3	0			2.5						
TIOM John John Q(Ven)	₹.5	0			2.0						

Intersection				
Intersection Delay, s/ve	h 14.5			
Intersection LOS	В			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh	ı/h 348	595	585	543
Demand Flow Rate, veh	n/h 352	601	592	548
Vehicles Circulating, ve	h/h 745	384	316	550
Vehicles Exiting, veh/h	353	524	781	435
Ped Vol Crossing Leg, #	#/h 1	1	1	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.9	13.9	11.7	17.9
Approach LOS	В	В	В	С
1	1 6			
Lane	Left	Left	Left	Left
Designated Moves	LTR	Left LTR	Left LTR	Left LTR
Designated Moves	LTR	LTR	LTR	LTR
Designated Moves Assumed Moves	LTR	LTR	LTR	LTR
Designated Moves Assumed Moves RT Channelized	LTR LTR	LTR LTR	LTR LTR	LTR LTR
Designated Moves Assumed Moves RT Channelized Lane Util	LTR LTR 1.000	LTR LTR 1.000	LTR LTR 1.000	LTR LTR 1.000
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR LTR 1.000 2.609 4.976 352	LTR LTR 1.000 2.609 4.976 601	LTR LTR 1.000 2.609 4.976 592	LTR LTR 1.000 2.609 4.976 548
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR LTR 1.000 2.609 4.976 352	LTR LTR 1.000 2.609 4.976 601	LTR LTR 1.000 2.609 4.976 592	LTR LTR 1.000 2.609 4.976 548
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	LTR LTR 1.000 2.609 4.976 352 645	LTR LTR 1.000 2.609 4.976 601 933	LTR LTR 1.000 2.609 4.976 592 1000	LTR LTR 1.000 2.609 4.976 548 787
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	LTR LTR 1.000 2.609 4.976 352 645 0.988	LTR LTR 1.000 2.609 4.976 601 933 0.990	LTR LTR 1.000 2.609 4.976 592 1000 0.989	LTR LTR 1.000 2.609 4.976 548 787 0.991
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h	LTR LTR 1.000 2.609 4.976 352 645 0.988 348	LTR LTR 1.000 2.609 4.976 601 933 0.990 595 923 0.644	LTR LTR 1.000 2.609 4.976 592 1000 0.989 585	LTR LTR 1.000 2.609 4.976 548 787 0.991 543
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry, Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h O/C Ratio Control Delay, s/veh	LTR LTR 1.000 2.609 4.976 352 645 0.988 348 638 0.545 14.9	LTR LTR 1.000 2.609 4.976 601 933 0.990 595 923 0.644 13.9	LTR LTR 1.000 2.609 4.976 592 1000 0.989 585 988 0.592 11.7	LTR LTR 1.000 2.609 4.976 548 787 0.991 543 780 0.696 17.9
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 352 645 0.988 348 638 0.545	LTR LTR 1.000 2.609 4.976 601 933 0.990 595 923 0.644	LTR LTR 1.000 2.609 4.976 592 1000 0.989 585 988 0.592	LTR LTR 1.000 2.609 4.976 548 787 0.991 543 780 0.696

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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	16	467	255	436	562	6	39	281	329	337	91	
v/c Ratio	0.15	0.41	0.75	0.43	0.41	0.05	0.32	0.61	0.72	0.73	0.17	
Control Delay	43.7	27.4	39.7	9.8	1.6	41.2	48.0	16.6	39.9	40.1	0.7	
Queue Delay	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	
Total Delay	43.7	27.4	39.7	10.0	1.7	41.2	48.0	16.7	39.9	40.1	0.7	
Queue Length 50th (ft)	9	126	144	99	0	3	21	37	166	171	0	
Queue Length 95th (ft)	29	166	225	113	0	16	54	94	#283	#289	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	107	1233	380	1021	1392	115	121	496	484	492	575	
Starvation Cap Reductn	0	0	0	130	149	0	0	0	0	0	0	
Spillback Cap Reductn	0	11	0	0	0	0	0	14	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.38	0.67	0.49	0.45	0.05	0.32	0.58	0.68	0.68	0.16	
Intersection Summary												

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	۶	<b>→</b>	•	•	<b>←</b>	*	1	†	~	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>∱</b> î≽		ሻ	<b>↑</b>	7	ሻ	<b>↑</b>	7	ሻ	ન	7
Traffic Volume (veh/h)	15	408	31	240	410	528	6	37	264	542	84	86
Future Volume (veh/h)	15	408	31	240	410	528	6	37	264	542	84	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	16	434	33	255	436	562	6	39	281	641	0	91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	33	588	45	641	967	1141	100	105	659	765	0	339
Arrive On Green	0.02	0.17	0.17	0.12	0.17	0.17	0.06	0.06	0.06	0.21	0.00	0.21
Sat Flow, veh/h	1795	3371	255	1795	1885	1560	1795	1885	1598	3591	0	1590
Grp Volume(v), veh/h	16	230	237	255	436	562	6	39	281	641	0	91
Grp Sat Flow(s),veh/h/ln		1791	1836	1795	1885	1560	1795	1885	1598	1795	0	1590
Q Serve(g_s), s	0.8	10.9	11.0	11.8	18.7	17.2	0.3	1.8	0.0	15.4	0.0	4.3
Cycle Q Clear(g_c), s	0.8	10.9	11.0	11.8	18.7	17.2	0.3	1.8	0.0	15.4	0.0	4.3
Prop In Lane	1.00	0.10	0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	312	320	641	967	1141	100	105	659	765	0	339
V/C Ratio(X)	0.49	0.74	0.74	0.40	0.45	0.49	0.06	0.37	0.43	0.84	0.00	0.27 433
Avail Cap(c_a), veh/h	100	478	490	641	967	1141	100	105	659	978	0	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I) Uniform Delay (d), s/veh	1.00	1.00 35.2	1.00 35.2	30.8	26.0	0.80	1.00	41.0	1.00	1.00	0.00	29.6
Incr Delay (d2), s/veh	10.7	14.3	14.3	0.3	0.3	0.3	0.2	2.2	0.4	5.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.4
%ile BackOfQ(50%),veh.		6.0	6.2	5.7	9.4	12.7	0.0	0.0	4.0	7.0	0.0	1.6
Unsig. Movement Delay,		0.0	0.2	5.7	9.4	12.7	0.1	0.9	4.0	7.0	0.0	1.0
LnGrp Delay(d),s/veh	54.5	49.5	49.5	31.1	26.2	10.0	40.5	43.2	19.3	39.1	0.0	30.0
LnGrp LOS	D4.5	49.5 D	49.5 D	C C	20.2 C	В	40.5 D	43.2 D	19.3 B	39.1 D	Α	30.0 C
Approach Vol, veh/h		483			1253			326			732	
Approach Vol, ven/n		49.7			20.0			22.5			38.0	
Approach LOS		49.7 D			20.0 B			22.5 C			30.U	
Approach LOS		U			D			C			U	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		20.2		23.7	6.1	50.7		9.5				
Change Period (Y+Rc), s	s 4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	ax),8s5	24.0		24.5	5.0	37.5		5.0				
Max Q Clear Time (g_c+	111)3\$8	13.0		17.4	2.8	20.7		3.8				
Green Ext Time (p_c), s	0.3	2.2		1.7	0.0	4.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			С									

User approved volume balancing among the lanes for turning movement. User approved changes to right turn type.

Existing Plus 911 Unit Project PM - Mitigated

	•	-	•	•	•	1	1	1	-	Į.	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	89	1203	20	961	255	263	30	438	8	26	
v/c Ratio	0.50	0.56	0.18	0.52	0.28	0.73	0.06	0.82	0.02	0.04	
Control Delay	42.0	10.2	44.3	18.2	4.1	42.3	22.5	32.3	21.4	0.1	
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.0	10.6	44.3	18.2	4.1	42.3	22.5	32.3	21.4	0.1	
Queue Length 50th (ft)	43	202	11	198	7	135	13	149	3	0	
Queue Length 95th (ft)	m77	300	34	294	53	204	31	246	13	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	203	2134	110	1842	918	456	616	633	454	722	
Starvation Cap Reductn	0	398	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	15	0	0	0	0	0	1	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.44	0.69	0.18	0.53	0.28	0.58	0.05	0.69	0.02	0.04	
Intersection Summary											

m Volume for 95th percentile queue is metered by upstream signal.

Beechwood SP 8: Paso Robles Street & 13th Street Existing Plus 911 Unit Project PM - Mitigated HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> 1>		ሻ	<b>^</b>	7	ሻ	<b>1</b>	7	ሻ	1→	
Traffic Volume (veh/h)	83	1089	30	19	894	237	245	28	407	7	0	24
Future Volume (veh/h)	83	1089	30	19	894	237	245	28	407	7	0	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	89	1171	32	20	961	0	263	30	438	8	0	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	115	1400	38	284	1746		481	563	477	348	0	477
Arrive On Green	0.06	0.39	0.39	0.16	0.49	0.00	0.30	0.30	0.30	0.30	0.00	0.30
Sat Flow, veh/h	1795	3558	97	1795	3582	1598	1396	1885	1598	932	0.00	1598
Grp Volume(v), veh/h	89	589	614	20	961	0	263	30	438	8	0	26
Grp Sat Flow(s), veh/h/ln		1791	1864	1795	1791	1598	1396	1885	1598	932	0	1598
Q Serve(q s), s	4.4	26.8	26.8	0.9	16.9	0.0	14.9	1.0	23.8	0.6	0.0	1.0
Cycle Q Clear(g c), s	4.4	26.8	26.8	0.9	16.9	0.0	15.9	1.0	23.8	1.6	0.0	1.0
Prop In Lane	1.00	20.0	0.05	1.00	10.9	1.00	1.00	1.0	1.00	1.00	0.0	1.00
	115	704	733	284	1746	1.00	481	563	477	348	0	477
Lane Grp Cap(c), veh/h	0.78		0.84		0.55					0.02	0.00	0.05
V/C Ratio(X)		0.84		0.07			0.55	0.05	0.92			524
Avail Cap(c_a), veh/h	201	834	868	284	1746	4.00	521	618	524	375	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		24.7	24.7	32.3	16.2	0.0	28.2	22.5	30.5	23.1	0.0	22.5
Incr Delay (d2), s/veh	8.7	9.4	9.1	0.1	1.3	0.0	1.0	0.0	20.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		12.6	13.1	0.4	6.8	0.0	4.9	0.4	11.4	0.1	0.0	0.4
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	50.2	34.1	33.8	32.4	17.4	0.0	29.2	22.5	50.7	23.1	0.0	22.5
LnGrp LOS	D	С	С	С	В		С	С	D	С	Α	С
Approach Vol, veh/h		1292			981	Α		731			34	
Approach Delay, s/veh		35.0			17.7			41.8			22.7	
Approach LOS		D			В			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s18.7	39.9		31.4	10.3	48.4		31.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		41.9		29.5	10.1	36.9		29.5				
Max Q Clear Time (q c+		28.8		3.6	6.4	18.9		25.8				
Green Ext Time (p_c), s	0.0	6.6		0.1	0.1	6.6		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			С									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Existing Plus 911 Unit Project PM - Mitigated Queues

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Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	118	43	20	393	48	493	127	
v/c Ratio	0.39	0.20	0.12	0.39	0.29	0.44	0.13	
Control Delay	26.6	14.5	30.7	15.8	33.5	13.2	4.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.6	14.5	30.7	15.8	33.5	13.2	4.1	
Queue Length 50th (ft)	35	2	6	114	16	108	2	
Queue Length 95th (ft)	90	29	29	217	53	286	35	
Internal Link Dist (ft)	560	1033		1337		2227		
Turn Bay Length (ft)			30		70		60	
Base Capacity (vph)	880	823	163	1094	163	1128	974	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.05	0.12	0.36	0.29	0.44	0.13	
Intersection Summary								

Beechwood SP Existing Plus 911 Unit Project PM - Mitigated 12: Creston Road & Stoney Creek Road HCM 6th Signalized Intersection Summary

	۶	-	•	1	-	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	- ↑		7	<b>^</b>	7
Traffic Volume (veh/h)	100	4	13	4	1	38	20	379	10	48	488	126
Future Volume (veh/h)	100	4	13	4	1	38	20	379	10	48	488	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	101	4	13	4	1	38	20	383	10	48	493	127
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	161	6	21	9	2	86	44	607	16	92	675	568
Arrive On Green	0.11	0.11	0.11	0.06	0.06	0.06	0.02	0.33	0.33	0.05	0.36	0.36
Sat Flow, veh/h	1514	60	195	149	37	1419	1795	1828	48	1795	1885	1586
Grp Volume(v), veh/h	118	0	0	43	0	0	20	0	393	48	493	127
Grp Sat Flow(s),veh/h/ln		0	0	1605	0	0	1795	0	1876	1795	1885	1586
Q Serve(g_s), s	2.7	0.0	0.0	1.1	0.0	0.0	0.5	0.0	7.5	1.1	9.6	2.4
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.1	0.0	0.0	0.5	0.0	7.5	1.1	9.6	2.4
Prop In Lane	0.86		0.11	0.09		0.88	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	189	0	0	98	0	0	44	0	622	92	675	568
V/C Ratio(X)	0.63	0.00	0.00	0.44	0.00	0.00	0.45	0.00	0.63	0.52	0.73	0.22
Avail Cap(c_a), veh/h	1131	0	0	1026	0	0	213	0	1199	213	1205	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	19.1	0.0	0.0	20.3	0.0	11.9	19.5	11.8	9.5
Incr Delay (d2), s/veh	3.4	0.0	0.0	3.1	0.0	0.0	7.0	0.0	1.1	4.6	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		0.0	0.0	0.5	0.0	0.0	0.3	0.0	2.5	0.5	3.2	0.6
Unsig. Movement Delay,		0.0	0.0	22.2	0.0	0.0	27.3	0.0	13.0	24.1	13.3	9.7
LnGrp Delay(d),s/veh	21.4				0.0 A		21.3 C			24.1 C		-
LnGrp LOS	С	A	A	С	43	A		413	В	U	В	<u>A</u>
Approach Vol, veh/h		118			22.2						668	
Approach LOS		21.4 C			22.2 C			13.7			13.4	
Approach LOS		C			C			В			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		19.0		9.0	6.0	20.1		7.1				
Change Period (Y+Rc),		5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gma		27.0		27.0	5.0	27.0		27.0				
Max Q Clear Time (g_c+	/ -	9.5		4.7	2.5	11.6		3.1				
Green Ext Time (p_c), s	0.0	2.1		0.6	0.0	3.1		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			В									

	<b>→</b>	<b>—</b>	*	1	<b>†</b>		-	ţ	
Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	21	148	174	12	258	225	271	270	
v/c Ratio	0.12	0.44	0.38	0.07	0.57	0.41	0.61	0.13	
Control Delay	26.1	28.8	6.0	33.2	26.9	6.1	30.2	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.1	28.8	6.0	33.2	26.9	6.1	30.2	8.2	
Queue Length 50th (ft)	3	41	0	4	71	0	70	14	
Queue Length 95th (ft)	27	117	37	22	178	50	#236	64	
Internal Link Dist (ft)	284	314			712			1337	
Turn Bay Length (ft)			100	150			250		
Base Capacity (vph)	169	890	875	164	761	781	542	2303	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.17	0.20	0.07	0.34	0.29	0.50	0.12	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP Existing Plus 911 Unit Project PM - Mitigated
13: Creston Road & Alamo Creek Terrace/Meadowlark Road CM 6th Signalized Intersection Summary

	ၨ	-	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ર્ન	7	7	<b>^</b>	7	7	<b>†</b> î>	
Traffic Volume (veh/h)	8	2	9	135	3	162	11	240	209	252	239	12
Future Volume (veh/h)	8	2	9	135	3	162	11	240	209	252	239	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	9	2	10	145	3	174	12	258	225	271	257	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	18	4	20	311	6	279	28	406	342	340	1349	68
Arrive On Green	0.03	0.03	0.03	0.18	0.18	0.18	0.02	0.22	0.22	0.19	0.39	0.39
Sat Flow, veh/h	726	161	807	1761	36	1584	1795	1885	1586	1795	3465	174
Grp Volume(v), veh/h	21	0	0	148	0	174	12	258	225	271	132	138
Grp Sat Flow(s), veh/h/ln		0	0	1797	0	1584	1795	1885	1586	1795	1791	1848
Q Serve(g s), s	0.6	0.0	0.0	3.7	0.0	5.0	0.3	6.2	6.4	7.1	2.4	2.4
Cycle Q Clear(g c), s	0.6	0.0	0.0	3.7	0.0	5.0	0.3	6.2	6.4	7.1	2.4	2.4
Prop In Lane	0.43	0.0	0.48	0.98	0.0	1.00	1.00	0.2	1.00	1.00	2.4	0.09
Lane Grp Cap(c), veh/h	43	0	0.46	317	0	279	28	406	342	340	697	719
V/C Ratio(X)	0.49	0.00	0.00	0.47	0.00	0.62	0.44	0.64	0.66	0.80	0.19	0.19
	171	0.00	0.00	980	0.00	863	181	837	705	598	1247	1287
Avail Cap(c_a), veh/h												
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	18.3	0.0	18.9	24.2	17.7	17.8	19.2	10.0	10.0
Incr Delay (d2), s/veh	8.4	0.0	0.0	1.1	0.0	2.3	10.4	1.7	2.2	4.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		0.0	0.0	1.5	0.0	1.9	0.2	2.3	2.1	3.0	0.8	0.8
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	32.2	0.0	0.0	19.4	0.0	21.1	34.6	19.3	19.9	23.5	10.1	10.1
LnGrp LOS	С	Α	Α	В	Α	С	С	В	В	С	В	В
Approach Vol, veh/h		21			322			495			541	
Approach Delay, s/veh		32.2			20.3			20.0			16.8	
Approach LOS		С			С			В			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s13.9	16.7		5.8	5.3	25.3		13.2				
Change Period (Y+Rc), s		6.0		4.5	4.5	* 6		4.5				
Max Green Setting (Gma		22.0		5.0	5.0	* 35		27.0				
Max Q Clear Time (g c+		8.4		2.6	2.3	4.4		7.0				
Green Ext Time (p c), s	0.5	1.8		0.0	0.0	1.5		1.4				
0 = 7	0.0	1.0		0.0	0.0	1.0		11				
Intersection Summary			40.0									
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			В									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Existing Plus 911 Unit Project PM - Mitigated

Synchro 10 Report Page 11

	*	-	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	<b>↓</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	252	833	604	101	639	130	415	330	163	535	
v/c Ratio	0.74	0.72	0.68	0.61	0.64	0.23	0.77	0.38	0.66	0.65	
Control Delay	50.8	29.0	13.3	54.9	28.0	2.4	44.6	24.2	47.9	28.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.8	29.0	13.3	54.9	28.0	2.4	44.6	24.2	47.9	28.9	
Queue Length 50th (ft)	64	192	84	49	138	0	104	67	77	117	
Queue Length 95th (ft)	#142	302	224	#137	224	18	#206	104	#180	168	
Internal Link Dist (ft)		1510			1609			962		896	
Turn Bay Length (ft)	140			80			150		110		
Base Capacity (vph)	342	1224	864	167	1205	652	543	1270	273	1251	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.74	0.68	0.70	0.60	0.53	0.20	0.76	0.26	0.60	0.43	

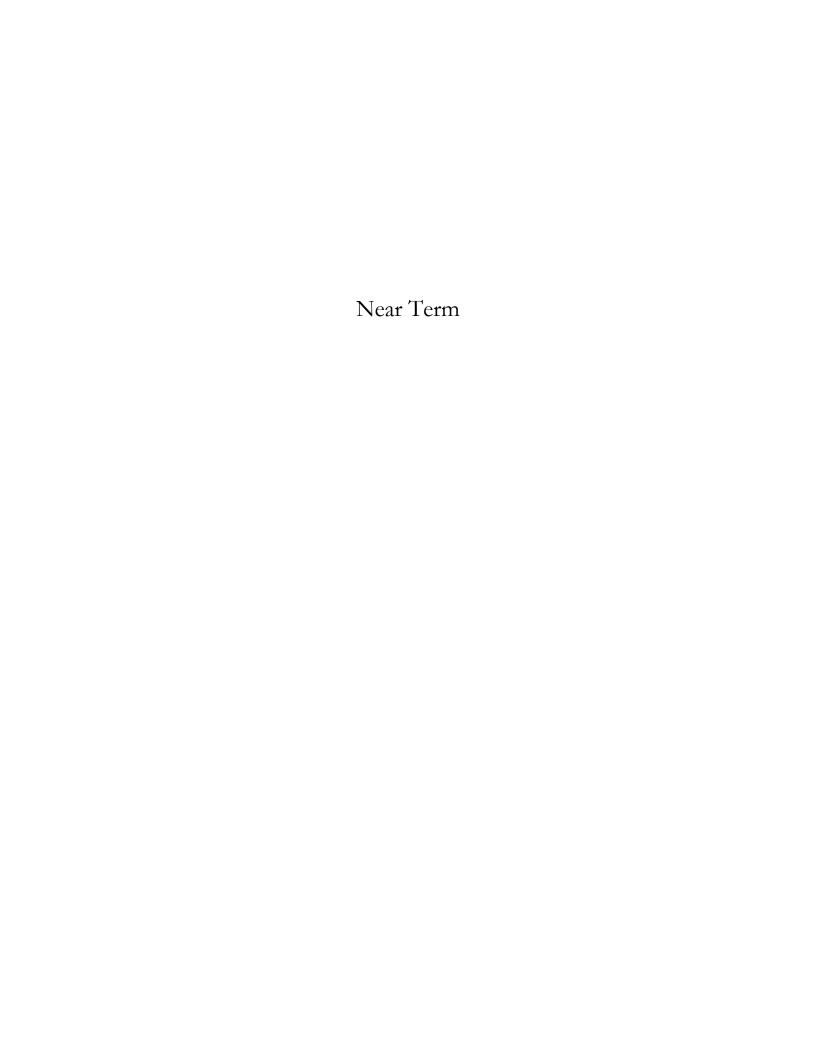
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 17: S. River Road & Niblick Road Existing Plus 911 Unit Project PM - Mitigated HCM 6th Signalized Intersection Summary

Lane Configurations Traffic Volume (veh/h) 242 800 580 97 613 125 398 263 54 156 3 Future Volume (veh/h) 242 800 580 97 613 125 398 263 54 156 3 Initial Q (Db), veh 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SBR SBR
Traffic Volume (veh/h)         242         800         580         97         613         125         398         263         54         156         3           Future Volume (veh/h)         242         800         580         97         613         125         398         263         54         156         3           Initial Q (Qb), veh         0	92 122 92 122 0 0 1.00 00 1.00 No 85 1885
Future Volume (veh/h)         242         800         580         97         613         125         398         263         54         156         33           Initial Q (Qb), veh         0	92 122 0 0 1.00 00 1.00 No 35 1885
Initial Q (Qb), veh	0 0 1.00 00 1.00 No 35 1885
Ped-Bike Adj(A_pbT)         1.00 </td <td>1.00 00 1.00 No 35 1885</td>	1.00 00 1.00 No 35 1885
Parking Bus, Adj         1.00	00 1.00 No 35 1885
Work Zone On Ápproach         No         No         No         No         Ad         Sat Flow, veh/h/ln         1885	No 35 1885
Adj Sat Flow, veh/h/ln         1885         188	35 1885
Adj Flow Rate, veh/h         252         833         604         101         639         130         415         274         56         162         4           Peak Hour Factor         0.96	
Peak Hour Factor         0.96         0.25         0.25         0.25         0.25         0.25         0.25         0.15         0.25         0.25         0.15         0.25         0.25         0.15         0.25         0.25         0.15         0.25         0.15         0.25         0.25         0.15         0.25	าย 127
Percent Heavy Veh, %         1         2         2           Arrive On Green         0.10         0.31         0.31         0.07         0.28         0.28         0.15         0.25         0.25         0.11         0         0         1         0         1         0         1         0         1         0         0.25         0.25         0.25         0.11         0         0         1         0         0         1	
Cap, veh/h         344         1112         732         130         1018         453         515         737         148         203         5           Arrive On Green         0.10         0.31         0.31         0.07         0.28         0.28         0.15         0.25         0.25         0.11         0           Sat Flow, veh/h         3483         3582         1598         1795         3582         1594         3483         2970         598         1795         26           Grp Volume(v), veh/h         252         833         604         101         639         130         415         164         166         162         2           Grp Sat Flow(s), veh/h/ln         1742         1791         1598         1795         1791         1594         1742         1791         1778         1795         17	
Arrive On Green         0.10         0.31         0.31         0.07         0.28         0.28         0.15         0.25         0.25         0.11         0           Sat Flow, veh/h         3483         3582         1598         1795         3582         1594         3483         2970         598         1795         26           Grp Volume(v), veh/h         252         833         604         101         639         130         415         164         166         162         2           Grp Sat Flow(s), veh/h/ln         1742         1791         1598         1795         1791         1594         1742         1791         1778         1795         17	1 1
Sat Flow, veh/h         3483         3582         1598         1795         3582         1594         3483         2970         598         1795         26           Grp Volume(v), veh/h         252         833         604         101         639         130         415         164         166         162         2           Grp Sat Flow(s), veh/h/ln         1742         1791         1598         1795         1791         1594         1742         1791         1778         1795         17	75 177
Grp Volume(v), veh/h 252 833 604 101 639 130 415 164 166 162 2 Grp Sat Flow(s), veh/h/ln 1742 1791 1598 1795 1791 1594 1742 1791 1778 1795 17	
Grp Sat Flow(s), veh/h/ln 1742 1791 1598 1795 1791 1594 1742 1791 1778 1795 17	
	70 265
~( <u>0</u> ), -	.8 10.0
	.8 10.0
Prop In Lane 1.00 1.00 1.00 1.00 0.34 1.00	0.48
	370
	71 0.72
$-1$ ( $=$ $\mu$	37 664
	00 1.00
1	00 1.00
	.6 25.7
, (,	.4 2.6
	.0 0.0
	.1 4.0
Unsig. Movement Delay, s/veh	0 00 0
1 7( ):	.0 28.3
LnGrp LOS D C B D C C D	C C
	97
	.8
Approach LOS C C C	С
Timer - Assigned Phs 1 2 3 4 5 6 7 8	
Phs Duration (G+Y+Rc), s 9.6 26.4 14.9 19.5 11.4 24.5 12.5 22.0	
Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	
Max Green Setting (Gmax),7s1 26.0 11.9 27.0 7.5 25.6 11.6 27.3	
Max Q Clear Time (g_c+l1)59 16.7 10.1 12.0 6.9 12.9 8.2 7.5	
Green Ext Time (p_c), s 0.0 5.1 0.3 2.7 0.1 3.7 0.1 1.7	
Intersection Summary	
HCM 6th Ctrl Delay 25.5	
HCM 6th LOS C	

Intersection		
Intersection Delay, s&elh		
Intersection LOS A		
Approach WB	NB	SB
Entry Lanes 1	1	1
Conflicting Circle Lanes 1	1	1
Adj Approach Flow, veh/h 455	123	788
Demand Flow Rate, veh/h459	124	796
Vehicles Circulating, veh/h 97	702	10
Vehicles Exiting, veh/h 729	104	546
Ped Vol Crossing Leg, #/h 0	0	1
Ped Cap Adj 1.000	1.000	1.000
Approach Delay, s/veh 6.4	7.5	9.2
Approach LOS A	Α	Α
Lane Left	Left	Left
Designated Moves LR	TR	LT
Assumed Moves LR	TR	LT
RT Channelized		
Lane Util 1.000	1.000	1.000
	1.000	1.000
Follow-Up Headw2y669	2.609	1.000 2.609
Follow-Up Headw2y689 Critical Headway, <b>4</b> .976		
	2.609	2.609
Critical Headway, 4.976	2.609 4.976	2.609 4.976
Critical Headway, <b>4</b> .976 Entry Flow, veh/h 459	2.609 4.976 124	2.609 4.976 796
Critical Headway, \$.976 Entry Flow, veh/h 459 Cap Entry Lane, veh250 Entry HV Adj Fact@:991	2.609 4.976 124 674	2.609 4.976 796 1366
Critical Headway, <b>£</b> .976 Entry Flow, veh/h 459 Cap Entry Lane, veh <b>2</b> 50	2.609 4.976 124 674 0.992	2.609 4.976 796 1366 0.990
Critical Headway, <b>s</b> .976 Entry Flow, veh/h 459 Cap Entry Lane, veh <b>25</b> 0 Entry HV Adj Fact <b>®</b> :991 Flow Entry, veh/h 455	2.609 4.976 124 674 0.992 123	2.609 4.976 796 1366 0.990 788
Critical Headway, 4.976 Entry Flow, veh/h 459 Cap Entry Lane, vet/250 Entry HV Adj Fact@991 Flow Entry, veh/h 455 Cap Entry, veh/h 1239	2.609 4.976 124 674 0.992 123 669	2.609 4.976 796 1366 0.990 788 1352
Critical Headway, 4.976 Entry Flow, veh/h 459 Cap Entry Lane, veh/250 Entry HV Adj Fact@991 Flow Entry, veh/h 455 Cap Entry, veh/h 1239 V/C Ratio 0.367	2.609 4.976 124 674 0.992 123 669 0.184	2.609 4.976 796 1366 0.990 788 1352 0.583



1: SR 46 E & Buena Vista Drive

	<b>→</b>	<b>→</b>	←	*	1	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	252	1227	1280	126	159	263
v/c Ratio	0.71	0.38	0.83	0.17	0.62	0.42
Control Delay	55.6	0.3	31.4	3.6	58.3	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	0.3	31.4	3.6	58.3	22.3
Queue Length 50th (ft)	164	0	404	0	107	103
Queue Length 95th (ft)	#354	0	606	33	219	225
Internal Link Dist (ft)		942	856		514	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	459	3223	2628	1199	459	895
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.38	0.49	0.11	0.35	0.29

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 1: SR 46 E & Buena Vista Drive

Near Term AM HCM Signalized Intersection Capacity Analysis

	•	-	<b>—</b>	*	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>^</b>	7	*	7			
Traffic Volume (vph)	232	1129	1178	116	146	242			
Future Volume (vph)	232	1129	1178	116	146	242			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1612	3223	3223	1442	1612	1442			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1612	3223	3223	1442	1612	1442			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	252	1227	1280	126	159	263			
RTOR Reduction (vph)	0	0	0	66	0	27			
Lane Group Flow (vph)	252	1227	1280	60	159	236			
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases	-		-	6		4			
Actuated Green, G (s)	24.6	110.4	53.0	53.0	17.8	46.4			
Effective Green, g (s)	24.6	110.4	53.0	53.0	17.8	46.4			
Actuated g/C Ratio	0.22	1.00	0.48	0.48	0.16	0.42			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	359	3223	1547	692	259	606			
v/s Ratio Prot	c0.16	0.38	c0.40		c0.10	0.16			
v/s Ratio Perm				0.04					
v/c Ratio	0.70	0.38	0.83	0.09	0.61	0.39			
Uniform Delay, d1	39.5	0.0	24.8	15.6	43.1	22.2			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	6.1	0.3	4.0	0.1	4.5	0.4			
Delay (s)	45.6	0.3	28.7	15.7	47.6	22.6			
Level of Service	D	Α	С	В	D	С			
Approach Delay (s)		8.1	27.6		32.0				
Approach LOS		Α	С		С				
Intersection Summary									
HCM 2000 Control Delay			19.4	Н	CM 2000	Level of Servi	се	В	
HCM 2000 Volume to Capa	acity ratio		0.75						
Actuated Cycle Length (s)			110.4	S	um of los	t time (s)		15.0	
Intersection Capacity Utiliza	ation		66.4%			of Service		С	
Analysis Period (min)			15						
! Phase conflict between	lane groups	S.							

c Critical Lane Group

227 850

54.5 31.9

54.5 31.9

147

225

537 2153

0

0.63

283

426

1323

0

0.39

309

0.39

4.8 47.4

4.8 47.4 39.2

0 12 320

63

485 125

0

0.29

1067

39 959

0.0

34 481

0

0.07

0.82

39.2

0.0

2509

2153

0

0.45 0.18

186

0.29

5.0 53.0

5.0 53.0

0 102

49 185

390

1026

0

296

0.62

0.0

160

0

0.50

310

0.41

38.8 57.1

0.0

38.8

96

170

853

0

0.25

93 179 151

56.4

0.0

56.4

663 656

0

0.35 0.63

0.0

57.1

32 120

72 230

140

0

0.16 0.27

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Intersection Summary

Reduced v/c Ratio

Total Delay

Near Term AM Queues

0.41

10.9

0.0

10.9

0

61

0

0

	۶	-	$\rightarrow$	•	<b>—</b>	•	$\blacktriangleleft$	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>†</b> 1>		ሻሻ	<b>^</b>	7
Traffic Volume (veh/h)	209	782	284	36	882	171	272	267	18	86	165	139
Future Volume (veh/h)	209	782	284	36	882	171	272	267	18	86	165	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	227	850	309	39	959	186	296	290	20	93	179	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	318	1138	508	293	1249	557	396	677	46	157	247	209
Arrive On Green	0.10	0.34	0.34	0.09	0.38	0.38	0.12	0.22	0.22	0.05	0.14	0.14
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	3131	215	3209	1737	1472
Grp Volume(v), veh/h	227	850	309	39	959	186	296	152	158	93	179	151
Grp Sat Flow(s), veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1695	1605	1737	1472
Q Serve(q s), s	5.5	18.2	8.3	0.9	20.4	7.2	7.1	6.4	6.4	2.3	7.9	7.9
Cycle Q Clear(g_c), s	5.5	18.2	8.3	0.9	20.4	7.2	7.1	6.4	6.4	2.3	7.9	7.9
	1.00	18.2	1.00		20.4	1.00	1.00	0.4		1.00	7.9	1.00
Prop In Lane		1120		1.00	1240			257	0.13		247	
Lane Grp Cap(c), veh/h	318	1138	508	293	1249	557	396	357	367	157		209
V/C Ratio(X)	0.71	0.75	0.61	0.13	0.77	0.33	0.75	0.43	0.43	0.59	0.73	0.72
Avail Cap(c_a), veh/h	721	2885	1287	721	2885	1287	802	845	868	802	889	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	23.1	7.7	33.5	21.8	17.7	33.9	27.1	27.1	37.3	32.9	32.8
Incr Delay (d2), s/veh	3.0	1.0	1.2	0.1	1.0	0.3	2.9	0.8	0.8	3.6	4.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.2	4.1	0.3	6.8	2.3	2.8	2.4	2.5	0.9	3.4	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	24.1	8.9	33.5	22.8	18.1	36.8	27.9	27.9	40.9	36.9	37.5
LnGrp LOS	D	С	A	С	С	В	D	С	С	D	D	D
Approach Vol, veh/h		1386			1184			606			423	
Approach Delay, s/veh		23.0			22.4			32.2			38.0	
Approach LOS		С			С			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	34.9	13.9	16.7	11.9	37.6	7.9	22.6				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q c+l1), s	2.9	20.2	9.1	9.9	7.5	22.4	4.3	8.4				
Green Ext Time (p_c), s	0.0	7.4	0.7	1.5	0.5	7.9	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			26.1 C									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Mvmt Flow

Near Term AM

HCM 6th TWSC

lutura articu												
Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ħβ		ሻ	<b>↑</b> ↑			ની	7		4	7
Traffic Vol, veh/h	1	839	46	279	1080	0	9	0	253	0	0	0
Future Vol, veh/h	1	839	46	279	1080	0	9	0	253	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None		-	None	-	-	None	-	-	None
Storage Length	340	-	-	195	-	-	-	-	25	-	-	25
Veh in Median Storage	2,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles %	11	11	11	11	11	11	11	11	11	11	11	11

1 912 50 303 1174 0 10 0 275

Major/Minor	Major1		N	lajor2		- 1	/linor1		1	Minor2			
Conflicting Flow All	1174	0	0	962	0	0	2132	2719	481	2238	2744	587	
Stage 1	-	-	-	-	-	-	939	939	-	1780	1780	-	
Stage 2	-	-	-	-	-	-	1193	1780	-	458	964	-	
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-	
Critical Hdwy Stg 2	-	-	-	-		-	6.72	5.72	-	6.72	5.72	-	
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41	
Pot Cap-1 Maneuver	542	-	-	658	-	-	25	18	508	21	17	431	
Stage 1	-	-	-	-	-	-	267	321	-	77	121	-	
Stage 2	-	-	-	-	-	-	184	121	-	529	312	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver		-	-	658	-	-	16	10	508	6	9	431	
Mov Cap-2 Maneuver	-	-	-	-	-	-	16	10	-	6	9	-	
Stage 1	-	-	-	-	-	-	266	320	-	77	65	-	
Stage 2	-	-	-	-	-	-	99	65	-	242	311	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			3.1			33.4			0			
HCM LOS							D			Α			

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR SI	BLn1 S	BLn2		
Capacity (veh/h)	16	508	542	-	-	658	-	-	-	-		
HCM Lane V/C Ratio	0.611	0.541	0.002	-	-	0.461	-	-	-	-		
HCM Control Delay (s)	\$ 406.3	20.1	11.7		-	15.1	-		0	0		
HCM Lane LOS	F	С	В	-	-	С	-	-	Α	Α		
HCM 95th %tile Q(veh)	1.6	3.2	0		-	2.4	-	-	-	-		

tersection										
t Delay, s/veh	7.1									
Novement	EBL	EBT	WBT	WBR	SBL	SBR				
ane Configurations	EDL	<b>*</b>	<b>₩</b>	NDK.	JDL 1	JDR.				
raffic Vol, veh/h	360	<b>TT</b> 732	<b>TT</b>	19	<b>1</b> 5	184				
uture Vol. veh/h	360	732	1175	19	5	184				
Conflicting Peds, #/hr	300	132	0	0	0	184				
J .	Free	Free	Free	Free	Stop	Stop				
Sign Control RT Channelized	riee -	None	riee -	None	310p	None				
Storage Length	580	None -		165	0	25				
eh in Median Storage		0	0	100	2	20				
en in wedian storage irade. %	,# -	0	0		0					
Peak Hour Factor	92	92	92	92	92	92				
Heavy Vehicles, %	10	10	10	10	10	10				
Nymt Flow	391	796	1277	21	5	200				
IVIIIL I'IUW	371	190	12//	21	0	200				
	Major1	١	Major2	- 1	Minor2					
Conflicting Flow All	1298	0	-	0	2457	639			·	
Stage 1	-	-	-	-	1277	-				
Stage 2	-	-		-	1180	-				
Critical Hdwy	4.3	-	-	-	7	7.1				
ritical Hdwy Stg 1	-	-	-	-	6	-				
Critical Hdwy Stg 2	-	-		-	6	-				
ollow-up Hdwy	2.3	-	-	-	3.6	3.4				
ot Cap-1 Maneuver	489	-	-	-	23	400				
Stage 1	-	-	-	-	211	-				
Stage 2	-	-			238	-				
Platoon blocked, %		-	-	-						
Nov Cap-1 Maneuver	489	-		-	~ 5	400				
Nov Cap-2 Maneuver	-	-	-	-	39	-				
Stage 1	-	-	-		42	-				
Stage 2	-	-	-	-	238	-				
pproach	FB		WB		SB					
ICM Control Delay, s	11.8		0		25.1					
CM LOS	11.0		0		23.1 D					
ICIVI LUS					U					
linor Lane/Major Mvm	t	EBL	EBT	WBT	WBR:	SBLn1 S	SBLn2			
Capacity (veh/h)		489	-	-	-	39	400			
ICM Lane V/C Ratio		0.8	-	-	-	0.139	0.5			
HCM Control Delay (s)		35.8	-	-	-	111.7	22.7			
ICM Lane LOS		Ε	-	-	-	F	С			
HCM 95th %tile Q(veh)		7.5	-	-	-	0.4	2.7			
Votes										
		¢ D-	.1		00-	C		Nat Dafin	and * All manifest columns in only	
-: Volume exceeds cap	Dacity	\$: D6	elay exc	ceeds 3	UUS	+: Com	putation	Not Define	ed *: All major volume in pla	11001)

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	44	7	*	ħβ			4	7		4	
Traffic Vol. veh/h	0	718	19	2	1186	0	8	0	1	0	0	0
Future Vol, veh/h	0	718	19	2	1186	0	8	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None			None	-	-	None	-	-	None
Storage Length	275		275	305					25	-		
Veh in Median Storage	,# -	0	-	-	0			2	-		2	
Grade, %		0	-	-	0			0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow	0	780	21	2	1289	0	9	0	1	0	0	0
Major/Minor N	Najor1		1	Major2			Minor1		N	/linor2		
Conflicting Flow All	1289	0	0	801	0	0	1429	2073	390	1683	2094	645
Stage 1	1207	-	-	-	-	-	780	780	370		1293	043
Stage 2	- 1						649	1293		390	801	
Critical Hdwy	4.36			4.36			7.76	6.76	7.16	7.76	6.76	7.16
Critical Hdwy Stg 1	-						6.76	5.76	-	6.76	5.76	
Critical Hdwy Stg 2			-				6.76	5.76	-	6.76	5.76	
Follow-up Hdwy	2.33			2.33			3.63	4.13	3.43	3.63	4.13	3.43
Pot Cap-1 Maneuver	478		-	751			86	47	579	55	45	390
Stage 1							331	379		157	211	
Stage 2	-		-				399	211	-	577	370	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	478			751			86	47	579	55	45	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	178	-	146	176	-
Stage 1	-	-	-	-	-	-	331	379		157	210	-
Stage 2	-	-	-	-	-	-	398	210	-	576	370	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			18.8			0		
HCM LOS	0			0			C			A		
Minor Lane/Major Mvm	† I	NBLn1 l	NRI n2	EBL	EBT	EBR	WBL	WBT	WBR S	SBI n1		
Capacity (veh/h)		254	579	478	LD1	LDIN	751	*****	7701(	JULIT		
HCM Lane V/C Ratio		0.034		470			0.003					
HCM Control Delay (s)		19.7	11.2	0			9.8			0		
HCM Lane LOS		C	В	A			λ.0			A		
HOM OF IL OVER OVER O		0.4	٥	/1			^			^		

0.1 0 0 - - 0 -

ntersection				
ntersection Delay, s/veh	14.6			
ntersection LOS	В			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	331	484	706	446
Demand Flow Rate, veh/h	341	498	727	459
Vehicles Circulating, veh/h	703	586	283	466
Vehicles Exiting, veh/h	222	424	761	618
Ped Vol Crossing Leg, #/h	0	0	3	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.5	17.0	15.1	11.9
Approach LOS	В	С	С	В
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
_ane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	341	498	727	459
Cap Entry Lane, veh/h	674	759	1034	858
Entry HV Adj Factor	0.971	0.971	0.971	0.971
Flow Entry, veh/h	331	484	706	446
Cap Entry, veh/h	654	737	1004	833
V/C Ratio	0.506	0.656	0.703	0.535
Control Delay, s/veh	13.5	17.0	15.1	11.9
LOS	В	С	С	В
95th %tile Queue, veh	3	5	6	3

Beechwood SP	
7: Riverside Ave & 13th S	treet

	•	$\rightarrow$	•	-	•	1	1		-	↓	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	1	353	345	435	647	7	21	139	286	285	35	
v/c Ratio	0.01	0.58	0.75	0.49	0.59	0.05	0.13	0.53	0.70	0.68	0.07	
Control Delay	48.0	37.6	41.1	18.9	4.0	43.7	44.3	16.0	41.2	40.2	0.3	
Queue Delay	0.0	0.0	0.1	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.0	37.6	41.2	19.3	4.3	43.7	44.3	16.0	41.2	40.2	0.3	
Queue Length 50th (ft)	1	87	163	141	0	3	10	0	140	138	0	
Queue Length 95th (ft)	6	167	328	326	66	19	40	59	301	298	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	109	997	713	1166	1229	395	415	456	594	605	628	
Starvation Cap Reductn	0	0	29	303	151	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.35	0.50	0.50	0.60	0.02	0.05	0.30	0.48	0.47	0.06	
Intersection Summary												

Beechwood SP 7: Riverside Ave & 13th Street Near Term AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	•	1	†	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		ሻ	<b>↑</b>	7	ሻ	<b>^</b>	7	7	ની	7
Traffic Volume (veh/h)	1	295	29	317	400	595	6	19	128	438	87	32
Future Volume (veh/h)	1	295	29	317	400	595	6	19	128	438	87	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	321	32	345	435	647	7	21	139	544	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	2	783	77	397	863	731	199	209	176	701	0	308
Arrive On Green	0.00	0.24	0.24	0.22	0.47	0.47	0.11	0.11	0.11	0.20	0.00	0.20
Sat Flow, veh/h	1767	3234	320	1767	1856	1572	1767	1856	1568	3534	0	1553
Grp Volume(v), veh/h	1	174	179	345	435	647	7	21	139	544	0	35
Grp Sat Flow(s), veh/h/ln	1767	1763	1792	1767	1856	1572	1767	1856	1568	1767	0	1553
Q Serve(g_s), s	0.0	6.7	6.8	15.2	13.2	30.2	0.3	0.8	7.0	11.8	0.0	1.5
Cycle Q Clear(g_c), s	0.0	6.7	6.8	15.2	13.2	30.2	0.3	0.8	7.0	11.8	0.0	1.5
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2	427	434	397	863	731	199	209	176	701	0	308
V/C Ratio(X)	0.41	0.41	0.41	0.87	0.50	0.88	0.04	0.10	0.79	0.78	0.00	0.11
Avail Cap(c_a), veh/h	109	502	510	711	1160	983	394	414	350	1247	0	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	25.7	25.8	30.2	15.1	19.6	31.9	32.2	34.9	30.7	0.0	26.6
Incr Delay (d2), s/veh	85.0	0.6	0.6	6.0	0.5	7.6	0.1	0.2	7.6	1.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.8	2.9	6.9	5.3	11.6	0.1	0.4	2.9	5.0	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.3	26.4	26.4	36.1	15.6	27.3	32.0	32.4	42.5	32.6	0.0	26.7
LnGrp LOS	F	С	С	D	В	С	С	С	D	С	A	C
Approach Vol, veh/h		354			1427			167			579	
Approach Delay, s/veh		26.7			25.8			40.8			32.2	
Approach LOS		С			С			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.6	24.0		20.5	4.6	42.1		13.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	23.0		28.5	5.0	50.5		18.0				
Max Q Clear Time (q c+l1), s	17.2	8.8		13.8	2.0	32.2		9.0				
Green Ext Time (p_c), s	0.9	1.8		1.9	0.0	5.3		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			С									

Notes
User approved volume balancing among the lanes for turning movement.

Beechwood SP	
8: Paso Robles Street &	13th Stree

	•	$\rightarrow$	•	-	•	1	1		-	↓	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	68	866	49	1186	361	234	12	249	5	8	
v/c Ratio	0.35	0.46	0.27	0.68	0.41	0.67	0.03	0.43	0.01	0.01	
Control Delay	45.7	14.1	45.3	19.3	6.1	40.9	26.9	6.5	26.8	0.0	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.7	14.3	45.3	19.3	6.1	40.9	26.9	6.5	26.8	0.0	
Queue Length 50th (ft)	34	148	25	241	28	115	5	0	2	0	
Queue Length 95th (ft)	88	254	69	398	99	216	20	57	12	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	262	2316	237	2306	1094	607	808	826	606	802	
Starvation Cap Reductn	0	573	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.50	0.21	0.51	0.33	0.39	0.01	0.30	0.01	0.01	
Intersection Summary											

Beechwood SP 8: Paso Robles Street & 13th Street Near Term AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	*	1	†	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>†</b> 1>		Ĭ	<b>^</b>	7	Ţ	<b>^</b>	7	7	ĵ.	
Traffic Volume (veh/h)	63	749	48	45	1091	332	215	11	229	5	0	7
Future Volume (veh/h)	63	749	48	45	1091	332	215	11	229	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	68	814	52	49	1186	0	234	12	249	5	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	1672	107	83	1716		429	413	350	366	0	350
Arrive On Green	0.06	0.50	0.50	0.05	0.49	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	1767	3363	215	1767	3526	1572	1396	1856	1572	1110	0	1572
Grp Volume(v), veh/h	68	427	439	49	1186	0	234	12	249	5	0	8
Grp Sat Flow(s),veh/h/ln	1767	1763	1815	1767	1763	1572	1396	1856	1572	1110	0	1572
Q Serve(g_s), s	2.2	9.3	9.3	1.6	15.0	0.0	9.1	0.3	8.5	0.2	0.0	0.2
Cycle Q Clear(g_c), s	2.2	9.3	9.3	1.6	15.0	0.0	9.3	0.3	8.5	0.5	0.0	0.2
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	876	902	83	1716		429	413	350	366	0	350
V/C Ratio(X)	0.67	0.49	0.49	0.59	0.69		0.54	0.03	0.71	0.01	0.00	0.02
Avail Cap(c_a), veh/h	321	1564	1611	290	3068		860	985	835	708	0	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	9.6	9.6	27.0	11.5	0.0	21.2	17.6	20.8	17.8	0.0	17.6
Incr Delay (d2), s/veh	7.4	0.4	0.4	6.5	0.5	0.0	1.1	0.0	2.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.0	3.1	0.8	4.9	0.0	2.8	0.1	3.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	10.1	10.1	33.4	12.0	0.0	22.3	17.6	23.5	17.8	0.0	17.6
LnGrp LOS	С	В	В	С	В		С	В	С	В	Α	B
Approach Vol, veh/h		934			1235	Α		495			13	
Approach Delay, s/veh		11.8			12.8			22.8			17.7	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	33.2		17.4	7.8	32.6		17.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	51.3		30.7	10.5	50.3		30.7				
Max Q Clear Time (q c+l1), s	3.6	11.3		2.5	4.2	17.0		11.3				
Green Ext Time (p_c), s	0.0	6.6		0.0	0.1	11.1		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			14.3									
HCM 6th LOS			В									

Notes
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

9: River Road/Union Road & Creston Road	Beechwood SP	
	9: River Road/Union Road & Creston Road	ł

	•	$\rightarrow$	1	-	1	1	1	-	↓
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	214	856	61	908	399	188	49	137	596
v/c Ratio	0.55	0.63	0.39	0.77	0.68	0.23	0.11	0.58	0.77
Control Delay	50.6	25.4	55.6	34.6	47.0	34.0	1.0	53.7	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	25.4	55.6	34.6	47.0	34.0	1.0	53.7	33.0
Queue Length 50th (ft)	68	211	38	269	125	51	0	84	126
Queue Length 95th (ft)	124	321	91	388	205	96	4	165	216
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	455	1662	197	1610	747	1036	530	347	1012
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.52	0.31	0.56	0.53	0.18	0.09	0.39	0.59
Intersection Summary									

Beechwood SP 9: River Road/Union Road & Creston Road Near Term AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	1,14	<b>†</b> 1>		ሻ	<b>†</b> 1>		ሻሻ	<b>^</b>	7	ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	197	505	282	56	737	98	367	173	45	126	185	36
Future Volume (veh/h)	197	505	282	56	737	98	367	173	45	126	185	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	187
Adj Flow Rate, veh/h	214	549	0	61	801	107	399	188	49	137	201	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	330	1416		93	1118	149	550	571	255	179	362	
Arrive On Green	0.10	0.40	0.00	0.05	0.36	0.36	0.16	0.16	0.16	0.10	0.10	0.0
Sat Flow, veh/h	3456	3647	0	1781	3145	420	3456	3554	1585	1781	3647	
Grp Volume(v), veh/h	214	549	0	61	452	456	399	188	49	137	201	
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1788	1728	1777	1585	1781	1777	
Q Serve(q s), s	3.7	6.9	0.0	2.1	13.8	13.8	6.9	2.9	1.7	4.7	3.4	0
Cycle Q Clear(q_c), s	3.7	6.9	0.0	2.1	13.8	13.8	6.9	2.9	1.7	4.7	3.4	0.
Prop In Lane	1.00	0.7	0.00	1.00	10.0	0.23	1.00	2.7	1.00	1.00	0.1	0.0
Lane Grp Cap(c), veh/h	330	1416	0.00	93	631	636	550	571	255	179	362	0.0
V/C Ratio(X)	0.65	0.39		0.66	0.72	0.72	0.73	0.33	0.19	0.77	0.55	
Avail Cap(c_a), veh/h	691	2588		299	1237	1245	1134	1564	698	527	1450	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.0
Uniform Delay (d), s/veh	27.3	13.4	0.0	29.1	17.4	17.4	25.0	23.2	22.7	27.4	26.7	0.0
Incr Delay (d2), s/veh	2.2	0.2	0.0	7.6	1.5	1.5	1.8	0.3	0.4	6.7	1.3	0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	1.6	2.5	0.0	1.0	5.2	5.2	2.7	1.1	0.6	2.1	1.4	0.
Unsig. Movement Delay, s/veh		2.3	0.0	1.0	J.Z	5.2	2.1	1.1	0.0	2.1	1.4	U.
LnGrp Delay(d),s/veh	29.4	13.5	0.0	36.6	19.0	18.9	26.8	23.6	23.1	34.1	28.0	0.
LnGrp LOS	27.4 C	13.3 B	0.0	30.0 D	17.0 B	В	20.0 C	23.0 C	23.1 C	C C	20.0 C	U.
Approach Vol, veh/h		763	А	U	969	ь		636	C	C	338	
Approach Delay, s/veh		18.0	А		20.1			25.6			30.5	
Approach LOS		18.0 B			20. I			25.6 C			30.5 C	
Approach LOS		Б			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	29.4	14.4	10.9	10.5	26.7	10.8	14.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5	20.5	25.5	12.5	43.5	18.5	27.5				
Max Q Clear Time (g_c+I1), s	4.1	8.9	8.9	5.4	5.7	15.8	6.7	4.9				
Green Ext Time (p_c), s	0.0	4.2	1.1	1.0	0.4	6.3	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			22.1									
HCM 6th LOS			С									

!S

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP 10: Creston Road & Golden Hill Road

	۶	-	-	-	4
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	71	425	1122	541	101
v/c Ratio	0.34	0.21	0.74	0.64	0.22
Control Delay	44.4	10.2	20.9	34.1	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	10.2	20.9	34.1	9.0
Queue Length 50th (ft)	31	38	172	115	0
Queue Length 95th (ft)	103	138	#501	#278	47
Internal Link Dist (ft)		1151	2310	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	273	2623	2026	1190	614
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.16	0.55	0.45	0.16
Intersection Summary					

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

	۶	<b>→</b>	<b>—</b>	4	<b>\</b>	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>∱</b> î>		ሻሻ	7			
Traffic Volume (vph)	65	391	541	491	498	93			
Future Volume (vph)	65	391	541	491	498	93			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5			
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00			
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
Frt	1.00	1.00	0.93		1.00	0.85			
Flt Protected	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1752	3505	3231		3400	1568			
Flt Permitted	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1752	3505	3231		3400	1568			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	71	425	588	534	541	101			
RTOR Reduction (vph)	0	0	122	0	0	77			
Lane Group Flow (vph)	71	425	1000	0	541	24			
Confl. Peds. (#/hr)				3					
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%			
Turn Type	Prot	NA	NA		Perm	Perm			
Protected Phases	5	2	6						
Permitted Phases					4	4			
Actuated Green, G (s)	6.8	44.4	33.1		18.9	18.9			
Effective Green, g (s)	6.8	44.4	33.1		18.9	18.9			
Actuated g/C Ratio	0.08	0.55	0.41		0.24	0.24			
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	148	1940	1333		801	369			
v/s Ratio Prot	c0.04	0.12	c0.31						
v/s Ratio Perm					c0.16	0.02			
v/c Ratio	0.48	0.22	0.75		0.68	0.06			
Uniform Delay, d1	35.0	9.1	20.0		27.9	23.8			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.4	0.1	2.4		2.3	0.1			
Delay (s)	37.5	9.2	22.5		30.1	23.9			
Level of Service	D	Α	С		С	С			
Approach Delay (s)		13.2	22.5		29.1				
Approach LOS		В	С		С				
Intersection Summary									
HCM 2000 Control Delay			22.3	Н	CM 2000	Level of Servi	ice	С	
HCM 2000 Volume to Capacit	y ratio		0.66						
Actuated Cycle Length (s)			80.2		um of lost		18		
Intersection Capacity Utilization	on		60.5%	IC	CU Level of	of Service		В	
Analysis Period (min)			15						

c Critical Lane Group

	•	-	*	•	-	4	<b>†</b>	-	. ↓
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	136	372	136	68	1033	216	539	264	599
v/c Ratio	0.59	0.63	0.23	0.50	1.13	0.73	0.72	0.84	0.63
Control Delay	46.0	31.6	5.7	51.7	98.1	48.7	35.4	59.3	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	31.6	5.7	51.7	98.1	48.7	35.4	59.3	18.2
Queue Length 50th (ft)	68	175	0	35	~301	108	136	137	76
Queue Length 95th (ft)	131	288	40	#87	#461	#209	195	#289	136
Internal Link Dist (ft)		1092			186		1440		2310
Turn Bay Length (ft)	150			170		230		245	
Base Capacity (vph)	283	612	603	144	916	346	953	325	1052
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.61	0.23	0.47	1.13	0.62	0.57	0.81	0.57

# Intersection Summary

Beechwood SP 11: Creston Road & Niblick Road/Sherwood Road

Near Term AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	4	1	1	1	-	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b>	7	7	<b>↑</b> ↑		ሻ	<b>↑</b> ↑		ሻ	۴ß	
Traffic Volume (veh/h)	125	342	125	63	541	409	199	456	40	243	266	285
Future Volume (veh/h)	125	342	125	63	541	409	199	456	40	243	266	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.91	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	136	372	136	68	588	445	216	496	43	264	289	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	172	575	481	88	494	374	260	700	60	306	426	377
Arrive On Green	0.10	0.31	0.31	0.05	0.27	0.27	0.15	0.22	0.22	0.18	0.25	0.25
Sat Flow, veh/h	1739	1826	1526	1739	1853	1401	1739	3201	276	1739	1735	1536
Grp Volume(v), veh/h	136	372	136	68	550	483	216	268	271	264	289	310
Grp Sat Flow(s), veh/h/ln	1739	1826	1526	1739	1735	1520	1739	1735	1743	1739	1735	1536
Q Serve(q_s), s	5.7	13.2	5.0	2.9	20.0	20.0	9.1	10.7	10.8	11.1	11.3	14.3
Cycle Q Clear(q_c), s	5.7	13.2	5.0	2.9	20.0	20.0	9.1	10.7	10.8	11.1	11.3	14.3
Prop In Lane	1.00		1.00	1.00		0.92	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	172	575	481	88	462	405	260	379	381	306	426	377
V/C Ratio(X)	0.79	0.65	0.28	0.77	1.19	1.19	0.83	0.71	0.71	0.86	0.68	0.82
Avail Cap(c_a), veh/h	313	647	541	160	462	405	382	532	534	359	509	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	22.1	19.3	35.2	27.5	27.5	31.0	27.1	27.1	30.0	25.6	26.8
Incr Delay (d2), s/veh	7.9	1.9	0.3	13.4	105.6	108.2	9.7	2.5	2.6	17.0	2.8	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	5.4	1.7	1.5	21.1	18.8	4.3	4.4	4.5	5.8	4.7	6.0
Unsig. Movement Delay, s/veh		0.4	1.7	1.0	21.1	10.0	1.0	1.1	1.0	0.0	1.7	0.0
LnGrp Delay(d),s/veh	40.9	24.0	19.7	48.7	133.1	135.7	40.7	29.5	29.7	47.0	28.5	36.8
LnGrp LOS	D	C	В	D	F	F	D	C	C	D	C	D
Approach Vol, veh/h		644			1101			755			863	
Approach Delay, s/veh		26.7			129.0			32.8			37.1	
Approach LOS		20.7 C			F			C			D D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	20.9	8.3	28.1	15.7	22.9	11.9	24.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	23.0	6.9	26.6	16.5	22.0	13.5	20.0				
Max Q Clear Time (q_c+l1), s	13.1	12.8	4.9	15.2	11.1	16.3	7.7	22.0				
Green Ext Time (p_c), s	0.2	2.3	0.0	2.0	0.3	1.8	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			64.2									
LICM (+b LOC			Г									

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Int Delay, s/veh	8.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		44			4		*	ĵ.		*	<b></b>	7
Traffic Vol, veh/h	99	6	38	8	15	98	29	356	3	33	328	85
Future Vol. veh/h	99	6	38	8	15	98	29	356	3	33	328	85
Conflicting Peds, #/hr	1	0	0	0	0	1	6	0	2	2	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None		-	None
Storage Length		-	-	-		-	30			70	-	60
Veh in Median Storage	2.# -	0	-	-	0	-	-	0	-	-	0	-
Grade. %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	7	41	9	16	107	32	387	3	36	357	92
Major/Minor	Minor2			Minor1			Major1		- 1	Major2		
Conflicting Flow All	950	891	363	954	982	392	455	0	0	392	0	0
Stage 1	435	435		455	455	-	-				-	
Stage 2	515	456		499	527	-	-			-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12		-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52		6.12	5.52	-	-			-	-	
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52	-	-				-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	
Pot Cap-1 Maneuver	240	282	682	238	249	657	1106		-	1167	-	-
Stage 1	600	580		585	569	-	-			-	-	
Stage 2	543	568		554	528		-			-	-	
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	180	263	678	209	232	655	1100			1165	-	
Mov Cap-2 Maneuver	180	263	-	209	232	-	-	-	-	-	-	-
Stage 1	579	559	-	567	551	-		-		-	-	-
Stage 2	428	550	-	498	508	-	-	-	-	-	-	-
, and the second												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	49.5			15.3			0.6			0.6		
HCM LOS	Е			С								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR	EBLn1\		SBL	SBT	SBR			
Capacity (veh/h)		1100	-	-	227	479	1165	-	-			
HCM Lane V/C Ratio		0.029	-	-	0.685	0.275		-	-			
HCM Control Delay (s)		8.4	-	-	49.5	15.3	8.2	-	-			
HCM Lane LOS		Α	-	-	Е	С	Α	-	-			
HCM 95th %tile Q(veh	)	0.1	-	-	4.4	1.1	0.1	-	-			

-												
Intersection												
Intersection Delay, s/veh	17.7											
Intersection LOS	С											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ર્શ	7		414
Traffic Vol, veh/h	20	9	5	213	5	191	0	4	177	111	197	167
Future Vol, veh/h	20	9	5	213	5	191	0	4	177	111	197	167
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	10	5	232	5	208	0	4	192	121	214	182
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	10.8			22.5				12.4			17.2	
HCM LOS	В			С				В			С	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		2%	0%	59%	52%	70%	0%					
Vol Thru, %		98%	0%	26%	1%	30%	89%					
Vol Right, %		0%	100%	15%	47%	0%	11%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		181	111	34	409	281 197	94					
LT Vol Through Vol		4 177	0	20	213	197	0 84					
RT Vol		0	111	5	191	0	10					
Lane Flow Rate		197	121	37	445	305	102					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.371	0.203	0.074	0.718	0.588	0.184					
Departure Headway (Hd)		6.782	6.054	7.194	5.817	6.937	6.501					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Cap		525	586	501	618	518	548					
Service Time		4.582	3.853	5.194	3.9	4.728	4.292					
HCM Lane V/C Ratio		0.375	0.206	0.074	0.72	0.589	0.186					
HCM Control Delay		13.6	10.4	10.8	22.5	19.3	10.8					
HCM Lane LOS		В	В	В	22.5 C	C	В					
HCM 95th-tile Q		1.7	0.8	0.2	6	3.7	0.7					

Beechwood SP

HCM 95th %tile Q(veh)

14: Creston Road & Charolais Road

Intersection	
Intersection Delay, s/veh	
Intersection LOS	
Movement	SBR
Lactions	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	11
Number of Lanes	0
Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	i
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	
TICW LOS	

Intersection						
Intersection	4.9					
Int Delay, s/veh	4.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	7	44	<b>↑</b>	7
Traffic Vol, veh/h	155	81	123	137	90	295
Future Vol, veh/h	155	81	123	137	90	295
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	145	105	-	-	0
Veh in Median Storag	e,# 0	-	-	0	0	-
Grade, %	0			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	168	88	134	149	98	321
IVIVIIIL I IUW	100	00	134	147	70	321
Major/Minor	Minor2		Major1	- 1	Major2	
Conflicting Flow All	441	98	419	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	2.2285	-	-	-
Pot Cap-1 Maneuver	557	954	1132	-		-
Stage 1	923	-	-	-	-	-
Stage 2	688		-	-	-	-
Platoon blocked, %	000					
Mov Cap-1 Maneuver	491	954	1132			
Mov Cap-2 Maneuver	491	754	1132	_		_
Stage 1	814					
	688	- 1	-		-	
Stage 2	688	-		-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.7		4.1		0	
HCM LOS	В					
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1		SBT
Capacity (veh/h)		1132	-	491	954	
HCM Lane V/C Ratio		0.118	-	0.343	0.092	-
HCM Control Delay (s	)	8.6	-	16.1	9.2	-
HCM Lane LOS		Α	-	С	Α	-

Analysis Period (min)

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

Beechwood SP 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road Near Term AM Queues

<b>≯</b>	-	1	-	*	4	<b>†</b>	-	-	Ų.	
EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
20	325	1118	287	470	91	293	574	330	276	
0.09	0.69	0.75	0.36	0.42	0.59	0.64	0.34	0.66	0.42	
55.2	50.2	34.7	26.6	2.2	76.1	60.5	5.2	59.1	44.9	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
55.2	50.2	34.7	26.6	2.2	76.1	60.5	5.2	59.1	44.9	
16	110	388	154	0	76	127	38	139	105	
44	176	571	271	43	#158	192	65	208	155	
	521		1372			611			680	
115		515		115	165		290	305		
300	627	1758	954	1173	179	682	1852	693	1016	
0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	
0.07	0.52	0.64	0.30	0.40	0.51	0.43	0.31	0.48	0.27	
	20 0.09 55.2 0.0 55.2 16 44 115 300 0	20 325 0.09 0.69 55.2 50.2 0.0 0.0 55.2 50.2 16 110 44 176 521 115 300 627 0 0 0 0	20 325 1118 0.09 0.69 0.75 55.2 50.2 34.7 0.0 0.0 0.0 55.2 50.2 34.7 16 110 388 44 176 571 521 115 515 300 627 1758 0 0 0 0 0 0	20         325         1118         287           0.09         0.69         0.75         0.36           55.2         50.2         34.7         26.6           0.0         0.0         0.0         0.0           55.2         50.2         34.7         26.6           16         110         388         154           44         176         571         271           15         515         300         627         1758         954           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0	20         325         1118         287         470           0.09         0.69         0.75         0.36         0.42           55.2         50.2         34.7         26.6         2.2           0.0         0.0         0.0         0.0         0.0           55.2         50.2         34.7         26.6         2.2           16         110         388         154         0           44         176         571         271         43           521         1372         115         115           300         627         1758         954         1173           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0	20         325         1118         287         470         91           0.09         0.69         0.75         0.36         0.42         0.59           55.2         50.2         34.7         26.6         2.2         76.1           0.0         0.0         0.0         0.0         0.0         0.0           55.2         50.2         34.7         26.6         2.2         76.1           16         110         388         154         0         76           44         176         571         271         43         #158           521         1372         115         165         300         627         1758         954         1173         179           0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0	20         325         1118         287         470         91         293           0.09         0.69         0.75         0.36         0.42         0.59         0.64           55.2         50.2         34.7         26.6         2.2         76.1         60.5           0.0         0.0         0.0         0.0         0.0         0.0           55.2         50.2         34.7         26.6         2.2         76.1         60.5           16         110         388         154         0         76         127           44         176         571         271         43         #158         192           521         1372         611           115         515         115         165           300         627         1758         954         1173         179         682           0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0	20         325         1118         287         470         91         293         574           0.09         0.69         0.75         0.36         0.42         0.59         0.64         0.34           55.2         50.2         34.7         26.6         2.2         76.1         60.5         5.2           0.0         0.0         0.0         0.0         0.0         0.0         0.0           55.2         50.2         34.7         26.6         2.2         76.1         60.5         5.2           16         110         388         154         0         76         127         38           44         176         571         271         43         #158         192         65           521         1372         1372         611         611         611         611           115         515         115         165         290           300         627         1758         954         1173         179         682         1852           0         0         0         0         0         0         0         0           0         0         0         0	20         325         1118         287         470         91         293         574         330           0.09         0.69         0.75         0.36         0.42         0.59         0.64         0.34         0.66           55.2         50.2         34.7         26.6         2.2         76.1         60.5         5.2         59.1           0.0 <t< td=""><td>20         325         1118         287         470         91         293         574         330         276           0.09         0.69         0.75         0.36         0.42         0.59         0.64         0.34         0.66         0.42           55.2         50.2         34.7         26.6         2.2         76.1         60.5         5.2         59.1         44.9           16         110         388         154         0         76         127         38         139         105           44         176         571         271         43         #158         192         65         208         155           115         515         115         165         290         305           300         627         1758         954         1173         179         682         1852         693         1016           0         0         0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0         0         0</td></t<>	20         325         1118         287         470         91         293         574         330         276           0.09         0.69         0.75         0.36         0.42         0.59         0.64         0.34         0.66         0.42           55.2         50.2         34.7         26.6         2.2         76.1         60.5         5.2         59.1         44.9           16         110         388         154         0         76         127         38         139         105           44         176         571         271         43         #158         192         65         208         155           115         515         115         165         290         305           300         627         1758         954         1173         179         682         1852         693         1016           0         0         0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0         0         0

### Intersection Summary

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Near Term AM

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>†</b> 1>		1,1	<b>†</b>	7	*	<b>^</b>	77	ሻሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	18	184	115	1029	264	432	84	270	528	304	205	49
Future Volume (veh/h)	18	184	115	1029	264	432	84	270	528	304	205	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	200	125	1118	287	470	91	293	574	330	223	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	270	161	1377	745	815	116	570	1559	417	588	137
Arrive On Green	0.13	0.13	0.13	0.40	0.40	0.40	0.07	0.16	0.16	0.12	0.21	0.21
Sat Flow, veh/h	1781	2140	1277	3456	1870	1564	1781	3554	2790	3456	2860	666
Grp Volume(v), veh/h	20	164	161	1118	287	470	91	293	574	330	137	139
Grp Sat Flow(s), veh/h/ln	1781	1777	1640	1728	1870	1564	1781	1777	1395	1728	1777	1749
Q Serve(q s), s	1.0	9.4	10.0	30.3	11.5	21.8	5.3	8.0	12.1	9.8	7.0	7.2
	1.0			30.3	11.5	21.8	5.3	8.0	12.1	9.8	7.0	7.2
Cycle Q Clear(g_c), s		9.4	10.0		11.5			8.0			7.0	
Prop In Lane	1.00	004	0.78	1.00	7.45	1.00	1.00	F70	1.00	1.00	0/5	0.38
Lane Grp Cap(c), veh/h	225	224	207	1377	745	815	116	570	1559	417	365	360
V/C Ratio(X)	0.09	0.73	0.78	0.81	0.39	0.58	0.79	0.51	0.37	0.79	0.37	0.39
Avail Cap(c_a), veh/h	345	344	317	2019	1093	1105	206	782	1725	796	595	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	44.4	44.6	28.2	22.5	17.4	48.6	40.5	12.9	45.1	36.1	36.2
Incr Delay (d2), s/veh	0.2	4.6	6.4	1.7	0.3	0.6	11.0	0.7	0.1	3.4	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.4	4.4	12.1	4.9	7.4	2.6	3.4	7.4	4.4	3.1	3.2
Unsig. Movement Delay, s/veh	1											
LnGrp Delay(d),s/veh	40.9	49.0	51.1	29.9	22.9	18.1	59.6	41.2	13.1	48.5	36.7	36.8
LnGrp LOS	D	D	D	С	С	В	Е	D	В	D	D	D
Approach Vol, veh/h		345			1875			958			606	
Approach Delay, s/veh		49.5			25.8			26.1			43.1	
Approach LOS		D			С			С			D	
**	1					,						
Timer - Assigned Phs	17.4	22.7		17.9	5	27.5		8				
Phs Duration (G+Y+Rc), s	17.4				12.7			47.4				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 24	23.2		20.4	12.2	* 35		61.6				
Max Q Clear Time (g_c+l1), s	11.8	14.1		12.0	7.3	9.2		32.3				
Green Ext Time (p_c), s	0.9	2.9		1.3	0.1	1.6		9.7				
Intersection Summary												
HCM 6th Ctrl Delay			30.8									
HCM 6th LOS			С									
Notos												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Central Coast Transportation Consulting
Synchro 10 Report
Page 41

Beechwood SP 17: S. River Road & Niblick Road Near Term AM Queues

	•	$\rightarrow$	*	1	<b>—</b>		1	-	Į.
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	111	674	243	129	1352	600	358	310	432
v/c Ratio	0.54	0.53	0.34	0.66	0.96	0.83	0.65	0.84	0.73
Control Delay	61.5	30.9	5.0	64.7	47.5	52.9	47.1	62.2	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	30.9	5.0	64.7	47.5	52.9	47.1	62.2	42.4
Queue Length 50th (ft)	40	203	0	88	476	207	122	206	124
Queue Length 95th (ft)	74	291	58	#171	#716	292	171	#371	180
nternal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	206	1271	724	220	1412	774	839	411	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.53	0.34	0.59	0.96	0.78	0.43	0.75	0.48
ntersection Summary									

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	۶	$\rightarrow$	*	1	<b>←</b>	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>^</b>	7	*	<b>†</b> }		77	<b>†</b> 1>		*	<b>†</b> 1>	
Traffic Volume (veh/h)	102	620	224	119	968	276	552	276	53	285	253	144
Future Volume (veh/h)	102	620	224	119	968	276	552	276	53	285	253	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	674	243	129	1052	300	600	300	58	310	275	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1330	593	159	1131	320	682	509	97	344	369	204
Arrive On Green	0.05	0.37	0.37	0.09	0.41	0.41	0.20	0.17	0.17	0.19	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	2729	772	3456	2973	567	1781	2205	1222
Grp Volume(v), veh/h	111	674	243	129	682	670	600	178	180	310	220	212
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1725	1728	1777	1762	1781	1777	1650
Q Serve(q s), s	3.3	15.3	6.5	7.4	38.2	38.9	17.6	9.6	9.9	17.8	12.3	12.8
Cycle Q Clear(g_c), s	3.3	15.3	6.5	7.4	38.2	38.9	17.6	9.6	9.9	17.8	12.3	12.8
Prop In Lane	1.00	10.0	1.00	1.00	30.2	0.45	1.00	7.0	0.32	1.00	12.0	0.74
Lane Grp Cap(c), veh/h	169	1330	593	159	736	715	682	304	302	344	297	276
V/C Ratio(X)	0.66	0.51	0.41	0.81	0.93	0.94	0.88	0.58	0.60	0.90	0.74	0.77
Avail Cap(c_a), veh/h	215	1330	593	230	753	731	796	442	438	429	460	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	25.3	7.2	46.8	29.1	29.3	40.8	39.9	40.0	41.2	41.4	41.6
Incr Delay (d2), s/veh	4.8	0.3	0.5	13.3	17.3	19.4	10.0	1.8	1.9	18.8	3.6	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.2	4.0	3.8	18.7	18.9	8.2	4.2	4.3	9.3	5.5	5.4
Unsig. Movement Delay, s/veh		0.2	4.0	3.0	10.7	10.7	0.2	7.2	т.5	7.5	5.5	5.4
LnGrp Delay(d),s/veh	53.6	25.6	7.7	60.1	46.4	48.8	50.7	41.7	41.9	59.9	45.0	46.1
LnGrp LOS	D	23.0 C	Α.	E	D	70.0 D	D	D	D	57.7 E	43.0 D	D
Approach Vol, veh/h		1028			1481		U	958			742	
Approach Delay, s/veh		24.4			48.7			47.4			51.6	
Approach LOS		24.4 C			48.7 D			47.4 D			D D	
Approach LOS		C			D			U			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	43.6	25.1	22.0	9.6	47.8	24.7	22.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	37.3	24.1	27.1	6.5	44.3	25.2	26.0				
Max Q Clear Time (g_c+I1), s	9.4	17.3	19.6	14.8	5.3	40.9	19.8	11.9				
Green Ext Time (p_c), s	0.1	5.1	1.0	1.9	0.0	2.4	0.4	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			43.0									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	2.8					
	EDI	EDD	NBL	NBT	CDT	SBR
Movement Configurations	EBL	EBR	NBL		SBT	SBK
Lane Configurations Traffic Vol, veh/h		1	Е	<b>र्स</b> 768	210	11
	86	1	5		310 310	41
Future Vol, veh/h	86	1	5	768		41
Conflicting Peds, #/hr	0		0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage			-	0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	93	1	5	835	337	45
Major/Minor I	Minor2		Major1	N	Major2	
Conflicting Flow All	1205	361	382	0	viajoiz -	0
Stage 1	360	301	302	-		-
Stage 2	845					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.23	4.13			
Critical Hdwy Stg 2	5.43					
Follow-up Hdwy	3.527	3.327	2 227			
Pot Cap-1 Maneuver	202	681	1171			
	704	001	1171		-	
Stage 1	420				-	
Stage 2 Platoon blocked, %	420					
	200	/00	1171	-	-	-
Mov Cap-1 Maneuver	200	680	1171		-	-
Mov Cap-2 Maneuver	200	-	-	-	-	-
Stage 1	698		-	-	-	-
Stage 2	420	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	37.6		0.1		0	
HCM LOS	E		0.1		Ü	
TIGW E03						
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1171	-	202	-	-
HCM Lane V/C Ratio		0.005		0.468	-	
HCM Control Delay (s)	)	8.1	0	37.6	-	
HCM Lane LOS		Α	Α	Е	-	
HCM 95th %tile Q(veh	)	0		2.3	-	

Near Term AM

HCM 6th Signalized Intersection Summary

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1>	
Traffic Vol, veh/h	55	6	9	637	280	19
Future Vol. veh/h	55	6	9	637	280	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None		None
Storage Length	0			-		-
Veh in Median Storage	2. # 2			0	0	
Grade. %	0			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	60	7	10	692	304	21
	00	•	10	072	001	
Marian/Minan	Min 2		M-!1		4-10	
	Minor2		Major1		Najor2	
Conflicting Flow All	1027	315	325	0	-	0
Stage 1	315		-	-	-	
Stage 2	712	- ( 00	- 4.40	-		-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-			
Follow-up Hdwy		3.318		-	-	-
Pot Cap-1 Maneuver	260	725	1235	-		-
Stage 1	740	-	-	-	-	-
Stage 2	486		-	-		-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	725	1235	-	-	-
Mov Cap-2 Maneuver	432	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	14.4		0.1		0	
HCM LOS	В		0.1		U	
TION EOS						
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1235		450	-	-
HCM Lane V/C Ratio		0.008	-	0.147	-	-
HCM Control Delay (s)		7.9	0	14.4	-	-
HCM Lane LOS		Α	Α	В	-	-
TOTAL OF ILL OVER TO A TE		^		0.5		

HCM 95th %tile Q(veh)

Intersection						
Intersection	10./					
Intersection Delay, s/veh	19.6					
Intersection LOS	С					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		ĵ.			4
Traffic Vol, veh/h	21	557	86	7	237	46
Future Vol. veh/h	21	557	86	7	237	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	23	605	93	8	258	50
Number of Lanes	1	0	1	0	0	1
		0		3		
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	23.5		10.3		14.6	
HCM LOS	С		В		В	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	4%	84%		
Vol Thru, %		92%	0%	16%		
Vol Right, %		8%	96%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		93	578	283		
LT Vol		93	21	237		
Through Vol		86	0	23 <i>1</i> 46		
RT Vol		7	557			
			628	308		
Lane Flow Rate		101				
Geometry Grp		1	1	1		
Degree of Util (X)		0.168	0.803	0.499		
Departure Headway (Hd)		5.998	4.603	5.839		
Convergence, Y/N		Yes	Yes	Yes		
Cap		595	792	615		
Service Time		4.059	2.603	3.886		
HCM Lane V/C Ratio		0.17	0.793	0.501		
HCM Control Delay		10.3	23.5	14.6		
HCM Lane LOS		В	С	В		
HCM 95th-tile Q		0.6	8.5	2.8		

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EBL	EDI	WB1	WOR	SBL	SDR
Traffic Vol. veh/h	<u>ግ</u>	<b>T</b> 248	572	2	<b>'Y'</b>	7
Future Vol. veh/h	4	248	572	2	4	7
Conflicting Peds, #/hr	6	248	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	riee -	None	riee -	None	Stop -	None
Storage Length	50	NOTIC		None	0	NOUG
Veh in Median Storag		0	0		0	
Grade, %	e,# - -	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	4	270	622	2	4	8
IVIVIIIL FIUW	4	210	022	2	4	Ö
Major/Minor	Major1		Major2		Vinor2	
Conflicting Flow All	630	0	-	0	907	629
Stage 1		-	-	-	629	-
Stage 2	-	-	-	-	278	-
Critical Hdwy	4.12	-		-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-		-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	952	-			306	482
Stage 1	-	-			531	-
Stage 2	-	-			769	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	947				301	479
Mov Cap-2 Maneuver					301	-
Stage 1	-				526	
Stage 2					764	
olago z					.01	
A	ED		MP		CD	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		14.4	
HCM LOS					В	
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		947				394
HCM Lane V/C Ratio		0.005				0.03
HCM Control Delay (s	)	8.8				14.4
HCM Lane LOS	,	Α				В
HOMOSIL OUT O	,	A				0.4

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EDL	£B1	EDR	WDL	1	NON	INDL	4	NDK	SDL	3B1 <b>♣</b>	JDK
Traffic Vol, veh/h	16	235	1	1	527	24	3	0	1	33	0	44
Future Vol. veh/h	16	235	1	1	527	24	3	0	1	33	0	44
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	1100	1100	None	-	1100	None	Jiop -	Jiop	None	Jiop -	Jiop -	None
Storage Length	50		TVOTIC	50		IVOIIC			NOTIC -			IVOIIC
Veh in Median Storage,		0		-	0			0			0	
Grade. %	-	0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	17	255	1	1	573	26	3	0	1	36	0	48
IVIVIII TIOW	17	200			313	20	3	0		30	0	70
	Najor1			Major2			Minor1			Vinor2		
Conflicting Flow All	606	0	0	256	0	0	902	898	256	885	885	593
Stage 1	-	-	-	-		-	290	290		595	595	
Stage 2	-	-	-	-	-	-	612	608	-	290	290	-
Critical Hdwy	4.12	-	-	4.12		-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-		-	6.12	5.52	-	6.12	5.52	
	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	972	-	-	1309	-		259	279	783	266	284	506
Stage 1	-	-	-	-	-	-	718	672	-	491	492	-
Stage 2	-	-	-	-	-		480	486	-	718	672	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	966	-	-	1309	-	-	231	272	783	260	277	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	272	-	260	277	-
Stage 1	-	-	-	-	-	-	705	660	-	479	488	-
Stage 2	-	-		-	-	-	434	482	-	704	660	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0			18.1			18.1		
HCM LOS							С			С		
Minor Lone/Major Mumi		NIDI n1	EDI	EDT	EDD	WDI	WDT	WDD	CDI n1			
Minor Lane/Major Mvmi		NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		280	966	-	-	1309	-	-	359			
HCM Cartes Delay (a)		0.016			-	0.001			0.233			
HCM Control Delay (s)		18.1	8.8	-	-	7.8	-	-	18.1			
HCM Lane LOS		С	A	-	-	A	-		С			
HCM 95th %tile Q(veh)		0	0.1	-		0	-	-	0.9			

HCM LOS

Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio

HCM Control Delay (s)

HCM 95th %tile Q(veh)

HCM Lane LOS

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	<b>†</b>	î,	WOIL	W	ODIT
Traffic Vol, veh/h	4	261	543	2	6	5
Future Vol. veh/h	4	261	543	2	6	5
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	2,# -	0	0		0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	284	590	2	7	5
Major/Minor I	Major1	1	Major2		Vinor2	
Cardiation Flam All	/01	_			000	/00
Conflicting Flow All	601	0	-	0	892	600
Stage 1	- 601	-	-	-	600	- 600
		-	-			
Stage 1	-	-		-	600	-
Stage 1 Stage 2	-	-		-	600 292	-
Stage 1 Stage 2 Critical Hdwy	4.12	-		-	600 292 6.42	6.22
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1	4.12	-		-	600 292 6.42 5.42	6.22
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2	4.12	-			600 292 6.42 5.42 5.42	6.22
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy	4.12 - - 2.218	-	-	-	600 292 6.42 5.42 5.42 3.518	6.22
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver	4.12 - - 2.218 976	-	-		600 292 6.42 5.42 5.42 3.518 312	6.22 - - 3.318 501
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1	4.12 - - 2.218 976	-	-	-	600 292 6.42 5.42 5.42 3.518 312 548	6.22 - - 3.318 501
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2	4.12 - - 2.218 976		-		600 292 6.42 5.42 5.42 3.518 312 548	6.22 - - 3.318 501
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, %	4.12 - - 2.218 976		-		600 292 6.42 5.42 5.42 3.518 312 548 758	6.22 - - 3.318 501 -
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver	4.12 - 2.218 976 - -		-	-	600 292 6.42 5.42 5.42 3.518 312 548 758	6.22 - - 3.318 501 - - 497
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver	4.12 - - 2.218 976 - - 968		-	-	600 292 6.42 5.42 5.42 3.518 312 548 758	6.22 - 3.318 501 - - 497
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1	4.12 - - 2.218 976 - - 968 -		-	-	600 292 6.42 5.42 5.42 3.518 312 548 758 305 305 541	6.22 - 3.318 501 - - 497 -
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2	4.12 - - 2.218 976 - - - 968 -		-	-	600 292 6.42 5.42 5.42 3.518 312 548 758 305 305 541 751	6.22 - 3.318 501 - - 497 -
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1	4.12 - - 2.218 976 - - 968 -		-	-	600 292 6.42 5.42 5.42 3.518 312 548 758 305 305 541	6.22 - 3.318 501 - - 497 -

С

0.032

- 15.1

EBL EBT WBT WBR SBLn1

- - - C

0.004

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b>↑</b>	1	WDIC	W	JUIN
Traffic Vol, veh/h	56	211	410	35	19	135
Future Vol, veh/h	56	211	410	35	19	135
Conflicting Peds, #/hr	8	211	410	35	19	135
		Free	Free	Free		_
Sign Control	Free				Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	61	229	446	38	21	147
Maine/Mines	N A - ! 4	_	4-10		Almano.	
	Major1		Major2		Minor2	
Conflicting Flow All	492	0	-	0	824	473
Stage 1	-		-		473	-
Stage 2	-	-	-	-	351	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-		-	5.41	
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1077	-		-	344	593
Stage 1	-	-		-	629	
Stage 2					715	
Platoon blocked, %					. 10	
Mov Cap-1 Maneuver	1069				319	588
Mov Cap-1 Maneuver	1007				319	-
Stage 1					588	
	- 1				709	
Stage 2			-	-	/09	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.8		0		14.8	
HCM LOS					В	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1069	-		-	533
HCM Lane V/C Ratio		0.057	-		-	0.314
HCM Control Delay (s)	)	8.6			-	14.8
HCM Lane LOS		А				В
HCM 95th %tile Q(veh	1)	0.2				1.3
HOW JOHN JOHNE CE(VEH	'/	0.2				1.3

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	LDL	4	LDIX	WDL	₩	WDIX	INDL	4	NDIX	JUL	4	JUK
Traffic Vol, veh/h	41	114	0	0	244	1	0	0	0	0	0	164
Future Vol. veh/h	41	114	0	0	244	1	0	0	0	0	0	164
Conflicting Peds, #/hr	8		0	0	0	8	0	0	0	0	0	0
Sign Control	Free		Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-		None	-	-	None	-	-	None
Storage Length						-						
Veh in Median Storage	2,# -	0			0	-		0			0	
Grade, %		0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	45	124	0	0	265	1	0	0	0	0	0	178
Major/Minor	Major1	r1 Major2				Minor1			Minor2			
Conflicting Flow All	274	0	0	124	0	0	569	488	124	488	488	274
Stage 1		-	-	121			214	214		274	274	
Stage 2							355	274		214	214	
Critical Hdwy	4.11			4.11			7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1		-		-			6.11	5.51		6.11	5.51	-
Critical Hdwy Stg 2		-		-			6.11	5.51		6.11	5.51	-
Follow-up Hdwy	2.209	-		2.209		-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1295	-		1469		-	434	482	929	492	482	767
Stage 1	-					-	790	727		734	685	
Stage 2	-				-	-	664	685	-	790	727	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1285	-	-	1469	-	-	323	460	929	474	460	761
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	460	-	474	460	-
Stage 1	-				-	-	760	699	-	701	680	-
Stage 2	-	-	-	-	-	-	508	680	-	760	699	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.1			0			0			11.2		
HCM LOS				_			A			В		
Minor Lane/Major Mvm	nt .	NBLn1	EBL	EBT	EBR	WBL	WBT	W/RD	SBLn1			
	IL		1285			1469		WDIX	761			
Capacity (veh/h)			0.035	-	-	1469	-	-	0.234			
HCM Lane V/C Ratio HCM Control Delay (s)		0	7.9	0	- 1	0		-	11.2			
HCM Lane LOS		A	7.9 A	A		A			11.2 B			
HCM 95th %tile Q(veh	)	А	0.1	A		0 0	-		0.9			
HOW YOUR WINE U(VEH	)	-	U. I	-	-	U	-	-	0.9			

257 1291 1300

0.39

0.3 28.5

0 366

0 561

1017 748

0 0

0.68

48.5

151

305

345

511

0

EBT WBT WBR

0.82

0.3 28.5

0.0 0.0

3312 2871

0.50 0.39 0.45 0.08

110

0.14

3.6 53.5 20.1

3.6 53.5 20.1

30 155

330

1299

0

115 231

0.0

450

0 0 0.23 0.23

0.37

0.0

80

179

Lane Group

v/c Ratio

Control Delay

Queue Delay

Lane Group Flow (vph)

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft) Internal Link Dist (ft)

Base Capacity (vph)
Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio

Intersection Summary

Turn Bay Length (ft)

Near Term PM Queues

# Beechwood SP 1: SR 46 E & Buena Vista Drive

Near Term PM HCM Signalized Intersection Capacity Analysis

	۶	-	<b>—</b>	•	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	44	<b>^</b>	7	*	7			
Traffic Volume (vph)	254	1278	1287	109	114	229			
Future Volume (vph)	254	1278	1287	109	114	229			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1656	3312	3312	1482	1656	1482			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1656	3312	3312	1482	1656	1482			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99			
Adj. Flow (vph)	257	1291	1300	110	115	231			
RTOR Reduction (vph)	0	0	0	57	0	26			
Lane Group Flow (vph)	257	1291	1300	53	115	205			
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases	-		-	6		4			
Actuated Green, G (s)	23.6	101.4	48.8	48.8	14.0	41.6			
Effective Green, g (s)	23.6	101.4	48.8	48.8	14.0	41.6			
Actuated g/C Ratio	0.23	1.00	0.48	0.48	0.14	0.41			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	385	3312	1593	713	228	608			
v/s Ratio Prot	c0.16	0.39	c0.39		0.07	0.14			
v/s Ratio Perm				0.04					
v/c Ratio	0.67	0.39	0.82	0.07	0.50	0.34			
Uniform Delay, d1	35.3	0.0	22.5	14.1	40.5	20.5			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	4.3	0.3	3.5	0.1	2.1	0.3			
Delay (s)	39.7	0.3	26.0	14.2	42.6	20.8			
Level of Service	D	Α	С	В	D	С			
Approach Delay (s)		6.9	25.1		28.0				
Approach LOS		Α	С		С				
Intersection Summary									
HCM 2000 Control Delay			16.9	H	CM 2000	Level of Servic	e	В	
HCM 2000 Volume to Capa	acity ratio		0.72						
Actuated Cycle Length (s)			101.4		um of los			15.0	
Intersection Capacity Utiliza	ation		69.2%	IC	U Level	of Service		С	
Analysis Period (min)			15						
! Phase conflict between	lane groups	S.							
Critical Lane Group									

971

533

1323

2189

0

0.44

0.52

56.8 37.0

56.8 37.0

69 324

139

225

0

268

0.37

4.9 56.7

4.9 56.7

0 18 298

60

485 125

0

0.26

1050

52 887

0.0

47 492

0

0.10

0.79

41.5

0.0

41.5

2509

2189

0

0.41

127

6.3 55.9

6.3 55.9

0 84

46 164

390

0

0.13

0.22

240

0.57

0.0

160

607 1259

0

0.40 0.21

268

0.32

35.7

0.0

35.7

77

146

853

0

193

0.52

56.8

0.0

56.8

68 207

137

140

607

0

311 312

54.5

0.0

54.5

389

451

0

0.32 0.46 0.43

0.57

14.6

0.0

37

148

726

0

0

14.6

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

Near Term PM Queues Beechwood SP 2: Golden Hill Road & SR 46 E Near Term PM
HCM 6th Signalized Intersection Summary

	ၨ	-	*	*	←	•	1	<b>†</b>	1	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	76.76	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>†</b> }		ሻሻ	<b>*</b>	7
Traffic Volume (veh/h)	190	942	260	50	860	123	233	213	47	187	302	303
Future Volume (veh/h)	190	942	260	50	860	123	233	213	47	187	302	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	196	971	268	52	887	127	240	220	48	193	311	312
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	276	1246	555	106	1193	532	326	731	156	275	442	375
Arrive On Green	0.08	0.37	0.37	0.03	0.35	0.35	0.10	0.26	0.26	0.08	0.25	0.25
Sat Flow, veh/h	3319	3413	1520	3319	3413	1521	3319	2795	598	3319	1796	1522
Grp Volume(v), veh/h	196	971	268	52	887	127	240	133	135	193	311	312
Grp Sat Flow(s), veh/h/ln	1659	1706	1520	1659	1706	1521	1659	1706	1687	1659	1796	1522
Q Serve(g_s), s	5.3	23.3	8.2	1.4	21.1	5.5	6.5	5.7	6.0	5.2	14.6	17.9
Cycle Q Clear(q_c), s	5.3	23.3	8.2	1.4	21.1	5.5	6.5	5.7	6.0	5.2	14.6	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	276	1246	555	106	1193	532	326	446	441	275	442	375
V/C Ratio(X)	0.71	0.78	0.48	0.49	0.74	0.24	0.74	0.30	0.31	0.70	0.70	0.83
Avail Cap(c a), veh/h	647	2587	1152	647	2587	1153	719	758	749	719	798	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	26.0	9.6	44.0	26.4	21.3	40.5	27.3	27.4	41.2	31.7	33.0
Incr Delay (d2), s/veh	3.4	1.1	0.7	1.3	0.9	0.2	3.3	0.4	0.4	3.3	2.1	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.5	4.0	0.6	7.7	1.9	2.7	2.3	2.3	2.2	6.3	6.8
Unsig. Movement Delay, s/veh		0.5	1.0	0.0	7.7	1.7	2.7	2.0	2.0	2.2	0.5	0.0
LnGrp Delay(d),s/veh	44.6	27.1	10.3	45.3	27.3	21.5	43.7	27.7	27.8	44.5	33.8	37.9
LnGrp LOS	D	C	В	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		1435	ь		1066			508			816	
Approach Delay, s/veh		26.4			27.5			35.3			37.9	
Approach LOS		20.4 C			27.5 C			33.3 D			37.9 D	
		C			C			D			U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	41.0	13.1	28.0	11.7	39.6	11.6	29.4				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+l1), s	3.4	25.3	8.5	19.9	7.3	23.1	7.2	8.0				
Green Ext Time (p_c), s	0.0	8.4	0.6	2.8	0.4	6.8	0.5	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Near Term PM

HCM 6th TWSC

nt Delay, s/veh	17.7												
Novement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
ane Configurations	ী	ħβ		- 1	ħβ			4	7		4	7	
raffic Vol, veh/h	0	1074	102	313	1015	0	18	0	381	0	0	0	
uture Vol, veh/h	0	1074	102	313	1015	0	18	0	381	0	0	0	
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-		None	-		None		-	None	-		None	
Storage Length	340	-	-	195	-	-	-	-	25	-	-	25	
/eh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	
leavy Vehicles, %	7	7	7	7	7	7	7	7	7	7	7	7	
/lvmt Flow	0	1107	105	323	1046	0	19	0	393	0	0	0	
Major/Minor M	nior1			Anior?		,	/linor1		ħ	Minor2			
	ajor1	0		Major2	0	0	2329	2853			2005	524	
	1047	0	0	1212					606	2247	2905	524	
Stage 1		-	-		-	-	1160	1160	-	1693	1693	-	
Stage 2	4 2 4	-	-	4.24	-	-	1169	1693	7.04	554	1212	7.04	
Critical Hdwy	4.24	-		4.24	-	-	7.64	6.64	7.04	7.64	6.64	7.04	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	5.64	-	6.64	5.64		
Critical Hdwy Stg 2	-		-	- 0.07		-	6.64	5.64	- 0.07	6.64	5.64	-	
ollow-up Hdwy	2.27	-	-	2.27	-	-	3.57	4.07	3.37	3.57	4.07	3.37	
Pot Cap-1 Maneuver	631	-	-	544		-	~ 18	15	428	21	14	485	
Stage 1	-	-	-	-	-	-	200	258	-	92	140	-	
Stage 2	-		-	-		-	197	140	-	472	243	-	
Platoon blocked, %		-	-		-	-							
Nov Cap-1 Maneuver	630	-	-	544		-	~ 9	6	428	1	6	485	
Nov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	6	-	1	6	-	
Stage 1	-		-	-		-	200	258	-	92	57	-	
Stage 2	-	-	-	-	-	-	80	57	-	39	243	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			4.9			112.7			0			
HCM LOS							F			A			
IOW EOS										/(			
Minor Lane/Major Mvmt	- 1	VBLn1 I		EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1	SBLn2		
Capacity (veh/h)		9	428	630	-	-	544	-	-	-	-		
HCM Lane V/C Ratio		2.062		-	-	-	0.593	-	-	-	-		
HCM Control Delay (s)	\$ 1	1298.3	56.7	0	-	-	20.8	-	-	0	0		
HCM Lane LOS		F	F	Α	-	-	С	-	-	Α	Α		
HCM 95th %tile Q(veh)		3.3	10.1	0			3.8						

Intersection	_		_				
Intersection	6.1						
Int Delay, s/veh	b. I						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	ሻ	<b>^</b>	<b>^</b>	7	ሻ	7	
Traffic Vol, veh/h	280	1176	971	13	11	356	
Future Vol, veh/h	280	1176	971	13	11	356	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	580	-	-	165	0	25	
Veh in Median Storage	,# -	0	0		2	-	
Grade. %	-	0	0		0		
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	10	10	10	10	10	10	
Mymt Flow	298	1251	1033	14	12	379	
	2,0	1201	.000			0.7	
	Major1		Major2		Minor2		
Conflicting Flow All	1047	0	-	0	2255	517	
Stage 1	-	-	-	-	1033	-	
Stage 2	-	-	-	-	1222	-	
Critical Hdwy	4.3	-	-	-	7	7.1	
Critical Hdwy Stg 1	-	-	-	-	6	-	
Critical Hdwy Stg 2	-		-		6	-	
Follow-up Hdwy	2.3	-	-	-	3.6	3.4	
Pot Cap-1 Maneuver	615		-		31	483	
Stage 1	-		-		287		
Stage 2	-		-		226		
Platoon blocked, %			-				
Mov Cap-1 Maneuver	615				16	483	
Mov Cap-2 Maneuver	-		-		116	-	
Stage 1					148		
Stage 2					226		
			1115		-		
Approach	EB		WB		SB		
HCM Control Delay, s	3.1		0		34.6		
HCM LOS					D		
Minor Lane/Major Mvm	ıt	EBL	EBT	WBT	WRP	SBLn1	SRI n2
Capacity (veh/h)		615	LDI	WDI	WOIL	116	483
		0.484	- 1				0.784
HCM Control Dolay (c)		16.2	-	-	-	39.5	34.5
HCM Control Delay (s)			-				
HCM Lane LOS		C	-	-	-	E	D
HCM 95th %tile Q(veh)	)	2.6	-	-	-	0.3	7.1

HCM Control Delay (s)

HCM Lane LOS HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	7	ħβ			र्स	7		4	
Traffic Vol, veh/h	0	1176	11	1	968	0	17	0	4	0	0	1
Future Vol, veh/h	0	1176	11	1	968	0	17	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None	-	-	None		-	None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	1212	11	1	998	0	18	0	4	0	0	1
Major/Minor N	Najor1		1	Major2			Vinor1		1	√linor2		
Conflicting Flow All	998	0	0	1223	0	0	1713	2212	606	1606	2223	499
Stage 1	-	-	-	-	-	-	1212	1212	-	1000	1000	-
Stage 2	-	-	-	-	-	-	501	1000	-	606	1223	-
Critical Hdwy	4.34	-	-	4.34	-	-	7.74	6.74	7.14	7.74	6.74	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-
Critical Hdwy Stg 2	-		-	-	-		6.74	5.74	-	6.74	5.74	-
Follow-up Hdwy	2.32	-	-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42
Pot Cap-1 Maneuver	632		-	513			52	38	416	63	38	491
Stage 1	-	-	-	-	-	-	178	234	-	242	298	-
Stage 2	-	-	-	-	-	-	496	298	-	427	231	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	632	-	-	513	-	-	52	38	416	62	38	491
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	176	-	205	175	-
Stage 1	-	-	-	-	-	-	178	234		242	297	-
Stage 2	-	-	-	-	-	-	494	297	-	423	231	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			26.8			12.3		
HCM LOS							D			В		
Minor Lane/Major Mvmt	t I	VBLn1 I		EBL	EBT	EBR	WBL	WBT	WBR S			
Capacity (veh/h)		162	416	632	-	-	513	-	-	491		
HCM Lane V/C Ratio		0.108	0.01	-	-	-	0.002	-	-	0.002		
HCM Control Dolay (c)		20.0	12 7	Λ			12			122		

29.9 13.7 0 - 12 - 12.3 D B A - B - B

Intersection				
Intersection Delay, s/veh	19.7			
Intersection LOS	С			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	396	653	640	601
Demand Flow Rate, veh/h	401	659	647	607
Vehicles Circulating, veh/h	824	417	368	595
Vehicles Exiting, veh/h	378	598	857	481
Ped Vol Crossing Leg, #/h	1	1	1	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	21.2	17.8	15.1	25.8
Approach LOS	С	С	С	D
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	401	659	647	607
Cap Entry Lane, veh/h	595	902	948	752
		0.991	0.989	0.991
	0.989	*****		*****
Entry HV Adj Factor Flow Entry, veh/h	396	653	640	601
Flow Entry, veh/h Cap Entry, veh/h	396 589	653 893	640 938	601 745
Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	396 589 0.674	653 893 0.731	640 938 0.683	601 745 0.807
Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	396 589 0.674 21.2	653 893 0.731 17.8	640 938 0.683 15.1	601 745 0.807 25.8
Flow Entry, veh/h Cap Entry, veh/h	396 589 0.674	653 893 0.731	640 938 0.683	601 745 0.807

Beechwood	SP			
7: Riverside	Ave	&	13th	Street

	•	-	1	-	*	1	<b>†</b>	1	1	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	484	255	437	627	6	47	281	336	343	110	
v/c Ratio	0.19	0.66	0.69	0.54	0.61	0.03	0.25	0.68	0.73	0.73	0.21	
Control Delay	53.1	39.2	45.9	24.6	4.9	43.5	45.8	14.8	41.6	41.7	4.2	
Queue Delay	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.1	39.2	45.9	25.3	5.2	43.5	45.8	14.8	41.6	41.7	4.2	
Queue Length 50th (ft)	12	129	133	161	0	3	25	0	176	181	0	
Queue Length 95th (ft)	44	236	268	372	78	17	69	80	358	365	28	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	113	1038	565	1027	1134	395	415	572	659	669	688	
Starvation Cap Reductn	0	0	9	291	138	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.19	0.47	0.46	0.59	0.63	0.02	0.11	0.49	0.51	0.51	0.16	
Intersection Summary												

Beechwood SP 7: Riverside Ave & 13th Street Near Term PM HCM 6th Signalized Intersection Summary

	۶	-	$\rightarrow$	•	•	4	1	<b>†</b>	1	-	Į.	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>∱</b> }		ሻ	<b>1</b>	7	ሻ	<b>1</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	20	424	31	240	411	589	6	44	264	555	84	103
Future Volume (veh/h)	20	424	31	240	411	589	6	44	264	555	84	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	451	33	255	437	627	6	47	281	654	0	110
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	39	946	69	291	792	655	312	327	277	774	0	343
Arrive On Green	0.02	0.28	0.28	0.16	0.42	0.42	0.17	0.17	0.17	0.22	0.00	0.22
Sat Flow, veh/h	1795	3383	247	1795	1885	1559	1795	1885	1598	3591	0	1590
Grp Volume(v), veh/h	21	238	246	255	437	627	6	47	281	654	0	110
Grp Sat Flow(s), veh/h/ln	1795	1791	1839	1795	1885	1559	1795	1885	1598	1795	0	1590
Q Serve(q_s), s	1.2	11.8	11.8	14.8	18.6	41.5	0.3	2.3	18.5	18.6	0.0	6.2
Cycle Q Clear(q_c), s	1.2	11.8	11.8	14.8	18.6	41.5	0.3	2.3	18.5	18.6	0.0	6.2
Prop In Lane	1.00	11.0	0.13	1.00	10.0	1.00	1.00	2.0	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	39	501	514	291	792	655	312	327	277	774	0	343
V/C Ratio(X)	0.54	0.48	0.48	0.88	0.55	0.96	0.02	0.14	1.01	0.85	0.00	0.32
Avail Cap(c a), veh/h	89	501	514	447	809	669	312	327	277	1096	0.00	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.6	31.9	31.9	43.6	23.3	30.0	36.5	37.3	44.0	40.1	0.0	35.2
Incr Delay (d2), s/veh	11.0	0.7	0.7	11.8	0.8	24.5	0.0	0.2	57.3	4.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.2	5.4	7.5	8.3	19.4	0.0	1.0	11.6	8.5	0.0	2.4
Unsig. Movement Delay, s/veh		J.Z	3.4	7.5	0.3	17.4	0.1	1.0	11.0	0.5	0.0	2.4
LnGrp Delay(d),s/veh	62.6	32.6	32.6	55.3	24.1	54.4	36.5	37.5	101.3	44.5	0.0	35.7
LnGrp LOS	02.0 E	32.0 C	32.0 C	55.5 E	24.1 C	D	30.3 D	37.3 D	101.5 F	44.3 D	Α	33.7 D
Approach Vol, veh/h		505			1319	U	U	334		U	764	
Approach Vol, ven/n Approach Delay, s/veh		33.8			44.5			91.2			43.2	
Approach Delay, s/ven Approach LOS		33.8 C			44.5 D			91.2 F			43.2 D	
								•			U	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.8	34.3		27.5	6.8	49.2		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	24.5		32.5	5.3	45.7		18.5				
Max Q Clear Time (g_c+I1), s	16.8	13.8		20.6	3.2	43.5		20.5				
Green Ext Time (p_c), s	0.5	2.2		2.3	0.0	1.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									
Nistan												

Notes
User approved volume balancing among the lanes for turning movement.

Beechwood SP	
8: Paso Robles Street	t & 13th Stree

	•	$\rightarrow$	1	-	•	1	1		-	↓	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	91	1245	20	1030	252	276	30	447	8	27	
v/c Ratio	0.40	0.67	0.14	0.68	0.33	0.65	0.05	0.76	0.02	0.04	
Control Delay	44.4	17.7	46.8	23.2	7.7	34.0	22.3	26.8	22.1	0.1	
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.4	18.3	46.8	23.2	7.7	34.0	22.3	26.8	22.1	0.1	
Queue Length 50th (ft)	45	194	10	222	22	124	11	141	3	0	
Queue Length 95th (ft)	109	438	38	382	87	233	33	286	14	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	324	2328	142	2102	993	757	1023	937	755	962	
Starvation Cap Reductn	0	614	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.73	0.14	0.49	0.25	0.36	0.03	0.48	0.01	0.03	
Intersection Summary											

Beechwood SP 8: Paso Robles Street & 13th Street Near Term PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	1	<b>←</b>	•	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	7	<b>†</b> 1>		ሻ	<b>^</b>	7	ሻ	<b>†</b>	7	ሻ	ĵ»	
Traffic Volume (veh/h)	85	1127	31	19	958	234	257	28	416	7	0	2
Future Volume (veh/h)	85	1127	31	19	958	234	257	28	416	7	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	91	1212	33	20	1030	0	276	30	447	8	0	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	
Cap, veh/h	119	1620	44	41	1476		543	616	522	396	0	52
Arrive On Green	0.07	0.46	0.46	0.02	0.41	0.00	0.33	0.33	0.33	0.33	0.00	0.3
Sat Flow, veh/h	1795	3559	97	1795	3582	1598	1394	1885	1598	925	0	159
Grp Volume(v), veh/h	91	610	635	20	1030	0	276	30	447	8	0	2
Grp Sat Flow(s), veh/h/ln	1795	1791	1865	1795	1791	1598	1394	1885	1598	925	0	159
Q Serve(q s), s	3.5	19.5	19.5	0.8	16.4	0.0	11.7	0.8	18.1	0.4	0.0	0.
Cycle Q Clear(g_c), s	3.5	19.5	19.5	0.8	16.4	0.0	12.5	0.8	18.1	1.2	0.0	0.
Prop In Lane	1.00	17.0	0.05	1.00	10.1	1.00	1.00	0.0	1.00	1.00	0.0	1.0
Lane Grp Cap(c), veh/h	119	815	849	41	1476	1.00	543	616	522	396	0	52
V/C Ratio(X)	0.77	0.75	0.75	0.48	0.70		0.51	0.05	0.86	0.02	0.00	0.0
Avail Cap(c_a), veh/h	324	1255	1307	143	2148		843	1021	866	595	0.00	86
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.0
Uniform Delay (d), s/veh	31.8	15.6	15.6	33.4	16.8	0.00	20.2	15.9	21.8	16.3	0.00	16.
Incr Delay (d2), s/veh	9.8	1.4	1.3	8.5	0.6	0.0	0.7	0.0	4.6	0.0	0.0	0.
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	1.8	7.3	7.6	0.0	6.2	0.0	3.6	0.0	6.8	0.0	0.0	0.1
Unsig. Movement Delay, s/veh		1.3	7.0	0.4	0.2	0.0	3.0	0.3	0.8	0.1	0.0	U.
unsig. Movement Delay, s/ven LnGrp Delay(d),s/veh	41.6	17.0	16.9	41.9	17.4	0.0	21.0	16.0	26.4	16.4	0.0	16.
						0.0					0.0	
LnGrp LOS	D	B	В	D	В	Α.	С	В	С	В	A	
Approach Vol, veh/h		1336			1050	Α		753			35	
Approach Delay, s/veh		18.6			17.9			24.0			16.1	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	36.0		27.1	9.1	33.0		27.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	48.5		37.5	12.5	41.5		37.5				
Max Q Clear Time (q_c+l1), s	2.8	21.5		3.2	5.5	18.4		20.1				
Green Ext Time (p_c), s	0.0	10.0		0.1	0.1	8.0		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Central Coast Transportation Consulting

Synchro 10 Report Page 20 Beechwood SP 9: River Road & Creston Road Near Term PM Queues

	<b>→</b>	<b>→</b>	6	←	4	<b>†</b>	-	-	Ţ
			•		٠,		,		•
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	415	1217	63	736	278	227	67	72	570
v/c Ratio	0.68	0.77	0.40	0.62	0.61	0.27	0.14	0.45	0.75
Control Delay	46.4	26.1	55.9	29.6	50.0	35.5	0.6	58.2	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	26.1	55.9	29.6	50.0	35.5	0.6	58.2	27.2
Queue Length 50th (ft)	131	331	39	201	89	66	0	45	93
Queue Length 95th (ft)	211	482	94	303	154	112	0	104	171
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	813	2013	204	1637	548	1103	587	189	1038
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.60	0.31	0.45	0.51	0.21	0.11	0.38	0.55
Intersection Summary									
intersection suffillially									

Beechwood SP 9: River Road & Creston Road Near Term PM HCM 6th Signalized Intersection Summary

	۶	-	$\rightarrow$	•	<b>←</b>	*		<b>†</b>	1	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	16.56	<b>↑</b> ↑		ሻ	<b>†</b> 1>		ሻሻ	<b>^</b>	7	ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	394	800	356	60	621	78	264	216	64	68	216	32
Future Volume (veh/h)	394	800	356	60	621	78	264	216	64	68	216	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	(
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	415	842	0	63	654	82	278	227	67	72	227	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	
Cap, veh/h	581	1473		98	955	120	412	624	278	105	409	
Arrive On Green	0.17	0.41	0.00	0.05	0.30	0.30	0.12	0.17	0.17	0.06	0.11	0.0
Sat Flow, veh/h	3483	3676	0.00	1795	3197	400	3483	3582	1598	1795	3676	0.0
Grp Volume(v), veh/h	415	842	0	63	366	370	278	227	67	72	227	
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1807	1742	1791	1598	1795	1791	
Q Serve(q s), s	6.7	10.8	0.0	2.1	10.7	10.8	4.6	3.3	2.2	2.3	3.6	0.
Cycle Q Clear(g_c), s	6.7	10.8	0.0	2.1	10.7	10.8	4.6	3.3	2.2	2.3	3.6	0.
Prop In Lane	1.00	10.0	0.00	1.00	10.7	0.22	1.00	3.3	1.00	1.00	3.0	0.0
Lane Grp Cap(c), veh/h	581	1473	0.00	98	535	539	412	624	278	1.00	409	0.0
V/C Ratio(X)	0.71	0.57		0.65	0.68	0.69	0.67	0.36	0.24	0.69	0.55	
Avail Cap(c a), veh/h	1256	3214		316	1277	1288	847	1700	758	292	1412	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.0
			0.00	27.6			25.2	21.7		27.5	25.0	
Uniform Delay (d), s/veh Incr Delay (d2), s/veh	23.5 1.6	13.5	0.0	7.0	18.4 1.6	18.4	1.9	0.4	21.2	7.7	1.2	0.
Initial Q Delay(d3),s/veh				0.0	0.0					0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0		0.0 4.2	0.0	0.0	0.0	1.1		0.
Unsig. Movement Delay, s/vel	2.7	3.9	0.0	1.0	4.1	4.2	1.8	1.3	0.8	1.1	1.4	0.
		40.0	0.0	24/	00.0	00.0	07.4	00.4	04.7	25.0	0/4	0
LnGrp Delay(d),s/veh	25.1	13.9	0.0	34.6	20.0	20.0	27.1	22.1	21.7	35.2	26.1	0.
LnGrp LOS	С	В		С	В	С	С	С	С	D	С	
Approach Vol, veh/h		1257	Α		799			572			299	1
Approach Delay, s/veh		17.6			21.1			24.5			28.3	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	29.0	11.6	11.3	14.4	22.3	8.0	14.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	53.5	14.5	23.5	21.5	42.5	9.7	28.3				
Max Q Clear Time (q c+l1), s	4.1	12.8	6.6	5.6	8.7	12.8	4.3	5.3				
Green Ext Time (p_c), s	0.0	7.2	0.6	1.1	1.2	4.9	0.1	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			С									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP 10: Creston Road & Golden Hill Road

EBT WBT

0.26

0.0 0.0

11.6 18.1

38 115

1151 2310

0

926

0.66

343

0

0.15 0.40 0.37 0.09

597

27.5

0.0

27.5

101

295

120

1610

0

73

9.0

0.0

9.0

0

40

782 0 0

0

58 446

0.25

39.5 11.6 18.1

39.5

21

88 149

125

322

0

Lane Group

Control Delay Queue Delay

v/c Ratio

Lane Group Flow (vph)

Total Delay
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn

Storage Cap Reductn Reduced v/c Ratio

Intersection Summary

Near Term PM Queues Beechwood SP 10: Creston Road & Golden Hill Road Near Term PM
HCM Signalized Intersection Capacity Analysis

	<b>*</b>	-	-	•	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>↑</b> ↑		ሻሻ	7			
Traffic Volume (vph)	56	433	460	438	579	71			
Future Volume (vph)	56	433	460	438	579	71			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.5	4.5	4.5	1700	4.5	4.5			
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00			
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00			
Frt	1.00	1.00	0.93		1.00	0.85			
Flt Protected	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1787	3574	3288		3467	1599			
Flt Permitted	0.95	1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1787	3574	3288		3467	1599			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97			
	58	446	474	452	597	73			
Adj. Flow (vph) RTOR Reduction (vph)	0	446	137	452	597	53			
Lane Group Flow (vph)	58	446	789	0	597	20			
Confl. Peds. (#/hr)	28	440	109	4	24/	20			
	10/	10/	10/		10/	10/			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%			
Turn Type	Prot	NA	NA		Perm	Perm			
Protected Phases	5	2	6						
Permitted Phases					4	4			
Actuated Green, G (s)	4.5	34.7	25.7		19.6	19.6			
Effective Green, g (s)	4.5	34.7	25.7		19.6	19.6			
Actuated g/C Ratio	0.06	0.49	0.36		0.28	0.28			
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	113	1751	1193		959	442			
v/s Ratio Prot	c0.03	0.12	c0.24						
v/s Ratio Perm					c0.17	0.01			
v/c Ratio	0.51	0.25	0.66		0.62	0.05			
Uniform Delay, d1	32.1	10.5	18.9		22.4	18.8			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.9	0.1	1.4		1.3	0.0			
Delay (s)	36.0	10.6	20.3		23.6	18.8			
Level of Service	D	В	С		С	В			
Approach Delay (s)		13.5	20.3		23.1				
Approach LOS		В	С		С				
Intersection Summary									
HCM 2000 Control Delay			19.6	Н	CM 2000	Level of Service	)	В	
HCM 2000 Volume to Capa	acity ratio		0.60						
Actuated Cycle Length (s)	,,		70.8	Sı	um of lost	t time (s)		18.0	
Intersection Capacity Utiliz	ation		58.9%			of Service		В	
Analysis Period (min)			15						
c Critical Lana Croup									

	<b>≯</b>	-	*	1	<b>←</b>	4	<b>†</b>	-	↓
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	167	591	285	116	807	183	358	367	569
v/c Ratio	0.64	1.03	0.42	0.58	0.86	0.68	0.55	1.02	0.68
Control Delay	46.4	78.1	5.6	48.5	34.1	48.1	31.5	90.3	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	78.1	5.6	48.5	34.1	48.1	31.5	90.3	31.2
Queue Length 50th (ft)	85	~376	0	60	168	93	85	~224	137
Queue Length 95th (ft)	154	#611	59	118	#300	#179	127	#414	193
Internal Link Dist (ft)		1092			186		1440		2310
Turn Bay Length (ft)	150			170		230		245	
Base Capacity (vph)	315	574	677	228	978	315	902	359	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	1.03	0.42	0.51	0.83	0.58	0.40	1.02	0.57

Beechwood SP 11: Creston Road & Niblick Road/Sherwood Road

Near Term PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	~	<b>/</b>	Ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	ሻ	<b>↑</b> ↑		ሻ	<b>↑</b> ↑		ሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	160	567	274	111	442	333	176	286	58	352	409	137
Future Volume (veh/h)	160	567	274	111	442	333	176	286	58	352	409	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	591	285	116	460	347	183	298	60	367	426	143
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	582	485	148	532	400	224	465	92	381	644	214
Arrive On Green	0.12	0.31	0.31	0.08	0.28	0.28	0.13	0.16	0.16	0.21	0.25	0.25
Sat Flow, veh/h	1781	1870	1560	1781	1914	1438	1781	2936	581	1781	2616	869
Grp Volume(v), veh/h	167	591	285	116	427	380	183	178	180	367	288	281
Grp Sat Flow(s),veh/h/ln	1781	1870	1560	1781	1777	1575	1781	1777	1741	1781	1777	1709
Q Serve(g_s), s	7.0	24.0	11.9	4.9	17.6	17.7	7.7	7.2	7.5	15.7	11.2	11.4
Cycle Q Clear(g_c), s	7.0	24.0	11.9	4.9	17.6	17.7	7.7	7.2	7.5	15.7	11.2	11.4
Prop In Lane	1.00		1.00	1.00		0.91	1.00		0.33	1.00		0.51
Lane Grp Cap(c), veh/h	207	582	485	148	494	438	224	281	275	381	437	421
V/C Ratio(X)	0.81	1.02	0.59	0.78	0.86	0.87	0.82	0.63	0.65	0.96	0.66	0.67
Avail Cap(c_a), veh/h	335	582	485	243	494	438	335	484	474	381	530	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	26.6	22.4	34.7	26.5	26.5	32.8	30.4	30.5	30.0	26.2	26.2
Incr Delay (d2), s/veh	7.2	41.2	1.8	8.7	14.7	16.8	9.2	2.4	2.6	36.4	2.2	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	16.3	4.2	2.4	8.8	8.1	3.8	3.1	3.2	10.2	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	67.8	24.2	43.3	41.2	43.3	42.0	32.7	33.1	66.4	28.4	28.7
LnGrp LOS	D	F	С	D	D	D	D	С	С	E	С	C
Approach Vol, veh/h		1043			923			541			936	
Approach Delay, s/veh		51.5			42.3			36.0			43.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	16.7	10.9	28.5	14.2	23.5	13.5	25.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	21.0	10.5	24.0	14.5	23.0	14.5	20.0				
Max Q Clear Time (g_c+I1), s	17.7	9.5	6.9	26.0	9.7	13.4	9.0	19.7				
Green Ext Time (p_c), s	0.0	1.5	0.1	0.0	0.2	2.4	0.2	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			44.4									

HCM 6th LOS D

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	1₃		ሻ	<b>*</b>	1
Traffic Vol, veh/h	111	4	7	4	1	38	17	277	10	48	341	133
Future Vol. veh/h	111	4	7	4	1	38	17	277	10	48	341	133
Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-		None	-		None
Storage Length			-			-	30	-	-	70		60
Veh in Median Storage	2,# -	0			0		-	0	-	-	0	-
Grade, %		0			0		-	0	-	-	0	
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mymt Flow	112	4	7	4	1	38	17	280	10	48	344	134
Major/Minor I	Minor2			Minor1		- 1	Wajor1		1	Major2		
Conflicting Flow All	788	769	349	832	898	289	483	0	0	290	0	0
Stage 1	445	445	-	319	319	-	-	-	-	-	-	-
Stage 2	343	324		513	579		-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51		6.11	5.51	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51		6.11	5.51		-	-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	310	333	697	290	280	752	1085	-	-	1278	-	
Stage 1	594	576		695	655		-	-	-	-	-	
Stage 2	674	651	-	546	502	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	279	314	694	273	264	749	1080	-	-	1278	-	
Mov Cap-2 Maneuver	279	314	-	273	264	-	-	-	-	-	-	-
Stage 1	582	551		684	645			-	-	-	-	-
Stage 2	626	641	-	516	480	-	-	-	-	-	-	-
Ÿ												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	26.3			11.2			0.5			0.7		
HCM LOS	D			В								
		. In		LIBE	· · ·		0.01	0.0.7	005			
Minor Lane/Major Mvm	nt	NBL	NBT		EBLn1\		SBL	SBT	SBR			
Capacity (veh/h)		1080	-	-	290	622	1278	-	-			
HCM Lane V/C Ratio		0.016	-	-	0.425	0.07		-	-			
HCM Control Delay (s)		8.4	-	-	26.3	11.2	7.9	-	-			
HCM Lane LOS		A	-		D	В	Α	-	-			
HCM 95th %tile Q(veh)	)	0	-	-	2	0.2	0.1	-	-			

Intersection												
Intersection Delay, s/veh	11.9											
Intersection LOS	В											
	501		500	11151	LLIOT	11100	NELL	NO	NOT		001	0.07
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4		400	- ♠			_	ની	7	440	47
Traffic Vol, veh/h	8	2	3	123	3	98	0	7	198	197	168	172
Future Vol, veh/h	8	2	3	123	3	98	0	7	198	197	168	172
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	9	2	3	132	3	105	0	8	213	212	181	185
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	9.6			12.2				10.9			12.9	
HCM LOS	Α			В				В			В	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		3%	0%	62%	55%	66%	0%					
Vol Thru, %		97%	0%	15%	1%	34%	88%					
Vol Right, %		0%	100%	23%	44%	0%	12%					
Sign Control		Stop	Stop	Stop	Stop	Cton	Cton					
Traffic Vol by Lane						Stop	Stop					
		205	197	13	224	254	98					
LT Vol		205 7	197 0	13								
					224	254	98					
LT Vol		7	0	8	224 123	254 168	98					
LT Vol Through Vol		7 198	0	8	224 123 3	254 168 86	98 0 86					
LT Vol Through Vol RT Vol		7 198 0	0 0 197	8 2 3	224 123 3 98	254 168 86 0	98 0 86 12					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp		7 198 0 220	0 0 197 212	8 2 3 14	224 123 3 98 241	254 168 86 0 273	98 0 86 12 105					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)		7 198 0 220 7	0 0 197 212 7	8 2 3 14 2	224 123 3 98 241 2	254 168 86 0 273	98 0 86 12 105 7					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd)		7 198 0 220 7 0.357	0 0 197 212 7 0.3	8 2 3 14 2 0.025	224 123 3 98 241 2 0.381	254 168 86 0 273 7 0.467	98 0 86 12 105 7 0.168					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N		7 198 0 220 7 0.357 5.828	0 0 197 212 7 0.3 5.101	8 2 3 14 2 0.025 6.396	224 123 3 98 241 2 0.381 5.694	254 168 86 0 273 7 0.467 6.161	98 0 86 12 105 7 0.168 5.739					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap		7 198 0 220 7 0.357 5.828 Yes	0 0 197 212 7 0.3 5.101 Yes	8 2 3 14 2 0.025 6.396 Yes	224 123 3 98 241 2 0.381 5.694 Yes	254 168 86 0 273 7 0.467 6.161 Yes	98 0 86 12 105 7 0.168 5.739 Yes					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time		7 198 0 220 7 0.357 5.828 Yes 617	0 0 197 212 7 0.3 5.101 Yes 705	8 2 3 14 2 0.025 6.396 Yes 558	224 123 3 98 241 2 0.381 5.694 Yes 631	254 168 86 0 273 7 0.467 6.161 Yes 584	98 0 86 12 105 7 0.168 5.739 Yes 625					
LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio		7 198 0 220 7 0.357 5.828 Yes 617 3.56 0.357	0 197 212 7 0.3 5.101 Yes 705 2.833 0.301	8 2 3 14 2 0.025 6.396 Yes 558 4.452 0.025	224 123 3 98 241 2 0.381 5.694 Yes 631 3.731 0.382	254 168 86 0 273 7 0.467 6.161 Yes 584 3.895 0.467	98 0 86 12 105 7 0.168 5.739 Yes 625 3.473 0.168					
LT Vol Through Vol RT Vol Lane Flow Rate		7 198 0 220 7 0.357 5.828 Yes 617 3.56	0 0 197 212 7 0.3 5.101 Yes 705 2.833	8 2 3 14 2 0.025 6.396 Yes 558 4.452	224 123 3 98 241 2 0.381 5.694 Yes 631 3.731	254 168 86 0 273 7 0.467 6.161 Yes 584 3.895	98 0 86 12 105 7 0.168 5.739 Yes 625 3.473					

Near Term PM HCM 6th AWSC

13: Creston Road & Alamo Creek Terrace/Meadowlark Road

Beechwood SP

14: Creston Road & Charolais Road

Near Term PM

HCM 6th TWSC

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBR			
Lactions				
Traffic Vol, veh/h	12			
Future Vol, veh/h	12			
Peak Hour Factor	0.93			
Heavy Vehicles, %	1			
Mvmt Flow	13			
Number of Lanes	0			
Approach				
Opposing Approach				
Opposing Lanes				
Conflicting Approach Left				
Conflicting Lanes Left				
Conflicting Approach Right				
Conflicting Lanes Right				
HCM Control Delay				
HCM LOS				

Intersection						
Int Delay, s/veh	6.3					
iiii belay, siveii						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	7	**	•	7
Traffic Vol, veh/h	256	121	67	146	118	180
Future Vol, veh/h	256	121	67	146	118	180
Conflicting Peds, #/hr	. 0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	145	105	-	-	0
Veh in Median Storag	je,# 0			0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	264	125	69	151	122	186
WITH TOW	204	120	07	101	122	100
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	336	122	308	0	-	0
Stage 1	122	-	-	-	-	-
Stage 2	214	-	-	-	-	-
Critical Hdwy	6.615	6.215	4.115	-	-	-
Critical Hdwy Stg 1	5.415	-		-		-
Critical Hdwy Stg 2	5.815					
Follow-up Hdwy	3.5095	3.3095	2.2095			
Pot Cap-1 Maneuver	649	932	1258			
Stage 1	906					
Stage 2	804					
Platoon blocked, %						
Mov Cap-1 Maneuve	r 613	932	1258			
Mov Cap-1 Maneuve		732	1230			
Stage 1	856					
Stage 2	804			- 1		
Staye 2	004	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.4		2.5		0	
HCM LOS	В					
		LIB	N.D.	- DI		0.05
Minor Lane/Major Mv	mt	NBL	NBT	EBLn1		SBT
Capacity (veh/h)		1258	-	613	932	
HCM Lane V/C Ratio		0.055	-	0.431	0.134	-
HCM Control Delay (s	s)	8	-	15.2	9.5	
HCM Lane LOS		Α	-	С	Α	-

HCM 95th %tile Q(veh) 0.2 - 2.2 0.5 -

10: 00 10: 05 110						,,,,,,						.,.
	۶	<b>→</b>	•	1	<b>←</b>	4	4	†	1	-	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ર્ની	7					f)	
Traffic Volume (veh/h)	27	0	109	0	166	14	0	0	0	0	283	34
Future Volume (Veh/h)	27	0	109	0	166	14	0	0	0	0	283	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	0	118	0	180	15	0	0	0	0	308	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	424	326	326	444	345	0	345			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	424	326	326	444	345	0	345			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	84	100	69	99	100			100		
cM capacity (veh/h)	406	593	717	439	580	1088	1220			1630		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	147	195	345									
Volume Left	29	0	0									
Volume Right	118	15	37									
cSH	623	614	1700									
Volume to Capacity	0.24	0.32	0.20									
Queue Length 95th (ft)	23	34	0									
Control Delay (s)	12.6	13.6	0.0									
Lane LOS	В	В										
Approach Delay (s)	12.6	13.6	0.0									
Approach LOS	В	В										
Intersection Summary												
Average Delay			6.5									
Intersection Capacity Utiliza	ation		43.9%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Synchro 10 Report Page 37 Central Coast Transportation Consulting Central Coast Transportation Consulting

Beechwood SP 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road Near Term PM Queues

	<b>≯</b>	-	•	-	•	4	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	52	419	696	193	425	99	368	1097	591	324	
v/c Ratio	0.18	0.74	0.66	0.34	0.42	0.58	0.69	0.82	0.77	0.34	
Control Delay	51.8	57.8	43.5	38.6	3.6	71.9	60.3	22.5	54.7	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.8	57.8	43.5	38.6	3.6	71.9	60.3	22.5	54.7	36.5	
Queue Length 50th (ft)	39	170	263	126	16	83	160	213	246	111	
Queue Length 95th (ft)	86	251	381	222	70	154	230	307	337	162	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	353	697	1168	633	1098	234	816	1427	991	1342	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.60	0.60	0.30	0.39	0.42	0.45	0.77	0.60	0.24	
Intersection Summary											

Synchro 10 Report Page 39

	۶	-	•	•	<b>←</b>	*	4	<b>†</b>	-	-	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b> 1>		77	<b>↑</b>	7	75	<b>^</b>	77	ሻሻ	ħβ	
Traffic Volume (veh/h)	50	305	102	675	187	412	96	357	1064	573	256	58
Future Volume (veh/h)	50	305	102	675	187	412	96	357	1064	573	256	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	52	314	105	696	193	425	99	368	1097	591	264	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	266	391	128	899	486	719	124	825	1373	683	1013	226
Arrive On Green	0.15	0.15	0.15	0.26	0.26	0.26	0.07	0.23	0.23	0.20	0.35	0.35
Sat Flow, veh/h	1795	2640	865	3483	1885	1572	1795	3582	2812	3483	2909	650
Grp Volume(v), veh/h	52	211	208	696	193	425	99	368	1097	591	161	163
Grp Sat Flow(s), veh/h/ln	1795	1791	1714	1742	1885	1572	1795	1791	1406	1742	1791	1768
Q Serve(q s), s	3.1	13.9	14.4	22.7	10.4	24.8	6.7	10.8	28.2	20.1	7.9	8.1
Cycle Q Clear(q c), s	3.1	13.9	14.4	22.7	10.4	24.8	6.7	10.8	28.2	20.1	7.9	8.1
Prop In Lane	1.00	10.7	0.50	1.00	10.1	1.00	1.00	10.0	1.00	1.00	***	0.37
Lane Grp Cap(c), veh/h	266	265	254	899	486	719	124	825	1373	683	624	616
V/C Ratio(X)	0.20	0.80	0.82	0.77	0.40	0.59	0.80	0.45	0.80	0.87	0.26	0.27
Avail Cap(c a), veh/h	358	357	342	1183	640	847	238	825	1373	1004	692	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	50.4	50.6	42.1	37.6	25.0	56.2	40.4	23.2	47.6	28.6	28.6
Incr Delay (d2), s/veh	0.4	8.6	11.0	2.4	0.5	0.8	11.1	0.4	3.4	5.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.9	7.0	9.8	4.8	9.0	3.3	4.7	17.3	9.2	3.4	3.5
Unsig. Movement Delay, s/veh											•	
LnGrp Delay(d),s/veh	46.1	59.0	61.5	44.5	38.1	25.8	67.2	40.8	26.7	53.2	28.8	28.9
LnGrp LOS	D	Е	Е	D	D	С	Е	D	С	D	С	С
Approach Vol, veh/h		471			1314			1564			915	
Approach Delay, s/veh		58.7			37.5			32.6			44.5	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.7	34.0		22.7	14.3	48.5		37.0				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 35	28.2		24.4	16.2	* 47		41.6				
Max Q Clear Time (q c+l1), s	22.1	30.2		16.4	8.7	10.1		26.8				
Green Ext Time (p_c), s	1.9	0.0		1.7	0.1	2.1		4.8				
	1.9	0.0		1.7	0.1	Z. I		4.0				
Intersection Summary HCM 6th Ctrl Delay			39.5									
HCM 6th LOS			39.5 D									
			D									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

	•	-	$\rightarrow$	•	<b>←</b>	1	<b>†</b>	-	Ţ	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	269	999	547	120	883	377	333	199	511	
v/c Ratio	0.61	0.79	0.62	0.59	0.74	0.69	0.47	0.72	0.73	
Control Delay	51.6	36.6	7.4	59.4	34.6	50.2	35.8	59.4	43.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.6	36.6	7.4	59.4	34.6	50.2	35.8	59.4	43.6	
Queue Length 50th (ft)	92	314	22	80	266	129	97	132	165	
Queue Length 95th (ft)	148	458	128	153	392	196	147	#233	234	
Internal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	533	1437	940	257	1375	671	965	346	962	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.70	0.58	0.47	0.64	0.56	0.35	0.58	0.53	

Near Term PM

Queues

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Beechwood SP

17: S. River Road & Niblick Road

Near Term PM

HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>—</b>	*	1	†	/	<b>/</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	<b>^</b>	7	ሻ	<b>↑</b> }		1,6	<b>∱</b> î≽		Ť	<b>∱</b> β	
Traffic Volume (veh/h)	258	959	525	115	703	145	362	237	83	191	362	129
Future Volume (veh/h)	258	959	525	115	703	145	362	237	83	191	362	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	269	999	547	120	732	151	377	247	86	199	377	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	364	1319	589	153	1033	213	482	525	178	241	508	178
Arrive On Green	0.10	0.37	0.37	0.09	0.35	0.35	0.14	0.20	0.20	0.13	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	2956	610	3483	2625	891	1795	2597	910
Grp Volume(v), veh/h	269	999	547	120	443	440	377	167	166	199	258	253
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1795	1791	1774	1742	1791	1725	1795	1791	1716
Q Serve(g_s), s	6.4	20.7	17.1	5.6	18.2	18.2	8.9	7.0	7.3	9.2	11.5	11.8
Cycle Q Clear(g_c), s	6.4	20.7	17.1	5.6	18.2	18.2	8.9	7.0	7.3	9.2	11.5	11.8
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.52	1.00		0.53
Lane Grp Cap(c), veh/h	364	1319	589	153	626	620	482	358	345	241	350	336
V/C Ratio(X)	0.74	0.76	0.93	0.78	0.71	0.71	0.78	0.46	0.48	0.83	0.74	0.75
Avail Cap(c_a), veh/h	636	1710	763	307	834	826	801	581	559	413	581	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	23.5	9.7	38.0	23.9	23.9	35.3	29.9	30.0	35.8	32.1	32.2
Incr Delay (d2), s/veh	3.0	1.5	15.2	8.4	1.8	1.9	2.8	0.9	1.0	7.1	3.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.2	7.3	2.7	7.4	7.3	3.8	2.9	3.0	4.3	5.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	24.9	24.8	46.5	25.7	25.7	38.1	30.9	31.1	42.8	35.1	35.6
LnGrp LOS	D	С	С	D	С	С	D	С	С	D	D	D
Approach Vol, veh/h		1815			1003			710			710	
Approach Delay, s/veh		27.1			28.2			34.8			37.4	
Approach LOS		С			С			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	35.7	16.2	21.1	13.4	34.1	15.9	21.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	40.5	19.5	27.5	15.5	39.5	19.5	27.5				
Max Q Clear Time (q c+l1), s	7.6	22.7	10.9	13.8	8.4	20.2	11.2	9.3				
Green Ext Time (p_c), s	0.1	8.5	0.9	2.4	0.5	5.2	0.3	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			30.4									
HCM 6th LOS			С									

Intersection						
Int Delay, s/veh	1.3					
	EBL	EBR	NBL	NBT	SBT	SBR
Movement  Lane Configurations	EBL	EBK	INBL			SBK
Traffic Vol, veh/h	<b>""</b> 51	2	4	<b>4</b> 49	702	88
Future Vol, veh/h		2	4	449	702 702	88
	51 0	0	1	449		88
Conflicting Peds, #/hr					0	
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-		-	-	-
Veh in Median Storage		-		0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	2	4	468	731	92
Maning/Minner	Minor2		14-11		4-10	
	1254	778	Major1 824	0	Major2	0
Conflicting Flow All		778	824	0	-	0
Stage 1	778				-	-
Stage 2	476		-		-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy		3.318	2.218	-	-	-
Pot Cap-1 Maneuver	190	396	806	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	396	805	-	-	-
Mov Cap-2 Maneuver	188	-	-			
Stage 1	449					
	624					
Stage 2	024				-	
Approach	EB		NB		SB	
HCM Control Delay, s	31.1		0.1		0	
HCM LOS	D					
N. 1 (N.4.) N.4.		NIDI	NDT	EDI 4	CDT	CDD
Minor Lane/Major Mvm	II .	NBL		EBLn1	SBT	SBR
Capacity (veh/h)		805	-	192	-	
HCM Lane V/C Ratio		0.005		0.288	-	-
HCM Control Delay (s)		9.5	0	31.1	-	-
		Α	Α	D		
HCM Lane LOS		А	^			
HCM Lane LOS HCM 95th %tile Q(veh)	)	0	-	1.1		-

HCM Lane V/C Ratio

HCM Lane LOS

HCM Control Delay (s)

HCM 95th %tile Q(veh)

0.015

- 0.116

A B

0 14.9 - -

Intersection	0.7					
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	î,	
Traffic Vol, veh/h	35	9	12	404	615	53
Future Vol, veh/h	35	9	12	404	615	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None		None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	, # 2		-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	10	13	439	668	58
Major/Minor I	Minor2		Major1		Anior?	
			Major1		Najor2	
Conflicting Flow All	1162	697	726	0	-	0
Stage 1	697	-	-	-		-
Stage 2	465		-	-	-	-
Critical Hdwy	6.43	6.23	4.13			-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43		-	-	-	-
Follow-up Hdwy		3.327		-	-	-
Pot Cap-1 Maneuver	215	439	872	-		-
Stage 1	492	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	211	439	872	-		-
Mov Cap-2 Maneuver	405	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	14.9		0.3		0	
HCM LOS	В		0.0		- 0	
200	٥					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		872	-	412	-	-

Intersection						
Intersection Delay, s/veh	40.6					
Intersection LOS	40.0 F					
	11151	11/05	ND=	N.D.F	0.01	007
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		ĵ»			ની
Traffic Vol, veh/h	9	330	89	25	531	90
Future Vol, veh/h	9	330	89	25	531	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	359	97	27	577	98
Number of Lanes	1	0	1	0	0	1
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	15.4		10.5		59.8	
HCM LOS	С		В		F	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	3%	86%		
Vol Thru, %		78%	0%	14%		
Vol Right, %		22%	97%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		114	339	621		
LT Vol		0	9	531		
Through Vol		89	0	90		
RT Vol		25	330	0		
Lane Flow Rate		124	368	675		
Geometry Grp		1	1	1		
Degree of Util (X)		0.203	0.562	1.008		
Departure Headway (Hd)		5.901	5.487	5.375		
Convergence, Y/N		Yes	Yes	Yes		
Cap		605	652	675		
Service Time		3.972	3.553	3.417		
HCM Lane V/C Ratio		0.205	0.564	3.417		
HCM Control Delay		10.5	15.4	59.8		
HCM Lane LOS		10.5 B	13.4 C	59.6 F		
HCM 95th-tile O		0.8	3.5	16.2		
TIGINI 75til-tile Q		0.0	3.3	10.2		

HCM 95th %tile Q(veh)

latana artian						
Intersection	0.2					
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	<b>†</b>	ĵ.		¥	
Traffic Vol, veh/h	5	546	331	5	4	9
Future Vol. veh/h	5	546	331	5	4	9
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	50	-		-	0	-
Veh in Median Storage	2.# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	5	593	360	5	4	10
IVIVIIILIIIOW	J	373	300	J	4	10
	Major1	1	Najor2	1	Vinor2	
Conflicting Flow All	379	0	-	0	980	377
Stage 1	-	-	-	-	377	-
Stage 2	-	-		-	603	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-		-	5.41	-
Critical Hdwy Stg 2	-	-		-	5.41	-
Follow-up Hdwy	2.209				3.509	3.309
Pot Cap-1 Maneuver	1185				278	672
Stage 1	1100				696	- 072
Stage 2			-		548	
Platoon blocked. %	-				J40	-
	11/0				270	112
Mov Cap-1 Maneuver	1169	-	-	-	270	663
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	541	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		13.1	
HCM LOS	0.1		U		В	
I IOW LOJ					D	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1169	-		-	458
HCM Lane V/C Ratio		0.005				0.031
HCM Control Delay (s)		8.1		-		13.1
HCM Lane LOS		A		-		В
HCM 05th %tile O(voh	1	0				0.1

Intersection												
Int Delay, s/veh	1.2											
-		EDT	EDD	WDI	WDT	WDD	NIDI	NDT	NDD	CDI	CDT	CDD
Movement  Lane Configurations	EBL	EBT	EBR	WBL	WBT ♣	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	34	514	2	2	307	20	1	0	1	19	0	28
Future Vol. veh/h	34	514	2	2	307	20	1	0	1	19	0	28
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None		- 100	None	-	-	None	-	-	None
Storage Length	50	-		50		-			-			-
Veh in Median Storage		0			0			0			0	
Grade, %		0			0	-		0			0	
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	36	541	2	2	323	21	1	0	1	20	0	29
Major/Minor I	Major1		1	Major2		1	Minor1		- 1	Minor2		
Conflicting Flow All	356	0	0	543	0	0	966	974	542	965	965	346
Stage 1	-	-		-		-	614	614		350	350	-
Stage 2	-		-		-		352	360		615	615	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53		6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1197		-	1021	-		233	251	538	233	254	695
Stage 1	-	-	-	-	-	-	477	481	-	664	631	-
Stage 2	-	-		-	-	-	663	625		477	481	
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1183		-	1021	-		217	240	538	224	243	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	240	-	224	243	-
Stage 1	-	-		-		-	463	467		636	623	-
Stage 2	-	-	-	-	-	-	633	617	-	462	467	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			16.7			16.1		
HCM LOS							С			С		
Minor Lane/Major Mvm	nt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		309	1183	-	-	1021	-	-	374			
HCM Lane V/C Ratio		0.007	0.03	-	-	0.002	-		0.132			
HCM Control Delay (s)		16.7	8.1	-	-	8.5	-	-	16.1			
HCM Lane LOS		С	Α	-	-	Α	-	-	С			

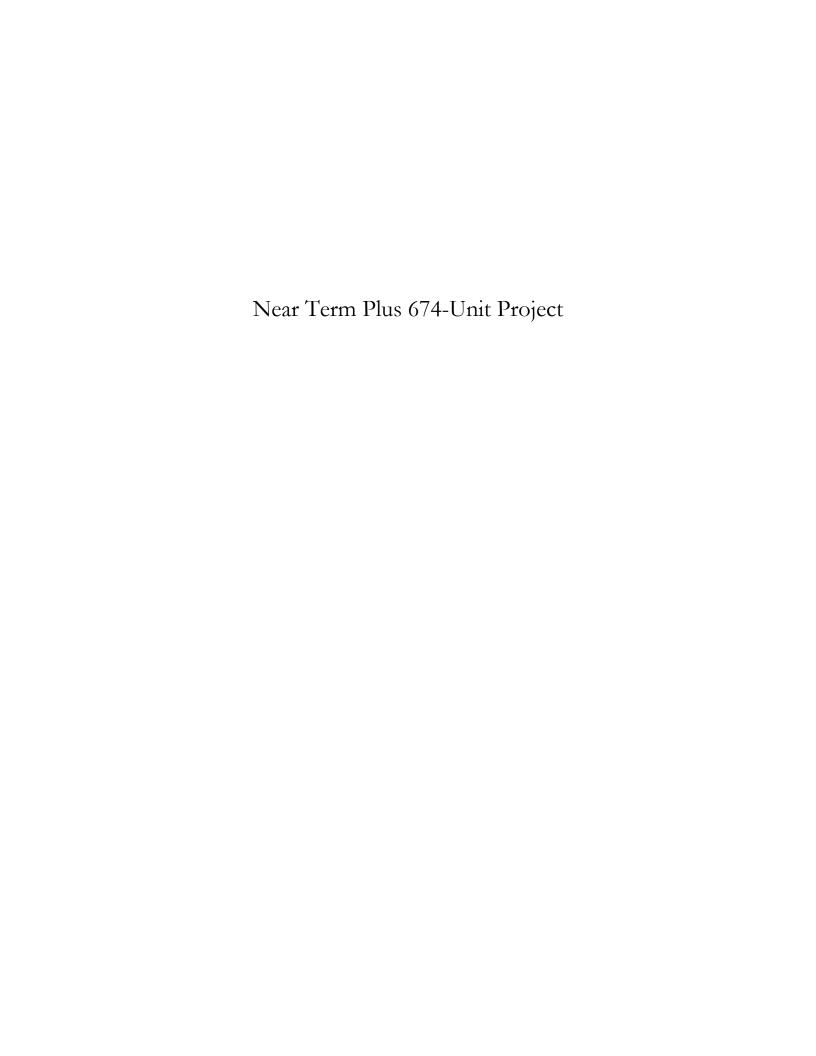
HCM 95th %tile Q(veh)

HCM 95th %tile Q(veh)

Interception						
Intersection	0.2					
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b></b>	ĥ		W	
Traffic Vol, veh/h	8	531	322	4	4	7
Future Vol. veh/h	8	531	322	4	4	7
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		-	None
Storage Length	50	-		-	0	-
Veh in Median Storage	e.# -	0	0	-	0	
Grade. %	-, -	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	9	577	350	4	4	8
IVIVIII I IOW	,	311	330	- 4	7	U
	Major1		/lajor2		Vinor2	
Conflicting Flow All	363	0	-	0	956	361
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	595	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2		-	-	-	5.41	-
Follow-up Hdwy	2.209	-		-	3.509	3.309
Pot Cap-1 Maneuver	1201	-	-	-	287	686
Stage 1	-	-		-	707	-
Stage 2		-		-	553	-
Platoon blocked. %						
Mov Cap-1 Maneuver	1191				280	680
Mov Cap-2 Maneuver					280	-
Stage 1					695	
Stage 2					548	
Stage 2					340	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		13.3	
HCM LOS					В	
Minor Lano/Major Mur	nt	EBL	EBT	WBT	WBR	CDI n1
Minor Lane/Major Mvr	III				WBR	
Capacity (veh/h)		1191	-	-	-	448
HCM Lane V/C Ratio	,	0.007	-	-		0.027
HCM Control Delay (s	)	8	-	-	-	13.3
HCM Lane LOS		Α	-	-	-	В
LIGHT OF ILL OVER TO A TE						0.4

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EDL			WBR	SBL W	JÖK
		100	<b>}</b>	17		00
Traffic Vol, veh/h	153	382	243	17	15	83
Future Vol, veh/h	153	382	243	17	15	83
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage	2,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	166	415	264	18	16	90
Major/Minor	Major1	Λ.	Aniora		Minor2	
			Major2			275
Conflicting Flow All	284	0	-	0	1022	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	747	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1284	-	-	-	263	766
Stage 1	-	-	-	-	774	-
Stage 2	-				470	
Platoon blocked %						
Platoon blocked, %	1282			-		765
Mov Cap-1 Maneuver		-	-		228	765
Mov Cap-1 Maneuver Mov Cap-2 Maneuver	-	-		-	228 228	765 -
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1		-			228 228 673	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver	-		-		228 228	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1					228 228 673	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1					228 228 673 469 SB	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2	-	-	-		228 228 673 469	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2			- - - -		228 228 673 469 SB	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s			- - - -		228 228 673 469 SB 12.9	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s HCM LOS	EB 2.4	- - - -	- - - -		228 228 673 469 SB 12.9	
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s HCM LOS  Minor Lane/Major Mvn	EB 2.4		WB 0	- - - - WBT	228 228 673 469 SB 12.9 B	SBLn1
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s HCM LOS  Minor Lane/Major Mvn Capacity (veh/h)	EB 2.4	1282	- - - - WB 0	- - - - - WBT	228 228 673 469 SB 12.9 B	SBLn1 562
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s HCM LOS  Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio	EB 2.4	1282 0.13		WBT	228 228 673 469 SB 12.9 B	SBLn1 562 0.19
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s HCM LOS  Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	EB 2.4	1282 0.13 8.2		WBT	228 228 673 469 SB 12.9 B	SBLn1 562 0.19 12.9
Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2  Approach HCM Control Delay, s HCM LOS  Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio	EB 2.4	1282 0.13		WBT	228 228 673 469 SB 12.9 B	SBLn1 562 0.19

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			44			4	
Traffic Vol, veh/h	60	210	0	0	144	0	0	0	0	2	0	103
Future Vol. veh/h	60	210	0	0	144	0	0	0	0	2	0	103
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None	- 100	-	None	-	-	None	otop -	otop -	None
Storage Length			-	-		-			-			-
Veh in Median Storage	. # -	0		-	0			0			0	
Grade. %		0		-	0			0			0	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mymt Flow	62	216	0	0	148	0	0	0	0	2	0	106
Major/Minor I	Major1			Majora			Minor1			Minor2		
Conflicting Flow All	Major1 149	0	0	Major2 216	0	0	Minor1 541	489	216	489	489	149
	149	-	U	210	-	U	340	340	210	149	149	149
Stage 1 Stage 2					- 1	- 1	201	149		340	340	
Critical Hdwy	4.11			4.11			7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	4.11			4.11			6.11	5.51	0.21	6.11	5.51	0.21
Critical Hdwy Stg 2							6.11	5.51		6.11	5.51	_
Follow-up Hdwy	2.209			2.209			3.509	4.009	3.309	3,509	4.009	3.309
Pot Cap-1 Maneuver	1439			1360			453	481	826	491	481	900
Stage 1	1437			1300	- 1		677	641	020	856	776	700
Stage 2							803	776		677	641	
Platoon blocked, %							003	110		011	0 7 1	
Mov Cap-1 Maneuver	1438			1360			385	457	826	472	457	899
Mov Cap-1 Maneuver	1430			1300			385	457	020	472	457	077
Stage 1							644	610		813	775	
Stage 2							708	775		644	610	
olugo z							, 50			0.1	0.0	
Annroach	ED			WD			ND			CD		
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.7			0			0			9.6		
HCM LOS							A			A		
Minor Lane/Major Mvm	nt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		-	1438		-	1360		-	884			
HCM Lane V/C Ratio		-	0.043	-	-	-	-	-	0.122			
HCM Control Delay (s)		0	7.6	0	-	0	-	-	9.6			
HCM Lane LOS		Α	Α	Α	-	Α	-	-	Α			
HCM 95th %tile Q(veh)	)	-	0.1	-		0	-	-	0.4			



## 1: SR 46 E & Buena Vista Drive

	•	-	←	*	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	252	1227	1280	135	163	263
v/c Ratio	0.72	0.38	0.83	0.18	0.62	0.42
Control Delay	56.1	0.3	31.5	3.6	58.7	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	0.3	31.5	3.6	58.7	22.4
Queue Length 50th (ft)	165	0	407	0	110	104
Queue Length 95th (ft)	#358	0	610	34	224	226
Internal Link Dist (ft)		942	856		514	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	457	3223	2616	1195	457	890
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.38	0.49	0.11	0.36	0.30

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	*	<b>^</b>	<b>^</b>	7	ሻ	7			
Traffic Volume (vph)	232	1129	1178	124	150	242			
Future Volume (vph)	232	1129	1178	124	150	242			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1612	3223	3223	1442	1612	1442			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1612	3223	3223	1442	1612	1442			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	252	1227	1280	135	163	263			
RTOR Reduction (vph)	0	0	0	70	0	27			
Lane Group Flow (vph)	252	1227	1280	65	163	236			
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	24.7	111.1	53.3	53.3	18.1	46.8			
Effective Green, g (s)	24.7	111.1	53.3	53.3	18.1	46.8			
Actuated g/C Ratio	0.22	1.00	0.48	0.48	0.16	0.42			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	358	3223	1546	691	262	607			
v/s Ratio Prot	c0.16	0.38	c0.40		c0.10	0.16			
v/s Ratio Perm				0.04					
v/c Ratio	0.70	0.38	0.83	0.09	0.62	0.39			
Uniform Delay, d1	39.8	0.0	24.9	15.7	43.3	22.2			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	6.2	0.3	4.0	0.1	4.8	0.4			
Delay (s)	46.0	0.3	28.9	15.8	48.1	22.7			
Level of Service	D	Α	С	В	D	С			
Approach Delay (s)		8.1	27.7		32.4				
Approach LOS		Α	С		С				
Intersection Summary									
HCM 2000 Control Delay			19.6	Н	CM 2000	Level of Service		В	
HCM 2000 Volume to Capa	acity ratio		0.76						
Actuated Cycle Length (s)			111.1		um of lost		1	5.0	
	itersection Capacity Utilization		66.6%	IC	CU Level o	of Service		С	
Analysis Period (min)			15						
! Phase conflict between	lane groups	i.							

Intersection Summary				
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	В	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	111.1	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	66.6%	ICU Level of Service	С	
Analysis Period (min)	15			
! Phase conflict between lane groups.				

c Critical Lane Group

Beechwood SP

1: SR 46 E & Buena Vista Drive

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

227 850

55.4 32.4

55.4

80 288

149

225

529 2122

0

0.63

32.4

432

1323

0

0.40

313

0.40

4.8 48.1

4.8 48.1

0 12 326

64

485 125

0

0.30

1058

39

35 487

0

0.82

39.8

0.0

39.8

2509

2122

0

0.45

186

0.29

5.0 54.0

5.0 54.0

49 192

390

0

304 328

0.63

0.0 0.0

106

160

0

0.52 0.27

0.42

39.1

39.1

103

181

853

0

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

Near Term Plus 674 Unit Project AM

93 188 151

0.41

10.6

0.0

10.6

0

61

649

0

0

0.35 0.65

57.8

0.0

57.8 57.1

33 128

73 242

140

0

57.1

0.0

0

0.16 0.29 0.23

Beechwood SP 2: Golden Hill Road & SR 46 E Near Term Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>†</b> }		77	<b>*</b>	7
Traffic Volume (veh/h)	209	782	288	36	882	171	280	283	18	86	173	139
Future Volume (veh/h)	209	782	288	36	882	171	280	283	18	86	173	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	227	850	313	39	959	186	304	308	20	93	188	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	317	1134	506	293	1243	554	402	702	45	156	255	216
Arrive On Green	0.10	0.34	0.34	0.09	0.38	0.38	0.13	0.22	0.22	0.05	0.15	0.15
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	3144	203	3209	1737	1472
Grp Volume(v), veh/h	227	850	313	39	959	186	304	161	167	93	188	151
Grp Sat Flow(s), veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1697	1605	1737	1472
Q Serve(q_s), s	5.6	18.6	8.6	0.9	20.8	7.4	7.5	6.8	6.9	2.3	8.4	8.0
Cycle Q Clear(q_c), s	5.6	18.6	8.6	0.9	20.8	7.4	7.5	6.8	6.9	2.3	8.4	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	317	1134	506	293	1243	554	402	369	379	156	255	216
V/C Ratio(X)	0.72	0.75	0.62	0.13	0.77	0.34	0.76	0.44	0.44	0.60	0.74	0.70
Avail Cap(c_a), veh/h	708	2832	1263	708	2832	1263	787	829	853	787	873	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	23.7	8.0	34.1	22.3	18.1	34.5	27.3	27.3	38.0	33.3	33.1
Incr Delay (d2), s/veh	3.0	1.0	1.2	0.1	1.0	0.4	2.9	0.8	0.8	3.6	4.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.4	4.3	0.3	7.0	2.3	2.9	2.6	2.7	0.9	3.7	2.9
Unsig. Movement Delay, s/veh	2	0.1	110	0.0	7.0	2.0	2.7	2.0	2.7	0.7	0.7	2.7
LnGrp Delay(d),s/veh	38.7	24.7	9.2	34.2	23.4	18.5	37.4	28.1	28.1	41.6	37.4	37.1
LnGrp LOS	D	C	A	C	C	В	D	C	C	D	D	D
Approach Vol, veh/h		1390	- / (		1184			632			432	
Approach Delay, s/veh		23.5			23.0			32.6			38.2	
Approach LOS		23.5 C			23.0 C			C			D	
**					U						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	35.3	14.2	17.3	12.0	38.0	8.0	23.5				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+l1), s	2.9	20.6	9.5	10.4	7.6	22.8	4.3	8.9				
Green Ext Time (p_c), s	0.0	7.4	0.8	1.5	0.5	7.9	0.2	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.6									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection
Movement         EBL         EBR         WBL         WBT         WBR         NBL         NBT         NBR         SBL         SBT         SBR           Lane Configurations         1         1         839         46         283         1080         0         9         0         261         0         0         0           Future Vol, veh/h         1         839         46         283         1080         0         9         0         261         0         0         0
Lane Configurations         T         Th         Th
Traffic Vol, veh/h         1         839         46         283         1080         0         9         0         261         0         0           Future Vol, veh/h         1         839         46         283         1080         0         9         0         261         0         0         0
Future Vol, veh/h 1 839 46 283 1080 0 9 0 261 0 0 0
Takano voli, voluli 1 007 10 200 1000 0 7 0 201 0 0 0
Sign Control Free Free Free Free Free Stop Stop Stop Stop Stop
RT Channelized - None
Storage Length 340 195 25 25
Veh in Median Storage, # - 0 0 0 0 -
Grade. % - 0 0 0 0 -
Peak Hour Factor 92 92 92 92 92 92 92 92 92 92 92 92 92
Heavy Vehicles, % 11 11 11 11 11 11 11 11 11 11 11 11 1
Mymt Flow 1 912 50 308 1174 0 10 0 284 0 0 0
1 712 30 300 1174 0 10 0 204 0 0 0
Major/Minor Major1 Major2 Minor1 Minor2
Conflicting Flow All 1174 0 0 962 0 0 2142 2729 481 2248 2754 587
Stage 1 939 939 - 1790 1790 -
Stage 2 1203 1790 - 458 964 -
Critical Hdwy 4.32 4.32 7.72 6.72 7.12 7.72 6.72 7.12
Critical Hdwy Stg 1 6.72 5.72 - 6.72 5.72 -
Critical Hdwy Stg 2 6.72 5.72 - 6.72 5.72 -
Follow-up Hdwy 2.31 2.31 3.61 4.11 3.41 3.61 4.11 3.41
Pot Cap-1 Maneuver 542 658 25 18 508 20 17 431
Stage 1 267 321 - 76 120 -
Stage 2 182 120 - 529 312 -
Platoon blocked, %
Mov Cap-1 Maneuver 542 658 16 10 508 6 9 431
Mov Cap-2 Maneuver 16 10 - 6 9 -
Stage 1 266 320 - 76 64 -
Stage 2 97 64 - 233 311 -
Approach EB WB NB SB
HCM Control Delay, s 0 3.2 33.6 0
HCM LOS D A
Minor Lane/Major Mvmt NBLn1 NBLn2 EBL EBT EBR WBL WBT WBR SBLn1 SBLn2
Capacity (veh/h) 16 508 542 658
HCM Lane V/C Ratio 0.611 0.558 0.002 0.467
HCM Control Delay (s) \$ 406.3 20.7 11.7 15.2 0 0
HCM Lane LOS F C B C A A
HCM 95th %tile Q(veh) 1.6 3.4 0 2.5

ntersection								
nt Delay, s/veh	7.3							
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
ane Configurations	7	44	44	7	1	7		
raffic Vol, veh/h	364	736	1177	19	5	186		
uture Vol, veh/h	364	736	1177	19	5	186		
conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized		None		None	-	None		
Storage Length	580	-		165	0	25		
eh in Median Storage		0	0	-	2	-		
Grade. %	-	0	0		0			
Peak Hour Factor	92	92	92	92	92	92		
leavy Vehicles, %	10	10	10	10	10	10		
Nymt Flow	396	800	1279	21	5	202		
WITH TOW	370	000	1219	21	3	202		
	Major1	- 1	Major2		Minor2			
Conflicting Flow All	1300	0	-	0	2471	640		
Stage 1	-	-	-	-	1279	-		
Stage 2		-			1192			
ritical Hdwy	4.3	-	-	-	7	7.1		
ritical Hdwy Stg 1	-	-	-	-	6	-		
ritical Hdwy Stg 2		-			6			
ollow-up Hdwy	2.3	-	-	-	3.6	3.4		
ot Cap-1 Maneuver	488	-	-	-	22	399		
Stage 1	-	-	-	-	210	-		
Stage 2					235			
Platoon blocked, %								
Nov Cap-1 Maneuver	488				~ 4	399		
Nov Cap-2 Maneuver	-100				37	-		
Stage 1					40			
Stage 2					235			
Sidge 2					200			
			MID		00			
pproach	EB		WB		SB			
ICM Control Delay, s	12.2		0		25.4			
ICM LOS					D			
linor Lane/Major Mvm	ıt	EBL	EBT	WBT	WBR	SBLn1	SBLn2	
apacity (veh/h)		488				37	399	
ICM Lane V/C Ratio		0.811				0.147	0.507	
CM Control Delay (s)		36.9					22.9	
ICM Lane LOS		E				F	C	
ICM 95th %tile Q(veh)	)	7.7				0.5	2.8	
		1.1				0.0	2.0	
otes								
: Volume exceeds cap	oacity	\$: De	elay exc	eeds 3	00s	+: Com	putation Not Defined	d *: All major volume in platoon

Beechwood SP

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	44	7		ħβ			4	7		4	
Traffic Vol, veh/h	0	722	19	2	1188	0	8	0	1	0	0	0
Future Vol. veh/h	0	722	19	2	1188	0	8	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None	-		None	-	-	None	-	-	None
Storage Length	275	-	275	305		-	-	-	25	-		-
Veh in Median Storage	.# -	0	-	-	0			2	-		2	
Grade, %		0	-		0			0	-		0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow	0	785	21	2	1291	0	9	0	1	0	0	0
Major/Minor N	Major1			Major2			Minor1		ħ	/linor2		
	1291	0	0	806	0	0	1435	2080	393	1688	2101	646
Conflicting Flow All	1291	U	U	806	0	0		785				646
Stage 1			-				785		-	1295	1295	
Stage 2	42/	-	-	4.27	-	-	650	1295	71/	393	806	71/
Critical Hdwy	4.36	-		4.36	-	-	7.76	6.76	7.16	7.76	6.76	7.16
Critical Hdwy Stg 1		-	-	-	-	-	6.76	5.76		6.76	5.76	
Critical Hdwy Stg 2	2.33		-	2.33			6.76	5.76	3.43	6.76	5.76	3.43
Follow-up Hdwy		-	-		-	-	3.63	4.13		3.63	4.13	
Pot Cap-1 Maneuver	477	-		747		-	85	46	576	54	45	389
Stage 1		-		-	-	-	329 399	377 211	-	156 574	211	
Stage 2	-		-	-		-	399	211	-	5/4	368	-
Platoon blocked, %	477	-	-	7.47	-	-	05	4.	F7/	E 4	45	202
Mov Cap-1 Maneuver	477	-	-	747	-	-	85	46	576	54	45	389
Mov Cap-2 Maneuver	-	-		-	-	-	253	177		145	176	-
Stage 1	-	-	-	-	-	-	329	377	-	156	210	-
Stage 2			-	-	-	-	398	210		573	368	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			18.8			0		
HCM LOS							С			Α		
Minor Lane/Major Mvm	it 1	NBLn1 I	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1		
Capacity (veh/h)		253	576	477	-	-	747	-		-		
HCM Lane V/C Ratio		0.034	0.002	-	-	-	0.003	-	-	-		
HCM Control Delay (s)		19.7	11.3	0	-	-	9.8	-		0		
HCM Lane LOS		С	В	Α		-	Α		-	Α		

0.1 0 0 - - 0 - -

Intersection				
Intersection Delay, s/veh	16.1			
Intersection LOS	С			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	331	490	753	465
Demand Flow Rate, veh/h	341	504	775	479
Vehicles Circulating, veh/h	729	621	283	472
Vehicles Exiting, veh/h	222	437	787	653
Ped Vol Crossing Leg, #/h	0	0	3	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.2	18.9	17.2	12.6
Approach LOS	В	С	С	В
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	341	504	775	479
Cap Entry Lane, veh/h	656	732	1034	853
Entry HV Adj Factor	0.971	0.972	0.972	0.971
Flow Entry, veh/h	331	490	753	465
Cap Entry, veh/h	637	712	1004	828
V/C Ratio	0.520	0.688	0.750	0.562
Control Delay, s/veh	14.2	18.9	17.2	12.6
LOS	В	С	С	В
95th %tile Queue, veh	3	6	7	4

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft) Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn 289

0.70 0.70

41.3

41.3

144

0

0.49

296

41.4

0.0

41.4

148

311

674

0

0.50

35

0.07

0.3

0.0

0.3

0

0

185

622

0

0

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•		<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	3	<b>↑</b> Ъ		ሻ	<b>↑</b>	7	Ť	<b>↑</b>	7	ሻ	ની	
Traffic Volume (veh/h)	1	308	29	317	423	618	6	19	128	451	87	3
Future Volume (veh/h)	1	308	29	317	423	618	6	19	128	451	87	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	18
Adj Flow Rate, veh/h	1	335	32	345	460	672	7	21	139	558	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	
Cap, veh/h	2	828	79	394	884	749	197	207	175	705	0	31
Arrive On Green	0.00	0.25	0.25	0.22	0.48	0.48	0.11	0.11	0.11	0.20	0.00	0.2
Sat Flow, veh/h	1767	3249	308	1767	1856	1572	1767	1856	1568	3534	0	15
Grp Volume(v), veh/h	1	181	186	345	460	672	7	21	139	558	0	- :
Grp Sat Flow(s), veh/h/ln	1767	1763	1794	1767	1856	1572	1767	1856	1568	1767	0	15
Q Serve(q s), s	0.0	7.2	7.3	16.0	14.7	33.3	0.3	0.9	7.4	12.8	0.0	1
Cycle Q Clear(g_c), s	0.0	7.2	7.3	16.0	14.7	33.3	0.3	0.9	7.4	12.8	0.0	1
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		1.0
Lane Grp Cap(c), veh/h	2	449	457	394	884	749	197	207	175	705	0	31
V/C Ratio(X)	0.41	0.40	0.41	0.88	0.52	0.90	0.04	0.10	0.80	0.79	0.00	0.1
Avail Cap(c a), veh/h	104	476	485	675	1101	933	374	392	332	1184	0	52
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.0
Uniform Delay (d), s/veh	42.5	26.3	26.4	31.9	15.5	20.4	33.7	34.0	36.9	32.4	0.0	27
Incr Delay (d2), s/veh	85.1	0.6	0.6	6.8	0.5	9.7	0.1	0.2	7.9	2.1	0.0	0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
%ile BackOfQ(50%),veh/ln	0.1	3.1	3.2	7.4	5.9	13.2	0.1	0.4	3.1	5.4	0.0	0
Unsig. Movement Delay, s/veh		0.1	0.2	7	0.7	10.2	0.1	0.1	0.1	0.1	0.0	
LnGrp Delay(d),s/veh	127.5	26.9	26.9	38.7	16.0	30.1	33.8	34.2	44.8	34.4	0.0	28
LnGrp LOS	F	С	С	D	В	С	С	С	D	С	A	
Approach Vol, veh/h	<u> </u>	368			1477			167			593	
Approach Delay, s/veh		27.2			27.7			43.0			34.1	
Approach LOS		21.2 C			C C			43.0 D			34.1 C	
	1					,		_				
Timer - Assigned Phs	00.5	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.5	26.2		21.5	4.6	45.0		14.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	23.0		28.5	5.0	50.5		18.0				
Max Q Clear Time (g_c+I1), s	18.0	9.3		14.8	2.0	35.3		9.4				
Green Ext Time (p_c), s	0.9	1.8		1.9	0.0	5.3		0.3				
Intersection Summary			20.1									
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			С									

User approved volume balancing among the lanes for turning movement.

WBT

460

0.52

19.5

20.0

153

349

0

0.54

672

0.61

4.1 44.0

4.4 44.0

0

67 20

151

0

0.62

0.0

140

0

0.02

21 139

0.53

16.2

0.0

16.2

59 305

165 150

0

0.13

44.6

0.0

44.6

11

40

410 452

0

0.05

367

0.59

93 166

175

346

0

49.0 38.1

49.0 38.1

6

65

0

345

41.7

41.8

329

125

704 1152

29 303

	•	-	•	<b>←</b>	*	1	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	68	893	49	1237	374	234	12	249	5	8	
v/c Ratio	0.36	0.47	0.28	0.70	0.42	0.68	0.03	0.43	0.01	0.01	
Control Delay	46.5	14.2	46.0	19.7	6.5	41.8	27.2	6.5	27.0	0.0	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.5	14.4	46.0	19.7	6.5	41.8	27.2	6.5	27.0	0.0	
Queue Length 50th (ft)	36	158	26	260	33	122	5	0	2	0	
Queue Length 95th (ft)	88	265	69	424	109	216	20	57	12	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	254	2276	229	2267	1079	588	782	808	586	781	
Starvation Cap Reductn	0	618	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.54	0.21	0.55	0.35	0.40	0.02	0.31	0.01	0.01	
Intersection Cummany											

Beechwood SP 8: Paso Robles Street & 13th Street Near Term Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

Movement   EBL   EBT   EBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL   SBT		۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Traffic Volume (vehih) 63 774 48 45 1138 344 215 11 229 5 0 Future Volume (vehih) 63 774 48 45 1138 344 215 11 229 5 0 Future Volume (vehih) 63 774 48 45 1138 344 215 11 229 5 0 Future Volume (vehih) 63 774 48 45 1138 344 215 11 229 5 0 Future Volume (vehih) 63 774 48 45 1138 344 215 11 229 5 0 Future Volume (vehih) 63 774 48 45 1138 344 215 11 229 5 0 Future Volume (vehih) 63 874 41 215 11 229 5 0 Future Volume (vehih) 63 874 41 215 11 229 5 0 Future Volume (vehih) 63 874 41 215 11 229 5 0 Future Volume (vehih) 64 100 0 0 0 0 0 0 0 0 0 0 0 0 0 Future Volume (vehih) 65 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Future Volume (vehih) 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Future Volume (vehih) 100 0 100 0 1.00 1.00 1.00 1.00 1.00 1	Movement		EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Volume (veh/h)  63 774 48 45 1138 344 215 11 229 5 0  1nitial O (Db), weh 0 0 0 0 0 0 0 0 0 0 0 0 0  Parking Bus, Adj 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0													
Initial O (Qb), veh													7
Ped-Bike Adj(A_pbT)													7
Parking Bus, Adj  1.00			0		-	0	-		0		-	0	C
Work Zone On Approach		1.00		0.99	1.00								1.00
Adj Sat Flow, veh/h/In         1856         185		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Adj Flow Rate, veh/h			No			No			No			No	
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92		1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Percent Heavy Veh, % 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Adj Flow Rate, veh/h		841		49	1237				249			8
Cap, veh/h Orange of Green	Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Arrive On Green 0.06 0.51 0.51 0.51 0.05 0.50 0.00 0.22 0.22 0.22 0.22 0.00 Sat Flow, welr/h 1767 3371 208 1767 3526 1572 1396 1856 1572 1110 0 Grg Volume(v), welr/h 68 440 453 49 1237 0 234 12 249 5 0 Grg Sat Flow(s), welr/h/ln 1767 1763 1817 1767 1763 1572 1396 1856 1572 1110 0 Q Serve(g_s), s 2.3 9.8 9.8 1.6 16.3 0.0 9.5 0.3 8.8 0.2 0.0 Cycle O Clear(g_c), s 2.3 9.8 9.8 1.6 16.3 0.0 9.5 0.3 8.8 0.2 0.0 Cycle O Clear(g_c), s 2.3 9.8 9.8 1.6 16.3 0.0 9.7 0.3 8.8 0.5 0.0 Prop In Lane 1.00 0.11 1.00 1.00 1.00 1.00 1.00 1.0	Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Sat Flow, veh/h 68 440 453 49 1237 0 234 12 249 5 0 Grp Sat Flow(s), veh/h/ln 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1767 1763 1817 1396 1856 1572 1110 0 O Serve(g.S.), s 2.3 9.8 9.8 1.6 16.3 0.0 9.5 0.3 8.8 0.2 0.0 Cycle Q Clear(g.c), s 2.3 9.8 9.8 1.6 16.3 0.0 9.7 0.3 8.8 0.2 0.0 Cycle Q Clear(g.c), veh/h 100 896 923 82 1756 422 440 347 359 0.0 V/C Ratio(X) 0.68 0.49 0.49 0.60 0.70 0.55 0.03 0.72 0.01 0.00 Avail Cap(c.a), veh/h 309 1507 1553 280 2955 829 949 804 682 0 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0													347
Grp Volume(v), veh/h 68 440 453 49 1237 0 234 12 249 5 0 Grp Saf Flow(s), veh/h/ln 1767 1763 1817 1767 1763 1572 1396 1856 1572 1110 0 0 Serve(g_s), s 2.3 9.8 9.8 1.6 16.3 0.0 9.5 0.3 8.8 0.2 0.0 Cycle Q Clear(g_c), s 2.3 9.8 9.8 1.6 16.3 0.0 9.5 0.3 8.8 0.5 0.0 Cycle Q Clear(g_c), s 2.3 9.8 9.8 1.6 16.3 0.0 9.5 0.3 8.8 0.5 0.0 Prop In Lane 1.00 0.11 1.00 1.00 1.00 1.00 1.00 1.0	Arrive On Green		0.51	0.51	0.05	0.50	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Grip Sat Flow(s), veh/h/ln	Sat Flow, veh/h	1767	3371	208	1767	3526	1572	1396	1856	1572	1110	0	1572
Q Serve(g_s), s	Grp Volume(v), veh/h	68	440	453	49	1237	0	234	12	249	5	0	8
Q Šerve(g_s), s	Grp Sat Flow(s).veh/h/ln	1767	1763	1817	1767	1763	1572	1396	1856	1572	1110	0	1572
Cycle Q Clear(g_c), s         2.3         9.8         9.8         1.6         16.3         0.0         9.7         0.3         8.8         0.5         0.0           Prop In Lane         1.00         0.11         1.00		2.3	9.8	9.8	1.6	16.3	0.0	9.5	0.3	8.8	0.2	0.0	0.2
Prop In Lane         1.00         0.11         1.00		2.3	9.8	9.8	1.6	16.3	0.0	9.7	0.3	8.8	0.5	0.0	0.2
Lane Grp Cap(c), veh/h 100 896 923 82 1756 422 409 347 359 0 V/C Ratio(X) 0.68 0.49 0.49 0.60 0.70 0.55 0.03 0.72 0.01 0.00 Avail Cap(c_a), veh/h 309 1507 1553 280 2955 829 949 804 682 0 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0		1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
\(V/C \text{Ratio}(X)\) 0.68 0.49 0.49 0.60 0.70 0.55 0.03 0.72 0.01 0.00 \\ Avail Cap(c_a), veh/h 309 1507 1553 280 2955 829 949 804 682 0 \\ HCM Platon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0			896			1756			409			0	347
Avail Cap(c_a), veh/h			0.49		0.60				0.03			0.00	0.02
HCM Platoon Ratio													804
Upstream Filter(I)         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         0.00							1.00						1.00
Uniform Delay (d), s/veh													1.00
Incr Delay (d2), siveh													18.3
Initial Q Delay(d3),s/veh													0.0
%ile BackOfÓ(50%), veh/ln 1.1 3.2 3.3 0.8 5.4 0.0 2.9 0.1 3.2 0.1 0.0 Unsig. Movement Delay, s/veh LnGrp Delay(d), s/veh 35.7 10.1 10.1 34.8 12.2 0.0 23.3 18.4 24.5 18.6 0.0 LnGrp Delay(d), s/veh B B C B C B C B C B A Approach Vol, veh/h 961 1286 A 495 13. Approach Delay, s/veh 11.9 13.0 23.8 18.4 Approach LoS B C B C B C B C B C B C B C B C B C B													0.0
Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 15.7 10.1 10.1 34.8 12.2 0.0 23.3 18.4 24.5 18.6 0.0 LnGrp LOS D B B C B C B C B C B A Approach Vol, veh/h 961 1286 A 495 13. Approach Delay, s/veh 11.9 13.0 23.8 18.4 Approach LOS B B C B C B C B B C B B Approach LOS B C B C B C B C B C B C B C B C B C B													0.1
LnGrp Delay(d), s/veh         35.7         10.1         10.1         34.8         12.2         0.0         23.3         18.4         24.5         18.6         0.0           LnGrp LOS         D         B         B         C         B         C         B         C         B         A           Approach Vol, veh/h         961         1286         A         495         13           Approach Delay, s/veh         11.9         13.0         23.8         18.4           Approach LOS         B         B         C         B           Filmer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         7.3         35.0         17.7         7.9         34.4         17.7           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         9.5         51.3         30.7         10.5         50.3         30.7           Max O Clear Time (g_c+II), s         3.6         11.8         2.5         4.3         18.3         11.7           Green Ext Time (p_c, c), s         0.0         6.9         0.0         0.1			0.2	0.0	0.0	0.1	0.0	2.7	0.1	0.2	0.1	0.0	0.1
LnGrp LOS         D         B         B         C         B         C         B         C         B         A           Approach Vol, veh/h         961         1286         A         495         13           Approach Delay, s/veh         11.9         13.0         23.8         18.4           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         7.3         35.0         17.7         7.9         34.4         17.7           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         9.5         51.3         30.7         10.5         50.3         30.7           Green Ext Time (g_c+I1), s         3.6         11.8         2.5         4.3         18.3         11.7           Green Ext Time (p_c), s         0.0         6.9         0.0         0.1         11.6         1.5           Intersection Summary           HCM 6th Ctrl Delay         14.6			10 1	10 1	34.8	12.2	0.0	23.3	18.4	24.5	18.6	0.0	18.4
Approach Vol, veh/h         961         1286         A         495         13           Approach Delay, siveh         11.9         13.0         23.8         18.4           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         7.3         35.0         17.7         7.9         34.4         17.7           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         9.5         51.3         30.7         10.5         50.3         30.7           Green Ext Time (g_c+I), s         3.6         11.8         2.5         4.3         18.3         11.7           Green Ext Time (p_c), s         0.0         6.9         0.0         0.1         11.6         1.5           Intersection Summary           HCM 6th Ctrl Delay         14.6							0.0						E
Approach Delay, s/veh         11.9         13.0         23.8         18.4           Approach LOS         B         B         C         B           Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         7.3         35.0         17.7         7.9         34.4         17.7           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         9.5         51.3         30.7         10.5         50.3         30.7           Max O Clear Time (g_c+II), s         3.6         11.8         2.5         4.3         18.3         11.7           Green Ext Time (g_c-c), s         0.0         6.9         0.0         0.1         11.6         1.5           Intersection Summary           HCM 6th Ctrl Delay         14.6							Δ						
Approach LOS B B C B  Timer - Assigned Phs 1 2 4 5 6 8  Phs Duration (G+Y+Rc), s 7.3 35.0 17.7 7.9 34.4 17.7  Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5  Max Green Setting (Gmax), s 9.5 51.3 30.7 10.5 50.3 30.7  Max O Clear Time (g_c+II), s 3.6 11.8 2.5 4.3 18.3 11.7  Green Ext Time (p_c), s 0.0 6.9 0.0 0.1 11.6 1.5  Intersection Summary  HCM 6th Ctrl Delay 14.6							A						
Timer - Assigned Phs         1         2         4         5         6         8           Phs Duration (G+Y+Rc), s         7.3         35.0         17.7         7.9         34.4         17.7           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5           Max Green Settling (Gmax), s         9.5         51.3         30.7         10.5         50.3         30.7           Max O Clear Time (g_c+I1), s         3.6         11.8         2.5         4.3         18.3         11.7           Green Ext Time (p_c), s         0.0         6.9         0.0         0.1         11.6         1.5           Intersection Summary           HCM 6th Ctrl Delay         14.6													
Phs Duration (G+Y+Rc), s 7.3 35.0 17.7 7.9 34.4 17.7 Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 Max Green Setting (Gmax), s 9.5 51.3 30.7 10.5 50.3 30.7 Max O Clear Time (g_c+II), s 3.6 11.8 2.5 4.3 18.3 11.7 Green Ext Time (p_c), s 0.0 6.9 0.0 0.1 11.6 1.5 Intersection Summary HCM 6th Ctrl Delay 14.6	* *		_			_			_			D	
Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 Max Green Setting (Gmax), s 9.5 51.3 30.7 10.5 50.3 30.7 Max Q Clear Time (g_c+I1), s 3.6 11.8 2.5 4.3 18.3 11.7 Green Ext Time (g_c), s 0.0 6.9 0.0 0.1 11.6 1.5 Intersection Summary  HCM 6th Ctrl Delay 14.6													
Max Green Setting (Gmax), s       9.5       51.3       30.7       10.5       50.3       30.7         Max Q Clear Time (g_c+IT), s       3.6       11.8       2.5       4.3       18.3       11.7         Green Ext Time (g_c-c), s       0.0       6.9       0.0       0.1       11.6       1.5         Intersection Summary         HCM 6th Ctrl Delay       14.6													
Max Q Clear Time (g_c+l1), s     3.6     11.8     2.5     4.3     18.3     11.7       Green Ext Time (p_c), s     0.0     6.9     0.0     0.1     11.6     1.5       Intersection Summary       HCM 6th Ctrl Delay     14.6													
Green Ext Time (p_c), s 0.0 6.9 0.0 0.1 11.6 1.5  Intersection Summary  HCM 6th Ctrl Delay 14.6													
Intersection Summary HCM 6th Ctrl Delay 14.6													
HCM 6th Ctrl Delay 14.6	Green Ext Time (p_c), s	0.0	6.9		0.0	0.1	11.6		1.5				
and the stage of t	Intersection Summary												
HCM 6th LOS B	HCM 6th Ctrl Delay			14.6									
	HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

	•	$\rightarrow$	•	<b>—</b>	1	Ť		-	Į.	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	214	884	61	942	428	192	49	137	598	
v/c Ratio	0.56	0.64	0.40	0.79	0.73	0.24	0.11	0.59	0.86dr	
Control Delay	52.0	25.8	57.2	35.6	49.3	34.5	1.0	55.2	34.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.0	25.8	57.2	35.6	49.3	34.5	1.0	55.2	34.6	
Queue Length 50th (ft)	70	228	39	293	140	54	0	88	136	
Queue Length 95th (ft)	124	334	91	407	220	97	4	165	221	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	442	1618	191	1565	725	1007	518	337	983	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.55	0.32	0.60	0.59	0.19	0.09	0.41	0.61	
Intersection Summary										

Central Coast Transportation Consulting
Synchro 10 Report
Page 21

Beechwood SP 9: River Road/Union Road & Creston Road Near Term Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	1	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	<b>↑</b> ↑		Ţ	<b>↑</b> 1>		1,1	<b>^</b>	7	Ĭ	<b>†</b> î>	
Traffic Volume (veh/h)	197	518	295	56	768	98	394	177	45	126	187	363
Future Volume (veh/h)	197	518	295	56	768	98	394	177	45	126	187	363
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	563	0	61	835	107	428	192	49	137	203	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	1438		91	1145	147	575	593	265	178	358	
Arrive On Green	0.09	0.40	0.00	0.05	0.36	0.36	0.17	0.17	0.17	0.10	0.10	0.00
Sat Flow, veh/h	3456	3647	0	1781	3163	405	3456	3554	1585	1781	3647	0
Grp Volume(v), veh/h	214	563	0	61	469	473	428	192	49	137	203	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1791	1728	1777	1585	1781	1777	0
Q Serve(q_s), s	3.9	7.3	0.0	2.2	14.9	14.9	7.7	3.1	1.7	4.9	3.5	0.0
Cycle Q Clear(q_c), s	3.9	7.3	0.0	2.2	14.9	14.9	7.7	3.1	1.7	4.9	3.5	0.0
Prop In Lane	1.00		0.00	1.00		0.23	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	326	1438		91	643	648	575	593	265	178	358	
V/C Ratio(X)	0.66	0.39		0.67	0.73	0.73	0.74	0.32	0.19	0.77	0.57	
Avail Cap(c a), veh/h	664	2486		288	1188	1198	1089	1503	670	507	1393	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.4	13.7	0.0	30.3	18.0	18.0	25.8	23.9	23.3	28.5	27.9	0.0
Incr Delay (d2), s/veh	2.3	0.2	0.0	8.1	1.6	1.6	1.9	0.3	0.3	6.8	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.7	0.0	1.1	5.7	5.7	3.0	1.2	0.6	2.2	1.4	0.0
Unsig. Movement Delay, s/veh	1											
LnGrp Delay(d),s/veh	30.7	13.9	0.0	38.4	19.6	19.6	27.7	24.2	23.6	35.3	29.3	0.0
LnGrp LOS	С	В		D	В	В	С	С	С	D	С	
Approach Vol, veh/h		777	А		1003			669			340	А
Approach Delay, s/veh		18.5			20.7			26.4			31.7	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	30.8	15.3	11.1	10.6	28.0	11.0	15.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5	20.5	25.5	12.5	43.5	18.5	27.5				
Max Q Clear Time (q c+l1), s	4.2	9.3	9.7	5.5	5.9	16.9	6.9	5.1				
Green Ext Time (p_c), s	0.0	4.3	1.2	1.0	0.4	6.6	0.9	1.2				
* .	0.0	4.5	1.2	1.0	0.4	0.0	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			С									
Matan												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Central Coast Transportation Consulting Synchro 10 Report
Page 23

10: Creston Road 8	Golde	n Hill F	Road	Queues		
	•	<b>→</b>	<b>←</b>	-	4	
Lane Group	EBL	EBT	WBT	SBL	SBR	
Lane Group Flow (vph)	71	448	1224	568	101	
v/c Ratio	0.39	0.21	0.74	0.71	0.23	
Control Delay	48.3	10.1	21.3	38.2	9.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.3	10.1	21.3	38.2	9.1	
Queue Length 50th (ft)	35	42	207	140	0	
Queue Length 95th (ft)	103	145	#590	#309	47	
Internal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	234	2450	1789	1020	541	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.18	0.68	0.56	0.19	
Intersection Summary						
# 95th percentile volume e	exceeds car	pacity, qu	ieue mav	be longer	r.	
Queue shown is maximu			,	J		
		,				

	*	-	<b>←</b>	4	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	*	44	<b>†</b> 1>		ሻሻ	7		
Traffic Volume (vph)	65	412	588	538	523	93		
uture Volume (vph)	65	412	588	538	523	93		
leal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
otal Lost time (s)	4.5	4.5	4.5		4.5	4.5		
ane Util. Factor	1.00	0.95	0.95		0.97	1.00		
rpb, ped/bikes	1.00	1.00	0.99		1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		
Frt	1.00	1.00	0.93		1.00	0.85		
Flt Protected	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1752	3505	3230		3400	1568		
Flt Permitted	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (perm)	1752	3505	3230		3400	1568		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	71	448	639	585	568	101		
RTOR Reduction (vph)	0	0	115	0	0	79		
Lane Group Flow (vph)	71	448	1109	0	568	22		
Confl. Peds. (#/hr)				3				
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%		
Turn Type	Prot	NA	NA		Perm	Perm		
Protected Phases	5	2	6					
Permitted Phases					4	4		
Actuated Green, G (s)	6.9	51.5	40.1		19.7	19.7		
Effective Green, q (s)	6.9	51.5	40.1		19.7	19.7		
Actuated g/C Ratio	0.08	0.58	0.45		0.22	0.22		
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	136	2039	1463		756	349		
v/s Ratio Prot	c0.04	0.13	c0.34			0.,		
v/s Ratio Perm	00.01	55	30.01		c0.17	0.01		
v/c Ratio	0.52	0.22	0.76		0.75	0.06		
Uniform Delay, d1	39.2	8.9	20.2		32.1	27.1		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	3.6	0.1	2.3		4.2	0.1		
Delay (s)	42.8	8.9	22.5		36.3	27.2		
Level of Service	D	Α	С		D	С		
Approach Delay (s)		13.6	22.5		35.0			
Approach LOS		В	С		С			
ntersection Summary								
HCM 2000 Control Delay			24.0	Н	CM 2000	Level of Serv	rice	С
HCM 2000 Volume to Capa	city ratio		0.69					
Actuated Cycle Length (s)	,		88.5	S	um of lost	t time (s)	1	8.0
Intersection Capacity Utiliza	tion		64.0%			of Service		С
Analysis Period (min)			15					
Critical Lane Group								

	•	$\rightarrow$	*	1	←	1	1	-	<b>↓</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	136	378	163	73	1063	263	640	273	645	
v/c Ratio	0.60	0.66	0.28	0.54	1.19	0.83	0.79	0.88	0.69	
Control Delay	47.4	33.4	5.5	55.4	122.1	57.6	37.9	65.5	22.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.4	33.4	5.5	55.4	122.1	57.6	37.9	65.5	22.8	
Queue Length 50th (ft)	72	188	0	40	~339	141	169	150	104	
Queue Length 95th (ft)	131	292	44	#96	#480	#277	235	#302	167	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	274	594	607	140	895	335	924	315	1003	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.64	0.27	0.52	1.19	0.79	0.69	0.87	0.64	

### Intersection Summary

Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Near Term Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	•	$\rightarrow$	•	•	-	•	1	1	1	-	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	,	<b>*</b>	7	7	ħβ		7	<b>†</b> î>		7	<b>†</b> î>	
Traffic Volume (veh/h)	125	348	150	67	553	425	242	541	48	251	308	285
Future Volume (veh/h)	125	348	150	67	553	425	242	541	48	251	308	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.91	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	136	378	163	73	601	462	263	588	52	273	335	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	171	549	459	93	470	361	304	755	67	312	418	370
Arrive On Green	0.10	0.30	0.30	0.05	0.26	0.26	0.17	0.24	0.24	0.18	0.24	0.24
Sat Flow, veh/h	1739	1826	1526	1739	1839	1411	1739	3196	282	1739	1735	1536
Grp Volume(v), veh/h	136	378	163	73	567	496	263	318	322	273	335	310
Grp Sat Flow(s), veh/h/ln	1739	1826	1526	1739	1735	1515	1739	1735	1743	1739	1735	1536
Q Serve(q_s), s	6.0	14.3	6.5	3.2	20.0	20.0	11.5	13.4	13.5	12.0	14.2	15.0
Cycle Q Clear(q_c), s	6.0	14.3	6.5	3.2	20.0	20.0	11.5	13.4	13.5	12.0	14.2	15.0
Prop In Lane	1.00		1.00	1.00		0.93	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	171	549	459	93	443	387	304	410	412	312	418	370
V/C Ratio(X)	0.79	0.69	0.36	0.78	1.28	1.28	0.86	0.78	0.78	0.87	0.80	0.84
Avail Cap(c_a), veh/h	300	621	519	153	443	387	367	510	512	344	488	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	24.1	21.4	36.6	29.1	29.1	31.4	27.9	28.0	31.2	27.9	28.2
Incr Delay (d2), s/veh	8.1	2.8	0.5	13.4	142.0	144.8	16.5	5.9	6.1	20.0	8.1	12.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.1	2.2	1.7	25.1	22.3	6.0	5.9	6.0	6.5	6.5	6.4
Unsig. Movement Delay, s/veh		0.1	2.2	1.7	20.1	22.0	0.0	0.7	0.0	0.0	0.0	0.1
LnGrp Delay(d),s/veh	42.6	26.9	21.9	50.0	171.1	174.0	47.9	33.9	34.1	51.2	36.0	40.2
LnGrp LOS	D	C	C	D	F	F	D	C	C	D	D	TO.2
Approach Vol, veh/h		677			1136			903			918	
Approach Delay, s/veh		28.8			164.6			38.0			42.0	
Approach LOS		C			F			D			42.0 D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.6	23.0	8.7	28.0	18.2	23.4	12.2	24.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	23.0	6.9	26.6	16.5	22.0	13.5	20.0				
Max Q Clear Time (q_c+l1), s	14.0	15.5	5.2	16.3	13.5	17.0	8.0	22.0				
Green Ext Time (p_c), s	0.1	2.3	0.0	2.0	0.2	1.8	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			76.9									
LICM 4th LOS			г									

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

3.2

1.2 0.3 19.3

Beechwood SP

Intersection												
Int Delay, s/veh	19.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	ĵ.		7	<b>1</b>	7
Traffic Vol, veh/h	99	6	40	8	15	98	33	507	3	33	408	85
Future Vol, veh/h	99	6	40	8	15	98	33	507	3	33	408	85
Conflicting Peds, #/hr	r 1	0	0	0	0	1	6	0	2	2	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-		None		-	None	-	-	None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Storag	ge,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	7	43	9	16	107	36	551	3	36	443	92
Major/Minor	Minor2		1	Minor1		N	/lajor1		Ν	/lajor2		
Conflicting Flow All	1208	1149	449	1213	1240	556	541	0	0	556	0	0
Stage 1	521	521	-	627	627	-		-	-	-	-	-
Stage 2	687	628	-	586	613	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-

Major/Minor	Minor2			Minor1			Major1		Ν	lajor2			
Conflicting Flow All	1208	1149	449	1213	1240	556	541	0	0	556	0	0	
Stage 1	521	521		627	627	-	-		-	-	-	-	
Stage 2	687	628	-	586	613	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	160	198	610	159	175	531	1028	-	-	1015	-	-	
Stage 1	539	532	-	471	476	-	-	-	-	-	-	-	
Stage 2	437	476	-	496	483	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	111	183	607	136	162	529	1022	-	-	1013	-	-	
Mov Cap-2 Maneuver	111	183	-	136	162	-	-	-	-	-	-	-	
Stage 1	517	510		454	458	-	-	-	-	-	-	-	
Stage 2	324	458		438	463		-	-	-		-		
Approach	EB			WB			NB			SB			
HCM Control Delay, s	158.4			20.7			0.5			0.5			
HCM LOS	F			С									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1\	NBLn1	SBL	SBT	SBR
Capacity (veh/h)	1022	-	-	146	359	1013	-	-
HCM Lane V/C Ratio	0.035	-	-	1.08	0.366	0.035	-	-
HCM Control Delay (s)	8.7	-	-	158.4	20.7	8.7	-	-
HCM Lane LOS	Α	-	-	F	С	Α	-	-
HCM 95th %tile Q(veh)	0.1	-	-	8.4	1.6	0.1	-	-

Intersection												
Intersection Delay, s/veh	52.8											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ર્ન	7		414
Traffic Vol, veh/h	20	9	7	271	5	296	0	8	227	143	252	194
Future Vol, veh/h	20	9	7	271	5	296	0	8	227	143	252	194
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	10	8	295	5	322	0	9	247	155	274	211
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	12.7			95				17.4			32.4	
HCM LOS	В			F				С			D	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		3%	0%	56%	47%	72%	0%					
Vol Thru, %		97%	0%	25%	1%	28%	91%					
Vol Right, %		0%	100%	19%	52%	0%	9%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		235	143	36	572	349	107					
LT Vol		8	0	20	271	252	0					
Through Vol		227	0	9	5	97	97					
RT Vol		0	143	7	296	0	10					
Lane Flow Rate		255	155	39	622	379	116					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.542	0.299	0.092	1.106	0.817	0.237					
Departure Headway (Hd)		8.123	7.378	8.832	6.405	8.214	7.772					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Сар		447	490	408	566	444	465					
Service Time		5.823	5.078	6.832	4.492	5.914	5.472					
HCM Lane V/C Ratio		0.57	0.316	0.096	1.099	0.854	0.249					
HCM Control Delay		20	13.2	12.7	95	38.4	12.9					
HCM Lane LOS		С	В	В	F	E	В					
LICM OF the tile O		2.2	1 1	0.2	10.2	7.4	0.0					

HCM 95th-tile Q

ntersection	
ntersection Delay, s/veh	
ntersection LOS	

Movement	SBR
LaceConfigurations	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	11
Number of Lanes	0

### Approach

HCM LOS

Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left Conflicting Approach Right Conflicting Lanes Right HCM Control Delay

Lane Configurations	Ť	7	7	<b>^</b>	<b>↑</b>	7
Traffic Vol, veh/h	187	127	204	191	119	353
Future Vol, veh/h	187	127	204	191	119	353
Conflicting Peds, #/h	ır 0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	145	105	-	-	0
Veh in Median Stora	ge,# 0		-	0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	203	138	222	208	129	384
Major/Minor	Minor2		Major1	Λ	Najor2	
Conflicting Flow All	677	129	513	0	-	0
Stage 1	129	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-		-		

iviajoi/iviiiioi	IVIII IOI Z		viujoi i	IVIC	11012		
Conflicting Flow All	677	129	513	0	-	0	
Stage 1	129	-	-	-	-	-	
Stage 2	548	-	-	-	-	-	
Critical Hdwy	6.645	6.245	4.145	-	-	-	
Critical Hdwy Stg 1	5.445	-	-	-	-	-	
Critical Hdwy Stg 2	5.845	-	-	-	-	-	
Follow-up Hdwy	3.5285	3.32852	2.2285	-	-	-	
Pot Cap-1 Maneuver	400	917	1044	-	-	-	
Stage 1	894	-	-	-	-	-	
Stage 2	542	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	315	917	1044	-	-	-	
Mov Cap-2 Maneuver	315	-	-	-	-	-	
Stage 1	704		-	-	-	-	
Stage 2	542	-	-	-	-	-	
Annroach	FR		NR		SR		

HCM Control Delay, s 24.7 4.8 0 HCM LOS C	Approach	EB	NB	SB	
HCM LOS C	HCM Control Delay, s	24.7	4.8	0	
	HCM LOS	С			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1044	-	315	917	-	-
HCM Lane V/C Ratio	0.212	-	0.645	0.151	-	-
HCM Control Delay (s)	9.4	-	35	9.6		-
HCM Lane LOS	А	-	Е	Α	-	-
HCM 95th %tile Q(veh)	0.8	-	4.2	0.5	-	-

Beechwood SP

Intersection Int Delay, s/veh

14: Creston Road & Charolais Road

8.2

## Beechwood SP

# Near Term Plus 674 Unit Project AM HCM Unsignalized Intersection Capacity Analysis

15: US 101 SB Ramp & Pine Street & Riverside Avenue

_	•	<b>→</b>	*	•	<b>—</b>	*	4	†	1	1	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					1>	
Traffic Volume (veh/h)	27	0	55	1	116	9	0	0	0	0	324	15
Future Volume (Veh/h)	27	0	55	1	116	9	0	0	0	0	324	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	0	60	1	126	10	0	0	0	0	352	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	428	360	360	420	368	0	368			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	428	360	360	420	368	0	368			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 gueue free %	93	100	91	100	78	99	100			100		
cM capacity (veh/h)	440	567	684	496	561	1085	1191			1623		
Direction, Lane #	EB 1	WB 1	SB 1	170						1020		
Volume Total	89	137	368									
Volume Left	29	1	0									
Volume Right	60	10	16									
cSH	580	605	1700									
Volume to Capacity	0.15	0.23	0.22									
Queue Length 95th (ft)	13	22	0									
Control Delay (s)	12.3	12.9	0.0									
Lane LOS	В	В										
Approach Delay (s)	12.3	12.9	0.0									
Approach LOS	В	В										
Intersection Summary												
Average Delay			4.8									
Intersection Capacity Utiliza	ation		36.2%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Synchro 10 Report Page 37 Central Coast Transportation Consulting

Beechwood SP

Near Term Plus 674 Unit Project AM

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	ၨ	<b>→</b>	1	-		•	<b>†</b>	-	-	. ↓	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	20	334	1190	304	487	91	293	613	347	276	
v/c Ratio	0.09	0.71	0.79	0.37	0.43	0.61	0.65	0.37	0.68	0.41	
Control Delay	55.6	53.6	37.0	27.4	2.5	78.9	62.6	5.9	60.9	45.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.6	53.6	37.0	27.4	2.5	78.9	62.6	5.9	60.9	45.7	
Queue Length 50th (ft)	16	119	437	169	5	78	131	47	150	106	
Queue Length 95th (ft)	44	186	625	288	50	#158	192	77	218	155	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	287	600	1686	914	1170	172	654	1802	665	975	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.56	0.71	0.33	0.42	0.53	0.45	0.34	0.52	0.28	

### Intersection Summary

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Near Term Plus 674 Unit Project AM d HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		1,1	<b>↑</b>	7	7	<b>^</b>	77	ሻሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	18	192	115	1095	280	448	84	270	564	319	205	49
Future Volume (veh/h)	18	192	115	1095	280	448	84	270	564	319	205	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	209	125	1190	304	487	91	293	613	347	223	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	273	156	1424	770	840	115	571	1597	427	600	140
Arrive On Green	0.13	0.13	0.13	0.41	0.41	0.41	0.06	0.16	0.16	0.12	0.21	0.21
Sat Flow, veh/h	1781	2176	1247	3456	1870	1564	1781	3554	2790	3456	2860	666
Grp Volume(v), veh/h	20	169	165	1190	304	487	91	293	613	347	137	139
Grp Sat Flow(s), veh/h/ln	1781	1777	1646	1728	1870	1564	1781	1777	1395	1728	1777	1749
Q Serve(q_s), s	1.1	10.5	11.2	35.5	13.1	24.1	5.8	8.7	13.8	11.2	7.6	7.8
Cycle Q Clear(q c), s	1.1	10.5	11.2	35.5	13.1	24.1	5.8	8.7	13.8	11.2	7.6	7.8
Prop In Lane	1.00		0.76	1.00		1.00	1.00	***	1.00	1.00		0.38
Lane Grp Cap(c), veh/h	223	223	206	1424	770	840	115	571	1597	427	373	367
V/C Ratio(X)	0.09	0.76	0.80	0.84	0.39	0.58	0.79	0.51	0.38	0.81	0.37	0.38
Avail Cap(c a), veh/h	317	316	293	1855	1004	1035	189	718	1713	732	546	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	48.5	48.8	30.3	23.7	18.0	52.9	44.1	13.4	49.0	38.8	38.9
Incr Delay (d2), s/veh	0.2	6.5	9.9	2.7	0.3	0.6	11.4	0.7	0.2	3.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.1	5.2	14.5	5.7	8.3	2.9	3.8	8.7	5.1	3.4	3.4
Unsig. Movement Delay, s/veh		0.1	0.2	1 1.0	0.7	0.0	2.,,	0.0	0.7	0.1	0.1	0.1
LnGrp Delay(d),s/veh	44.6	55.0	58.7	33.0	24.0	18.6	64.3	44.8	13.6	52.8	39.4	39.6
LnGrp LOS	D	F	E	C	C	В	F	D	В	D	D	D
Approach Vol, veh/h		354			1981			997			623	
Approach Delay, s/veh		56.2			28.1			27.4			46.9	
Approach LOS		50.2 E			C C			C			D	
**	1					,					D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.9	24.2		19.0	13.2	29.9		52.7				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 24	23.2		20.4	12.2	* 35		61.6				
Max Q Clear Time (g_c+l1), s	13.2	15.8		13.2	7.8	9.8		37.5				
Green Ext Time (p_c), s	0.9	2.6		1.2	0.1	1.6		9.8				
Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			С									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 41 Central Coast Transportation Consulting

Beechwood SP 17: S. River Road & Niblick Road Near Term Plus 674 Unit Project AM

	•	$\rightarrow$	*	1	-	1	Ť	-	¥
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	111	697	289	129	1403	676	396	316	450
v/c Ratio	0.56	0.56	0.39	0.68	1.02	0.90	0.65	0.86	0.75
Control Delay	63.1	32.6	5.0	66.6	62.5	58.6	46.9	65.6	44.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.1	32.6	5.0	66.6	62.5	58.6	46.9	65.6	44.7
Queue Length 50th (ft)	40	216	0	89	~555	242	137	215	136
Queue Length 95th (ft)	74	302	61	#171	#761	#378	190	#382	192
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	200	1235	740	214	1376	754	818	401	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.56	0.39	0.60	1.02	0.90	0.48	0.79	0.51

### Intersection Summary

Queue shown is maximum after two cycles.

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

	ၨ	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	**	7		<b>↑</b> ↑		1,6	<b>∱</b> ∱		- ሽ	<b>∱</b> ∱	
Traffic Volume (veh/h)	102	641	266	119	1003	288	622	311	53	291	270	144
Future Volume (veh/h)	102	641	266	119	1003	288	622	311	53	291	270	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	697	289	129	1090	313	676	338	58	316	293	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	1295	578	158	1103	314	736	568	96	348	383	200
Arrive On Green	0.05	0.36	0.36	0.09	0.40	0.40	0.21	0.19	0.19	0.20	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	2726	775	3456	3034	515	1781	2257	1178
Grp Volume(v), veh/h	111	697	289	129	707	696	676	196	200	316	229	221
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1724	1728	1777	1773	1781	1777	1658
Q Serve(g_s), s	3.5	17.0	8.3	7.8	43.0	44.2	21.0	11.1	11.3	19.0	13.5	14.0
Cycle Q Clear(g_c), s	3.5	17.0	8.3	7.8	43.0	44.2	21.0	11.1	11.3	19.0	13.5	14.0
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.29	1.00		0.71
Lane Grp Cap(c), veh/h	167	1295	578	158	719	698	736	333	332	348	301	281
V/C Ratio(X)	0.66	0.54	0.50	0.82	0.98	1.00	0.92	0.59	0.60	0.91	0.76	0.79
Avail Cap(c_a), veh/h	205	1295	578	220	719	698	761	422	421	410	440	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	27.5	7.8	49.0	32.2	32.5	42.2	40.6	40.7	43.1	43.3	43.6
Incr Delay (d2), s/veh	5.7	0.4	0.7	15.3	29.2	33.6	15.9	1.7	1.7	21.6	4.5	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.0	5.2	4.1	23.2	23.8	10.3	4.9	5.0	10.2	6.1	6.1
Unsig. Movement Delay, s/veh		07.0	0.4	(10	(1.1	// 1	F0.0	40.0	40.5	(17	47.0	40.7
LnGrp Delay(d),s/veh	57.0	27.9	8.4	64.3	61.4	66.1	58.0	42.3	42.5	64.7	47.8	49.7
LnGrp LOS	Е	C	A	E	E	E	E	D	D	E	D	D
Approach Vol, veh/h		1097			1532			1072			766	
Approach Delay, s/veh		25.7			63.8			52.3			55.3	
Approach LOS		С			Е			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	44.4	27.8	23.1	9.8	48.8	25.9	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	37.3	24.1	27.1	6.5	44.3	25.2	26.0				
Max Q Clear Time (g_c+l1), s	9.8	19.0	23.0	16.0	5.5	46.2	21.0	13.3				
Green Ext Time (p_c), s	0.1	5.3	0.4	1.9	0.0	0.0	0.4	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			50.2									
HCM 6th LOS			D									

3.9					
EBL	EBR	NBL	NBT	SBT	SBR
¥			4	1>	
86	1	5	888	377	41
86	1	5	888	377	41
0	1	0	0	0	0
Stop	Stop	Free	Free	Free	Free
-	None		None	-	None
0			-	-	
e, # 0			0	0	
0			0	0	
92	92	92	92	92	92
					3
					45
,0			700	110	10
					0
					-
					-
				-	-
				-	-
			-	-	-
	620	1100	-	-	-
	-	-	-	-	-
364	-	-	-	-	-
			-	-	-
150	619	1100	-	-	-
150	-	-	-	-	-
645			-	-	
364	-	-	-	-	-
ΓD		ND		CD	
		U		U	
F					
nt	NBL	NBT	EBLn1	SBT	SBR
	1100		151	-	
			0 (0)		
	0.005	-			
)	0.005	0	0.626		-
)	8.3	0	62.2	-	-
)					-
	BBL	BBL BBR  86 1 86 1 Stop Stop - None 0 - 2, # 0 - 92 92 3 3 93 1  Minor2  1408 434 433 975 - 6.43 6.23 5.43 - 5.43 - 5.43 - 150 619 150 619 150 619 150 645 - 364 -  EB  62.2 F	EBL EBR NBL  Y  86 1 5 86 1 5 86 1 0 0 1 0 Stop Stop Free - None - 0 0 2, # 0 0 92 92 92 3 3 3 93 1 5  Minor2 Major1 1408 434 455 433 0 643 6.23 4.13 5.43 0 3.527 3.327 2.227 152 620 1100 652 3 364  EB NB 62.2 0 F	BBL EBR NBL NBT	BEL   EBR   NBL   NBT   SBT   NBC   NBC

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EBL ₩	EDR	IVDL	IND I	3B1	SDR
Traffic Vol. veh/h	<b>7</b> *	8	13	<b>선</b> 757	347	19
Future Vol. veh/h	55	8	13	757	347	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop -	None	riee -	None	riee -	None
Storage Length	0	NOTIC		None -		None
Veh in Median Storage	-			0	0	
Grade. %	2,# 2			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	9	14	823	377	21
Major/Minor I	Minor2		Major1	N	Major2	
Conflicting Flow All	1239	388	398	0	-	0
Stage 1	388		-	-		-
Stage 2	851	-	-	-		-
Critical Hdwy	6.42	6.22	4.12	-		-
Critical Hdwy Stg 1	5.42	-	-	-		
Critical Hdwy Stg 2	5.42			-		-
Follow-up Hdwy		3.318	2.218	-		
Pot Cap-1 Maneuver	194	660	1161	-		
Stage 1	686	-				
Stage 2	419					
Platoon blocked, %	117					
Mov Cap-1 Maneuver	190	660	1161			
Mov Cap-1 Maneuver	369	- 000	1101			
Stage 1	671					
Stage 2	419			-		
Stage 2	419					
Approach	EB		NB		SB	
HCM Control Delay, s	16.2		0.1		0	
HCM LOS	С					
Minor Lane/Major Mvm	nt	NBL	MRT	EBLn1	SBT	SBR
	IL	1161	INDI	391	301	JUK
Capacity (veh/h)		0.012		0.175		
HCM Cantral Dalay (2)					-	-
HCM Control Delay (s)	)	8.1	0	16.2		-
HCM Lane LOS	,	A	Α	С	-	-
HCM 95th %tile Q(veh)	)	0	-	0.6	-	-

Intersection
Intersection Delay, s/veh 46.3
Intersection LOS E
Movement WBL WBR NBT NBR SBL SBT
Lane Configurations V
Traffic Vol., veh/h 21 681 86 7 306 46
Future Vol. veh/h 21 681 86 7 306 46
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92
Heavy Vehicles, % 2 2 2 2 2 2 2
Mymt Flow 23 740 93 8 333 50
Number of Lanes 1 0 1 0 0 1
Approach WB NB SB
Opposing Approach SB NB
Opposing Lanes 0 1 1
Conflicting Approach Left NB WB
Conflicting Lanes Left 1 0 1
Conflicting Lanes Left 1 0 1 Conflicting Approach Right SB WB
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C           Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         3%         87%           Vol Truy, %         92%         0%         13%           Vol Right, %         8%         97%         0%
Conflicting Lanes Left
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB         WB           Conflicting Lanes Right         1         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C           Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         3%         87%           Vol Thru, %         92%         0%         13%           Vol Right, %         8%         97%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         93         702         352           LT Vol         0         21         306           Through Vol         86         0         46           RT Vol         7         681         0           Lane Flow Rate         101         763         383           Geometry Grp         1         1         1           Degree of Util (X)         0.184         1.033         0.66           Departure Headway (Hd)         6.766         4.874         6.384
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C           Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         3%         87%           Vol Thru, %         92%         0%         13%           Vol Right, %         8%         97%         0%           Sign Control         Slop         Slop         Slop           Traffic Vol by Lane         93         702         352           LT Vol         0         21         306           Through Vol         86         0         46           RT Vol         7         681         0           Lane Flow Rate         101         763         383           Geometry Grp         1         1         1           Degreture Headway (Hd)         6,766         4,874         6,384           Convergence, Y/N         Yes         Yes         Yes
Conflicting Lanes Left
Conflicting Lanes Left
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C           Lane         NBLn1         WBLn1         SBLn1           VOI Left, %         0%         3%         87%           VOI Thru, %         92%         0%         13%           VOI Right, %         8%         97%         0%           Sign Control         Stop         Stop           Traffic Vol by Lane         93         702         352           LT Vol         0         21         306           Through Vol         86         0         46           RT Vol         7         681         0           Lane Flow Rate         101         763         383           Geometry Grp         1         1         1           Degree of Util (X)         0.184         1.033         0.66           Departure Headway (Hd)         6.766         4.874         6.384           Convergence, Y/N <td< td=""></td<>
Conflicting Lanes Left
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         63.7         11.3         20.9           HCM LOS         F         B         C           Lane         NBLn1         WBLn1         SBLn1           VOI Left, %         0%         3%         87%           VOI Thru, %         92%         0%         13%           VOI Right, %         8%         97%         0%           Sign Control         Stop         Stop           Traffic Vol by Lane         93         702         352           LT Vol         0         21         306           Through Vol         86         0         46           RT Vol         7         681         0           Lane Flow Rate         101         763         383           Geometry Grp         1         1         1           Degree of Util (X)         0.184         1.033         0.66           Departure Headway (Hd)         6.766         4.874         6.384           Convergence, Y/N <td< td=""></td<>

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EDL	EDI	WB1	WBK	SBL	JBK
Traffic Vol, veh/h	<u>ግ</u>	<b>T</b> 317	696	2	<b>Y</b>	7
Future Vol. ven/h	4	317	696	2	4	7
Conflicting Peds, #/hr	6	317	090	6	0	0
	Free	Free	Free	Free	Stop	
Sign Control RT Channelized	riee -	None	riee -	None	Slop -	Stop
Storage Length	50	None -		None -	0	None -
					-	
Veh in Median Storage		0	0		0	-
Grade, %	- 02	0	0	- 02	0	- 02
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	345	757	2	4	8
Major/Minor I	Major1	1	Major2	- 1	Vinor2	
Conflicting Flow All	765	0	-	0	1117	764
Stage 1	-	-		-	764	-
Stage 2					353	
Critical Hdwy	4.12				6.42	6.22
Critical Hdwy Stg 1	7.12				5.42	0.22
Critical Hdwy Stg 2					5.42	
Follow-up Hdwy	2.218				3.518	
Pot Cap-1 Maneuver	848				229	404
Stage 1	040				460	404
Stage 2	-				711	
Platoon blocked. %					711	
	843	-	-	-	225	402
Mov Cap-1 Maneuver		-	-			
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	707	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		17	
HCM LOS	0.1		- 0		C	
TIONI EGG						
Minor Lane/Major Mvm	t	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		843	-	-	-	313
HCM Lane V/C Ratio		0.005	-	-	-	0.038
HCM Control Delay (s)		9.3	-	-	-	17
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh)	)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.		*	ĵ.			4			4	
Traffic Vol. veh/h	16	304	1	1	651	28	3	0	1	35	0	44
Future Vol. veh/h	16	304	1	1	651	28	3	0	1	35	0	44
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-		50								
Veh in Median Storage	2,# -	0			0			0			0	
Grade, %	-	0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	330	1	1	708	30	3	0	1	38	0	48
	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	745	0	0	331	0	0	1114	1112	331	1097	1097	730
Stage 1		-	-	-	-	-	365	365	-	732	732	-
Stage 2	-	-		-	-	-	749	747	-	365	365	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	863	-	-	1228	-	-	185	209	711	191	213	422
Stage 1	-	-	-	-	-	-	654	623	-	413	427	-
Stage 2	-	-	-	-	-	-	404	420	-	654	623	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	857	-	-	1228	-	-	161	203	711	186	207	419
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	203	-	186	207	-
Stage 1		-	-	-	-	-	641	611	-	402	424	-
Stage 2	-	-	-	-	-	-	358	417	-	640	611	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0			23.4			24.5		
HCM LOS							С			С		
Minor Lane/Major Mvm	nt I	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		200	857	-	-	1228			269			
HCM Lane V/C Ratio		0.022	0.02			0.001			0.319			
HCM Control Delay (s)		23.4	9.3			7.9			24.5			
HCM Lane LOS		С	Α	-	-	Α	-		С			
HCM 95th %tile Q(veh	)	0.1	0.1	-	-	0	-	-	1.3			

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	T T	<u></u>	1	WDI(	→ N	SDIN
Traffic Vol, veh/h	4	332	671	2	6	5
Future Vol, veh/h	4	332	671	2	6	5
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	e,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	361	729	2	7	5
Major/Minor	Major1	1	Najor2		Vinor2	
Conflicting Flow All	740	0	-	0	1108	739
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	369	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	
Pot Cap-1 Maneuver	867	-	-	-	232	417
Stage 1	-	-	-	-	472	-
Stage 2		-	-	-	699	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	860	-	-	-	227	413
Mov Cap-2 Maneuver	-	-	-	-	227	-
Stage 1		-	-	-	465	-
Stage 2		-	-	-	693	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		18.2	
HCM LOS					С	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SRI n1
Capacity (veh/h)		860	LDI	WD1	WDIC -	285
HCM Lane V/C Ratio		0.005				0.042
HCM Control Delay (s	)	9.2				18.2
HCM Lane LOS	,	Α.				C
Lunc Loo		/1				

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EBL	EDI ↑	WB1	WDR	SBL	SDR
Traffic Vol, veh/h	56	<b>T</b> 282	538	47	25	135
Future Vol. veh/h	56	282	538	47	25	135
Conflicting Peds, #/hr	8	202	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	1166	None	1166	None	Jiup -	None
Storage Length	100	NONE -		None -	0	None -
Veh in Median Storage		0	0		0	
Grade. %	2,# -	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	61	307	585	51	27	147
Major/Minor	Major1	1	Major2	- 1	Minor2	
Conflicting Flow All	644	0	-	0	1048	619
Stage 1	-	-		-	619	-
Stage 2					429	
Critical Hdwy	4.11				6.41	6.21
Critical Hdwy Stg 1					5.41	0.21
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209				3.509	
Pot Cap-1 Maneuver	946				253	490
Stage 1	940				539	490
Stage 2	-		-		659	-
Platoon blocked, %			- 1		039	
	020		-		222	407
Mov Cap-1 Maneuver	939		-	-	233	486
Mov Cap-2 Maneuver	-	-	-	-	233	-
Stage 1			-		500	-
Stage 2	-	-	-	-	654	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.5		0		19.7	
HCM LOS	1.0		- 0		C	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		939	-		-	416
HCM Lane V/C Ratio		0.065	-			0.418
HCM Control Delay (s)	)	9.1	-			19.7
HCM Lane LOS		Α		-		С
HCM 95th %tile Q(veh	1)	0.2				2
7501 70010 Q(VCII	,	0.2				

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EE	B WB	NB	SB
Entry Lanes		1	1	1
Conflicting Circle Lanes	•		1	1
Adj Approach Flow, veh/h	219	315	59	180
Demand Flow Rate, veh/h	220	318	60	182
Vehicles Circulating, veh/h	4	101	195	369
Vehicles Exiting, veh/h	547	154	29	50
Ped Vol Crossing Leg, #/h	(	) 0	0	8
Ped Cap Adj	1.000		1.000	0.999
Approach Delay, s/veh	3.9	5.2	3.7	5.7
Approach LOS	A	Α Α	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	220	318	60	182
Cap Entry Lane, veh/h	1374	1245	1131	947
Entry HV Adj Factor	0.993	0.990	0.983	0.989
Flow Entry, veh/h	219	315	59	180
Cap Entry, veh/h	1365	1233	1111	936
V/C Ratio	0.160	0.255	0.053	0.192
Control Delay, s/veh	3.9	5.2	3.7	5.7
1.00	Λ		Λ	Λ
LOS 95th %tile Queue, veh	A 1	A 1	A 0	A 1

### Beechwood SP 1: SR 46 E & Buena Vista Drive

# Near Term Plus 674 Unit Project PM Queues

	•	$\rightarrow$	-	*	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	257	1291	1300	116	124	231
v/c Ratio	0.68	0.39	0.82	0.15	0.53	0.36
Control Delay	49.6	0.3	28.9	3.6	54.2	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	0.3	28.9	3.6	54.2	20.2
Queue Length 50th (ft)	153	0	372	0	77	81
Queue Length 95th (ft)	311	0	570	31	166	181
Internal Link Dist (ft)		1017	748		574	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	505	3312	2849	1291	505	980
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.39	0.46	0.09	0.25	0.24
Intersection Summary						

Beechwood SP 1: SR 46 E & Buena Vista Drive

	•	<b>→</b>	<b>←</b>	*	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	7	<b>^</b>	<b>^</b>	7	7	7			
Traffic Volume (vph)	254	1278	1287	115	123	229			
Future Volume (vph)	254	1278	1287	115	123	229			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1656	3312	3312	1482	1656	1482			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1656	3312	3312	1482	1656	1482			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99			
Adj. Flow (vph)	257	1291	1300	116	124	231			
RTOR Reduction (vph)	0	0	0	60	0	26			
Lane Group Flow (vph)	257	1291	1300	56	124	205			
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	23.8	102.8	49.4	49.4	14.6	42.4			
Effective Green, g (s)	23.8	102.8	49.4	49.4	14.6	42.4			
Actuated g/C Ratio	0.23	1.00	0.48	0.48	0.14	0.41			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	383	3312	1591	712	235	611			
v/s Ratio Prot	c0.16	0.39	c0.39		c0.07	0.14			
v/s Ratio Perm				0.04					
v/c Ratio	0.67	0.39	0.82	0.08	0.53	0.34			
Uniform Delay, d1	35.9	0.0	22.8	14.4	40.9	20.6			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	4.6	0.3	3.6	0.1	2.4	0.3			
Delay (s)	40.5	0.3	26.4	14.5	43.3	20.9			
Level of Service	D	A	C	В	D	С			
Approach Delay (s)		7.0	25.4		28.8				
Approach LOS		Α	С		С				
Intersection Summary									
HCM 2000 Control Delay			17.2	Н	CM 2000	Level of Servic	е	В	
HCM 2000 Volume to Capa	acity ratio		0.73					45.0	
Actuated Cycle Length (s)			102.8		um of los			15.0	
Intersection Capacity Utiliza	ation		69.4%	IC	CU Level	of Service		С	
Analysis Period (min)			15						
Phase conflict between	lane groups	S.							

c Critical Lane Group

971

37.9

336

536

1323

0

0.45 0.27

58.1 37.9

58.1

139

225

532 2135

0

277

4.9 58.0

4.9 58.0 42.7

0 18 310

62

485 125

1034

0

52 887

0.0

48 495

532

0

0.10

0.80

42.7

0.0

2509

0

0.42 0.13

127

6.3 57.4

6.3 57.4

0 89

46 169

390

0

0.22

246

0.59

0.0

160

0

0.42 0.23

280

0.33

35.8

0.0

35.8

83

153

853

1233

0

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn

Total Delay

193

0.53

58.2

0.0

58.2

70 227

138

140

0

0.33 0.50

330 312

55.8

0.0

55.8

415

0

0.57

14.5

0.0

39

149

714

0

14.5

	۶	-	•	•	<b>—</b>	*	4	<b>†</b>	-	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	77	<b>^</b>	7	1,1	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		77	<b>*</b>	
Traffic Volume (veh/h)	190	942	269	50	860	123	239	225	47	187	320	30
Future Volume (veh/h)	190	942	269	50	860	123	239	225	47	187	320	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	179
Adj Flow Rate, veh/h	196	971	277	52	887	127	246	232	48	193	330	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.9
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	
Cap, veh/h	275	1245	555	105	1191	531	331	745	151	274	443	37
Arrive On Green	0.08	0.36	0.36	0.03	0.35	0.35	0.10	0.26	0.26	0.08	0.25	0.2
Sat Flow, veh/h	3319	3413	1520	3319	3413	1521	3319	2824	574	3319	1796	152
Grp Volume(v), veh/h	196	971	277	52	887	127	246	139	141	193	330	31
Grp Sat Flow(s), veh/h/ln	1659	1706	1520	1659	1706	1521	1659	1706	1691	1659	1796	152
Q Serve(g_s), s	5.4	23.5	8.6	1.4	21.3	5.5	6.7	6.1	6.3	5.3	15.8	18
Cycle Q Clear(q c), s	5.4	23.5	8.6	1.4	21.3	5.5	6.7	6.1	6.3	5.3	15.8	18
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.0
Lane Grp Cap(c), veh/h	275	1245	555	105	1191	531	331	450	446	274	443	37
V/C Ratio(X)	0.71	0.78	0.50	0.49	0.74	0.24	0.74	0.31	0.32	0.70	0.74	0.8
Avail Cap(c_a), veh/h	642	2567	1143	642	2567	1144	713	752	745	713	791	67
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Uniform Delay (d), s/veh	41.6	26.2	9.7	44.3	26.6	21.5	40.7	27.4	27.5	41.6	32.3	33
Incr Delay (d2), s/veh	3.4	1.1	0.7	1.3	0.9	0.2	3.3	0.4	0.4	3.3	2.5	4
nitial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
%ile BackOfQ(50%),veh/ln	2.2	8.6	4.2	0.6	7.8	1.9	2.8	2.4	2.5	2.2	6.8	6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	27.3	10.4	45.6	27.6	21.7	44.0	27.8	27.9	44.9	34.8	38
LnGrp LOS	D	С	В	D	С	С	D	С	С	D	С	
Approach Vol, veh/h		1444			1066			526			835	
Approach Delay, s/veh		26.5			27.8			35.4			38.3	
Approach LOS		С			С			D			D	
Fimer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	41.3	13.3	28.3	11.7	39.8	11.7	29.9				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+l1), s	3.4	25.5	8.7	20.1	7.4	23.3	7.3	8.3				
Green Ext Time (p_c), s	0.0	8.4	0.6	2.9	0.4	6.8	0.5	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			30.6									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	NBT 0 0 0 Stop - 0 0 97 7	NBR 387 387 0 Stop None 25 - - - 7 7 399	SBL  0 0 0 Stop 97	SBT 0 0 0 Stop - 0 0 97	0 Stop None 25
Traffic Vol, veh/h         0         1074         102         322         1015         0         18           Future Vol, veh/h         0         1074         102         322         1015         0         18           Conflicting Peds, #hr         1         0         0         0         0         1         0           Sign Control         Free	0 0 0 Stop - - 0 0 97	387 387 0 Stop None 25 - - 97 7	0 Stop - - - - - 97	0 0 0 Stop - - 0	0 0 Stop None 25
Future Vol, veh/h Conflicting Peds, #/hr 1 0 0 0 0 0 0 1 1 0 0 0 Sign Control RT Channelized None 1 1 0 Storage Length 340 195 - 0 1 0 Carde, % - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Stop - 0 0 0 97 7	387 0 Stop None 25 - - 97 7	0 Stop - - - - - 97	0 0 Stop - - 0	0 Stop None 25
Conflicting Peds, #hr         1         0         0         0         0         0         1         0           Sign Control         Free         Free         Free         Free         Free         Free         Free         Stop           ST Channelized         -         None         -         None         -         None         -           Storage Length         340         -         195         -         0         -         -           Veh in Median Storage, #         -         0         -         -         0         -         -           Grade, %         -         0         -         -         0         -         -           Peak Hour Factor         97         97         97         97         97         97         7           Heavy Vehicles, %         7         7         7         7         7         7         7	0 Stop - - 0 0 97 7	0 Stop None 25 - - - 7	0 Stop - - - - - 97	Stop 0 0	Stop None 25
Sign Control         Free         Free	Stop - 0 0 97 7	Stop None 25 - - 97 7	Stop - - - - - 97	Stop - - 0 0	Stop None 25
RT Channelized         -         -         None         -         None         -           Storage Length         340         -         195         -         -         -           Veh in Median Storage, #         -         0         -         -         0         -         -           Grade, %         -         0         -         -         0         -         -           Peak Hour Factor         97         97         97         97         97         97           Heavy Vehicles, %         7         7         7         7         7         7	- 0 0 97 7	None 25 - - 97 7	- - - - 97	- 0 0	None 25
Storage Length         340         -         -         195         -	0 0 97 7	25 - - 97 7	- - - - 97	0	25
Veh in Median Storage, #         0         -         0         -         -         0         -         -         0         -         -         0         - <td>0 0 97 7</td> <td>- - 97 7</td> <td>- - 97</td> <td>0</td> <td>-</td>	0 0 97 7	- - 97 7	- - 97	0	-
Grade, %         -         0         -         -         0         -<	97 7	97 7	97	0	-
Peak Hour Factor         97         97         97         97         97         97         97         97           Heavy Vehicles, %         7         7         7         7         7         7         7	97 7	97 7	97	-	
Heavy Vehicles, % 7 7 7 7 7 7 7 7	7	7		97	0.7
					97
Mvmt Flow 0 1107 105 332 1046 0 19	0	200	7	7	7
		399	0	0	0
Major/Minor Major1 Major2 Minor1		Λ	/linor2		
Conflicting Flow All 1047 0 0 1212 0 0 2347	2871	606	2265	2923	524
Stage 1 1160	1160	-	1711	1711	021
Stage 2 1187	1711		554	1212	
Critical Hdwy 4.24 4.24 7.64	6.64	7.04	7.64	6.64	7.04
Critical Hdwy Stg 1 6.64	5.64	-	6.64	5.64	
Critical Hdwy Stg 2 6.64	5.64		6.64	5.64	
Follow-up Hdwy 2.27 2.27 3.57	4.07	3.37	3.57	4.07	3.37
Pot Cap-1 Maneuver 631 544 18	15	428	21	14	485
Stage 1 200	258	120	89	137	100
Stage 2 192	137	-	472	243	
Platoon blocked, %	107		.,_	210	
Mov Cap-1 Maneuver 630 544 9	6	428	1	5	485
Mov Cap-2 Maneuver 9	6	120	1	5	100
Stage 1 200	258		89	53	
Stage 2 75	53		32	243	
5.0g5 2 - 10	55		52	2-13	
Approach EB WB NB			SB		
HCM Control Delay, s 0 5.2 114.6			0		
HCM LOS F			A		
TIONI EOS F			A		
Minor Lane/Major Mvmt NBLn1 NBLn2 EBL EBT EBR WBL	WBT	WRD	SBLn1:	CRI no	
	WDI	VVDR 3	DULIII.	SBLIIZ -	
7 120 000 011	-	-	-		
HCM Lane V/C Ratio 2.062 0.932 0.61 HCM Control Delay (s) \$ 1298.3 59.5 0 - 21.4			0	0	
	-	-	Α	Α	
HCM 95th %tile Q(veh) 3.3 10.6 0 4.1	-	-	-	-	

Intersection							
Int Delay, s/veh	6.4						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	EDL.	<u>₽₽</u>	₩D1	NDK.	JDL N	JDK 7	_
Traffic Vol. veh/h	283	<b>TT</b>	<b>TT</b> 975	13	11	360	
Future Vol. veh/h	283	1179	975	13	11	360	
Conflicting Peds, #/hr	283	0	9/5	0	0	300	
						-	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	110110	-	None	
Storage Length	580		-	165	0	25	
Veh in Median Storage	:,# -	0	0	-	2	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	10	10	10	10	10	10	
Mvmt Flow	301	1254	1037	14	12	383	
	Major1		Major2		Minor2		
Conflicting Flow All	1051	0	-	0	2266	519	
Stage 1	-	-	-	-	1037	-	
Stage 2	-	-	-	-	1229	-	
Critical Hdwy	4.3	-	-	-	7	7.1	
Critical Hdwy Stg 1	-	-	-	-	6	-	
Critical Hdwy Stg 2	-	-		-	6	-	
Follow-up Hdwy	2.3				3.6	3.4	
Pot Cap-1 Maneuver	612				31	481	
Stage 1	012				285	- 101	
	- 1				203		
Stage 2	-				224	-	
Platoon blocked, %		-	-	-			
Mov Cap-1 Maneuver	612	-	-	-	16	481	
Mov Cap-2 Maneuver	-	-	-	-	114	-	
Stage 1	-	-	-	-	145	-	
Stage 2	-	-	-	-	224	-	
, and the second							
					0.0		
Approach	EB		WB		SB		
HCM Control Delay, s	3.2		0		35.9		
HCM LOS					Ε		
Minor Lane/Major Mvm	ıt	EBL	EBT	WBT	WRP	SBLn1	
	ı	612	EDI	WDI	NOK	114	Š
Capacity (veh/h)				-	-		
HCM Lane V/C Ratio		0.492	-	-	-	0.103	
HCM Control Delay (s)		16.4	-		-	40.2	
HCM Lane LOS		С	-	-	-	Е	
HCM 95th %tile Q(veh)	)	2.7	-	-	-	0.3	

Beechwood SP

4: SR 46 E & Airport Road

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	44	7	7	۴ß			र्स	7		4	
Traffic Vol, veh/h	0	1179	11	1	972	0	17	0	4	0	0	1
Future Vol, veh/h	0	1179	11	1	972	0	17	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-		None	-	-	None	-		None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage	2,# -	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-		0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	1215	11	1	1002	0	18	0	4	0	0	1

Major/Minor	Major1		Λ	/lajor2		1	/linor1		1	Minor2			
Conflicting Flow All	1002	0	0	1226	0	0	1718	2219	608	1612	2230	501	
Stage 1	-	-	-	-	-	-	1215	1215	-	1004	1004	-	
Stage 2	-	-	-	-	-	-	503	1004	-	608	1226	-	
Critical Hdwy	4.34	-	-	4.34	-	-	7.74	6.74	7.14	7.74	6.74	7.14	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-	
Follow-up Hdwy	2.32	-	-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42	
Pot Cap-1 Maneuver	629	-	-	512	-	-	52	38	415	63	37	490	
Stage 1	-	-	-	-	-	-	177	233	-	241	297	-	
Stage 2	-	-	-	-	-	-	494	297	-	426	230	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver	629	-	-	512	-	-	52	38	415	62	37	490	
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	176	-	205	174	-	
Stage 1	-	-	-	-	-	-	177	233	-	241	296	-	
Stage 2	-	-	-	-	-	-	492	296	-	422	230	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0			27			12.4			
HCM LOS							D			В			

TICIVI LOS						D			ь	
Minor Lane/Maior Mymt	NBI n1 N	IBI n2	FBI	FBT	FBR	WBI	WBT	WBR	SBI n1	
Capacity (veh/h)	161	415	629	-	-	512	-		490	
HCM Lane V/C Ratio	0.109	0.01	-	-	-	0.002	-		0.002	
HCM Control Delay (s)	30.1	13.8	0		-	12			12.4	
HCM Lane LOS	D	В	Α	-	-	В	-	-	В	
HCM 95th %tile Q(veh)	0.4	0	0	-	-	0	-	-	0	

Intersection				
Intersection Delay, s/veh	23.3			
Intersection LOS	С			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	396	667	677	640
Demand Flow Rate, veh/h	401	673	684	646
Vehicles Circulating, veh/h	877	444	368	609
Vehicles Exiting, veh/h	378	608	910	508
Ped Vol Crossing Leg, #/h	1	1	1	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	24.3	20.2	16.7	32.8
Approach LOS	С	С	С	D
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	401	673	684	646
Cap Entry Lane, veh/h	564	877	948	741
Entry HV Adj Factor	0.989	0.991	0.990	0.991
Flow Entry, veh/h	396	667	677	640
Cap Entry, veh/h	558	869	938	735
V/C Ratio	0.711	0.767	0.722	0.871
Control Delay, s/veh	24.3	20.2	16.7	32.8
100	С	С	С	D
LOS 95th %tile Queue, veh	6	8	C	11

Beechwood SP

6: Golden Hill Road & Union Road

Near Term Plus 674 Unit Project PM

7: Riverside Ave & 13th Street

	ၨ	<b>→</b>	•	←	*	4	†	1	-	ļ	1	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	513	255	457	647	6	47	281	353	355	110	
v/c Ratio	0.19	0.68	0.70	0.56	0.62	0.03	0.26	0.69	0.75	0.75	0.21	
Control Delay	53.9	40.1	47.2	25.3	4.9	43.8	46.7	15.0	43.3	42.8	4.2	
Queue Delay	0.0	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.9	40.1	47.2	26.3	5.3	43.8	46.7	15.0	43.3	42.8	4.2	
Queue Length 50th (ft)	12	144	139	179	0	3	26	0	193	194	0	
Queue Length 95th (ft)	44	252	268	393	80	17	69	80	#387	380	28	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	110	1006	549	996	1128	383	403	563	639	648	671	
Starvation Cap Reductn	0	0	9	297	142	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.19	0.51	0.47	0.65	0.66	0.02	0.12	0.50	0.55	0.55	0.16	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 7: Riverside Ave & 13th Street Near Term Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	-	•	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ħβ		ሻ	<b>^</b>	7	ሻ	<b>↑</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	20	451	31	240	430	608	6	44	264	582	84	103
Future Volume (veh/h)	20	451	31	240	430	608	6	44	264	582	84	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	480	33	255	457	647	6	47	281	683	0	110
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	39	952	65	290	792	655	305	321	272	799	0	354
Arrive On Green	0.02	0.28	0.28	0.16	0.42	0.42	0.17	0.17	0.17	0.22	0.00	0.22
Sat Flow, veh/h	1795	3399	233	1795	1885	1559	1795	1885	1598	3591	0	1590
Grp Volume(v), veh/h	21	252	261	255	457	647	6	47	281	683	0	110
Grp Sat Flow(s), veh/h/ln	1795	1791	1841	1795	1885	1559	1795	1885	1598	1795	0	1590
Q Serve(g_s), s	1.3	12.8	12.9	15.1	20.2	44.7	0.3	2.3	18.5	19.9	0.0	6.3
Cycle Q Clear(g_c), s	1.3	12.8	12.9	15.1	20.2	44.7	0.3	2.3	18.5	19.9	0.0	6.3
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	502	516	290	792	655	305	321	272	799	0	354
V/C Ratio(X)	0.54	0.50	0.51	0.88	0.58	0.99	0.02	0.15	1.03	0.85	0.00	0.31
Avail Cap(c_a), veh/h	88	502	516	438	792	655	305	321	272	1073	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.7	32.8	32.8	44.5	24.1	31.2	37.6	38.4	45.1	40.6	0.0	35.3
Incr Delay (d2), s/veh	11.2	0.8	8.0	12.6	1.0	31.9	0.0	0.2	63.6	5.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.7	5.9	7.7	9.1	22.0	0.1	1.1	12.0	9.2	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	33.6	33.6	57.1	25.2	63.1	37.6	38.6	108.8	45.9	0.0	35.8
LnGrp LOS	Ε	С	С	Ε	С	Ε	D	D	F	D	Α	D
Approach Vol, veh/h		534			1359			334			793	
Approach Delay, s/veh		34.8			49.2			97.6			44.5	
Approach LOS		С			D			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	35.0		28.7	6.8	50.2		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	24.5		32.5	5.3	45.7		18.5				
Max Q Clear Time (q c+l1), s	17.1	14.9		21.9	3.3	46.7		20.5				
Green Ext Time (p_c), s	0.5	2.2		2.3	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			50.8									
HCM 6th LOS			D									

User approved volume balancing among the lanes for turning movement.

Near Term Plus 674 Unit Project PM

8: Paso Robles Street & 13th Street

	•	$\rightarrow$	1	-	•	1	1	1	-	Į.	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	91	1303	20	1070	261	276	30	447	8	27	
v/c Ratio	0.41	0.69	0.15	0.69	0.33	0.66	0.05	0.77	0.02	0.04	
Control Delay	45.3	18.3	47.4	23.6	8.1	34.7	22.6	27.9	22.4	0.1	
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.3	19.1	47.4	23.6	8.1	34.7	22.6	27.9	22.4	0.1	
Queue Length 50th (ft)	46	212	10	238	26	130	11	150	3	0	
Queue Length 95th (ft)	109	470	38	402	93	233	33	289	14	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	313	2310	137	2073	982	732	990	909	730	936	
Starvation Cap Reductn	0	625	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.77	0.15	0.52	0.27	0.38	0.03	0.49	0.01	0.03	
Intersection Summary											

Beechwood SP

Near Term Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

8: Paso Robles Street & 13th Street

	۶	<b>→</b>	*	<b>1</b>	<b>←</b>	4	1	†	~	<b>/</b>	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		ħ	<b>^</b>	7	Ť	<b>*</b>	7	7	ĵ»	
Traffic Volume (veh/h)	85	1181	31	19	995	243	257	28	416	7	0	25
Future Volume (veh/h)	85	1181	31	19	995	243	257	28	416	7	0	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	91	1270	33	20	1070	0	276	30	447	8	0	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	119	1662	43	41	1516		535	611	518	389	0	518
Arrive On Green	0.07	0.47	0.47	0.02	0.42	0.00	0.32	0.32	0.32	0.32	0.00	0.32
Sat Flow, veh/h	1795	3564	93	1795	3582	1598	1394	1885	1598	925	0	1598
Grp Volume(v), veh/h	91	638	665	20	1070	0	276	30	447	8	0	27
Grp Sat Flow(s), veh/h/ln	1795	1791	1866	1795	1791	1598	1394	1885	1598	925	0	1598
Q Serve(q_s), s	3.6	21.4	21.4	0.8	17.8	0.0	12.3	0.8	19.0	0.4	0.0	0.8
Cycle Q Clear(g_c), s	3.6	21.4	21.4	0.8	17.8	0.0	13.1	0.8	19.0	1.2	0.0	0.8
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	835	870	41	1516		535	611	518	389	0	518
V/C Ratio(X)	0.77	0.76	0.76	0.49	0.71		0.52	0.05	0.86	0.02	0.00	0.05
Avail Cap(c_a), veh/h	310	1200	1250	136	2053		806	977	828	568	0	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	16.0	16.0	34.9	17.2	0.0	21.3	16.8	23.0	17.2	0.0	16.8
Incr Delay (d2), s/veh	9.8	1.8	1.8	8.7	0.7	0.0	0.8	0.0	5.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	8.2	8.5	0.4	6.8	0.0	3.8	0.3	7.3	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	17.8	17.8	43.6	17.9	0.0	22.1	16.8	28.5	17.2	0.0	16.9
LnGrp LOS	D	В	В	D	В		С	В	С	В	Α	В
Approach Vol, veh/h		1394			1090	Α		753			35	
Approach Delay, s/veh		19.4			18.4			25.7			16.9	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	38.3		28.0	9.3	35.1		28.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	48.5		37.5	12.5	41.5		37.5				
Max Q Clear Time (q c+l1), s	2.8	23.4		3.2	5.6	19.8		21.0				
Green Ext Time (p_c), s	0.0	10.4		0.1	0.1	8.2		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			С									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

## Beechwood SP 9: River Road & Creston Road

# Near Term Plus 674 Unit Project PM Queues

	•	$\rightarrow$	1	<b>—</b>	1	<b>†</b>	1	-	Ų.
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	415	1274	63	762	301	231	67	72	575
v/c Ratio	0.69	0.79	0.40	0.63	0.66	0.27	0.14	0.46	0.76
Control Delay	47.6	27.4	57.2	30.2	52.2	35.9	0.6	59.8	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	27.4	57.2	30.2	52.2	35.9	0.6	59.8	28.6
Queue Length 50th (ft)	140	368	42	217	102	71	0	48	103
Queue Length 95th (ft)	211	516	94	316	165	114	0	104	176
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	789	1955	198	1589	532	1070	574	183	1012
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.65	0.32	0.48	0.57	0.22	0.12	0.39	0.57
Intersection Summary									

Beechwood SP 9: River Road & Creston Road Near Term Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>†</b> }		ň	<b>†</b> î>		77	<b>^</b>	7	Ţ	<b>†</b> 1>	
Traffic Volume (veh/h)	394	827	383	60	646	78	286	219	64	68	220	326
Future Volume (veh/h)	394	827	383	60	646	78	286	219	64	68	220	326
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	415	871	0	63	680	82	301	231	67	72	232	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	575	1489		96	977	118	433	649	289	103	409	
Arrive On Green	0.17	0.42	0.00	0.05	0.30	0.30	0.12	0.18	0.18	0.06	0.11	0.00
Sat Flow, veh/h	3483	3676	0	1795	3213	387	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	415	871	0	63	379	383	301	231	67	72	232	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1809	1742	1791	1598	1795	1791	0
Q Serve(g_s), s	7.0	11.6	0.0	2.1	11.5	11.5	5.1	3.5	2.2	2.4	3.8	0.0
Cycle Q Clear(g_c), s	7.0	11.6	0.0	2.1	11.5	11.5	5.1	3.5	2.2	2.4	3.8	0.0
Prop In Lane	1.00		0.00	1.00		0.21	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	575	1489		96	545	550	433	649	289	103	409	
V/C Ratio(X)	0.72	0.58		0.66	0.70	0.70	0.69	0.36	0.23	0.70	0.57	
Avail Cap(c_a), veh/h	1215	3109		306	1235	1248	819	1645	734	283	1366	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	13.9	0.0	28.6	18.9	18.9	25.9	22.1	21.6	28.5	25.8	0.0
Incr Delay (d2), s/veh	1.7	0.4	0.0	7.3	1.6	1.6	2.0	0.3	0.4	8.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.2	0.0	1.1	4.5	4.5	2.0	1.3	0.8	1.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	14.3	0.0	36.0	20.5	20.5	27.9	22.4	22.0	36.7	27.1	0.0
LnGrp LOS	С	В		D	С	С	С	С	С	D	С	
Approach Vol, veh/h		1286	А		825			599			304	А
Approach Delay, s/veh		18.1			21.7			25.1			29.4	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	30.1	12.2	11.5	14.7	23.2	8.0	15.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	53.5	14.5	23.5	21.5	42.5	9.7	28.3				
Max Q Clear Time (g c+l1), s	4.1	13.6	7.1	5.8	9.0	13.5	4.4	5.5				
Green Ext Time (p_c), s	0.0	7.5	0.6	1.1	1.2	5.1	0.1	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			21.0 C									
Notes												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

	~ ~ ~ . ~ ~									. ,
	•	<b>→</b>	<b>←</b>	4	<b>\</b>	4				
Movement	EBL	EBT	WBT	WBR	SBL	SBR				
Lane Configurations	*	<b>^</b>	<b>†</b> p		ሻሻ	7				
Traffic Volume (vph)	56	478	497	475	633	71				
Future Volume (vph)	56	478	497	475	633	71				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00				
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00				
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00				
Frt	1.00	1.00	0.93		1.00	0.85				
Flt Protected	0.95	1.00	1.00		0.95	1.00				
Satd. Flow (prot)	1787	3574	3287		3467	1599				
Flt Permitted	0.95	1.00	1.00		0.95	1.00				
Satd. Flow (perm)	1787	3574	3287		3467	1599				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97				
Adj. Flow (vph)	58	493	512	490	653	73				
RTOR Reduction (vph)	0	0	138	0	0	52				
Lane Group Flow (vph)	58	493	864	0	653	21				
Confl. Peds. (#/hr)				4						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%				
Turn Type	Prot	NA	NA		Perm	Perm				
Protected Phases	5	2	6							
Permitted Phases					4	4				
Actuated Green, G (s)	6.3	38.5	27.7		21.6	21.6				
Effective Green, g (s)	6.3	38.5	27.7		21.6	21.6				
Actuated g/C Ratio	0.08	0.50	0.36		0.28	0.28				
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)	146	1789	1184		973	449				
v/s Ratio Prot	c0.03	0.14	c0.26							
v/s Ratio Perm					c0.19	0.01				
v/c Ratio	0.40	0.28	0.73		0.67	0.05				
Uniform Delay, d1	33.5	11.1	21.4		24.5	20.1				
Progression Factor	1.00	1.00	1.00		1.00	1.00				
Incremental Delay, d2	1.8	0.1	2.3		1.8	0.0				
Delay (s)	35.3	11.2	23.7		26.3	20.2				
Level of Service	D	В	С		С	С				
Approach Delay (s)		13.7	23.7		25.7					
Approach LOS		В	С		С					
Intersection Summary										
HCM 2000 Control Delay			21.9	Н	CM 2000	Level of Serv	ice	С		
HCM 2000 Volume to Capa	city ratio		0.63							
Actuated Cycle Length (s)			76.9		um of los			18.0		
Intersection Capacity Utiliza	tion		62.7%	IC	CU Level	of Service		В		
Analysis Period (min)			15							

Analysis Period (min) c Critical Lane Group

		-		-	*	
Lane Group	EBL	EBT	WBT	SBL	SBR	
Lane Group Flow (vph)	58	493	1002	653	73	
v/c Ratio	0.28	0.27	0.73	0.64	0.14	
Control Delay	42.4	12.0	21.2	30.2	8.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.4	12.0	21.2	30.2	8.8	
Queue Length 50th (ft)	23	51	145	122	0	
Queue Length 95th (ft)	88	165	388	#354	40	
Internal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	279	2709	2084	1396	687	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.21	0.18	0.48	0.47	0.11	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft) Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Intersection Summary

35.9

0.0

35.9

172

235

2310

941

0

0

604

1092

0

0.66

48.8 123.4

48.8 123.4

89 ~418

154 #628

150

0

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

342

0.50

6.1 53.0

6.1 53.0

0

0.50

125

0.63

0.0

68 187

170

0

0.58

65 #136

829

0.86 0.79

35.7

0.0

35.7

#314 #231

0 0

0.86 0.73

219

57.1

0.0

57.1

119

230

299

437

0.60

0.0

33.0 125.4

108 ~262

157 #440

0

33.0 125.4

385 662

1.13 0.77

0.0

245

340

0

	۶	<b>→</b>	*	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	, j	<b>*</b>	7	ň	<b>†</b> 1>		ሻ	<b>↑</b> ↑		7	<b>↑</b> ↑	
Traffic Volume (veh/h)	160	580	328	120	451	345	210	355	64	370	498	13
Future Volume (veh/h)	160	580	328	120	451	345	210	355	64	370	498	13
nitial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	(
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	604	342	125	470	359	219	370	67	385	519	143
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	564	470	158	522	397	260	527	94	369	654	179
Arrive On Green	0.12	0.30	0.30	0.09	0.27	0.27	0.15	0.18	0.18	0.21	0.24	0.2
Sat Flow, veh/h	1781	1870	1560	1781	1902	1448	1781	2994	536	1781	2752	755
Grp Volume(v), veh/h	167	604	342	125	439	390	219	218	219	385	334	328
Grp Sat Flow(s), veh/h/ln	1781	1870	1560	1781	1777	1572	1781	1777	1753	1781	1777	1730
Q Serve(g_s), s	7.3	24.0	15.6	5.5	19.0	19.0	9.5	9.2	9.4	16.5	14.1	14.2
Cycle Q Clear(g_c), s	7.3	24.0	15.6	5.5	19.0	19.0	9.5	9.2	9.4	16.5	14.1	14.
Prop In Lane	1.00	24.0	1.00	1.00	17.0	0.92	1.00	7.2	0.31	1.00	14.1	0.4
ane Grp Cap(c), veh/h	206	564	470	158	488	432	260	313	309	369	422	41
V/C Ratio(X)	0.81	1.07	0.73	0.79	0.90	0.90	0.84	0.70	0.71	1.04	0.79	0.80
Avail Cap(c a), veh/h	325	564	470	235	488	432	325	469	463	369	513	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	27.8	24.9	35.5	27.8	27.9	33.1	30.8	30.9	31.5	28.5	28.
Incr Delay (d2), s/veh	8.1	58.3	5.6	10.3	19.6	22.0	15.0	2.8	3.0	58.3	6.8	7.4
nitial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	18.9	6.0	2.7	10.1	9.2	5.0	4.0	4.0	12.7	6.5	6.4
%และ BackOrQ(จับ%),veri/iri Unsig. Movement Delay, s/veh		18.9	0.0	2.1	10.1	9.2	5.0	4.0	4.0	12.7	0.0	0.4
unsig. Movement belay, s/ven LnGrp Delay(d),s/veh	42.4	86.1	30.4	45.8	47.4	49.8	48.1	33.6	33.9	89.9	35.3	35.9
LnGrp LOS	D	F	С	D	D	D	D	C	С	F	D	[
Approach Vol, veh/h		1113			954			656			1047	
Approach Delay, s/veh		62.4			48.2			38.5			55.6	
Approach LOS		E			D			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	18.5	11.6	28.5	16.1	23.4	13.7	26.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	21.0	10.5	24.0	14.5	23.0	14.5	20.0				
Max Q Clear Time (g_c+I1), s	18.5	11.4	7.5	26.0	11.5	16.2	9.3	21.0				
Green Ext Time (p_c), s	0.0	1.7	0.1	0.0	0.2	2.2	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			52.8									
LICM (4F LOC												

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Central Coast Transportation Consulting	Synchro 10 Report
Central Coast Transportation Consulting	Synchio to Report
	Page 27
	raye 21

Central Coast Transportation Consulting

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HCM 6th LOS

Synchro 10 Report Page 29

0.521 0.496

15 11.4

2.7

17.2

0.04

0.1

0.686

5.4 9.1

0.855 0.259

23 40.3 11.9

Beechwood SP

HCM Lane V/C Ratio

HCM Control Delay HCM Lane LOS

HCM 95th-tile Q

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	EDL		EDK	WDL		WDK	INDL		NDIX		JD I	JDK 7
Lane Configurations	111	4	11		4	20		1>	10	<b>1</b>	T = 10	
Traffic Vol, veh/h	111	4	11	4	1	38	20	399	10	48	510	133
Future Vol, veh/h	111	4	11	4	1	38	20	399	10	48	510	133
Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Storag	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	112	4	11	4	1	38	20	403	10	48	515	134
Major/Minor	Minor2			Minor1			Major1		1	Major2		
Conflicting Flow All	1088	1069	520	1134	1198	412	654	0	0	413	0	0
Stage 1	616	616	-	448	448	-	-	-	-	-	-	-
Stage 2	472	453		686	750		-					-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51		6.11	5.51		-			-	-	
Critical Hdwy Stg 2	6.11	5.51		6.11	5.51	-	-				-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	
Pot Cap-1 Maneuver	194	222	558	181	186	642	938			1151		-
Stage 1	480	483		592	575	-						

Major/Minor	Minor2			Minor1			Wajor1		Ν	1ajor2			
Conflicting Flow All	1088	1069	520	1134	1198	412	654	0	0	413	0	0	
Stage 1	616	616		448	448	-	-		-	-	-	-	
Stage 2	472	453	-	686	750	-	-	-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51		6.11	5.51	-	-	-	-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-	
Pot Cap-1 Maneuver	194	222	558	181	186	642	938	-	-	1151	-	-	
Stage 1	480	483	-	592	575	-	-	-	-	-	-	-	
Stage 2	574	572		439	420	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver		207	555	167	174	640	934	-	-	1151	-	-	
Mov Cap-2 Maneuver		207	-	167	174	-	-	-	-	-	-	-	
Stage 1	468	460		580	563	-	-	-	-	-	-	-	
Stage 2	525	560		409	400		-		-		-		
Approach	EB			WB			NB			SB			
HCM Control Delay, s	60.3			13.2			0.4			0.6			
HCM LOS	F			В									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	/BLn1	SBL	SBT	SBR
Capacity (veh/h)	934	-	-	183	483	1151	-	-
HCM Lane V/C Ratio	0.022	-	-	0.695	0.09	0.042	-	-
HCM Control Delay (s)	8.9	-	-	60.3	13.2	8.3	-	-
HCM Lane LOS	Α	-	-	F	В	Α	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3	0.3	0.1	-	

Intersection												
Intersection Delay, s/veh	24.2											
Intersection LOS	С											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ર્ની	7		414
Traffic Vol, veh/h	8	2	7	170	3	182	0	10	239	264	284	230
Future Vol, veh/h	8	2	7	170	3	182	0	10	239	264	284	230
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	9	2	8	183	3	196	0	11	257	284	305	247
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	11.4			23				16.1			33.4	
HCM LOS	В			С				С			D	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		4%	0%	47%	48%	71%	0%					
Vol Thru, %		96%	0%	12%	1%	29%	91%					
Vol Right, %		0%	100%	41%	51%	0%	9%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		249	264	17	355	399	127					
LT Vol		10	0	8	170	284	0					
Through Vol		239	0	2	3	115	115					
RT Vol		0	264	7	182	0	12					
Lane Flow Rate		268	284	18	382	429	137					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.521	0.494	0.041	0.693	0.861	0.258					
Departure Headway (Hd)		7.007	6.268	7.984	6.539	7.222	6.79					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Cap		514	573	447	557	502	528					
Service Time		4.757	4.017	6.057	4.539	4.967	4.535					
HCM Long VIC Datio		0.521	0.407	0.04	0 / 0 /	0.000	0.250					

HCM 95th %tile Q(veh)

14: Creston Road & Charolais Road

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR		
Lacconfigurations			
Traffic Vol, veh/h	12		
Future Vol, veh/h	12		
Peak Hour Factor	0.93		
Heavy Vehicles, %	1		
Mvmt Flow	13		
Number of Lanes	0		

Approach Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left
Conflicting Approach Right Conflicting Lanes Right HCM Control Delay HCM LOS

latan atian						
Intersection	40.7					
Int Delay, s/veh	12.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	7	44	<b>†</b>	7
Traffic Vol, veh/h	323	219	133	190	180	227
Future Vol, veh/h	323	219	133	190	180	227
Conflicting Peds, #/hr	. 0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	145	105	-	-	0
Veh in Median Storag	je,# 0		-	0	0	-
Grade. %	0			0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	333	226	137	196	186	234
	-					
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	558	186	420	0	-	0
Stage 1	186		-	-	-	-
Stage 2	372			-	-	-
Critical Hdwy		6.215		-	-	-
Critical Hdwy Stg 1	5.415	-	-	-	-	-
Critical Hdwy Stg 2	5.815	-	-		-	-
Follow-up Hdwy	3.5095			-	-	-
Pot Cap-1 Maneuver	477	858	1144		-	-
Stage 1	848	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver		858	1144	-	-	-
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	746		-	-	-	-
Stage 2	671	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s			3.5		0	
HCM LOS	D 21.1		3.3		U	
TICIVI EOS	D					
Minor Lane/Major Mv	mt	NBL	NBT	EBLn1 l	EBLn2	SBT
Capacity (veh/h)		1144	-	420	858	-
HCM Lane V/C Ratio		0.12	-	0.793	0.263	-
HCM Control Delay (s	s)	8.6	-	39.3	10.7	-
HCM Lane LOS		Α	-	Ε	В	-
HOMOEIL OVEL OV		0.4		_	4.4	

## Near Term Plus 674 Unit Project PM

15: US 101 SB Ramp & Pine Street & Riverside Avenue

HCM Unsignalized Intersection Capacity Analysis

		-	*	*	•	_	7	Ţ		-	+	*
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ની	7					ĵ»	
Traffic Volume (veh/h)	27	0	109	0	179	14	0	0	0	0	283	34
Future Volume (Veh/h)	27	0	109	0	179	14	0	0	0	0	283	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	0	118	0	195	15	0	0	0	0	308	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	432	326	326	444	345	0	345			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	432	326	326	444	345	0	345			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	84	100	66	99	100			100		
cM capacity (veh/h)	391	593	717	439	580	1088	1220			1630		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	147	210	345									
Volume Left	29	0	0									
Volume Right	118	15	37									
cSH	616	612	1700									
Volume to Capacity	0.24	0.34	0.20									
Queue Length 95th (ft)	23	38	0.20									
Control Delay (s)	12.7	13.9	0.0									
Lane LOS	В.	В	0.0									
Approach Delay (s)	12.7	13.9	0.0									
Approach LOS	В	В	0.0									
Intersection Summary												
Average Delay			6.8									
Intersection Capacity Utilizat	tion		44.6%	IC	III evel	of Service			Α			
Analysis Period (min)			15			50, 1,00						

Central Coast Transportation Consulting
Synchro 10 Report
Page 37

Beechwood SP

Near Term Plus 674 Unit Project PM

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Lane Group WBT Lane Group Flow (vph) 52 438 751 205 437 99 368 1175 623 324 v/c Ratio 0.18 0.77 0.70 0.35 0.42 0.59 0.71 0.33 Control Delay 52.4 61.0 45.6 39.5 3.9 73.7 62.3 28.4 56.9 36.9 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 Total Delay
Queue Length 50th (ft) 52.4 61.0 45.6 39.5 3.9 73.7 62.3 28.4 56.9 36.9 40 184 301 140 21 85 164 277 267 112 Queue Length 95th (ft) 86 264 417 236 79 154 230 378 357 162 Internal Link Dist (ft) 521 1372 680 Turn Bay Length (ft) 115 515 115 165 290 305 Base Capacity (vph) 339 671 1122 609 1090 225 784 1376 1291 Starvation Cap Reductn 0 Spillback Cap Reductn Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0.65 0.25 Reduced v/c Ratio 0.65 0.67 0.34 0.40 0.44 0.47 0.85 Intersection Summary

Central Coast Transportation Consulting Synchro 10 Report

Page 39

Near Term Plus 674 Unit Project PM d HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	<b>→</b>	$\rightarrow$	•	<b>—</b>	•	1	<b>†</b>	1	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	7	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7	7	<b>^</b>	77	ሻሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	50	323	102	728	199	424	96	357	1140	604	256	58
Future Volume (veh/h)	50	323	102	728	199	424	96	357	1140	604	256	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	C
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	52	333	105	751	205	437	99	368	1175	623	264	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	272	406	126	908	492	736	123	796	1358	711	1015	227
Arrive On Green	0.15	0.15	0.15	0.26	0.26	0.26	0.07	0.22	0.22	0.20	0.35	0.35
Sat Flow, veh/h	1795	2681	831	3483	1885	1572	1795	3582	2812	3483	2909	650
Grp Volume(v), veh/h	52	220	218	751	205	437	99	368	1175	623	161	163
Grp Sat Flow(s), veh/h/ln	1795	1791	1721	1742	1885	1572	1795	1791	1406	1742	1791	1768
Q Serve(q_s), s	3.2	15.1	15.6	25.8	11.4	26.1	6.9	11.3	28.2	22.0	8.1	8.4
Cycle Q Clear(q c), s	3.2	15.1	15.6	25.8	11.4	26.1	6.9	11.3	28.2	22.0	8.1	8.4
Prop In Lane	1.00	10.1	0.48	1.00	11.4	1.00	1.00	11.5	1.00	1.00	0.1	0.37
Lane Grp Cap(c), veh/h	272	271	261	908	492	736	123	796	1358	711	625	617
V/C Ratio(X)	0.19	0.81	0.84	0.83	0.42	0.59	0.80	0.46	0.87	0.88	0.26	0.26
Avail Cap(c a), veh/h	345	344	331	1142	618	841	229	796	1358	969	668	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	52.1	52.3	44.2	38.9	25.2	58.2	42.8	24.3	48.9	29.6	29.6
Incr Delay (d2), s/veh	0.3	11.1	13.7	4.2	0.6	0.9	11.3	0.4	6.1	7.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
%ile BackOfQ(50%),veh/ln	1.5	7.7	7.8	11.4	5.3	9.6	3.5	4.9	19.8	10.2	3.6	3.6
Unsig. Movement Delay, s/veh		1.1	7.8	11.4	5.3	9.0	3.3	4.9	19.8	10.2	3.0	3.0
	47.4	63.2	66.0	48.4	39.5	26.0	69.5	43.2	30.3	56.0	29.8	29.9
LnGrp Delay(d),s/veh												
LnGrp LOS	D	E	E	D	D	С	Е	D	С	Е	С	С
Approach Vol, veh/h		490			1393			1642			947	
Approach Delay, s/veh		62.8			40.1			35.6			47.0	
Approach LOS		Е			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.6	34.0		23.8	14.5	50.1		38.5				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 35	28.2		24.4	16.2	* 47		41.6				
Max Q Clear Time (q_c+l1), s	24.0	30.2		17.6	8.9	10.4		28.1				
Green Ext Time (p_c), s	1.9	0.0		1.6	0.1	2.1		4.9				
Intersection Summary												
HCM 6th Ctrl Delay			42.4									
HCM 6th LOS			D									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 41 Central Coast Transportation Consulting

Beechwood SP 17: S. River Road & Niblick Road Near Term Plus 674 Unit Project PM

-		-	*	1	•	7	T	-	+	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	269	1046	640	120	921	435	362	213	549	
v/c Ratio	0.63	0.82	0.72	0.61	0.76	0.77	0.49	0.76	0.76	
Control Delay	54.1	39.4	13.2	62.3	36.9	54.9	37.6	63.8	46.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.1	39.4	13.2	62.3	36.9	54.9	37.6	63.8	46.4	
Queue Length 50th (ft)	97	365	85	85	307	157	113	150	189	
Queue Length 95th (ft)	148	487	253	153	414	226	163	#266	255	
nternal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	505	1362	911	243	1304	636	915	327	912	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.77	0.70	0.49	0.71	0.68	0.40	0.65	0.60	

## Intersection Summary

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	۶	<b>→</b>	$\rightarrow$	•	-	*		<b>†</b>	1	-	Ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>^</b>	7	ሻ	<b>†</b> î>		14.54	<b>†</b> }		ሻ	<b>†</b> }	
Traffic Volume (veh/h)	258	1004	614	115	731	154	418	265	83	204	398	129
Future Volume (veh/h)	258	1004	614	115	731	154	418	265	83	204	398	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	269	1046	640	120	761	160	435	276	86	212	415	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	354	1323	590	152	1037	218	529	575	176	250	535	171
Arrive On Green	0.10	0.37	0.37	0.08	0.35	0.35	0.15	0.21	0.21	0.14	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	2944	619	3483	2703	825	1795	2666	852
Grp Volume(v), veh/h	269	1046	640	120	463	458	435	181	181	212	277	272
Grp Sat Flow(s), veh/h/ln	1742	1791	1598	1795	1791	1773	1742	1791	1737	1795	1791	1727
Q Serve(q_s), s	7.0	24.2	20.8	6.1	21.0	21.0	11.2	8.2	8.5	10.7	13.6	13.9
Cycle Q Clear(g_c), s	7.0	24.2	20.8	6.1	21.0	21.0	11.2	8.2	8.5	10.7	13.6	13.9
Prop In Lane	1.00	24.2	1.00	1.00	21.0	0.35	1.00	0.2	0.47	1.00	13.0	0.49
Lane Grp Cap(c), veh/h	354	1323	590	152	631	624	529	381	370	250	359	346
V/C Ratio(X)	0.76	0.79	1.08	0.79	0.73	0.73	0.82	0.47	0.49	0.85	0.77	0.78
Avail Cap(c a), veh/h	581	1561	696	280	761	754	731	530	514	377	530	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)												
Uniform Delay (d), s/veh	40.6	26.1	10.7	41.7	26.3	26.3	38.2	32.0	32.1	39.0	35.1	35.2
Incr Delay (d2), s/veh		2.4	59.8	8.9	3.0	3.0	5.4	0.9	1.0	10.8	4.1	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.0	15.9	3.0	8.8	8.8	5.0	3.5	3.5	5.3	6.1	6.0
Unsig. Movement Delay, s/veh			70.5	=0.4						10.0		10.0
LnGrp Delay(d),s/veh	44.0	28.5	70.5	50.6	29.3	29.3	43.6	32.9	33.1	49.8	39.2	40.0
LnGrp LOS	D	С	F	D	С	С	D	С	С	D	D	D
Approach Vol, veh/h		1955			1041			797			761	
Approach Delay, s/veh		44.4			31.7			38.8			42.5	
Approach LOS		D			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	38.8	18.6	23.1	14.0	37.2	17.5	24.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	40.5	19.5	27.5	15.5	39.5	19.5	27.5				
Max Q Clear Time (q c+l1), s	8.1	26.2	13.2	15.9	9.0	23.0	12.7	10.5				
Green Ext Time (p_c), s	0.1	8.2	0.9	2.4	0.5	5.2	0.3	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			40.2									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1>	
Traffic Vol, veh/h	51	2	4	546	845	88
Future Vol, veh/h	51	2	4	546	845	88
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0			-	-	
Veh in Median Storage	, # 0			0	0	
Grade, %	0			0	0	
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	53	2	4	569	880	92
	00	_	•	007	000	- /-
	Minor2		Major1		Major2	
Conflicting Flow All	1504	927	973	0	-	0
Stage 1	927			-	-	
Stage 2	577		-		-	-
Critical Hdwy	6.42	6.22	4.12		-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318		-	-	-
Pot Cap-1 Maneuver	134	325	709	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	133	325	708	-	-	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	382			-	-	
Stage 2	561			-	-	
, and the second						
Approach	EB		NB		SB	
HCM Control Delay, s	48.5		0.1		0	
HCM LOS	48.5 F		0.1		U	
HCM LOS	E					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		708	-	136	-	-
		0.006	-	0.406		-
HCM Lane V/C Ratio			0	48.5	-	
HCM Lane V/C Ratio HCM Control Delay (s)		10.1	0	48.5 F		
HCM Lane V/C Ratio			0 A	48.5 E 1.7	-	

HCM 95th %tile Q(veh) 0.1 - 0.5 - -

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	₩.	LDK	IVDL	ND I		JOK
		10	15		<b>}</b>	F2
Traffic Vol, veh/h	35	13 13	15 15	501 501	758	53
Future Vol, veh/h	35				758	53
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storag		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	14	16	545	824	58
Major/Minor	Minor		Major4		Aniora	
Major/Minor	Minor2		Major1		Major2	-
Conflicting Flow All	1430	853	882	0	-	0
Stage 1	853	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-		-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43					
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	148	357	763	-		-
Stage 1	416	-		-		-
Stage 2	560	-		-		-
Platoon blocked. %						
Mov Cap-1 Maneuver	144	357	763	-		
Mov Cap-1 Maneuver		-	703			
Stage 1	404					
Stage 2	560					
Staye 2	500	-	-		-	-
Approach	EB		NB		SB	
HCM Control Delay, s	17.5		0.3		0	
HCM LOS	С					
h 4' 1 //h 4 !		NIDI	NDT	EDI C	007	CDE
Minor Lane/Major Mvr	mt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		763	-	341	-	-
HCM Lane V/C Ratio		0.021		0.153	-	-
HCM Control Delay (s	s)	9.8	0	17.5		-
HCM Lane LOS		Α	Α	С	-	-

Intersection   Intersection   Los   Intersection   Los   F								
Movement								
Movement								
Lane Configurations	Intersection LOS	F						
Lane Configurations         Y         Image: Configuration of the properties o								
Lane Configurations         Y         Image: Configuration of the properties o	Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Iraffic Vol, veh/h         9         430         89         25         678         90           Future Vol, veh/h         9         430         89         25         678         90           Peak Hour Factor         0.92				1.				
Future Vol, veh/h Peak Hour Factor O.92 O.92 O.92 O.92 O.92 O.92 O.92 O.92			430		25	678		
Peak Hour Factor         0.92								
Heavy Vehicles, %								
Mumbr   Flow   10								
Number of Lanes         1         0         1         0         0         1           Approach         WB         NB         SB         NB           Opposing Approach         SB         NB         OB           Opposing Lanes         0         1         1         1           Conflicting Approach Left         NB         WB         WB         Conflicting Approach Right         SB         Conflicting Approach Right         SB								
Approach         WB         NB         SB           Opposing Aproach         SB         NB           Opposing Lanes         0         1         1           Conflicting Approach Left         NB         WB         WB           Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F           Eane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         2%         88%           Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Slop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
Opposing Approach         SB         NB           Opposing Lanes         0         1         1           Conflicting Approach Left         NB         WB         WB           Conflicting Lanes Left         1         0         1           Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F           Lane         NBLn1         WBLn1         SBLn1           Vol Lott, %         0%         2%         88%           Vol Tkight, %         2%         98%         0%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degrature Headway (Hd)         <			U		U	-		
Opposing Lanes         0         1         1           Conflicting Approach Left         NB         WB           Conflicting Approach Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Approach Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F      Lane   NBLn1   WBLn1   SBLn1		WB						
Conflicting Approach Left         NB         WB           Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F           Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         2%         88%           Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)								
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F      F		0		1				
Conflicting Lanes Left         1         0         1           Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F           Eane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         2%         88%           Vol Tru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76 <tr< td=""><td></td><td>NB</td><td></td><td></td><td></td><td>WB</td><td></td><td></td></tr<>		NB				WB		
Conflicting Approach Right         SB         WB           Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F           Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         2%         88%           Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap		1		0		1		
Conflicting Lanes Right         1         1         0           HCM Control Delay         23.5         11.6         180.2           HCM LOS         C         B         F           Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         2%         88%           Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service T		SB		WB				
HCM Control Delay		1		1		0		
HCM LOS   C   B   F		23.5		11.6		180.2		
Lane         NBLn1         WBLn1         SBLn1           Vol Left, %         0%         2%         88%           Vol Tryn, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degrature Headway (Hd)         6.73         6.153         5.76           Convergence, V/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Lane LOS         B         C         F								
Vol Left, %         0%         2%         88%           Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Slop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F				_				
Vol Left, %         0%         2%         88%           Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Sign Control         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F			NIDI 1	WDI *	CDL C			
Vol Thru, %         78%         0%         12%           Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degarture Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
Vol Right, %         22%         98%         0%           Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
Sign Control         Stop         Stop         Stop           Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
Traffic Vol by Lane         114         439         768           LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F			22%					
LT Vol         0         9         678           Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F			Stop	Stop	Stop			
Through Vol         89         0         90           RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F			114					
RT Vol         25         430         0           Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F	LT Vol			9				
Lane Flow Rate         124         477         835           Geometry Grp         1         1         1           Degree of Utili (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F	Through Vol		89	0	90			
Geometry Grp         1         1         1         1           Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F	RT Vol		25	430	0			
Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F	Lane Flow Rate		124	477	835			
Degree of Util (X)         0.215         0.722         1.336           Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F	Geometry Grp		1	1	1			
Departure Headway (Hd)         6.73         6.153         5.76           Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F			0.215	0.722	1.336			
Convergence, Y/N         Yes         Yes         Yes           Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
Cap         537         592         634           Service Time         4.73         4.153         3.766           HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F					Yes			
Service Time         4.73         4.153         3.766           HCM Lane VIC Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
HCM Lane V/C Ratio         0.231         0.806         1.317           HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
HCM Control Delay         11.6         23.5         180.2           HCM Lane LOS         B         C         F								
HCM Lane LOS B C F								
110W 75U 11UC Q 0.0 0 55.1			Б	C				
	UCM 05th tilo ○		ΛΩ	6	25.1			

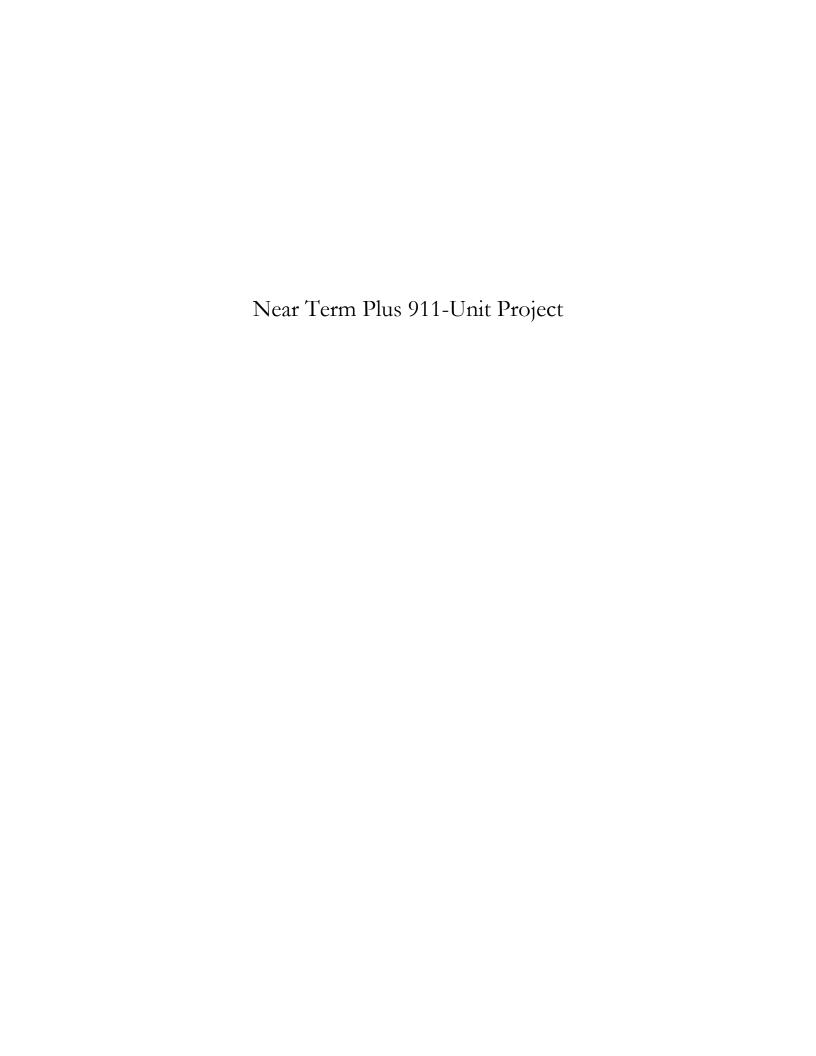
Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	- 1	•	Þ		Y	
Traffic Vol, veh/h	5	693	431	5	4	9
Future Vol, veh/h	5	693	431	5	4	9
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage		0	0		0	
Grade. %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	5	753	468	5	4	10
IVIVIIIL FIOW	3	/53	408	5	4	10
Major/Minor N	Najor1	1	Major2	1	Vinor2	
Conflicting Flow All	487	0	-	0	1248	485
Stage 1	-	-			485	-
Stage 2					763	
Critical Hdwy	4.11				6.41	6.21
Critical Hdwy Stg 1	4.11				5.41	0.21
					5.41	
Critical Hdwy Stg 2	2 200	- 1	-	-	3.509	2 200
Follow-up Hdwy	2.209	-	-	-		
Pot Cap-1 Maneuver	1081	-	-	-	192	584
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	462	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1067	-		-	186	576
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1		-		-	610	
Stage 2					456	
Jiago Z					100	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		15.7	
HCM LOS					С	
ha: 1 (ha : 1 )		EDI	EDT	MIDT	WDD	ODI 4
Minor Lane/Major Mvm	t	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		1067	-	-	-	350
HCM Lane V/C Ratio		0.005	-	-	-	0.04
HCM Control Delay (s)		8.4	-	-	-	15.7
HCM Lane LOS		Α		-		С
HCM 95th %tile Q(veh)		0				0.1
/011/ /0110 2(4011)		- 3				0.1

Veh in Median Storage, #         0         -         0         0         -         0         0         -         0         0         -         0         0         -         2         0         0         2         2         4         2         0         2         2         4         2         0         2         2         4         0         0         9         0         1         2         1         2         4         1         2         2         4         1         2         2         4         4         1         2         4         1         2 <th></th>													
Movement   EBL   EBT   EBR   WBL   WBR   WBR   NBL   NBT   NBR   SBL   SBR   SBR   SBR   Cancer Configurations   Tarffic Vol, veh/h   34   661   2   2   407   23   1   0   1   23   0   28   Conflicting Peds, #/hr   12   0   0   0   0   0   12   0   0   0   0   0   0   0   0   0	Intercaction												
Movement   EBL   EBT   EBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL   SBT   SBR		1.2											
Traffic Vol, veh/h	ini Deiay, S/ven	1.3											
Traffic Vol, veh/h  Traffi	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Vol, veh/h Conflicting Peds, #/hr 12 0 0 0 0 0 0 12 0 0 0 0 0 0 0 0 0 0 0	Lane Configurations	7	1→		- 1	ß			4			4	
Conflicting Peds, #hr 12 0 0 0 0 12 0 0 0 0 0 0 0 0 0 0 0 0 0	Traffic Vol, veh/h	34	661	2	2	407	23	1	0	1	23	0	28
Sign Control   Free	Future Vol, veh/h	34	661	2	2	407	23	1	0	1	23	0	28
RT Channelized	Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Storage Length   50	Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Veh in Median Storage, #         0         -         0         0         -         0         0         -         0         0         -         0 <td>RT Channelized</td> <td>-</td> <td>-</td> <td>None</td> <td>-</td> <td>-</td> <td>None</td> <td>-</td> <td>-</td> <td>None</td> <td>-</td> <td>-</td> <td>None</td>	RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Grade, % - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Peak Hour Factor         95	Veh in Median Storage	2,# -	0	-	-	0	-	-	0	-	-	0	-
Heavy Vehicles, %   3   3   3   3   3   3   3   3   3	Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Major/Minor   Major	Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Major/Minor   Major   Major   Major   Major   Minor   Minor   Major   Major   Minor	Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Conflicting Flow All		36	696	2	2	428	24	1	0	1	24	0	29
Conflicting Flow All													
Conflicting Flow All	Major/Minor	Major1			Majora			Minor4			Minor		
Stage 1			^			^			1007			1227	450
Stage 2				0									
Critical Hdwy         4.13         -         4.13         -         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         6.23         7.13         6.53         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.13         5.53         -         6.05         3.22         4027         3.327         4027         3.227         4027         3.22				-									
Critical Hdwy Stg 1				-		-							
Critical Hdwy Stg 2         -         -         -         6.13         5.53         -         6.13         5.53         -         Follow-up Hdwy         2.227         -         2.227         -         2.227         -         2.227         -         2.357         4.027         3.327         3.527         4.027         3.327         3.207					4.13	-				6.23			
Follow-up Hdwy 2.227 - 2.227 - 3.527 4.027 3.327 4.027 3.327 Pot Cap-1 Maneuver 1092 - 894 - 154 175 439 155 178 605 Stage 1 - 3 - 4 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5				-	-	-	-			-			-
Pot Cap-1 Maneuver         1092         -         894         -         154         175         439         155         178         605           Stage 1         -         -         -         -         580         560         -         392         409         -         582         566         -         392         409         -         582         566         -         392         409         -         582         560         -         392         409         -				-	2 227	-	-			2 227			2 227
Stage 1			-	-		-	-						
Stage 2			-	-	894	-	-						
Platoon blocked, %   -   -   -   -   -   -   -   -   -			-	-	-	-							
Mov Cap-1 Maneuver         1080         -         894         -         142         167         439         149         170         598           Mov Cap-2 Maneuver         -         -         -         -         142         167         149         170         -         -         Stage 1         -         -         -         -         379         396         -         556         559         -         -         Stage 2         -         -         -         -         550         553         -         378         396         -         566         559         -         -         -         -         -         -         550         553         -         378         396         -         -         -         -         -         550         553         -         378         396         -         <		-	-	-	-	-		580	560	-	392	409	-
Mov Cap-2 Maneuver         -         -         -         142         167         -         149         170         -           Stage 1         -         -         -         -         -         379         396         -         556         559         -           Stage 2         -         -         -         -         -         550         553         -         378         396         -           Approach         EB         WB         NB         SB         BB         WB         NB         SB         BB         HCM LON         C         C         C         C         C         C         C         C         C         C         C         C         C         C         C         C         C         C         A         A         -         894         -         253         -         B         HCM Lane V/C Ratio         0.01         0.033         -         0.002         -         0.212         -         -         219         -         23         -         -         -         -         -         -         212         -         -         -         -         -         -         -			-	-	001	-	-	4.10	4.17	100		470	=00
Stage 1			-	-		-	-						
Stage 2		-	-	-	-	-							-
Approach   EB   WB   NB   SB		-	-	-	-	-	-						-
HCM Control Delay, s	Stage 2	-	-	-	-	-	-	550	553	-	378	396	-
HCM Control Delay, s													
HCM Control Delay, s 0.4 0 21.9 23 HCM LOS C C  Minor Lane/Major Mvmt NBLn1 EBL EBT EBR WBL WBT WBR SBLn1  Capacity (veh/h) 215 1080 - 894 - 253 HCM Lane V/C Ratio 0.01 0.033 - 0.002 - 0.212 HCM Control Delay (s) 21.9 8.4 - 9 9 - 23 HCM Lane LOS C A - A - C	Approach	EB			WB			NB			SB		
HCM LOS													
Minor Lane/Major Mvmt         NBLn1         EBL         EBT         EBR         WBL         WBT         WBR SBLn1           Capacity (velv/h)         215         1080         -         -894         -         -253           HCM Lane V/C Ratio         0.01         0.033         -         -0.002         -         -0.212           HCM Control Delay (s)         21.9         8.4         -         -9         -         -23           HCM Lane LOS         C         A         -         A         -         -         C	HCM LOS	0.1			- 3								
Capacity (veh/h)         215         1080         -         894         -         253           HCM Lane V/C Ratio         0.01         0.033         -         -         0.002         -         -         0.212           HCM Control Delay (s)         21.9         8.4         -         9         -         23           HCM Lane LOS         C         A         -         A         -         C	200												
Capacity (veh/h)         215         1080         -         894         -         253           HCM Lane V/C Ratio         0.01         0.033         -         -         0.002         -         -         0.212           HCM Control Delay (s)         21.9         8.4         -         9         -         23           HCM Lane LOS         C         A         -         A         -         C							1110	14/0-	11105				
HCM Lane V/C Ratio 0.01 0.033 0.002 0.212 HCM Control Delay (s) 21.9 8.4 9 - 23 HCM Lane LOS C A - A - C		nt i				EBR		WBT	WBR:				
HCM Control Delay (s)         21.9         8.4         -         -         9         -         -         23           HCM Lane LOS         C         A         -         A         -         -         C						-		-	-				
HCM Lane LOS C A A C	HCM Lane V/C Ratio				-	-		-	-				
					-	-		-	-				
HCM 95th %tile Q(veh) 0 0.1 0 0.8	HCM Lane LOS				-	-		-	-				
	HCM 95th %tile Q(veh	)	0	0.1	-	-	0	-	-	0.8			

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	- 1	•	₽		N/	
Traffic Vol, veh/h	8	683	425	4	4	7
Future Vol, veh/h	8	683	425	4	4	7
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None	-	None
Storage Length	50				0	
Veh in Median Storage	2.# -	0	0		0	
Grade. %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	9	742	462	4	4	8
IVIVITIL FIUW	9	742	402	4	4	Ö
Major/Minor I	Major1	1	Major2		Vinor2	
Conflicting Flow All	475	0	-	0	1233	473
Stage 1	-	-			473	-
Stage 2					760	
Critical Hdwy	4.11				6.41	6.21
Critical Hdwy Stg 1	4.11				5.41	0.21
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209		- 1	- 1	3.509	
Pot Cap-1 Maneuver	1092	-	-	-	196	593
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-		464	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1083	-	-	-	191	588
Mov Cap-2 Maneuver	-	-	-	-	191	-
Stage 1		-			618	
Stage 2		-			460	
Olago E					.50	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		16.1	
HCM LOS					С	
Minor Long/Major Mum	.+	EDI	EDT	WDT	WDD	CDI n1
Minor Lane/Major Mvm	IL	EBL	EBT	WBT		SBLn1
Capacity (veh/h)		1083	-		-	335
HCM Lane V/C Ratio		0.008	-	-	-	0.036
HCM Control Delay (s)		8.4	-	-	-	16.1
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh)	)	0	-			0.1

Intersection						
Int Delay, s/veh	3					
		ED.	WD.	III DE	0.01	005
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ		Þ		¥	
Traffic Vol, veh/h	153	534	346	26	28	83
Future Vol, veh/h	153	534	346	26	28	83
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage	e,# -	0	0		0	
Grade. %	-, -	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	166	580	376	28	30	90
IVIVIIII I IOW	100	300	370	20	30	70
	Major1		Major2		/linor2	
Conflicting Flow All	406	0	-	0	1304	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	912	-
Critical Hdwy	4.11	-		-	6.41	6.21
Critical Hdwy Stg 1	-	-		-	5.41	
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209			-	3.509	3.309
Pot Cap-1 Maneuver	1158				178	659
Stage 1	1100				685	-
Stage 2					393	
Platoon blocked. %					373	
Mov Cap-1 Maneuver	115/		-		152	658
		-	-			
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	585	-
Stage 2	-	-	-	-	392	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.9		0		20.1	
HCM LOS					С	
Minor Long/Maigrath	nt.	EDI	EDT	WDT	WIDD	CDI 51
Minor Lane/Major Mvn	III	EBL	EBT	WBT		SBLn1
Capacity (veh/h)		1156	-	-	-	358
HCM Lane V/C Ratio		0.144	-	-	-	0.337
HCM Control Delay (s)	)	8.6	-	-		20.1
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	1)	0.5	-	-	-	1.5
,						

Intersection				
Intersection Delay, s/veh	4.7			
Intersection LOS	Α			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	380	188	44	112
Demand Flow Rate, veh/h	385	190	44	113
Vehicles Circulating, veh/h	10	104	335	228
Vehicles Exiting, veh/h	331	275	60	66
Ped Vol Crossing Leg, #/h	0	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.1	4.2	4.1	4.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	Left LTR	Left LTR	Left LTR	Left LTR
Designated Moves Assumed Moves				
Designated Moves	LTR	LTR	LTR	LTR
Designated Moves Assumed Moves	LTR	LTR	LTR	LTR
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s	LTR LTR	LTR LTR 1.000 2.609	LTR LTR	LTR LTR
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	LTR LTR 1.000	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000	LTR LTR 1.000
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s	LTR LTR 1.000 2.609	LTR LTR 1.000 2.609	LTR LTR 1.000 2.609	LTR LTR 1.000 2.609
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	LTR LTR 1.000 2.609 4.976 385 1366 0.988	LTR LTR 1.000 2.609 4.976 190 1241 0.990	LTR LTR 1.000 2.609 4.976 44 981 0.999	LTR LTR 1.000 2.609 4.976 113 1094 0.991
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	LTR LTR 1.000 2.609 4.976 385 1366	LTR LTR 1.000 2.609 4.976 190 1241 0.990	LTR LTR 1.000 2.609 4.976 44 981	LTR LTR 1.000 2.609 4.976 113 1094
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	LTR LTR 1.000 2.609 4.976 385 1366 0.988 380 1349	LTR LTR 1.000 2.609 4.976 190 1241 0.990 188 1229	LTR LTR 1.000 2.609 4.976 44 981 0.999 44 980	LTR LTR 1.000 2.609 4.976 113 1094 0.991 112 1083
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 385 1366 0.988 380 1349 0.282	LTR LTR 1.000 2.609 4.976 190 1241 0.990 188 1229 0.153	LTR LTR 1.000 2.609 4.976 44 981 0.999 44 980 0.045	LTR LTR 1.000 2.609 4.976 113 1094 0.991 112 1083 0.103
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h Odp Entry, veh/h Odp Entry, veh/h Odp Entry, veh/h Of Delay, s/veh	LTR LTR 1.000 2.609 4.976 385 1366 0.988 380 1349	LTR LTR 1.000 2.609 4.976 190 1241 0.990 188 1229	LTR LTR 1.000 2.609 4.976 44 981 0.999 44 980	LTR LTR 1.000 2.609 4.976 113 1094 0.991 112 1083
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h Cap Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 385 1366 0.988 380 1349 0.282	LTR LTR 1.000 2.609 4.976 190 1241 0.990 188 1229 0.153	LTR LTR 1.000 2.609 4.976 44 981 0.999 44 980 0.045	LTR LTR 1.000 2.609 4.976 113 1094 0.991 112 1083 0.103



	<b>→</b>	-	-		-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	252	1227	1280	137	164	263
v/c Ratio	0.72	0.38	0.83	0.18	0.63	0.42
Control Delay	56.2	0.3	31.6	3.6	58.7	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	0.3	31.6	3.6	58.7	22.4
Queue Length 50th (ft)	166	0	408	0	111	104
Queue Length 95th (ft)	#359	0	612	35	225	227
Internal Link Dist (ft)		942	856		514	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	456	3223	2613	1195	456	889
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.38	0.49	0.11	0.36	0.30

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 1: SR 46 E & Buena Vista Drive

ment EBL EBT WBT WBR SBL SBR
Configurations \( \frac{\dagger}{\pi}  \frac{\dagger}{\pi}  \frac{\dagger}{\pi}  \frac{\dagger}{ \dagger}   \qq      \qquad        \
c Volume (vph) 232 1129 1178 126 151 242
e Volume (vph) 232 1129 1178 126 151 242
Flow (vphpl) 1900 1900 1900 1900 1900
Lost time (s) 3.5 4.0 7.3 7.3 4.2 3.7
Util. Factor 1.00 0.95 0.95 1.00 1.00 1.00
1.00 1.00 1.00 0.85 1.00 0.85
otected 0.95 1.00 1.00 0.95 1.00
Flow (prot) 1612 3223 3223 1442 1612 1442
ermitted 0.95 1.00 1.00 0.95 1.00
Flow (perm) 1612 3223 3223 1442 1612 1442
-hour factor, PHF 0.92 0.92 0.92 0.92 0.92
Flow (vph) 252 1227 1280 137 164 263
R Reduction (vph) 0 0 0 71 0 27
Group Flow (vph) 252 1227 1280 66 164 236
y Vehicles (%) 12% 12% 12% 12% 12% 12%
Type Prot NA NA Perm Prot Prot
cted Phases 8 Free! 6 7! 4
itted Phases 6 4
ated Green, G (s) 24.7 111.2 53.3 53.3 18.2 46.9
tive Green, g (s) 24.7 111.2 53.3 53.3 18.2 46.9
ated g/C Ratio 0.22 1.00 0.48 0.48 0.16 0.42
ance Time (s) 3.5 7.3 7.3 4.2 3.7
tle Extension (s) 3.0 4.0 4.0 3.5 3.0
Grp Cap (vph) 358 3223 1544 691 263 608
atio Prot c0.16 0.38 c0.40 c0.10 0.16
atio Perm 0.05
atio 0.70 0.38 0.83 0.10 0.62 0.39
rm Delay, d1 39.9 0.0 25.0 15.8 43.3 22.2
ression Factor 1.00 1.00 1.00 1.00 1.00
mental Delay, d2 6.2 0.3 4.0 0.1 4.8 0.4
y(s) 46.0 0.3 29.0 15.9 48.1 22.6
of Service D A C B D C
pach Delay (s) 8.1 27.8 32.4
oach LOS A C C
ection Summary
2000 Control Delay 19.6 HCM 2000 Level of Service B
2000 Volume to Capacity ratio 0.76
sted Cycle Length (s) 111.2 Sum of lost time (s) 15.0
section Capacity Utilization 66.7% ICU Level of Service C
rsis Period (min) 15

! Phase conflict between lane groups.
c Critical Lane Group

227 850

55.7 32.6

55.7

149

225

527

0

0.63

32.6

290

433

1323

0

0.40

314

0.40

4.8 48.3

4.8 48.3

0 12 328

63

485 125

0

0.30

39

35 488

0

0.82

40.0

0.0

40.0

2509

0

0.45

186

0.29

5.0 54.3

5.0 54.3

50 195

390

0

307 332

0.64

0.0 0.0

108

160

0

0.52 0.27

0.43

39.1

39.1

105

183

853

0

Lane Group

v/c Ratio

Control Delay

Queue Delay

Total Delay

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

93 190 151

0.40

10.6

0.0

10.6

0

60

0

0

0.36 0.65

58.1

0.0

58.1

33 130

73 246

140

0

57.3

0.0

57.3

0

0.16 0.29 0.23

	ၨ	<b>→</b>	•	•	<b>←</b>	•	1	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	<b>*</b>	7	1,1	<b>*</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>•</b>	7
Traffic Volume (veh/h)	209	782	289	36	882	171	282	287	18	86	175	139
Future Volume (veh/h)	209	782	289	36	882	171	282	287	18	86	175	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	227	850	314	39	959	186	307	312	20	93	190	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	316	1132	505	293	1242	554	405	709	45	156	257	218
Arrive On Green	0.10	0.34	0.34	0.09	0.38	0.38	0.13	0.23	0.23	0.05	0.15	0.15
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	3147	201	3209	1737	1472
Grp Volume(v), veh/h	227	850	314	39	959	186	307	163	169	93	190	151
Grp Sat Flow(s), veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1698	1605	1737	1472
Q Serve(g_s), s	5.6	18.7	8.7	0.9	20.9	7.4	7.6	7.0	7.0	2.3	8.6	8.0
Cycle Q Clear(g_c), s	5.6	18.7	8.7	0.9	20.9	7.4	7.6	7.0	7.0	2.3	8.6	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	316	1132	505	293	1242	554	405	372	382	156	257	218
V/C Ratio(X)	0.72	0.75	0.62	0.13	0.77	0.34	0.76	0.44	0.44	0.60	0.74	0.69
Avail Cap(c a), veh/h	705	2818	1257	705	2818	1257	783	825	849	783	869	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	23.8	8.0	34.3	22.5	18.3	34.6	27.3	27.3	38.2	33.4	33.2
Incr Delay (d2), s/veh	3.1	1.0	1.3	0.1	1.1	0.4	2.9	0.8	0.8	3.6	4.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.4	4.3	0.3	7.1	2.4	3.0	2.7	2.8	1.0	3.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	24.8	9.3	34.3	23.5	18.6	37.6	28.1	28.1	41.8	37.6	37.1
LnGrp LOS	D	С	A	С	С	В	D	С	С	D	D	D
Approach Vol, veh/h		1391			1184			639			434	
Approach Delay, s/veh		23.6			23.1			32.7			38.3	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	35.4	14.3	17.4	12.1	38.1	8.0	23.8				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q_c+l1), s	2.9	20.7	9.6	10.6	7.6	22.9	4.3	9.0				
Green Ext Time (p_c), s	0.0	7.4	0.8	1.5	0.5	7.9	0.2	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			С									
			_									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

4: SR 46 E & Airport Road

Interception												
Intersection Int Delay, s/veh	5.5											
iiii Deiay, S/veii	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>∱</b> }		7	٨ß			र्स	7		4	7
Traffic Vol, veh/h	1	839	46	284	1080	0	9	0	263	0	0	0
Future Vol, veh/h	1	839	46	284	1080	0	9	0	263	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	None	-		None	-	-	None	-		None
Storage Length	340	-	-	195		-	-	-	25	-		25
Veh in Median Storage,	# -	0	-		0			0	-	-	0	
Grade. %		0	-	-	0	-	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	1	912	50	309	1174	0	10	0	286	0	0	0
A 4 1 (8.4)							u			t: 0		
	Najor1			Major2			Minor1	070		Minor2		
Conflicting Flow All	1174	0	0	962	0	0	2144	2731	481	2250	2756	587
Stage 1	-	-	-	-		-	939	939	-	1792	1792	
Stage 2	-	-	-	-	-		1205	1792	-	458	964	-
Critical Hdwy	4.32		-	4.32	-		7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	542	-	-	658	-	-	24	17	508	20	17	431
Stage 1	-	-	-	-	-	-	267	321	-	76	119	-
Stage 2	-	-	-	-	-	-	181	119	-	529	312	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	542	-		658	-	-	15	9	508	6	9	431
Mov Cap-2 Maneuver	-	-	-	-	-	-	15	9	-	6	9	-
Stage 1	-	-	-	-	-	-	266	320	-	76	63	-
Stage 2	-	-	-	-	-	-	96	63	-	231	311	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.2			34.8			0		
HCM LOS	U			J.Z			D D			A		
TICIVI EUS							U			А		
Minor Lane/Major Mvmt	t	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1	SBLn2	
Capacity (veh/h)		15	508	542	-	-	658	-	-	-	-	
HCM Lane V/C Ratio		0.652	0.563	0.002	-	-	0.469	-	-	-	-	
HCM Control Delay (s)	\$	443.4	20.8	11.7	-	-	15.2	-	-	0	0	
HCM Lane LOS		F	С	В	-	-	С	-	-	Α	Α	
HCM 95th %tile Q(veh)		1.6	3.4	0		-	2.5	-	-	-		

Intersection									
Int Delay, s/veh	7.4								
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	ሻ		- 44	7	7	7			
Traffic Vol, veh/h	365	737	1177	19	5	186			
Future Vol, veh/h	365	737	1177	19	5	186			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Free	Free	Free	Free	Stop	Stop			
RT Channelized	-	None	-	None	-	None			
Storage Length	580	-	-	165	0	25			
Veh in Median Storage	e,# -	0	0		2	-			
Grade, %	-	0	0	-	0	-			
Peak Hour Factor	92	92	92	92	92	92			
Heavy Vehicles, %	10	10	10	10	10	10			
Mvmt Flow	397	801	1279	21	5	202			
Major/Minor I	Major1	-	Major2	- 1	Minor2				
Conflicting Flow All	1300	0	viajui z	0	2474	640			
Stage 1	1300	-		-	1279	040			
Stage 2					1195				
Critical Hdwy	4.3				7	7.1			
Critical Hdwy Stg 1	4.3				6	7.1			
Critical Hdwy Stg 2					6				
Follow-up Hdwy	2.3				3.6	3.4			
Pot Cap-1 Maneuver	488				22	399			
Stage 1	400				210	377			
Stage 2					234				
Platoon blocked. %	-				234				
Mov Cap-1 Maneuver	488	-	-		~ 4	399			
Mov Cap-1 Maneuver	488		- 1		36	399			
Stage 1					39				
					234				
Stage 2	-	-	-		234	-			
Approach	EB		WB		SB				
HCM Control Delay, s	12.3		0		25.5				
HCM LOS					D				
		ED:		MIDT	MDD	CDI 1	CDL A		
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1			
Capacity (veh/h)		488	-		-	36	399		
HCM Lane V/C Ratio		0.813	-	-	-	0.151	0.507		
HCM Control Delay (s)	)	37.2	-	-	-	122	22.9		
HCM Lane LOS		Е	-	-	-	F	С		
HCM 95th %tile Q(veh)	)	7.8	-		-	0.5	2.8		
Notes									
~: Volume exceeds car	nacity	\$ D	lav ove	ceeds 3	NΩc	L. Com	nputation N	lot Dofin	od *
~. volume exceeds ca	pacity	\$: D6	eidy ext	Leeus 3	005	+: CUIT	haranou i	vot Deilne	ed *: /

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	44	7	7	ħβ			4	7		4	
Traffic Vol, veh/h	0	723	19	2	1188	0	8	0	1	0	0	0
Future Vol, veh/h	0	723	19	2	1188	0	8	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-		None	-	-	None	-		None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage	.,# -	0		-	0			2	-	-	2	
Grade, %	-	0	-	-	0	-		0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow	0	786	21	2	1291	0	9	0	1	0	0	0

Major/Minor	Major1		Λ	Najor2		N	/linor1		1	/linor2			
Conflicting Flow All	1291	0	0	807	0	0	1436	2081	393	1688	2102	646	
Stage 1		-	-	-	-	-	786	786	-	1295	1295	-	
Stage 2	-	-	-	-	-	-	650	1295	-	393	807	-	
Critical Hdwy	4.36	-	-	4.36	-	-	7.76	6.76	7.16	7.76	6.76	7.16	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.76	5.76	-	6.76	5.76	-	
Critical Hdwy Stg 2		-	-	-	-	-	6.76	5.76	-	6.76	5.76	-	
Follow-up Hdwy	2.33	-	-	2.33	-	-	3.63	4.13	3.43	3.63	4.13	3.43	
Pot Cap-1 Maneuver	477	-	-	746	-	-	85	46	576	54	45	389	
Stage 1	-	-	-	-	-	-	328	376	-	156	211	-	
Stage 2	-	-	-	-	-	-	399	211	-	574	367	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver	477	-	-	746	-	-	85	46	576	54	45	389	
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	177	-	145	176	-	
Stage 1	-	-	-	-	-	-	328	376	-	156	210	-	
Stage 2	-	-	-	-	-	-	398	210	-	573	367	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0			18.8			0			
HCM LOS							С			Α			

Minor Lane/Major Mvmt	NBLn1 I	VBLn2	EBL	EBT	EBR	WBL	WBT	WBR SI	BLn1
Capacity (veh/h)	253	576	477	-	-	746	-	-	-
HCM Lane V/C Ratio	0.034	0.002	-	-	-	0.003	-	-	-
HCM Control Delay (s)	19.7	11.3	0	-	-	9.8	-		0
HCM Lane LOS	С	В	Α	-	-	Α	-	-	Α
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	-

Intersection				
Intersection Delay, s/veh	16.5			
Intersection LOS	С			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	331	491	765	468
Demand Flow Rate, veh/h	341	505	788	482
Vehicles Circulating, veh/h	733	630	283	473
Vehicles Exiting, veh/h	222	441	791	662
Ped Vol Crossing Leg, #/h	0	0	3	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.3	19.4	17.9	12.7
Approach LOS	В	С	С	В
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	1.07/	1.07/	4.976
	4.770	4.976	4.976	4.970
Entry Flow, veh/h	341	4.976 505	4.976 788	4.976
Cap Entry Lane, veh/h	341	505	788	482
Cap Entry Lane, veh/h Entry HV Adj Factor	341 653	505 <b>726</b>	788 1034	482 852
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	341 653 0.971	505 726 0.972	788 1034 0.971	482 852 0.971
Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h	341 653 0.971 331	505 726 0.972 491	788 1034 0.971 765	482 852 0.971 468
Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	341 653 0.971 331 634	505 726 0.972 491 705	788 1034 0.971 765 1003	482 852 0.971 468 827
Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	341 653 0.971 331 634 0.522	505 726 0.972 491 705 0.696	788 1034 0.971 765 1003 0.762	482 852 0.971 468 827 0.566

Lane Group

Control Delay

Queue Delay

Total Delay

v/c Ratio

Lane Group Flow (vph)

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)
Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

290

0.70

41.6

0.0

41.6

144

0

0.50 0.50

297

41.6

0.0

41.6

148

314

595 621

0

35

0.07

0.3

0.0

0.3

0

0

185

0

	۶	<b>→</b>	$\rightarrow$	•	<b>—</b>	•	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	7	<b>↑</b> ↑		ሻ	<b>↑</b>	7	ሻ	<b>↑</b>	7	ሻ	ની	
Traffic Volume (veh/h)	1	310	29	317	430	625	6	19	128	453	87	3
Future Volume (veh/h)	1	310	29	317	430	625	6	19	128	453	87	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.9
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	185
Adj Flow Rate, veh/h	1	337	32	345	467	679	7	21	139	560	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	
Cap, veh/h	2	840	79	393	889	754	197	206	174	704	0	30
Arrive On Green	0.00	0.26	0.26	0.22	0.48	0.48	0.11	0.11	0.11	0.20	0.00	0.2
Sat Flow, veh/h	1767	3251	307	1767	1856	1572	1767	1856	1568	3534	0	155
Grp Volume(v), veh/h	1	182	187	345	467	679	7	21	139	560	0	3
Grp Sat Flow(s), veh/h/ln	1767	1763	1795	1767	1856	1572	1767	1856	1568	1767	0	155
Q Serve(q s), s	0.0	7.3	7.5	16.3	15.1	34.1	0.3	0.9	7.5	13.0	0.0	1.
Cycle Q Clear(q_c), s	0.0	7.3	7.5	16.3	15.1	34.1	0.3	0.9	7.5	13.0	0.0	1.
Prop In Lane	1.00	7.0	0.17	1.00	10.1	1.00	1.00	0.7	1.00	1.00	0.0	1.0
Lane Grp Cap(c), veh/h	2	455	464	393	889	754	197	206	174	704	0	30
V/C Ratio(X)	0.41	0.40	0.40	0.88	0.53	0.90	0.04	0.10	0.80	0.79	0.00	0.1
Avail Cap(c a), veh/h	102	470	479	666	1087	921	369	387	327	1168	0.00	51
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.0
Uniform Delay (d), s/veh	43.0	26.4	26.5	32.4	15.6	20.6	34.2	34.4	37.4	32.8	0.00	28.
Incr Delay (d2), s/veh	85.1	0.6	0.6	7.1	0.5	10.4	0.1	0.2	8.0	2.1	0.0	0.
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	0.0	3.1	3.2	7.5	6.1	13.6	0.0	0.4	3.2	5.6	0.0	0.
Unsig. Movement Delay, s/veh		3.1	3.2	7.5	0.1	13.0	0.1	0.4	3.2	0.0	0.0	U.
	128.1	27.0	27.0	39.5	16.1	30.9	34.3	34.6	45.4	34.9	0.0	28.
LnGrp Delay(d),s/veh												
LnGrp LOS	F	C	С	D	B	С	С	C	D	С	A	
Approach Vol, veh/h		370			1491			167			595	
Approach Delay, s/veh		27.3			28.3			43.6			34.5	
Approach LOS		С			С			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.7	26.8		21.7	4.6	45.8		14.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	23.0		28.5	5.0	50.5		18.0				
Max Q Clear Time (g_c+l1), s	18.3	9.5		15.0	2.0	36.1		9.5				
Green Ext Time (p_c), s	0.9	1.9		1.9	0.0	5.2		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			30.5									
HCM 6th LOS			С									
Notos												

User approved volume balancing among the lanes for turning movement.

WBT

467

19.6

0.5

157

355

302

0

0.55

679

0.61

4.2 44.3

4.5 44.3

0

67 19

150

0

0.63

0.0

140

0

0.02

21 139

0.53

16.3

0.0

16.3

59 308

165 150

451

0

0.13

44.9

0.0

44.9

11

39

0

0.05

369

0.59

93 166

175

0

0.38

49.0 38.0

49.0 38.0

6

65

107

0

345

0.75 0.53

42.0

42.1 20.1

332

125

702 1149

29

Near Term Plus 911 Unit Project AM

8: Paso Robles Street & 13th Street

	۶	-	1	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	68	899	49	1252	377	234	12	249	5	8	
v/c Ratio	0.36	0.48	0.28	0.71	0.42	0.68	0.03	0.43	0.01	0.01	
Control Delay	46.6	14.2	46.1	19.9	6.7	42.0	27.2	6.5	27.0	0.0	
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.6	14.4	46.1	19.9	6.7	42.0	27.2	6.5	27.0	0.0	
Queue Length 50th (ft)	37	159	26	265	34	123	5	0	2	0	
Queue Length 95th (ft)	88	267	69	432	112	216	20	57	12	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	253	2272	229	2263	1077	586	780	806	585	778	
Starvation Cap Reductn	0	623	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.55	0.21	0.55	0.35	0.40	0.02	0.31	0.01	0.01	
Intersection Summary											

Beechwood SP

Near Term Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

8: Paso Robles Street & 13th Street

	۶	<b>→</b>	*	1	<b>←</b>	4	4	†	1	1	<b>+</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		ሻ	<b>^</b>	7	ሻ	<b>↑</b>	7	7	1>	
Traffic Volume (veh/h)	63	779	48	45	1152	347	215	11	229	5	0	7
Future Volume (veh/h)	63	779	48	45	1152	347	215	11	229	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	68	847	52	49	1252	0	234	12	249	5	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	99	1724	106	82	1768		420	408	346	357	0	346
Arrive On Green	0.06	0.51	0.51	0.05	0.50	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	1767	3373	207	1767	3526	1572	1396	1856	1572	1110	0	1572
Grp Volume(v), veh/h	68	443	456	49	1252	0	234	12	249	5	0	8
Grp Sat Flow(s),veh/h/ln	1767	1763	1817	1767	1763	1572	1396	1856	1572	1110	0	1572
Q Serve(g_s), s	2.3	9.9	9.9	1.6	16.7	0.0	9.6	0.3	8.9	0.2	0.0	0.2
Cycle Q Clear(g_c), s	2.3	9.9	9.9	1.6	16.7	0.0	9.8	0.3	8.9	0.5	0.0	0.2
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	901	929	82	1768		420	408	346	357	0	346
V/C Ratio(X)	0.68	0.49	0.49	0.60	0.71		0.56	0.03	0.72	0.01	0.00	0.02
Avail Cap(c_a), veh/h	306	1491	1536	277	2923		820	939	796	675	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	9.7	9.7	28.4	11.7	0.0	22.4	18.6	21.9	18.8	0.0	18.6
Incr Delay (d2), s/veh	8.0	0.4	0.4	6.8	0.5	0.0	1.2	0.0	2.8	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.3	3.4	0.8	5.5	0.0	3.0	0.1	3.2	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	10.1	10.1	35.2	12.2	0.0	23.6	18.6	24.8	18.8	0.0	18.6
LnGrp LOS	D	В	В	D	В		С	В	С	В	Α	В
Approach Vol, veh/h		967			1301	Α		495			13	
Approach Delay, s/veh		11.9			13.1			24.1			18.7	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	35.5		17.8	7.9	34.9		17.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	51.3		30.7	10.5	50.3		30.7				
Max Q Clear Time (g_c+l1), s	3.6	11.9		2.5	4.3	18.7		11.8				
Green Ext Time (p_c), s	0.0	7.0		0.0	0.1	11.8		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			В									

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Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

	•	$\rightarrow$	*	←	1	<b>†</b>	1	-	↓	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	214	888	61	952	437	193	49	137	598	
v/c Ratio	0.57	0.64	0.41	0.79	0.74	0.24	0.11	0.59	0.86dr	
Control Delay	52.4	25.9	57.5	35.9	50.0	34.6	1.0	55.5	34.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	25.9	57.5	35.9	50.0	34.6	1.0	55.5	34.9	
Queue Length 50th (ft)	71	232	40	300	144	55	0	89	138	
Queue Length 95th (ft)	124	336	91	413	225	98	4	165	222	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	438	1605	190	1553	719	1001	515	334	975	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.49	0.55	0.32	0.61	0.61	0.19	0.10	0.41	0.61	

Intersection Summary

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Beechwood SP 9: River Road/Union Road & Creston Road Near Term Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	†	1	/	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>†</b> }		Ţ	<b>†</b> }		77	<b>^</b>	7	ň	<b>†</b> 1>	
Traffic Volume (veh/h)	197	520	297	56	777	98	402	178	45	126	187	363
Future Volume (veh/h)	197	520	297	56	777	98	402	178	45	126	187	363
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	565	0	61	845	107	437	193	49	137	203	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	1445		91	1152	146	582	600	268	178	357	
Arrive On Green	0.09	0.41	0.00	0.05	0.36	0.36	0.17	0.17	0.17	0.10	0.10	0.00
Sat Flow, veh/h	3456	3647	0	1781	3168	401	3456	3554	1585	1781	3647	0
Grp Volume(v), veh/h	214	565	0	61	474	478	437	193	49	137	203	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1792	1728	1777	1585	1781	1777	0
Q Serve(q_s), s	3.9	7.4	0.0	2.2	15.2	15.2	7.9	3.1	1.7	4.9	3.6	0.0
Cycle Q Clear(g_c), s	3.9	7.4	0.0	2.2	15.2	15.2	7.9	3.1	1.7	4.9	3.6	0.0
Prop In Lane	1.00		0.00	1.00		0.22	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	324	1445		91	646	652	582	600	268	178	357	
V/C Ratio(X)	0.66	0.39		0.67	0.73	0.73	0.75	0.32	0.18	0.77	0.57	
Avail Cap(c_a), veh/h	656	2457		284	1174	1185	1076	1485	662	501	1377	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.8	13.8	0.0	30.7	18.2	18.2	26.0	24.0	23.5	28.9	28.2	0.0
Incr Delay (d2), s/veh	2.3	0.2	0.0	8.2	1.6	1.6	2.0	0.3	0.3	6.8	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.7	0.0	1.1	5.8	5.8	3.1	1.2	0.6	2.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	14.0	0.0	38.9	19.8	19.8	28.0	24.3	23.8	35.7	29.7	0.0
LnGrp LOS	С	В		D	В	В	С	С	С	D	С	
Approach Vol, veh/h		779	Α		1013			679			340	A
Approach Delay, s/veh		18.7			20.9			26.7			32.1	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	31.3	15.6	11.1	10.7	28.4	11.1	15.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5	20.5	25.5	12.5	43.5	18.5	27.5				
Max Q Clear Time (q c+l1), s	4.2	9.4	9.9	5.6	5.9	17.2	6.9	5.1				
Green Ext Time (p_c), s	0.0	4.3	1.2	1.0	0.4	6.6	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			С									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

10: Creston Road 8	& Golde	n Hill F	Queues			
	۶	<b>→</b>	<b>—</b>	<b>/</b>	4	
Lane Group	EBL	EBT	WBT	SBL	SBR	
Lane Group Flow (vph)	71	452	1254	574	101	
v/c Ratio	0.40	0.21	0.75	0.74	0.23	
Control Delay	49.0	10.0	21.4	39.5	9.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.0	10.0	21.4	39.5	9.1	
Queue Length 50th (ft)	35	43	218	141	0	
Queue Length 95th (ft)	103	147	#616	#313	47	
Internal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	225	2399	1722	977	522	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.19	0.73	0.59	0.19	
Intersection Summary						
# 95th percentile volume 6	exceeds ca	pacity, qu	eue may	be longer		
Queue shown is maximu			,	J		
		,				

10. Clesion Road	a Golde		toau				TICIVI SIGNAIIZCU INICISC	ction oupdoity relaigs
	•	<b>→</b>	-	4	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	*	<b>^</b>	<b>∱</b> β		777	7		
Traffic Volume (vph)	65	416	602	552	528	93		
Future Volume (vph)	65	416	602	552	528	93		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5		
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00		
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		
Frt	1.00	1.00	0.93		1.00	0.85		
Flt Protected	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1752	3505	3229		3400	1568		
Flt Permitted	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (perm)	1752	3505	3229		3400	1568		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	71	452	654	600	574	101		
RTOR Reduction (vph)	0	0	113	0	0	79		
Lane Group Flow (vph)	71	452	1141	0	574	22		
Confl. Peds. (#/hr)		102		3	0, 1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%		
Turn Type	Prot	NA	NA	070	Perm	Perm		
Protected Phases	5	2	6		1 Cilli	1 GIIII		
Permitted Phases	<u> </u>				4	4		
Actuated Green, G (s)	7.0	53.5	42.0		19.7	19.7		
Effective Green, g (s)	7.0	53.5	42.0		19.7	19.7		
Actuated g/C Ratio	0.08	0.59	0.46		0.22	0.22		
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	135	2069	1496		739	340		
v/s Ratio Prot	c0.04	0.13	c0.35		137	340		
v/s Ratio Perm	CU.U4	0.13	00.55		c0.17	0.01		
v/c Ratio	0.53	0.22	0.76		0.78	0.06		
Uniform Delay, d1	40.2	8.7	20.2		33.4	28.1		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	3.7	0.1	2.4		5.1	0.1		
Delay (s)	43.9	8.8	22.5		38.5	28.2		
Level of Service	43.7 D	Α.δ	22.5 C		30.5 D	C C		
Approach Delay (s)	U	13.5	22.5		37.0			
Approach LOS		В	C		D			
Intersection Summary								
HCM 2000 Control Delay			24.6	Н	CM 2000	Level of Service	te C	
HCM 2000 Volume to Capa	acity ratio		0.70					
Actuated Cycle Length (s)	,		90.6	S	um of lost	time (s)	18.0	
Intersection Capacity Utiliza	ation		65.0%			of Service	C	
Analysis Period (min)			15					
c Critical Lane Group								

c Critical Lane Group

	<b>→</b>	_	$\sim$	1	←	4	<b>†</b>	-	1	
		-		•		,			*	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	136	379	168	74	1070	277	670	275	653	
v/c Ratio	0.61	0.67	0.28	0.55	1.20	0.87	0.81	0.89	0.70	
Control Delay	47.8	33.9	5.5	56.4	127.5	62.4	39.1	66.8	23.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.8	33.9	5.5	56.4	127.5	62.4	39.1	66.8	23.2	
Queue Length 50th (ft)	72	191	0	41	~347	152	179	153	108	
Queue Length 95th (ft)	131	294	45	#97	#484	#296	248	#305	172	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	272	589	607	139	891	333	917	313	996	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.64	0.28	0.53	1.20	0.83	0.73	0.88	0.66	

## Intersection Summary

Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Near Term Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	~	/	<b>+</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	, N	<b>↑</b>	7	7	<b>↑</b> ↑		7	<b>↑</b> ↑		7	<b>↑</b> ↑	
Traffic Volume (veh/h)	125	349	155	68	556	429	255	567	50	253	316	285
Future Volume (veh/h)	125	349	155	68	556	429	255	567	50	253	316	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.91	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	136	379	168	74	604	466	277	616	54	275	343	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	171	542	453	94	463	357	317	773	68	314	416	368
Arrive On Green	0.10	0.30	0.30	0.05	0.25	0.25	0.18	0.24	0.24	0.18	0.24	0.24
Sat Flow, veh/h	1739	1826	1526	1739	1835	1414	1739	3199	280	1739	1735	1536
Grp Volume(v), veh/h	136	379	168	74	571	499	277	333	337	275	343	310
Grp Sat Flow(s), veh/h/ln	1739	1826	1526	1739	1735	1514	1739	1735	1744	1739	1735	1536
Q Serve(g_s), s	6.1	14.6	6.9	3.3	20.0	20.0	12.3	14.3	14.4	12.2	14.8	15.2
Cycle Q Clear(g_c), s	6.1	14.6	6.9	3.3	20.0	20.0	12.3	14.3	14.4	12.2	14.8	15.2
Prop In Lane	1.00		1.00	1.00		0.93	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	171	542	453	94	438	382	317	419	421	314	416	368
V/C Ratio(X)	0.80	0.70	0.37	0.78	1.30	1.31	0.87	0.80	0.80	0.88	0.83	0.84
Avail Cap(c_a), veh/h	296	613	513	152	438	382	362	504	507	340	482	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	24.7	22.0	37.0	29.6	29.6	31.5	28.2	28.2	31.6	28.5	28.7
Incr Delay (d2), s/veh	8.1	3.0	0.5	13.2	152.2	155.2	18.7	7.3	7.4	20.8	10.0	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.3	2.4	1.7	26.2	23.2	6.5	6.4	6.5	6.7	7.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	27.8	22.5	50.2	181.8	184.8	50.2	35.5	35.7	52.4	38.5	41.4
LnGrp LOS	D	С	С	D	F	F	D	D	D	D	D	D
Approach Vol, veh/h		683			1144			947			928	
Approach Delay, s/veh		29.5			174.6			39.9			43.6	
Approach LOS		С			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	23.6	8.8	28.0	18.9	23.5	12.3	24.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	23.0	6.9	26.6	16.5	22.0	13.5	20.0				
Max Q Clear Time (g_c+l1), s	14.2	16.4	5.3	16.6	14.3	17.2	8.1	22.0				
Green Ext Time (p_c), s	0.1	2.2	0.0	2.0	0.2	1.7	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			80.5									
HCM 6th LOS			F									

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Intersection Delay, s/veh	73.7											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		44			4				ર્ન	7		474
Traffic Vol, veh/h	20	9	7	289	5	327	0	9	243	148	261	199
Future Vol, veh/h	20	9	7	289	5	327	0	9	243	148	261	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	10	8	314	5	355	0	10	264	161	284	216
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	13.2			140.1				19.3			37	
HCM LOS	В			F				С			Е	
		NBLn1	NIDI 0	EBLn1	WBLn1	CDI -1	CDI 2					
Lane			NBLn2			SBLn1	SBLn2					
Vol Left, %		4%	0%	56%	47%	72%	0%					
Vol Thru, %		96%	0%	25%	1%	28%	91%					
Vol Right, %		0%	100%	19%	53%	0%	9%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		252	148	36	621	361	110					
LT Vol		9	0	20	289	261	0					
Through Vol		243	0	9	5	100	100					
RT Vol		0	148	7	327	0	10					
Lane Flow Rate		274	161	39	675	392	119					
Geometry Grp		7	7	2	2	7	7					

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	
Vol Left, %	4%	0%	56%	47%	72%	0%	
Vol Thru, %	96%	0%	25%	1%	28%	91%	
Vol Right, %	0%	100%	19%	53%	0%	9%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	252	148	36	621	361	110	
LT Vol	9	0	20	289	261	0	
Through Vol	243	0	9	5	100	100	
RT Vol	0	148	7	327	0	10	
Lane Flow Rate	274	161	39	675	392	119	
Geometry Grp	7	7	2	2	7	7	
Degree of Util (X)	0.587	0.313	0.093	1.228	0.852	0.245	
Departure Headway (Hd)	8.463	7.713	9.277	6.548	8.555	8.112	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	430	470	389	554	427	445	
Service Time	6.163	5.413	7.277	4.587	6.255	5.812	
HCM Lane V/C Ratio	0.637	0.343	0.1	1.218	0.918	0.267	
HCM Control Delay	22.5	13.9	13.2	140.1	44.2	13.4	
HCM Lane LOS	С	В	В	F	Е	В	
HCM 95th-tile Q	3.7	1.3	0.3	25.5	8.3	1	

ersection I Delay, s/veh 24.9
ovement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR
ne Configurations 🚓 🚓 🏋 🖒 🦎 🐔
affic Vol, veh/h 99 6 40 8 15 98 34 553 3 33 422 85
iture Vol. veh/h 99 6 40 8 15 98 34 553 3 33 422 85
onflicting Peds, #/hr 1 0 0 0 0 1 6 0 2 2 0 6
gn Control Stop Stop Stop Stop Stop Free Free Free Free Free
Channelized None None None
orage Length 30 70 - 60
th in Median Storage, # - 0 0 0 0 -
rade, % - 0 0 0 0 -
eak Hour Factor 92 92 92 92 92 92 92 92 92 92 92 92
eavy Vehicles, % 2 2 2 2 2 2 2 2 2 2 2 2 2
wnt Flow 108 7 43 9 16 107 37 601 3 36 459 92
JIII FIOW 100 7 43 9 10 107 37 001 3 30 439 92
ajor/Minor Minor2 Minor1 Major1 Major2
onflicting Flow All 1276 1217 465 1281 1308 606 557 0 0 606 0 0
Stage 1 537 537 - 679 679
Stage 2 739 680 - 602 629
itical Hdwy 7.12 6.52 6.22 7.12 6.52 6.22 4.12 4.12
itical Hdwy Stg 1 6.12 5.52 - 6.12 5.52
itical Hdwy Stg 2 6.12 5.52 - 6.12 5.52
illow-up Hdwy 3.518 4.018 3.318 3.518 4.018 3.318 2.218 2.218
ot Cap-1 Maneuver 144 181 597 142 159 497 1014 972
Stage 1 528 523 - 441 451
Stage 2 409 451 - 486 475
atoon blocked. %
ov Cap-1 Maneuver ~ 97 167 594 120 146 496 1008 970
ov Cap-2 Maneuver ~ 97 167 - 120 146
Stage 1 506 501 - 424 433
Stage 2 297 433 - 428 455
pproach EB WB NB SB
CM Control Delay, s 216.3 23 0.5 0.5
CM LOS F C
inor Lane/Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR
apacity (veh/h) 1008 129 330 970
CM Lane V/C Ratio 0.037 1.222 0.399 0.037
CM Control Delay (s) 8.7 - 216.3 23 8.9 -
CM Lane LOS A F C A
CM 95th %tile Q(veh)
otes control of the c
Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoo

HCM 95th %tile Q(veh)

14: Creston Road & Charolais Road

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR	
La Configurations		
Traffic Vol, veh/h	10	
Future Vol, veh/h	10	
Peak Hour Factor	0.92	
Heavy Vehicles, %	2	
Mvmt Flow	11	
Number of Lanes	0	

Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left Conflicting Approach Right Conflicting Lanes Right HCM Control Delay HCM LOS

Interception						
Intersection Int Delay, s/veh	10.5					
iiii belay, s/veri						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	7	<b>^</b>		7
Traffic Vol, veh/h	192	136	229	208	125	371
Future Vol, veh/h	192	136	229	208	125	371
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None		None
Storage Length	0	145	105	-	-	0
Veh in Median Storag	je,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mymt Flow	209	148	249	226	136	403
	207	110	217	LLO	100	100
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	747	136	539	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy		6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	2.2285	-	-	-
Pot Cap-1 Maneuver	362	909	1021	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	274	909	1021	-	-	-
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	671				-	
Stage 2	503					
Olago 2	000					
					0.5	
Approach	EB		NB		SB	
HCM Control Delay, s			5.1		0	
HCM LOS	D					
Minor Lane/Major Mv	mt	NBL	NBT	EBLn1 I	FBI n2	SBT
Capacity (veh/h)		1021		274	909	
HCM Lane V/C Ratio		0.244				
HCM Control Delay (s	-)	9.7		50.4	9.7	
	9)	7.7 A		50.4 F	7.7 A	
HCM Lane LOS		A	-	г	A	-

1 - 5.7 0.6 -

# Near Term Plus 911 Unit Project AM HCM Unsignalized Intersection Capacity Analysis

15: US 101 SB Ramp & Pine Street & Riverside Avenue

	*	<b>→</b>	*	•	<b>←</b>	*	1	1	~	1	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ર્ન	7					ĵ.	
Traffic Volume (veh/h)	27	0	55	1	117	9	0	0	0	0	324	15
Future Volume (Veh/h)	27	0	55	1	117	9	0	0	0	0	324	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	0	60	1	127	10	0	0	0	0	352	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX. platoon unblocked												
vC, conflicting volume	428	360	360	420	368	0	368			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	428	360	360	420	368	0	368			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	91	100	77	99	100			100		
cM capacity (veh/h)	439	567	684	496	561	1085	1191			1623		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	89	138	368									
Volume Left	29	1	0									
Volume Right	60	10	16									
cSH	579	604	1700									
Volume to Capacity	0.15	0.23	0.22									
Queue Length 95th (ft)	14	22	0.22									
Control Delay (s)	12.3	13.0	0.0									
Lane LOS	12.3 B	В.	0.0									
Approach Delay (s)	12.3	13.0	0.0									
Approach LOS	12.3 B	В	0.0									
Intersection Summary												
Average Delay			4.9									
Intersection Capacity Utiliza	ation		36.2%	10	U Level	of Service			Α			
Analysis Period (min)			15		20 20 101 1	5. GGI VICC			,,			
raidigolo i Gilod (iliili)			10									

Synchro 10 Report Page 37 Central Coast Transportation Consulting

Beechwood SP

Near Term Plus 911 Unit Project AM

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	•	$\rightarrow$	1	<b>—</b>	*	1	<b>†</b>	1	1	↓	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	20	336	1212	309	491	91	293	620	349	276	
v/c Ratio	0.09	0.72	0.80	0.38	0.44	0.61	0.65	0.37	0.69	0.41	
Control Delay	55.7	54.3	37.5	27.5	2.5	79.5	63.1	6.0	61.4	45.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.7	54.3	37.5	27.5	2.5	79.5	63.1	6.0	61.4	45.9	
Queue Length 50th (ft)	16	121	451	173	6	78	131	49	151	106	
Queue Length 95th (ft)	44	188	642	293	52	#158	192	79	219	155	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	285	594	1669	906	1170	170	648	1787	658	966	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.57	0.73	0.34	0.42	0.54	0.45	0.35	0.53	0.29	

## Intersection Summary

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Near Term Plus 911 Unit Project AM d HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		77	<b>↑</b>	7	7	<b>^</b>	77	ሻሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	18	194	115	1115	284	452	84	270	570	321	205	49
Future Volume (veh/h)	18	194	115	1115	284	452	84	270	570	321	205	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	211	125	1212	309	491	91	293	620	349	223	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	273	155	1438	778	847	115	569	1607	427	600	140
Arrive On Green	0.13	0.13	0.13	0.42	0.42	0.42	0.06	0.16	0.16	0.12	0.21	0.21
Sat Flow, veh/h	1781	2184	1240	3456	1870	1564	1781	3554	2790	3456	2860	666
Grp Volume(v), veh/h	20	170	166	1212	309	491	91	293	620	349	137	139
Grp Sat Flow(s), veh/h/ln	1781	1777	1647	1728	1870	1564	1781	1777	1395	1728	1777	1749
Q Serve(q_s), s	1.2	10.8	11.5	36.9	13.5	24.7	5.9	8.8	14.2	11.5	7.7	8.0
Cycle Q Clear(q c), s	1.2	10.8	11.5	36.9	13.5	24.7	5.9	8.8	14.2	11.5	7.7	8.0
Prop In Lane	1.00		0.75	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	223	222	206	1438	778	847	115	569	1607	427	373	367
V/C Ratio(X)	0.09	0.76	0.81	0.84	0.40	0.58	0.79	0.52	0.39	0.82	0.37	0.38
Avail Cap(c a), veh/h	310	310	287	1819	984	1019	186	704	1714	717	536	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	49.5	49.8	30.7	23.9	18.1	54.0	45.0	13.5	50.0	39.6	39.7
Incr Delay (d2), s/veh	0.2	7.2	10.9	3.1	0.3	0.6	11.5	0.7	0.2	3.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.3	5.4	15.2	5.9	8.5	2.9	3.8	9.0	5.2	3.4	3.5
Unsig. Movement Delay, s/veh		0.0	0.1	10.2	0.7	0.0	2.,,	0.0	7.0	0.2	0.1	0.0
LnGrp Delay(d),s/veh	45.5	56.7	60.7	33.8	24.2	18.7	65.5	45.7	13.7	53.9	40.2	40.4
LnGrp LOS	D	F	E	C	C	В	F	D	В	D	D	D
Approach Vol, veh/h		356			2012			1004			625	
Approach Delay, s/veh		57.9			28.6			27.7			47.9	
Approach LOS		57.7			20.0 C			C C			D	
**	1					,					D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.2	24.5		19.3	13.3	30.3		54.1				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 24	23.2		20.4	12.2	* 35		61.6				
Max Q Clear Time (g_c+l1), s	13.5	16.2		13.5	7.9	10.0		38.9				
Green Ext Time (p_c), s	0.9	2.6		1.2	0.1	1.6		9.8				
Intersection Summary												
HCM 6th Ctrl Delay			34.0									
HCM 6th LOS			С									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Central Coast Transportation Consulting Synchro 10 Report Page 41 Beechwood SP 17: S. River Road & Niblick Road Near Term Plus 911 Unit Project AM

Lane Group         EBL         EBT         EBR         WBL         WBT         NBL         NBT         SBL         SBT           Lane Group Flow (vph)         1111         701         298         129         1417         699         407         317         454           v/c Ratio         0.56         0.57         0.40         0.68         1.03         0.93         0.66         0.86         0.75           Control Delay         63.4         32.8         5.0         66.7         66.3         62.8         47.4         66.1         45.0           Queue Delay         63.4         32.8         5.0         66.7         66.3         62.8         47.4         66.1         45.0           Queue Length 50th (ft)         40         218         0         89         -570         254         143         217         138           Queue Length 95th (ft)         74         304         63         #171         #775         #400         196         #385         194
v/c Ratio         0.56         0.57         0.40         0.68         1.03         0.93         0.66         0.86         0.75           Control Delay         63.4         32.8         5.0         66.7         66.3         62.8         47.4         66.1         45.0           Queue Delay         0.0
Control Delay         63.4         32.8         5.0         66.7         66.3         62.8         47.4         66.1         45.0           Queue Delay         0.0<
Queue Delay         0.0 <th< td=""></th<>
Total Delay 63.4 32.8 5.0 66.7 66.3 62.8 47.4 66.1 45.0 Queue Length 50th (ft) 40 218 0 89 -570 254 143 217 138
Queue Length 50th (ft) 40 218 0 89 ~570 254 143 217 138
Oueue Length 95th (ft) 74 304 63 #171 #775 #400 196 #385 194
Internal Link Dist (ft) 1510 1609 962 896
Turn Bay Length (ft) 140 80 150 110
Base Capacity (vph) 200 1230 745 214 1372 754 816 400 871
Starvation Cap Reductn 0 0 0 0 0 0 0 0
Spillback Cap Reductn 0 0 0 0 0 0 0 0
Storage Cap Reductn 0 0 0 0 0 0 0 0
Reduced v/c Ratio 0.56 0.57 0.40 0.60 1.03 0.93 0.50 0.79 0.52

## Intersection Summary

Queue shown is maximum after two cycles.

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	1	/	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>^</b>	7	ሻ	<b>∱</b> β		1,1	<b>↑</b> ↑		ሻ	<b>↑</b> ₽	
Traffic Volume (veh/h)	102	645	274	119	1013	291	643	321	53	292	273	144
Future Volume (veh/h)	102	645	274	119	1013	291	643	321	53	292	273	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1070	No	4070	4070	No	4070	4070	No	4070	4070	No	4070
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	701	298	129	1101	316	699	349	58	317	297	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	1283	572	157	1094	311	751	585	96	348	386	199
Arrive On Green	0.05	0.36	0.36	0.09	0.40	0.40	0.22	0.19	0.19	0.20	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	2727	774	3456	3050	502	1781	2268	1169
Grp Volume(v), veh/h	111	701	298	129	713	704	699	202	205	317	231	223
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1724	1728	1777	1775	1781	1777	1660
Q Serve(g_s), s	3.5	17.3	8.7	7.9	44.3	44.3	21.9	11.4	11.7	19.2	13.7	14.2
Cycle Q Clear(g_c), s	3.5	17.3	8.7	7.9	44.3	44.3	21.9	11.4	11.7	19.2	13.7	14.2
Prop In Lane	1.00	4000	1.00	1.00	740	0.45	1.00	0.14	0.28	1.00	200	0.70
Lane Grp Cap(c), veh/h	167	1283	572	157	713	692	751	341	341	348	302	282
V/C Ratio(X)	0.67	0.55	0.52	0.82	1.00	1.02	0.93	0.59	0.60	0.91	0.76	0.79
Avail Cap(c_a), veh/h HCM Platoon Ratio	203 1.00	1283 1.00	572 1.00	218 1.00	713 1.00	692 1.00	754 1.00	418 1.00	418 1.00	407 1.00	436 1.00	407 1.00
				1.00								
Upstream Filter(I)	1.00 51.7	1.00	1.00 7.9	49.5	1.00 33.0	1.00	1.00 42.4	1.00 40.7	1.00	1.00 43.5	1.00 43.7	1.00 43.9
Uniform Delay (d), s/veh Incr Delay (d2), s/veh	51.7	28.1	0.8	49.5 15.7	33.8	38.5	18.1	1.6	40.8	43.5 22.1	43.7	43.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.2	5.5	4.1	24.6	24.8	10.9	5.0	5.1	10.4	6.3	6.2
Unsig. Movement Delay, s/veh		1.2	5.5	4.1	24.0	24.0	10.9	3.0	3.1	10.4	0.3	0.2
LnGrp Delay(d),s/veh	57.6	28.5	8.7	65.1	66.9	71.6	60.5	42.3	42.5	65.6	48.5	50.4
LnGrp LOS	57.0 E	20.5 C	Α.	03.1 E	00.7 F	71.0 F	00.5 F	42.3 D	42.5 D	03.0 F	40.5 D	D
Approach Vol, veh/h		1110	A		1546			1106	U		771	
Approach Delay, s/veh		26.1			68.9			53.9			56.1	
Approach LOS		20.1 C			00.9 F			00.9 D			50. I	
Approach EOS		C			L			D			L	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	44.4	28.5	23.3	9.8	48.8	26.1	25.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	37.3	24.1	27.1	6.5	44.3	25.2	26.0				
Max Q Clear Time (g_c+I1), s	9.9	19.3	23.9	16.2	5.5	46.3	21.2	13.7				
Green Ext Time (p_c), s	0.1	5.3	0.1	1.9	0.0	0.0	0.4	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			52.6									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	4.3					
	EBL	EBR	NBL	NBT	SBT	SBR
Movement		EDR	INDL			SBR
Lane Configurations	<b>\</b>	1	-	4	<b>}</b>	41
Traffic Vol, veh/h	86	1	5	925	389	41
Future Vol, veh/h	86	1	5	925	389	41
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mymt Flow	93	1	5	1005	423	45
			_			
	A' 0				4 ' 0	
	/linor2		Major1		Major2	
Conflicting Flow All	1461	447	468	0	-	0
Stage 1	446		-	-	-	
Stage 2	1015	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-		-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	141	609	1088	-		-
Stage 1	643	-	-	-	-	-
Stage 2	348	-	-	-		-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	140	608	1088			
Mov Cap-2 Maneuver	140		-			-
Stage 1	637					
Stage 2	348					
Stage 2	340					
Approach	EB		NB		SB	
HCM Control Delay, s	71.3		0		0	
HCM LOS	F					
Minor Lane/Major Mvm		NBL	MDT	EBLn1	SBT	SBR
	ι				JDI	
Capacity (veh/h)		1088	-	141		-
HCM Lane V/C Ratio		0.005			-	-
HCM Control Delay (s)		8.3	0	71.3	-	-
HCM Lane LOS		Α	Α	F	-	-
HCM 95th %tile Q(veh)		0	-	3.7	-	-

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Intersection						
Int Delay, s/veh	0.9					
Movement Movement	EBL	EBR	NDI	NBT	SBT	CDD
		EBR	NBL			SBR
Lane Configurations	Y	0	4.4	4	<b>^}</b>	10
Traffic Vol, veh/h	55	8	14	794	359	19
Future Vol, veh/h	55	8	14	794	359	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	9	15	863	390	21
Major/Minor	Minor2		Major1	N	Major2	
Conflicting Flow All	1294	401	411	0	viajoiz	0
Stage 1	401	-	711	-		-
Stage 2	893					
Critical Hdwy	6.42	6.22	4.12			
	5.42	0.22	4.12	-	-	
Critical Hdwy Stg 1			-		-	
Critical Hdwy Stg 2	5.42	- 0.010	- 0.010	-		-
Follow-up Hdwy	3.518			-	-	-
Pot Cap-1 Maneuver	179	649	1148	-		-
Stage 1	676	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	175	649	1148	-	-	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	400			-		-
A	ED		ND		CD	
Approach	EB		NB		SB	
HCM Control Delay, s	16.8		0.1		0	
HCM LOS	С					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1148		374		
HCM Lane V/C Ratio		0.013		0.183		
HCM Control Delay (s)		8.2	0	16.8		
HCM Lane LOS		Α.2	A	C		
HCM 95th %tile Q(veh	١.	0	-	0.7		
HCIVI 95(II %(IIIE Q(VEII	)	U		0.7	-	

Intersection						
Intersection Delay, s/veh	61.3					
Intersection LOS	F					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		f)			ની
Traffic Vol, veh/h	21	719	86	7	319	46
Future Vol, veh/h	21	719	86	7	319	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	782	93	8	347	50
Number of Lanes	1	0	1	0	0	1
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	86.9		11.5		22.2	
HCM LOS	F		В		С	
Lane		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	3%	87%		
Vol Thru, %		92%	0%	13%		
Vol Right, %		8%	97%	0%		
Sign Control		Stop	Stop	Stop		
Traffic Vol by Lane		93	740	365		
LT Vol		0	21	319		
Through Vol		86	0	46		
RT Vol		7	719	0		
Lane Flow Rate		101	804	397		
Geometry Grp		1	1	1		
Degree of Util (X)		0.183	1.106	0.679		
Departure Headway (Hd)		6.956	4.948	6.534		
Convergence, Y/N		Yes	Yes	Yes		
Cap		519	740	555		
Service Time		4.956	2.948	4.534		
HCM Lane V/C Ratio		0.195	1.086	0.715		
HCM Control Delay		11.5	86.9	22.2		
HCM Lane LOS		В	F	С		
HCM 95th-tile Q		0.7	22.8	5.1		

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	T T	<u></u>	13€	MOIL	→ N	אומכ
Traffic Vol, veh/h	4	330	734	2	4	7
Future Vol. veh/h	4	330	734	2	4	7
Conflicting Peds, #/hr		0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storag	e,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	359	798	2	4	8
Major/Minor	Major1	Λ	/lajor2		Winor2	
Conflicting Flow All	806	0	-	0	1172	805
Stage 1	-	-		-	805	-
Stage 2					367	
Critical Hdwy	4.12	-			6.42	6.22
Critical Hdwy Stg 1	-	-			5.42	
Critical Hdwy Stg 2		-			5.42	
Follow-up Hdwy	2.218	-			3.518	3.318
Pot Cap-1 Maneuver	819	-			213	382
Stage 1	-	-			440	
Stage 2	-	-			701	
Platoon blocked, %		-				
Mov Cap-1 Maneuver	814				209	380
Mov Cap-2 Maneuver					209	-
Stage 1			-		435	
Stage 2					697	
<b>.</b>						
Approach	EB		WB		SB	
HCM Control Delay, s			0		17.8	
HCM LOS	0.1		U		17.8 C	
LICINI EUS					C	
Minor Lane/Major Mvr	mt	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		814	-	-	-	293
HCM Lane V/C Ratio		0.005	-	-	-	0.041
HCM Control Delay (s	i)	9.4	-	-	-	17.8
HCM Lane LOS		Α	-	-	-	С

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.		7	ĵ.			4			4	
Traffic Vol, veh/h	16	317	1	1	689	29	3	0	1	35	0	44
Future Vol. veh/h	16	317	1	1	689	29	3	0	1	35	0	44
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50			-		-	-	-	-
Veh in Median Storage	.# -	0	-	-	0			0			0	-
Grade. %	-	0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2		2	2	2	2	2	2	2	2	2	2
Mymt Flow	17	345	1	1	749	32	3	0	1	38	0	48
												.0
Maning/Minne	14-14			4-10			Alm and			\ A!		
	Major1			Major2			Minor1	4470		Minor2	445 :	770
Conflicting Flow All	788	0	0	346	0	0	1171	1170	346	1154	1154	772
Stage 1	-	-	-	-	-	-	380	380	-	774	774	-
Stage 2	-	-	-	-	-	-	791	790	-	380	380	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	831			1213	-	-	170	193	697	174	197	400
Stage 1	-	-	-	-	-	-	642	614	-	391	408	-
Stage 2	-			-	-	-	383	402	-	642	614	
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	825	-	-	1213	-	-	147	187	697	170	191	397
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	187	-	170	191	-
Stage 1	-	-	-	-	-	-	629	601	-	380	405	-
Stage 2	-	-	-	-	-	-	337	399	-	628	601	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0			25.2			26.9		
HCM LOS	0.0			0			D			D		
							U			U		
						LA ID	11100	11105	001			
Minor Lane/Major Mvm	nt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR:				
Capacity (veh/h)		183	825		-	1213	-	-	249			
HCM Lane V/C Ratio		0.024	0.021	-	-	0.001	-	-	0.345			
HCM Control Delay (s)		25.2	9.5	-	-	8	-	-	26.9			
HCM Lane LOS		D	Α	-	-	Α	-	-	D			

HCM 95th %tile Q(veh)

Intersection				_		
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EDL	EDI	WB1	WBK	SBL	SBK
Traffic Vol, veh/h	<u>ግ</u>	<b>T</b> 345	710	2	<b>"</b>	5
Future Vol. veh/h	4	345	710	2	6	5
Conflicting Peds, #/hr	9	345	710	9	0	0
	Free	Free	Free	Free	Stop	_
Sign Control RT Channelized	Free -	None	Free -	None	Stop	Stop
Storage Length	50	None -	- 1	None -	- 0	None -
		0	0	-	0	
Veh in Median Storage Grade. %	-,#	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	92	2	92	92
Mymt Flow	4	375	772	2	7	5
WWIII FIOW	4	3/5	112		I	5
Major/Minor I	Major1	1	Major2	- 1	Vinor2	
Conflicting Flow All	783	0	-	0	1165	782
Stage 1	-	-	-	-	782	-
Stage 2	-	-		-	383	-
Critical Hdwy	4.12	-		-	6.42	6.22
Critical Hdwy Stg 1	-	-		-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	835	-			215	394
Stage 1	-	-	-	-	451	-
Stage 2		-	-		689	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	828	-			210	391
Mov Cap-2 Maneuver					210	-
Stage 1					445	
Stage 2					683	
5						
			MD		00	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		19.2	
HCM LOS					С	
Minor Lane/Major Mvm	ıt	EBL	EBT	WBT	WBR :	SBLn1
Capacity (veh/h)		828		-		266
HCM Lane V/C Ratio		0.005		-		0.045
HCM Control Delay (s)		9.4				19.2
HCM Lane LOS		Α				С
HCM 95th %tile Q(veh)		0				0.1
70111 701110 2(1011)		3				0.1

Interception						
Intersection	3.5					
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	<b>†</b>	ĵ.		Y	
Traffic Vol, veh/h	56	295	577	50	26	135
Future Vol, veh/h	56	295	577	50	26	135
Conflicting Peds, #/hr	8	0	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None	-	None
Storage Length	100	-			0	
Veh in Median Storage		0	0		0	
Grade. %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	61	321	627	54	28	147
IVIVIII I IOW	01	J2 I	021	74	20	177
	Major1		Major2		Minor2	
Conflicting Flow All	689	0	-	0	1105	662
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	4.11	-			6.41	6.21
Critical Hdwy Stg 1		-			5.41	
Critical Hdwy Stg 2	-	-		-	5.41	-
Follow-up Hdwy	2.209	-		-	3.509	3.309
Pot Cap-1 Maneuver	910	-		-	234	464
Stage 1	-			-	515	-
Stage 2	-	-		-	649	-
Platoon blocked, %					017	
Mov Cap-1 Maneuver	903				215	460
Mov Cap-1 Maneuver	703				215	-
Stage 1		_			476	
Stage 2					644	
Stage 2					044	
Approach	EB		WB		SB	
HCM Control Delay, s	1.5		0		21.6	
HCM LOS					С	
		EDI	EDT	MIDT	WDD	ODI 4
Minor Lane/Major Mvn	11	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		903	-	-	-	389
HCM Lane V/C Ratio		0.067	-	-	-	0.45
HCM Control Delay (s)		9.3	-	-	-	21.6
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	)	0.2	-		-	2.3
•						

Intersection				
Intersection Delay, s/veh	5.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	227	329	76	180
Demand Flow Rate, veh/h	229	332	77	182
Vehicles Circulating, veh/h	4	117	200	398
Vehicles Exiting, veh/h	576	160	33	51
Ped Vol Crossing Leg, #/h	0	0	0	8
Ped Cap Adj	1.000	1.000	1.000	0.999
Approach Delay, s/veh	4.0	5.4	3.8	5.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Lane Designated Moves	Left LTR	Left LTR	Left LTR	Left LTR
Designated Moves	LTR	LTR	LTR	LTR
Designated Moves Assumed Moves	LTR	LTR	LTR	LTR
Designated Moves Assumed Moves RT Channelized	LTR LTR	LTR LTR	LTR LTR	LTR LTR
Designated Moves Assumed Moves RT Channelized Lane Util	LTR LTR 1.000	LTR LTR 1.000	LTR LTR 1.000	LTR LTR 1.000
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s	LTR LTR 1.000 2.609	LTR LTR 1.000 2.609	LTR LTR 1.000 2.609	LTR LTR 1.000 2.609
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976	LTR LTR 1.000 2.609 4.976
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR LTR 1.000 2.609 4.976 229	LTR LTR 1.000 2.609 4.976 332	LTR LTR 1.000 2.609 4.976 77	LTR LTR 1.000 2.609 4.976 182
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	LTR LTR 1.000 2.609 4.976 229 1374	LTR LTR 1.000 2.609 4.976 332 1225	LTR LTR 1.000 2.609 4.976 77 1125	LTR LTR 1.000 2.609 4.976 182 919
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	LTR LTR 1.000 2.609 4.976 229 1374 0.993	LTR LTR 1.000 2.609 4.976 332 1225 0.990	LTR LTR 1.000 2.609 4.976 77 1125 0.986	LTR LTR 1.000 2.609 4.976 182 919 0.989
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Entry How Adj Factor Flow Entry, veh/h	LTR LTR 1.000 2.609 4.976 229 1374 0.993 227	LTR LTR 1.000 2.609 4.976 332 1225 0.990 329	LTR LTR 1.000 2.609 4.976 77 1125 0.986 76	LTR LTR 1.000 2.609 4.976 182 919 0.989 180
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	LTR LTR 1.000 2.609 4.976 229 1374 0.993 227 1365	LTR LTR 1.000 2.609 4.976 332 1225 0.990 329 1213	LTR LTR 1.000 2.609 4.976 77 1125 0.986 76 1110	LTR LTR 1.000 2.609 4.976 182 919 0.989 180 908
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 229 1374 0.993 227 1365 0.167	LTR LTR 1.000 2.609 4.976 332 1225 0.990 329 1213 0.271	LTR LTR 1.000 2.609 4.976 77 1125 0.986 76 1110 0.068	LTR LTR 1.000 2.609 4.976 182 919 0.989 180 908 0.198

# Near Term Plus 911 Unit Project PM Queues

# 1: SR 46 E & Buena Vista Drive

	•	$\rightarrow$	-	*	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	257	1291	1300	118	126	231
v/c Ratio	0.68	0.39	0.82	0.15	0.53	0.36
Control Delay	49.8	0.3	29.0	3.6	54.3	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	0.3	29.0	3.6	54.3	20.2
Queue Length 50th (ft)	154	0	374	0	78	81
Queue Length 95th (ft)	312	0	571	32	170	182
Internal Link Dist (ft)		1017	748		574	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	503	3312	2843	1289	503	977
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.39	0.46	0.09	0.25	0.24
Intersection Summary						

Beechwood SP 1: SR 46 E & Buena Vista Drive

	•	-	<b>←</b>	*	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	7	<b>^</b>	<b>^</b>	7	7	ř			
Traffic Volume (vph)	254	1278	1287	117	125	229			
Future Volume (vph)	254	1278	1287	117	125	229			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1656	3312	3312	1482	1656	1482			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1656	3312	3312	1482	1656	1482			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99			
Adj. Flow (vph)	257	1291	1300	118	126	231			
RTOR Reduction (vph)	0	0	0	61	0	26			
Lane Group Flow (vph)	257	1291	1300	57	126	205			
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	23.8	103.1	49.5	49.5	14.8	42.6			
Effective Green, g (s)	23.8	103.1	49.5	49.5	14.8	42.6			
Actuated g/C Ratio	0.23	1.00	0.48	0.48	0.14	0.41			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	382	3312	1590	711	237	612			
v/s Ratio Prot	c0.16	0.39	c0.39		c0.08	0.14			
v/s Ratio Perm				0.04					
v/c Ratio	0.67	0.39	0.82	0.08	0.53	0.34			
Uniform Delay, d1	36.1	0.0	22.9	14.5	40.9	20.6			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	4.6	0.3	3.6	0.1	2.6	0.3			
Delay (s)	40.7	0.3	26.5	14.6	43.5	20.9			
Level of Service	D	Α	С	В	D	С			
Approach Delay (s)		7.1	25.5		28.9				
Approach LOS		Α	С		С				
Intersection Summary									
HCM 2000 Control Delay			17.3	Н	ICM 2000	Level of Servi	ce	В	
HCM 2000 Volume to Cap	acity ratio		0.73						
Actuated Cycle Length (s)	,		103.1	S	um of los	t time (s)		15.0	
Intersection Capacity Utiliz	ation		69.5%			of Service		С	
Analysis Period (min)			15						

! Phase conflict between lane groups.
c Critical Lane Group

971

0.75

38.2

38.2

536

1323

0

0.46 0.27

0.53

58.6

58.6

72 340

139

225

528 2120

0

279

5.0 58.3

5.0 58.3

0 19 313

62

485 125

1029

52 887

0.0

48 495

0

0.10

0.80

43.0

0.0

43.0

2509

2120

0

0.42 0.13

127 248

6.4 57.8

6.4 57.8

46 170

390

0

0.59

0.0

91

160

0

0.42 0.23

0.22

Lane Group Flow (vph)

v/c Ratio

Control Delay

Queue Delay

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Reduced v/c Ratio

Intersection Summary

Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn

Total Delay

193

0.53

58.6

0.0

58.6 56.0

138

140

0

0.33 0.51

71 233

335 312

56.0

0.0

422

0

0.56

14.4

0.0

39

149

710

0

14.4

283

0.33

35.9

0.0

35.9

84

154

853

0

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	190	942	271	50	860	123	241	228	47	187	325	303
Future Volume (veh/h)	190	942	271	50	860	123	241	228	47	187	325	30:
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	(
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	179
Adj Flow Rate, veh/h	196	971	279	52	887	127	248	235	48	193	335	31:
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	
Cap, veh/h	275	1245	554	105	1191	531	333	750	150	274	444	376
Arrive On Green	0.08	0.36	0.36	0.03	0.35	0.35	0.10	0.26	0.26	0.08	0.25	0.25
Sat Flow, veh/h	3319	3413	1520	3319	3413	1521	3319	2831	568	3319	1796	152:
Grp Volume(v), veh/h	196	971	279	52	887	127	248	140	143	193	335	312
Grp Sat Flow(s),veh/h/ln	1659	1706	1520	1659	1706	1521	1659	1706	1692	1659	1796	152
Q Serve(g_s), s	5.4	23.6	8.7	1.4	21.3	5.5	6.8	6.1	6.3	5.3	16.1	18.
Cycle Q Clear(g_c), s	5.4	23.6	8.7	1.4	21.3	5.5	6.8	6.1	6.3	5.3	16.1	18.
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	275	1245	554	105	1191	531	333	452	448	274	444	376
V/C Ratio(X)	0.71	0.78	0.50	0.49	0.74	0.24	0.74	0.31	0.32	0.70	0.76	0.83
Avail Cap(c_a), veh/h	640	2561	1141	640	2561	1141	712	750	744	712	789	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	26.3	9.8	44.4	26.7	21.6	40.8	27.5	27.5	41.7	32.5	33.:
Incr Delay (d2), s/veh	3.4	1.1	0.7	1.3	0.9	0.2	3.3	0.4	0.4	3.3	2.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.6	4.2	0.6	7.9	1.9	2.8	2.4	2.5	2.2	7.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	27.4	10.5	45.8	27.7	21.8	44.1	27.9	27.9	45.0	35.2	38.0
LnGrp LOS	D	С	В	D	С	С	D	С	С	D	D	[
Approach Vol, veh/h		1446			1066			531			840	
Approach Delay, s/veh		26.5			27.9			35.5			38.5	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	41.3	13.4	28.3	11.7	39.8	11.7	30.0				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q_c+l1), s	3.4	25.6	8.8	20.1	7.4	23.3	7.3	8.3				
Green Ext Time (p_c), s	0.0	8.5	0.6	2.9	0.4	6.8	0.5	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			30.7									
HCM 6th LOS			С									

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

nt Delay, s/veh	18.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Configurations	7	ħβ			ħβ			લી	7		ની	7
Fraffic Vol, veh/h	0	1074	102	324	1015	0	18	0	389	0	0	0
uture Vol, veh/h	0	1074	102	324	1015	0	18	0	389	0	0	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-		None	-	-	None	-	-	None
Storage Length	340	-	-	195		-	-	-	25		-	25
/eh in Median Storage,	# -	0		-	0	-	-	0	-		0	-
Grade. %		0			0			0			0	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	7	7	7	7	7	7	7	7	7	7	7	7
Nymt Flow	0	1107	105	334	1046	0	19	0	401	0	0	0
		1107	100	001	1010		.,		101			Ū
Major/Minor N	Major1		1	Major2			Vinor1		N	/linor2		
Conflicting Flow All	1047	0	0	1212	0	0	2351	2875	606	2269	2927	524
Stage 1	1047	-	-	1212	-	-	1160	1160	-	1715	1715	324
Stage 2							1191	1715		554	1212	
Critical Hdwy	4.24			4.24			7.64	6.64	7.04	7.64	6.64	7.04
Critical Hdwy Stg 1	4.24			4.24			6.64	5.64	7.04	6.64	5.64	7.04
Critical Hdwy Stg 2	- :						6.64	5.64		6.64	5.64	
Follow-up Hdwy	2.27		-	2.27			3.57	4.07	3.37	3.57	4.07	3.37
Pot Cap-1 Maneuver	631			544			~ 18	15	428	21	14	485
	031		-	544			200	258	428	89	136	480
Stage 1		-	-	_	-	-	191	136		472	243	
Stage 2	-		-				191	130		4/2	243	
Platoon blocked, %	/20	-	-	544	_	-	~ 9	,	400	1	-	405
Mov Cap-1 Maneuver	630	-		544		-	~ 9	6	428	1	5	485
Mov Cap-2 Maneuver		-		-	-			6 258		1	5	-
Stage 1	-	-	-	-	-	-	200		-	89	52	-
Stage 2	-	-	-	-	-	-	74	52	-	30	243	-
				14.05			NE			0.5		
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			5.2			115.2			0		
HCM LOS							F			Α		
Minor Lane/Major Mvmt	1	VBLn1 I		EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1	SBLn2	
Capacity (veh/h)		9	428	630	-	-	544	-		-		
HCM Lane V/C Ratio			0.937	-	-	-	0.614	-	-	-	-	
HCM Control Delay (s)	\$ 1	1298.3	60.5	0	-	-	21.6	-		0	0	
HCM Lane LOS		F	F	Α	-	-	С	-	-	Α	Α	
HCM 95th %tile Q(veh)		3.3	10.7	0		-	4.1	-	-	-	-	

Intersection							
Int Delay, s/veh	6.4						
		EDT	WDT	WDD	CDI	CDD	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	204	<b>^</b>	<b>^</b>	7	ነ	7(2	
Traffic Vol, veh/h	284	1180	977	13	11	362	
Future Vol, veh/h	284	1180	977	13	11	362	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-		-	None 165	-		
Storage Length	580	-	-		0	25	
Veh in Median Storage		0	0	-	2	-	
Grade, % Peak Hour Factor	94	94	94	94	94	94	
	10	10	10	10	10	10	
Heavy Vehicles, % Mvmt Flow	302	1255	1039	14	12	385	
IVIVIIII FIOW	302	1255	1039	14	12	385	
	Major1	1	Major2	- 1	Minor2		
Conflicting Flow All	1053	0	-	0	2271	520	
Stage 1	-		-	-	1039	-	
Stage 2	-	-	-	-	1232	-	
Critical Hdwy	4.3	-	-	-	7	7.1	
Critical Hdwy Stg 1	-	-	-	-	6	-	
Critical Hdwy Stg 2	-	-	-	-	6	-	
Follow-up Hdwy	2.3	-	-	-	3.6	3.4	
Pot Cap-1 Maneuver	611		-	-	31	481	
Stage 1	-	-	-	-	285	-	
Stage 2	-	-	-	-	223	-	
Platoon blocked, %		-	-	-			
Mov Cap-1 Maneuver	611	-	-	-	16	481	
Mov Cap-2 Maneuver	-	-	-	-	113	-	
Stage 1	-	-	-	-	144	-	
Stage 2	-	-	-	-	223	-	
Approach	EB		WB		SB		
HCM Control Delay, s	3.2		0		36.3		
HCM LOS	0.2		- 3		50.5 E		
		EDI	EDT	MOT	MDD	CDL 4	CDL 0
Minor Lane/Major Mvm	nt	EBL	EBT	WBT		SBLn1	
Capacity (veh/h)		611	-	-	-	113	481
HCM Lane V/C Ratio		0.494	-	-		0.104	
HCM Control Delay (s)		16.5	-	-	-	40.5	36.2
HCM Lane LOS		С	-	-	-	E	E
HCM 95th %tile Q(veh)	)	2.7	-	-	-	0.3	7.4

Intersection												
Int Delay, s/veh	0.3											
	EDI	EDT	EDD	MIDI	MOT	MDD	NIDI	NIDT	NDD	CDI	CDT	CDD
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- ሻ	- 44	7	- ሻ	<b>↑</b> ₽			4	7		4	
Traffic Vol, veh/h	0	1180	11	1	974	0	17	0	4	0	0	1
Future Vol, veh/h	0	1180	11	1	974	0	17	0	4	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-		None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage	2,# -	0	-	-	0	-		2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	1216	11	1	1004	0	18	0	4	0	0	1

Maior1		N	Naior2		N	/linor1		1	/linor2			
1004	0	0	1227	0	0	1720	2222	608	1614	2233	502	
-	-	-	-	-	-	1216	1216	-	1006	1006		
-	-	-	-	-	-	504	1006	-	608	1227	-	
4.34	-	-	4.34	-	-	7.74	6.74	7.14	7.74	6.74	7.14	
-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-	
-	-	-	-		-	6.74	5.74	-	6.74	5.74	-	
2.32	-	-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42	
628	-	-	512	-	-	52	38	415	63	37	489	
-	-	-	-	-	-	177	233	-	240	296	-	
-	-	-	-	-	-	493	296	-	426	230	-	
	-	-		-	-							
628	-	-	512	-	-	52	38	415	62	37	489	
-	-	-	-	-	-	161	175	-	204	173	-	
-	-	-	-	-	-	177	233	-	240	295	-	
-	-	-	-	-	-	491	295	-	422	230	-	
EB			WB			NB			SB			
0			0			27			12.4			
						D			В			
	4.34 - - 2.32 628 - - - 628	1004 0	1004 0 0	1004 0 0 1227	1004 0 0 1227 0	1004 0 0 1227 0 0	1004         0         0         1227         0         0         1720           -         -         -         -         -         1216           -         -         -         -         504           4.34         -         -         4.34         -         7.74           -         -         -         -         6.74           -         -         -         -         6.74           2.32         -         -         6.67           628         -         -         512         -         52           -         -         -         -         177         -         -         493           628         -         -         512         -         52           -         -         -         -         -         161           -         -         -         -         177           -         -         -         -         177           -         -         -         -         177           -         -         -         -         177           -         -         -         -         -	1004	1004         0         0         1227         0         0         1720         2222         608           -         -         -         -         -         1216         1216         -         -         -         1216         1216         -         -         -         1216         1216         -         -         -         -         1216         1216         -	1004	1004	1004

Minor Lane/Major Mymt	NRI n1 N	IRI n2	FBI	FBT	FBR	WBI	WRT	WBR 9	CRI n1
iviirioi Lane/iviajoi iviviiit	INDLIII	IDLIIZ	EDL	EDI	EDK	WDL	WDI	WDR	ODLIII
Capacity (veh/h)	161	415	628	-	-	512	-	-	489
HCM Lane V/C Ratio	0.109	0.01	-	-	-	0.002	-	-	0.002
HCM Control Delay (s)	30.1	13.8	0		-	12		-	12.4
HCM Lane LOS	D	В	Α	-	-	В	-	-	В
HCM 95th %tile O(veh)	0.4	0	0			0			0

Intersection					
Intersection Delay, s/veh	24.5				
Intersection LOS	С				
Approach	EB		WB	NB	SB
Entry Lanes	1		1	1	1
Conflicting Circle Lanes	1		1	1	1
Adj Approach Flow, veh/h	396	)	671	686	651
Demand Flow Rate, veh/h	401		677	693	657
Vehicles Circulating, veh/h	892		450	368	613
Vehicles Exiting, veh/h	378	}	611	925	514
Ped Vol Crossing Leg, #/h	1		1	1	0
Ped Cap Adj	1.000	1	1.000	1.000	1.000
Approach Delay, s/veh	25.3		20.9	17.2	35.4
Approach LOS	0	1	С	С	E
Lane	Left	Left	Left		Left
Designated Moves	LTR	LTR	LTR		LTR
Assumed Moves	LTR	LTR	LTR		LTR
RT Channelized					
Lane Util	1.000	1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	4.976		4.976
Entry Flow, veh/h	401	677	693		657
Cap Entry Lane, veh/h	556	872	948		738
Entry HV Adj Factor	0.989	0.991	0.990		0.991
Flow Entry, veh/h	396	671	686		651
Cap Entry, veh/h	549	864	938		732
V/C Ratio	0.722	0.776	0.731		0.890
Control Delay, s/veh	25.3	20.9	17.2		35.4
control belay, seven					
LOS	D	С	С		E

Near Term Plus 911 Unit Project PM

7: Riverside Ave & 13th Street

	۶	-	1	<b>—</b>	*	1	<b>†</b>	1	-	Į.	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	520	255	462	651	6	47	281	357	359	110	
v/c Ratio	0.19	0.69	0.70	0.57	0.62	0.03	0.26	0.69	0.75	0.75	0.21	
Control Delay	54.1	40.4	47.5	25.6	4.9	44.0	47.0	15.1	43.5	42.9	4.2	
Queue Delay	0.0	0.0	0.0	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.1	40.4	47.6	26.7	5.4	44.0	47.0	15.1	43.5	42.9	4.2	
Queue Length 50th (ft)	12	147	141	183	0	3	27	0	197	197	0	
Queue Length 95th (ft)	44	255	268	398	81	17	69	80	#405	#390	28	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	108	997	544	987	1125	379	399	561	633	643	666	
Starvation Cap Reductn	0	0	9	298	143	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.19	0.52	0.48	0.67	0.66	0.02	0.12	0.50	0.56	0.56	0.17	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 7: Riverside Ave & 13th Street Near Term Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>↑</b> ↑		ሻ	<b>↑</b>	7	ሻ	<b>↑</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	20	458	31	240	434	612	6	44	264	589	84	103
Future Volume (veh/h)	20	458	31	240	434	612	6	44	264	589	84	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	487	33	255	462	651	6	47	281	691	0	110
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	39	949	64	290	790	653	305	320	271	806	0	357
Arrive On Green	0.02	0.28	0.28	0.16	0.42	0.42	0.17	0.17	0.17	0.22	0.00	0.22
Sat Flow, veh/h	1795	3403	230	1795	1885	1559	1795	1885	1598	3591	0	1590
Grp Volume(v), veh/h	21	256	264	255	462	651	6	47	281	691	0	110
Grp Sat Flow(s), veh/h/ln	1795	1791	1842	1795	1885	1559	1795	1885	1598	1795	0	1590
Q Serve(g_s), s	1.3	13.1	13.2	15.1	20.6	45.4	0.3	2.3	18.5	20.1	0.0	6.3
Cycle Q Clear(q_c), s	1.3	13.1	13.2	15.1	20.6	45.4	0.3	2.3	18.5	20.1	0.0	6.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	500	514	290	790	653	305	320	271	806	0	357
V/C Ratio(X)	0.54	0.51	0.51	0.88	0.58	1.00	0.02	0.15	1.04	0.86	0.00	0.31
Avail Cap(c_a), veh/h	87	500	514	436	790	653	305	320	271	1070	0	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.8	33.1	33.1	44.7	24.4	31.6	37.7	38.5	45.3	40.6	0.0	35.2
Incr Delay (d2), s/veh	11.3	0.9	0.9	12.7	1.1	34.2	0.0	0.2	64.5	5.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.8	6.0	7.7	9.3	22.6	0.1	1.1	12.1	9.3	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	33.9	34.0	57.3	25.5	65.8	37.7	38.8	109.8	46.1	0.0	35.7
LnGrp LOS	Е	С	С	Е	С	Е	D	D	F	D	Α	D
Approach Vol, veh/h		541			1368			334			801	
Approach Delay, s/veh		35.1			50.6			98.5			44.7	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	34.9		29.0	6.9	50.2		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	24.5		32.5	5.3	45.7		18.5				
Max Q Clear Time (q c+l1), s	17.1	15.2		22.1	3.3	47.4		20.5				
Green Ext Time (p_c), s	0.5	2.2		2.3	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			51.5									
HCM 6th LOS			D									

User approved volume balancing among the lanes for turning movement.

Lane Group

v/c Ratio

Control Delay Queue Delay

Near Term Plus 911 Unit Project PM

8: Paso Robles Street & 13th Street

0.29 0.78

0.15

0.52

0.27

Lane Group Flow (vph) 1319 20 1080 265 276 30 447 27 0.66 0.05 0.77 0.02 0.04 18.5 47.4 23.7 8.2 34.7 22.6 28.0 22.4 0.1 0.0 0.0 0.0 0.0 0.0 Total Delay

Queue Length 50th (ft) 45.4 19.4 47.4 23.7 8.2 34.7 22.6 28.0 22.4 0.1 47 217 10 242 27 130 12 152 Queue Length 95th (ft) Internal Link Dist (ft) 109 479 38 407 96 233 33 290 14 0 575 120 220 145 130 110 95 312 2307 137 2069 727 932 Starvation Cap Reductn 623 Spillback Cap Reductn 0 0 0 0 0 0 0 0 0

0.38

0.03 0.49

Storage Cap Reductn Reduced v/c Ratio Intersection Summary

Turn Bay Length (ft)

Base Capacity (vph)

Beechwood SP

8: Paso Robles Street & 13th Street

Near Term Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

Page 20

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	×	<b>†</b> }		Ţ	<b>^</b>	7	ň	<b>†</b>	7	7	1>	
Traffic Volume (veh/h)	85	1196	31	19	1004	246	257	28	416	7	0	25
Future Volume (veh/h)	85	1196	31	19	1004	246	257	28	416	7	0	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	91	1286	33	20	1080	0	276	30	447	8	0	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	119	1673	43	41	1526		533	610	517	387	0	517
Arrive On Green	0.07	0.47	0.47	0.02	0.43	0.00	0.32	0.32	0.32	0.32	0.00	0.32
Sat Flow, veh/h	1795	3565	91	1795	3582	1598	1394	1885	1598	925	0	1598
Grp Volume(v), veh/h	91	646	673	20	1080	0	276	30	447	8	0	27
Grp Sat Flow(s),veh/h/ln	1795	1791	1866	1795	1791	1598	1394	1885	1598	925	0	1598
Q Serve(g_s), s	3.7	21.9	22.0	0.8	18.2	0.0	12.4	0.8	19.3	0.4	0.0	0.9
Cycle Q Clear(g_c), s	3.7	21.9	22.0	0.8	18.2	0.0	13.3	0.8	19.3	1.2	0.0	0.9
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	841	876	41	1526		533	610	517	387	0	517
V/C Ratio(X)	0.77	0.77	0.77	0.49	0.71		0.52	0.05	0.86	0.02	0.00	0.05
Avail Cap(c_a), veh/h	306	1185	1235	135	2029		796	965	818	561	0	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.7	16.1	16.1	35.4	17.3	0.0	21.6	17.0	23.3	17.5	0.0	17.1
Incr Delay (d2), s/veh	9.8	2.0	1.9	8.7	0.8	0.0	0.8	0.0	5.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.4	8.8	0.4	7.0	0.0	3.9	0.3	7.5	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	18.1	18.1	44.1	18.0	0.0	22.4	17.1	29.1	17.5	0.0	17.1
LnGrp LOS	D	В	В	D	В		С	В	С	В	A	В
Approach Vol, veh/h		1410			1100	А		753			35	
Approach Delay, s/veh		19.7			18.5			26.2			17.2	
Approach LOS		В			В			С			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	38.9		28.2	9.3	35.7		28.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	48.5		37.5	12.5	41.5		37.5				
Max Q Clear Time (g_c+l1), s	2.8	24.0		3.2	5.7	20.2		21.3				
Green Ext Time (p_c), s	0.0	10.4		0.1	0.1	8.2		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			С									
Nistan												

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

# Beechwood SP 9: River Road & Creston Road

# Near Term Plus 911 Unit Project PM Queues

	<b>≯</b>	$\rightarrow$	1	<b>←</b>	1	<b>†</b>	1	-	↓	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	415	1289	63	768	306	232	67	72	577	
v/c Ratio	0.69	0.80	0.41	0.63	0.67	0.27	0.14	0.46	0.77	
Control Delay	47.9	27.7	57.4	30.3	52.7	36.1	0.6	60.1	28.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.9	27.7	57.4	30.3	52.7	36.1	0.6	60.1	28.9	
Queue Length 50th (ft)	141	375	42	220	105	72	0	48	105	
Queue Length 95th (ft)	211	526	94	318	169	114	0	104	177	
Internal Link Dist (ft)		353		673		608			523	
Turn Bay Length (ft)	295		235		140		130	225		
Base Capacity (vph)	784	1943	197	1580	528	1064	571	182	1008	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.66	0.32	0.49	0.58	0.22	0.12	0.40	0.57	
Intersection Summary										

Beechwood SP 9: River Road & Creston Road Near Term Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	<b>↑</b> ↑		Ţ	<b>†</b> î>		11	<b>^</b>	7	Ţ	<b>†</b> î>	
Traffic Volume (veh/h)	394	834	390	60	652	78	291	220	64	68	222	326
Future Volume (veh/h)	394	834	390	60	652	78	291	220	64	68	222	326
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	415	878	0	63	686	82	306	232	67	72	234	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	574	1493		96	982	117	437	655	292	103	411	
Arrive On Green	0.16	0.42	0.00	0.05	0.31	0.31	0.13	0.18	0.18	0.06	0.11	0.00
Sat Flow, veh/h	3483	3676	0	1795	3217	384	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	415	878	0	63	382	386	306	232	67	72	234	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1810	1742	1791	1598	1795	1791	0
Q Serve(g_s), s	7.0	11.8	0.0	2.1	11.7	11.7	5.2	3.5	2.2	2.4	3.8	0.0
Cycle Q Clear(g_c), s	7.0	11.8	0.0	2.1	11.7	11.7	5.2	3.5	2.2	2.4	3.8	0.0
Prop In Lane	1.00		0.00	1.00		0.21	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	574	1493		96	547	553	437	655	292	103	411	
V/C Ratio(X)	0.72	0.59		0.66	0.70	0.70	0.70	0.35	0.23	0.70	0.57	
Avail Cap(c_a), veh/h	1205	3084		303	1225	1238	813	1632	728	280	1355	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.6	14.0	0.0	28.9	19.1	19.1	26.0	22.2	21.6	28.8	26.1	0.0
Incr Delay (d2), s/veh	1.7	0.4	0.0	7.4	1.6	1.6	2.0	0.3	0.4	8.3	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.3	0.0	1.1	4.6	4.6	2.1	1.4	0.8	1.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	14.4	0.0	36.3	20.7	20.7	28.1	22.5	22.0	37.1	27.3	0.0
LnGrp LOS	С	В		D	С	С	С	С	С	D	С	
Approach Vol, veh/h		1293	А		831			605			306	А
Approach Delay, s/veh		18.2			21.9			25.3			29.6	
Approach LOS		В			С			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	30.4	12.3	11.6	14.7	23.5	8.1	15.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	53.5	14.5	23.5	21.5	42.5	9.7	28.3				
Max Q Clear Time (q c+l1), s	4.1	13.8	7.2	5.8	9.0	13.7	4.4	5.5				
Green Ext Time (p_c), s	0.0	7.6	0.6	1.1	1.2	5.1	0.0	1.5				
Intersection Summary	0.0	7.0	0.0			0.1	0.0					
			21.8									
HCM 6th Ctrl Delay HCM 6th LOS			21.8 C									
			C									
MI-4												

Notes
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

	•	<b>→</b>	<b>—</b>	<b>\</b>	4	
_ane Group	EBL	EBT	WBT	SBL	SBR	
ane Group Flow (vph)	58	505	1021	668	73	
//c Ratio	0.29	0.28	0.74	0.64	0.14	
Control Delay	43.1	12.3	21.8	30.4	8.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.1	12.3	21.8	30.4	8.9	
Queue Length 50th (ft)	24	54	156	128	0	
Queue Length 95th (ft)	88	169	401	#367	40	
nternal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	271	2665	2057	1357	670	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.21	0.19	0.50	0.49	0.11	
ntersection Summary						
# 95th percentile volume 6	exceeds ca	pacity, qu	eue may	be longer		
Queue shown is maximu	m after two	cycles.				

	<b>*</b>	<b>→</b>	+	4	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
ane Configurations	*	<b>^</b>	<b>↑</b> ↑		ሻሻ	7		
raffic Volume (vph)	56	490	506	484	648	71		
uture Volume (vph)	56	490	506	484	648	71		
eal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
otal Lost time (s)	4.5	4.5	4.5		4.5	4.5		
ane Util. Factor	1.00	0.95	0.95		0.97	1.00		
rpb, ped/bikes	1.00	1.00	0.99		1.00	1.00		
lpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		
rt	1.00	1.00	0.93		1.00	0.85		
It Protected	0.95	1.00	1.00		0.95	1.00		
atd. Flow (prot)	1787	3574	3287		3467	1599		
It Permitted	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (perm)	1787	3574	3287		3467	1599		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97		
Adj. Flow (vph)	58	505	522	499	668	73		
RTOR Reduction (vph)	0	0	137	0	0	52		
ane Group Flow (vph)	58	505	884	0	668	21		
onfl. Peds. (#/hr)		000	001	4	000			
eavy Vehicles (%)	1%	1%	1%	1%	1%	1%		
urn Type	Prot	NA	NA	170	Perm	Perm		
rotected Phases	5	2	6		1 Cilli	i ciiii		
ermitted Phases	J	2	U		4	4		
ctuated Green, G (s)	6.3	39.2	28.4		22.3	22.3		
ffective Green, q (s)	6.3	39.2	28.4		22.3	22.3		
ctuated g/C Ratio	0.08	0.50	0.36		0.28	0.28		
Elearance Time (s)	4.5	4.5	4.5		4.5	4.5		
ehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
ane Grp Cap (vph)	143	1787	1190		986	454		
/s Ratio Prot	c0.03	0.14	c0.27		700	434		
/s Ratio Prot	LU.U3	0.14	U.21		c0.19	0.01		
/c Ratio Perm	0.41	0.28	0.74		0.68	0.01		
Iniform Delay, d1	34.3	11.4	21.8		24.9	20.3		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
ncremental Delay, d2	1.00	0.1	2.5		1.00	0.0		
Delay (s)	36.1	11.5	24.4		26.7	20.4		
evel of Service	30.1 D	11.5 B	24.4 C		20.7 C	20.4 C		
Approach Delay (s)	D	14.0	24.4		26.1	C		
pproach LOS		14.0 B	24.4 C		20. I			
		В	C		C			
tersection Summary								
CM 2000 Control Delay			22.4	H	CM 2000	Level of Servi	ce	С
CM 2000 Volume to Capa	acity ratio		0.64					
actuated Cycle Length (s)			78.4		um of lost		1	18.0
ntersection Capacity Utiliza	ation		63.6%	IC	CU Level of	of Service		В
nalysis Period (min)			15					
Critical Lane Group								

c Critical Lane Group

 ٠	roject i ivi
	Queues

	<b>→</b>	-	<b>\</b>	1	←	4	<b>†</b>	-	1	
			•			٠,	'		•	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	167	608	357	127	836	228	455	391	688	
v/c Ratio	0.67	1.18	0.52	0.64	0.87	0.81	0.61	1.16	0.80	
Control Delay	49.2	129.5	6.3	53.8	36.5	59.6	33.3	134.1	37.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.2	129.5	6.3	53.8	36.5	59.6	33.3	134.1	37.3	
Queue Length 50th (ft)	90	~430	2	70	191	126	114	~273	181	
Queue Length 95th (ft)	154	#634	69	#140	#316	#244	164	#448	246	
Internal Link Dist (ft)		1092			186		1440		2310	
Turn Bay Length (ft)	150			170		230		245		
Base Capacity (vph)	297	517	687	215	960	297	851	338	936	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	1.18	0.52	0.59	0.87	0.77	0.53	1.16	0.74	

# Intersection Summary

Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Near Term Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	+	4	1	†	~	/	Ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b>	7	ሻ	<b>∱</b> β		ሻ	<b>↑</b> }		ሻ	<b>↑</b> }	
Traffic Volume (veh/h)	160	584	343	122	454	348	219	371	66	375	523	137
Future Volume (veh/h)	160	584	343	122	454	348	219	371	66	375	523	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	608	357	127	473	362	228	386	69	391	545	143
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	558	465	160	518	395	268	550	97	365	662	173
Arrive On Green	0.12	0.30	0.30	0.09	0.27	0.27	0.15	0.18	0.18	0.20	0.24	0.24
Sat Flow, veh/h	1781	1870	1560	1781	1899	1449	1781	3001	531	1781	2784	728
Grp Volume(v), veh/h	167	608	357	127	442	393	228	227	228	391	347	341
Grp Sat Flow(s), veh/h/ln	1781	1870	1560	1781	1777	1572	1781	1777	1755	1781	1777	1735
Q Serve(q_s), s	7.4	24.0	16.8	5.6	19.4	19.5	10.0	9.6	9.8	16.5	14.9	15.0
Cycle Q Clear(g_c), s	7.4	24.0	16.8	5.6	19.4	19.5	10.0	9.6	9.8	16.5	14.9	15.0
Prop In Lane	1.00		1.00	1.00		0.92	1.00		0.30	1.00		0.42
Lane Grp Cap(c), veh/h	206	558	465	160	484	428	268	325	322	365	422	412
V/C Ratio(X)	0.81	1.09	0.77	0.79	0.91	0.92	0.85	0.70	0.71	1.07	0.82	0.83
Avail Cap(c_a), veh/h	321	558	465	232	484	428	321	464	458	365	508	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	28.2	25.7	35.9	28.4	28.4	33.3	30.8	30.9	32.0	29.1	29.1
Incr Delay (d2), s/veh	8.4	65.0	7.6	11.0	21.8	24.4	16.7	2.7	2.9	67.2	8.9	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	19.9	6.7	2.8	10.5	9.7	5.4	4.2	4.2	13.6	7.1	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	93.2	33.3	46.9	50.2	52.7	50.0	33.5	33.8	99.2	38.0	38.6
LnGrp LOS	D	F	С	D	D	D	D	С	С	F	D	D
Approach Vol, veh/h		1132			962			683			1079	
Approach Delay, s/veh		66.9			50.8			39.1			60.4	
Approach LOS		Е			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	19.2	11.7	28.5	16.6	23.6	13.8	26.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	21.0	10.5	24.0	14.5	23.0	14.5	20.0				
Max Q Clear Time (q c+l1), s	18.5	11.8	7.6	26.0	12.0	17.0	9.4	21.5				
Green Ext Time (p_c), s	0.0	1.8	0.1	0.0	0.2	2.1	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			56.1									
HCM 6th LOS			F									

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP

HCM Lane V/C Ratio

HCM Control Delay HCM Lane LOS

HCM 95th-tile Q

Intersection												
Int Delay, s/veh	8.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		44			4		7	ĵ.		7	<b>†</b>	7
Traffic Vol, veh/h	111	4	13	4	1	38	21	428	10	48	558	133
Future Vol, veh/h	111	4	13	4	1	38	21	428	10	48	558	133
Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-		None	-		None
Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Veh in Median Storag	je,# -	0			0		-	0		-	0	-
Grade, %	-	0			0		-	0		-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	112	4	13	4	1	38	21	432	10	48	564	134
Major/Minor	Minor2			Minor1			Major1		- 1	Major2		
Conflicting Flow All	1168	1149	569	1215	1278	441	703	0	0	442	0	0
Stage 1	665	665		479	479			-	-	-	-	
Stage 2	503	484		736	799		-	-		-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-		4.11	-	
Critical Hdwy Stg 1	6.11	5.51		6.11	5.51		-	-		-	-	-
Critical Hdwy Stg 2	6.11	5.51		6.11	5.51			-			-	
Follow-up Hdwy	3 509	4 009	3 309	3 509	4 009	3 309	2 209	-		2 209	-	-

iviajor/iviinor	IVIINOT2			I 10milyi			wajor i			viajorz			
Conflicting Flow All	1168	1149	569	1215	1278	441	703	0	0	442	0	0	
Stage 1	665	665		479	479	-	-	-	-	-	-	-	
Stage 2	503	484	-	736	799	-	-	-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11		-	4.11	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51		6.11	5.51	-	-		-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-	
Pot Cap-1 Maneuver	171	199	524	159	167	618	899		-	1123	-	-	
Stage 1	451	459	-	570	557	-	-	-	-	-	-	-	
Stage 2	553	554		412	399	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	150	185	522	145	155	616	895		-	1123	-	-	
Mov Cap-2 Maneuver	150	185	-	145	155	-	-	-	-	-	-	-	
Stage 1	438	437		557	544	-	-	-	-	-	-	-	
Stage 2	504	541	-	381	380	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	80.8			13.9			0.4			0.5			
HCM LOS	F			В									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1\	VBLn1	SBL	SBT	SBR	
Capacity (veh/h)	895	-	-	163	449	1123	-	-	
HCM Lane V/C Ratio	0.024	-	-	0.793	0.097	0.043	-	-	
HCM Control Delay (s)	9.1	-	-	80.8	13.9	8.3	-	-	
HCM Lane LOS	Α	-	-	F	В	Α	-	-	
HCM 95th %tile Q(veh)	0.1	-	-	5.2	0.3	0.1	-		

Intersection												
Intersection Delay, s/veh	34.2											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ની	7		414
Traffic Vol, veh/h	8	2	9	181	3	202	0	11	248	283	317	246
Future Vol, veh/h	8	2	9	181	3	202	0	11	248	283	317	246
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	9	2	10	195	3	217	0	12	267	304	341	265
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	12			29.3				18.4			53	
HCM LOS	В			D				С			F	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		4%	0%	42%	47%	72%	0%					
Vol Thru, %		96%	0%	11%	1%	28%	91%					
Vol Right, %		0%	100%	47%	52%	0%	9%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		259	283	19	386	440	135					
LT Vol		11	0	8	181	317	0					
Through Vol		248	0	2	3	123	123					
RT Vol		0	283	9	202	0	12					
Lane Flow Rate		278	304	20	415	473	145					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.569	0.559	0.048	0.775	0.987	0.285					
Departure Headway (Hd)		7.354	6.611	8.45	6.722	7.512	7.078					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Cap		490	545	422	540	483	508					
Service Time		5.105	4.361	6.536	4.759	5.26	4.825					
110111 1110 B II												

12 29.3

0.2

19.4 17.5

3.5 3.4 0.979 0.285

65.4 12.6

12.9

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBR
Lactions	
Traffic Vol, veh/h	12
Future Vol, veh/h	12
Peak Hour Factor	0.93
Heavy Vehicles, %	1
Mvmt Flow	13
Number of Lanes	0

# Approach

Opposing Approach
Opposing Lanes
Conflicting Approach Left
Conflicting Lanes Left
Conflicting Approach Right Conflicting Lanes Right HCM Control Delay HCM LOS

Intersection							
Int Delay, s/veh	18.5						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	T T	T/	NDE.	<b>^</b>	<u>361</u>	JDIK 7	
Traffic Vol, veh/h	342	247	148	200	198	238	
Future Vol. veh/h	342	247	148	200	198	238	
Conflicting Peds, #/hr			0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	Jiop -	None	-	None	-	None	
Storage Length	0	145	105	-		0	
Veh in Median Storag		143	103	0	0	-	
Grade. %	ge,# 0			0	0		
Peak Hour Factor	97	97	97	97	97	97	
Heavy Vehicles, %	1	1	1	1	1	1	
Mymt Flow	353	255	153	206	204	245	
WWIII FIOW	333	200	103	200	204	240	
Major/Minor	Minor2		Major1	1	Major2		
Conflicting Flow All	613	204	449	0	-	0	
Stage 1	204	-			-		
Stage 2	409	-	-	-	-	-	
Critical Hdwy	6.615	6.215	4.115		-		
Critical Hdwy Stg 1	5.415	-		-	-	-	
Critical Hdwy Stg 2	5.815	-			-		
Follow-up Hdwy	3.5095	3.3095	2.2095	-	-	-	
Pot Cap-1 Maneuver	442	839	1116		-		
Stage 1	832				-		
Stage 2	642	-	-	-		-	
Platoon blocked, %					-		
Mov Cap-1 Maneuver	r 381	839	1116				
Mov Cap-2 Maneuve			-		-		
Stage 1	718						
Stage 2	642				-		
, and the second second							
Annroach	EB		ND		SB		
Approach			NB				
HCM Control Delay, s			3.7		0		
HCM LOS	Е						
Minor Lane/Major Mv	mt	NBL	NBT	EBLn1 I	EBLn2	SBT	SBR
Capacity (veh/h)		1116		381	839		-

HCM Control Delay, s	41		3.7		0			
HCM LOS	Ε							
Minor Lane/Maior Mymt		NBI	NBT F	Bl n1	FBI n2	SBT	SBR	
Capacity (veh/h)		1116		381	839			
HCM Lane V/C Ratio		0.137			0.304			
HCM Control Delay (s)		8.7			11.2			
HCM Lane LOS		Α.		02.0 F	В			
HCM 95th %tile Q(veh)		0.5		9.9	1.3			
HCIVI 93111 /61116 Q(VeII)		0.5		9.9	1.3		-	

Beechwood SP

14: Creston Road & Charolais Road

# Beechwood SP

# Near Term Plus 911 Unit Project PM

15: US 101 SB Ramp & Pine Street & Riverside Avenue

HCM Unsignalized Intersection Capacity Analysis

	*	<b>→</b>	*	•	<b>←</b>	*	1	1	~	/	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ર્ન	7					ĵ»	
Traffic Volume (veh/h)	27	0	109	0	183	14	0	0	0	0	283	34
Future Volume (Veh/h)	27	0	109	0	183	14	0	0	0	0	283	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	0	118	0	199	15	0	0	0	0	308	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX. platoon unblocked												
vC, conflicting volume	434	326	326	444	345	0	345			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	434	326	326	444	345	0	345			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	84	100	66	99	100			100		
cM capacity (veh/h)	386	593	717	439	580	1088	1220			1630		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	147	214	345									
Volume Left	29	0	0									
Volume Right	118	15	37									
cSH	614	611	1700									
Volume to Capacity	0.24	0.35	0.20									
Queue Length 95th (ft)	23	39	0.20									
Control Delay (s)	12.7	14.0	0.0									
Lane LOS	12.7 B	14.0 B	0.0									
Approach Delay (s)	12.7	14.0	0.0									
Approach LOS	12.7 B	14.0 B	0.0									
Intersection Summary			6.9									
Average Delay	ation		44.8%	10	'III ovol a	of Service			Α			
Intersection Capacity Utiliza	111UH		44.8%	IC	o revel (	on Service			А			
Analysis Period (min)			15									

Central Coast Transportation Consulting Synchro 10 Report Page 37 Beechwood SP

Lane Group Lane Group Flow (vph)

Control Delay

Queue Delay

Total Delay
Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Spillback Cap Reductn Storage Cap Reductn

Reduced v/c Ratio

v/c Ratio

Near Term Plus 911 Unit Project PM

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

0.67 0.69

0.35 0.40

52 443 764 208 440 99 368 1197 632 324 0.18 0.78 0.71 0.35 0.43 0.59 0.71 0.33 52.5 61.9 46.1 39.7 3.9 74.3 62.9 30.1 57.6 37.0 0.0 0.0 0.0 0.0 0.0 0.0 52.5 61.9 46.1 39.7 3.9 74.3 62.9 30.1 57.6 37.0 40 187 311 144 22 85 166 300 273 112 86 267 425 239 81 154 230 400 363 162 521 1372 680 115 515 115 165 290 305 335 1110 602 1089 223 775 1364 1276 Starvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0

0.44

0.47

0.88

0.67

Intersection Summary

Central Coast Transportation Consulting Synchro 10 Report

Page 39

Near Term Plus 911 Unit Project PM d HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	-	7	1	<b>←</b>	*	1	<b>†</b>	-	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7	7	<b>^</b>	77	77	<b>↑</b> ↑	
Traffic Volume (veh/h)	50	328	102	741	202	427	96	357	1161	613	256	58
Future Volume (veh/h)	50	328	102	741	202	427	96	357	1161	613	256	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	52	338	105	764	208	440	99	368	1197	632	264	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	273	410	125	911	493	741	123	788	1354	718	1015	227
Arrive On Green	0.15	0.15	0.15	0.26	0.26	0.26	0.07	0.22	0.22	0.21	0.35	0.35
Sat Flow, veh/h	1795	2692	822	3483	1885	1572	1795	3582	2812	3483	2909	650
Grp Volume(v), veh/h	52	223	220	764	208	440	99	368	1197	632	161	163
Grp Sat Flow(s), veh/h/ln	1795	1791	1723	1742	1885	1572	1795	1791	1406	1742	1791	1768
Q Serve(q s), s	3.2	15.5	15.9	26.6	11.7	26.5	7.0	11.4	28.2	22.6	8.2	8.5
Cycle Q Clear(q c), s	3.2	15.5	15.9	26.6	11.7	26.5	7.0	11.4	28.2	22.6	8.2	8.5
Prop In Lane	1.00	13.3	0.48	1.00	11.7	1.00	1.00	11.4	1.00	1.00	0.2	0.37
Lane Grp Cap(c), veh/h	273	273	262	911	493	741	123	788	1354	718	625	617
V/C Ratio(X)	0.19	0.82	0.84	0.84	0.42	0.59	0.80	0.47	0.88	0.88	0.26	0.26
Avail Cap(c a), veh/h	342	341	328	1130	612	840	227	788	1354	959	661	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	52.6	52.8	44.8	39.3	25.2	58.8	43.5	24.5	49.3	29.8	29.9
Incr Delay (d2), s/veh	0.3	11.9	14.5	44.0	0.6	0.9	11.4	0.4	7.3	7.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.2	0.2
%ile BackOfQ(50%),veh/ln	1.5	7.9	8.0		5.4	9.7	3.5	5.0	20.5	10.5	3.6	
		7.9	8.0	11.8	5.4	9.7	3.5	5.0	20.5	10.5	3.0	3.7
Unsig. Movement Delay, s/veh		/ 4 5	/7.0	40.5	20.0	2/1	70.0	42.0	21.0	F/ 0	20.1	20.1
LnGrp Delay(d),s/veh	47.8	64.5	67.3	49.5	39.8	26.1	70.2	43.9	31.8	56.8	30.1	30.1
LnGrp LOS	D	E	E	D	D	С	E	D	С	E	С	С
Approach Vol, veh/h		495			1412			1664			956	
Approach Delay, s/veh		64.0			40.8			36.8			47.8	
Approach LOS		Е			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.1	34.0		24.1	14.6	50.5		38.9				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 35	28.2		24.4	16.2	* 47		41.6				
Max Q Clear Time (q c+l1), s	24.6	30.2		17.9	9.0	10.5		28.6				
Green Ext Time (p_c), s	1.9	0.0		1.6	0.1	2.1		4.9				
Intersection Summary												
HCM 6th Ctrl Delay			43.3									
HCM 6th LOS			D									
Notes												

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 41 Central Coast Transportation Consulting

Beechwood SP 17: S. River Road & Niblick Road Near Term Plus 911 Unit Project PM

	•	$\rightarrow$	*	1	<b>←</b>	1	1	-	¥
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	1058	666	120	933	450	369	217	559
v/c Ratio	0.64	0.84	0.76	0.62	0.78	0.79	0.49	0.77	0.77
Control Delay	54.5	40.4	15.2	62.7	37.6	56.2	37.9	64.7	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	40.4	15.2	62.7	37.6	56.2	37.9	64.7	47.0
Queue Length 50th (ft)	98	374	112	85	314	164	116	153	194
Queue Length 95th (ft)	148	#501	294	153	421	#245	167	#274	261
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	500	1349	905	241	1292	630	907	324	904
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.78	0.74	0.50	0.72	0.71	0.41	0.67	0.62

# Intersection Summary

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Beechwood SP

	۶	-	•	•	-	*		<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	<b>^</b>	7	ሻ	<b>†</b> 1>		14.54	<b>†</b> 1>		ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	258	1016	639	115	738	157	432	272	83	208	408	129
Future Volume (veh/h)	258	1016	639	115	738	157	432	272	83	208	408	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	269	1058	666	120	769	164	450	283	86	217	425	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	352	1322	590	151	1034	221	540	585	174	255	542	169
Arrive On Green	0.10	0.37	0.37	0.08	0.35	0.35	0.16	0.22	0.22	0.14	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	2936	626	3483	2720	810	1795	2683	838
Grp Volume(v), veh/h	269	1058	666	120	469	464	450	184	185	217	282	277
Grp Sat Flow(s), veh/h/ln	1742	1791	1598	1795	1791	1771	1742	1791	1739	1795	1791	1730
Q Serve(q s), s	7.1	25.1	21.2	6.2	21.8	21.8	11.9	8.6	8.9	11.2	14.2	14.4
Cycle Q Clear(q_c), s	7.1	25.1	21.2	6.2	21.8	21.8	11.9	8.6	8.9	11.2	14.2	14.4
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.47	1.00		0.48
Lane Grp Cap(c), veh/h	352	1322	590	151	631	624	540	386	374	255	362	349
V/C Ratio(X)	0.76	0.80	1.13	0.79	0.74	0.74	0.83	0.48	0.49	0.85	0.78	0.79
Avail Cap(c a), veh/h	568	1527	681	274	745	737	715	518	504	369	518	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	26.8	10.9	42.7	27.0	27.0	38.9	32.6	32.7	39.8	35.9	36.0
Incr Delay (d2), s/veh	3.5	2.7	77.4	9.0	3.4	3.4	6.4	0.9	1.0	12.3	4.8	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.5	19.0	3.1	9.3	9.3	5.4	3.7	3.7	5.6	6.4	6.4
Unsig. Movement Delay, s/veh				-								
LnGrp Delay(d),s/veh	45.0	29.6	88.4	51.7	30.4	30.4	45.3	33.5	33.7	52.1	40.7	41.6
LnGrp LOS	D	С	F	D	С	С	D	С	С	D	D	D
Approach Vol, veh/h		1993	<u> </u>		1053			819			776	
Approach Delay, s/veh		51.3			32.8			40.1			44.2	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	39.6	19.2	23.7	14.1	38.0	18.0	24.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	40.5	19.5	27.5	15.5	39.5	19.5	27.5				
Max Q Clear Time (g_c+I1), s	8.2	27.1	13.9	16.4	9.1	23.8	13.2	10.9				
Green Ext Time (p_c), s	0.1	8.0	8.0	2.4	0.5	5.1	0.3	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			43.9									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1>	
Traffic Vol, veh/h	51	2	4	569	885	88
Future Vol, veh/h	51	2	4	569	885	88
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	
Veh in Median Storage	, # 0	-	-	0	0	
Grade, %	0			0	0	
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	53	2	4	593	922	92
	00	_		0,0	,	,_
	Minor2		Major1		Major2	
Conflicting Flow All	1570	969	1015	0	-	0
Stage 1	969			-	-	
Stage 2	601		-		-	-
Critical Hdwy	6.42	6.22	4.12		-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy		3.318		-	-	-
Pot Cap-1 Maneuver	122	308	683	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	308	682	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	364	-	-	-	-	
Stage 2	546			-	-	
, and the second						
Approach	EB		NB		SB	
HCM Control Delay, s	55.5		0.1		0	
HCM LOS	55.5 F		0.1		U	
HCM LOS	r					
Minor Lane/Major Mvm	ıt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		682	-	124	-	
HCM Lane V/C Ratio		0.006	-	0.445		-
		10.3	0	55.5	-	-
HCM Control Delay (s)		10.0				
HCM Control Delay (s)		R	Δ	F		
HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh)	1	B 0	A	F 2		

Synchro 10 Report Page 46

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	N/			4	1>	
Traffic Vol, veh/h	35	15	16	524	798	53
Future Vol. veh/h	35	15	16	524	798	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0			-		-
Veh in Median Storage	e, # 2			0	0	
Grade, %	0			0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	16	17	570	867	58
Major/Minor	Minor2		Major1	N	Najor2	
Conflicting Flow All	1500	896	925	0	viajoiz -	0
Stage 1	896	070	720	-		-
Stage 2	604					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.20				
Critical Hdwy Stg 2	5.43			-		-
Follow-up Hdwy	3.527	3.327	2.227			-
Pot Cap-1 Maneuver	134	338	735			
Stage 1	397					-
Stage 2	544	-				-
Platoon blocked, %						-
Mov Cap-1 Maneuver	129	338	735			
Mov Cap-2 Maneuver	319	-	-			-
Stage 1	384					
Stage 2	544					-
Olago L	011					
Approach	FB		NB		SB	
	18.3		0.3		<u> </u>	
HCM Control Delay, s HCM LOS	18.3 C		0.3		U	
HCM LOS	C					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		735	-	324	-	-
HCM Lane V/C Ratio		0.024	-	0.168	-	-
HCM Control Delay (s)	)	10	0	18.3	-	-
HCM Lane LOS		В	Α	С	-	-
LICM 05th %tile O(voh	1	0.1		0.6		

Intersection Delay, s/veh	138.5					
Intersection LOS	F					
microcolon 200	•					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		1>			4
Traffic Vol, veh/h	9	454	89	25	720	90
Future Vol. veh/h	9	454	89	25	720	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	493	97	27	783	98
Number of Lanes	1	0	1	0	0	1
Approach	WB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		1		1	
Conflicting Approach Left	NB				WB.	
Conflicting Lanes Left	1		0		1	
Conflicting Approach Right	SB		WB			
Conflicting Lanes Right	1		1		0	
HCM Control Delay	26.7		11.9		220.2	
HCM LOS	D		В		F	
Lane		NBI n1	WRI n1	SBI n1		
Lane Vol Left %		NBLn1	WBLn1	SBLn1		
Vol Left, %		0%	2%	89%		
Vol Left, % Vol Thru, %		0% 78%	2% 0%	89% 11%		
Vol Left, % Vol Thru, % Vol Right, %		0% 78% 22%	2% 0% 98%	89% 11% 0%		
Vol Left, % Vol Thru, % Vol Right, % Sign Control		0% 78% 22% Stop	2% 0% 98% Stop	89% 11% 0% Stop		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane		0% 78% 22% Stop 114	2% 0% 98%	89% 11% 0% Stop 810		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol		0% 78% 22% Stop	2% 0% 98% Stop 463	89% 11% 0% Stop		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol		0% 78% 22% Stop 114 0	2% 0% 98% Stop 463 9	89% 11% 0% Stop 810 720 90		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol		0% 78% 22% Stop 114	2% 0% 98% Stop 463	89% 11% 0% Stop 810 720		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate		0% 78% 22% Stop 114 0 89 25	2% 0% 98% Stop 463 9 0	89% 11% 0% Stop 810 720 90		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp		0% 78% 22% Stop 114 0 89 25	2% 0% 98% Stop 463 9 0 454 503	89% 11% 0% Stop 810 720 90 0		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)		0% 78% 22% Stop 114 0 89 25 124	2% 0% 98% Stop 463 9 0 454 503	89% 11% 0% Stop 810 720 90 0 880		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd)		0% 78% 22% Stop 114 0 89 25 124 1 0.218	2% 0% 98% Stop 463 9 0 454 503 1 0.762	89% 11% 0% Stop 810 720 90 0 880 1 1.43		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N		0% 78% 22% Stop 114 0 89 25 124 1 0.218 6.94	2% 0% 98% Stop 463 9 0 454 503 1 0.762 6.324	89% 11% 0% Stop 810 720 90 0 880 1 1.43 5.848		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd)		0% 78% 22% Stop 114 0 89 25 124 1 0.218 6.94 Yes	2% 0% 98% Stop 463 9 0 454 503 1 0.762 6.324 Yes	89% 11% 0% Stop 810 720 90 0 880 1 1.43 5.848 Yes		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap		0% 78% 22% Stop 114 0 89 25 124 1 0.218 6.94 Yes 520	2% 0% 98% Stop 463 9 0 454 503 1 0.762 6.324 Yes	89% 11% 0% Stop 810 720 90 0 880 1 1.43 5.848 Yes 625		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time		0% 78% 22% Stop 114 0 89 25 124 1 0.218 6.94 Yes 520 4.94	2% 0% 98% Stop 463 9 0 454 503 1 0.762 6.324 Yes 579 4.324	89% 11% 0% Stop 810 720 90 0 880 1 1.43 5.848 Yes 625 3.853		
Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio		0% 78% 22% Stop 114 0 89 25 124 1 0.218 6.94 Yes 520 4.94 0.238	2% 0% 98% Stop 463 9 0 454 503 1 0.762 6.324 Yes 579 4.324 0.869	89% 11% 0% Stop 810 720 90 0 880 1 1.43 5.848 Yes 625 3.853 1.408		

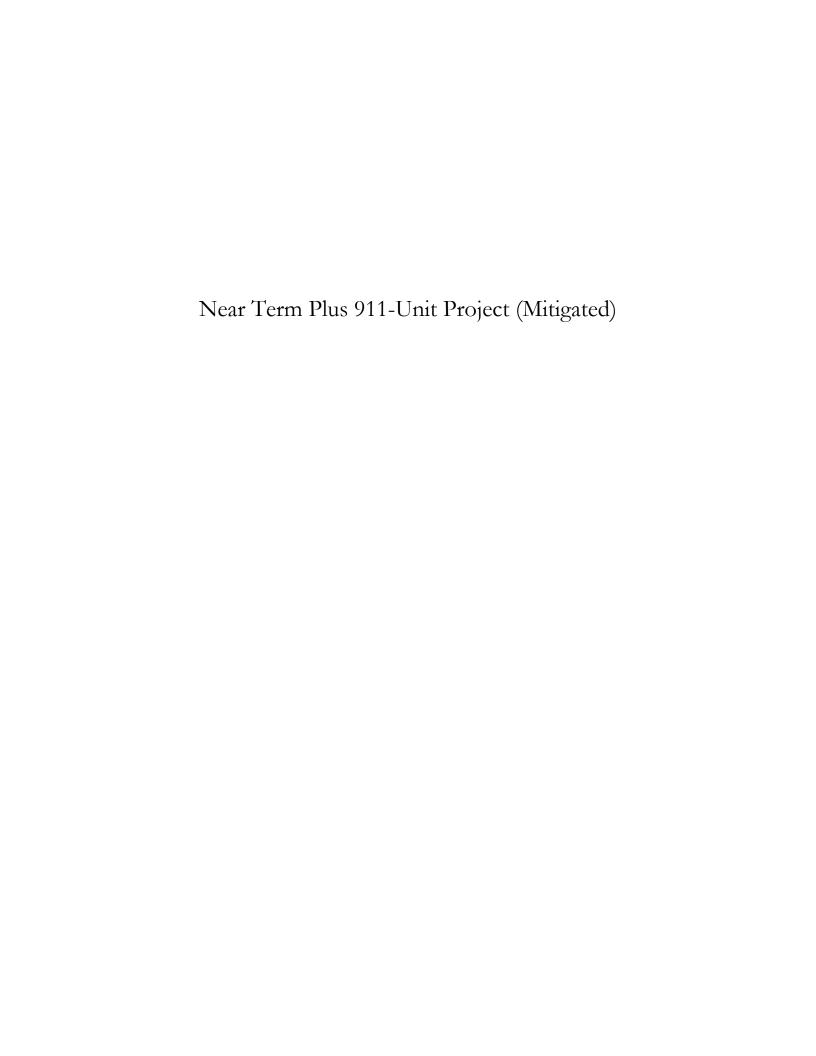
Intersection						
Int Delay, s/veh	0.2					
		ED.	MOT	MDD	CD:	CDE
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>↑</b>	Þ		¥	
Traffic Vol, veh/h	5	735	455	5	4	9
Future Vol, veh/h	5	735	455	5	4	9
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage,	, # -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	5	799	495	5	4	10
Million I Ion			170		•	
	/lajor1		Major2		Vinor2	
Conflicting Flow All	514	0	-	0		512
Stage 1	-	-	-		512	
Stage 2	-	-		-	809	-
Critical Hdwy	4.11	-		-	6.41	6.21
Critical Hdwy Stg 1	-	-		-	5.41	-
Critical Hdwy Stg 2		-		-	5.41	-
	2.209	-		-		3.309
Pot Cap-1 Maneuver	1057	-		-	174	564
Stage 1					604	-
Stage 2					440	
Platoon blocked, %					440	
	1040	-		-	1/0	556
Mov Cap-1 Maneuver	1043	-		-	169	
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	434	-
Approach	FB		WB		SB	
HCM Control Delay, s	0.1		0		16.5	
HCM LOS	0.1		U		C	
LICINI EUS					U	
Minor Lane/Major Mvmt	t	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1043				326
HCM Lane V/C Ratio		0.005				0.043
HCM Control Delay (s)		8.5				16.5
HCM Lane LOS		Α.5				10.5 C
HCM 95th %tile Q(veh)		0				0.1
HCIVI 95III 76IIIE Q(VEII)		U				0.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	1>	LDIT	*	1	WDIT	1100	4	TI DIT	ODL	4	ODIT
Traffic Vol. veh/h	34	703	2	2	431	24	1	0	1	25	0	28
Future Vol. veh/h	34	703	2	2	431	24	1	0	1	25	0	28
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	None			None	-	-	None	Otop	-	None
Storage Length	50		-	50		-			-			-
Veh in Median Storage		0		-	0			0			0	
Grade. %	-, "	0			0			0			0	
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mymt Flow	36	740	2	2	454	25	1	0	1	26	0	29
	- 00				.01							
Major/Minor	Major1		1	Major2			Minor1			Minor2		
Conflicting Flow All	491	0	0	742	0	0	1298	1308	741	1297	1297	479
Stage 1		-	-	-	-	-	813	813	-	483	483	-
Stage 2			-	-	-		485	495	-	814	814	-
Critical Hdwy	4.13		-	4.13	-		7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-		-	-	-		6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2				-	-		6.13	5.53	-	6.13	5.53	
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1067	-	-	861	-	-	138	159	415	138	161	585
Stage 1	-	-	-	-	-	-	371	390	-	563	551	-
Stage 2	-	-	-	-	-	-	561	544	-	370	390	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1055	-	-	861	-	-	127	152	415	132	153	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	127	152	-	132	153	-
Stage 1		-	-	-	-	-	358	377	-	538	544	-
Stage 2	-	-	-	-	-	-	531	537	-	356	377	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0			23.8			26.4		
HCM LOS							С			D		
Minor Lane/Major Mvn	nt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		194	1055	-		861	-		223			
HCM Lane V/C Ratio		0.011	0.034			0.002			0.25			
HCM Control Delay (s)	)	23.8	8.5	-		9.2			26.4			
HCM Lane LOS		С	А			Α			D			
HCM 95th %tile Q(veh	)	0	0.1			0			1			

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EDL	EDI	W ↑	NDK	JDL W	SDK
Traffic Vol. veh/h	<b>1</b>	725	<b>450</b>	4	<b>''</b> '	7
Future Vol. veh/h	8	725	450	4	4	7
Conflicting Peds, #/hr	9	125	450	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	Free -	None	riee -	None	510p	None
Storage Length	50	None -		None -	0	None
Veh in Median Storage		0	0		0	-
		0	0	-	0	
Grade, % Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	9	788	489	4	4	8
Major/Minor	Major1	1	Major2	1	Vinor2	
Conflicting Flow All	502	0	-	0	1306	500
Stage 1		-			500	
Stage 2					806	
Critical Hdwy	4.11			-	6.41	6.21
Critical Hdwy Stg 1	-				5.41	0.21
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209				3.509	
Pot Cap-1 Maneuver	1068				177	573
Stage 1	1000				611	0/0
Stage 2					441	
Platoon blocked. %					771	
Mov Cap-1 Maneuver	1059				172	568
Mov Cap-1 Maneuver	1037				172	300
Stage 1			-		601	
					437	
Stage 2	-	-	-	-	437	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		17.1	
HCM LOS					С	
A Aire 1 /A A - i A A	-4	EDI	EDT	WDT	WDD	CDI -1
Minor Lane/Major Mvn	nı	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		1059	-	-	-	309
HCM Lane V/C Ratio		0.008	-	-		0.039
HCM Control Delay (s)	)	8.4	-	-	-	17.1
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	1)	0	-	-	-	0.1

Intersection						
	3.3					
				WBR		SBR
		576	371	29	32	83
Future Vol, veh/h	153	576	371	29	32	83
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None	-	None	-	None
Storage Length	100	-	-	-	0	-
	e,# -	0	0		0	
Grade. %	-, -	0	0		0	
	92	92	92	92	92	92
IVIVIII I IOW	100	020	403	JZ	33	70
			Major2		Minor2	
Conflicting Flow All	437	0	-	0	1379	421
Stage 1	-	-	-	-	421	-
	-	-			958	-
	4.11		-		6.41	6.21
	-					-
					3/4	
	110/	-			10/	/24
		-	-	-		
		-	-			
	-	-	-	-		
Stage 2	-	-	-	-	373	-
Annroach	FR		WR		SR	
	LD					
	1.0				23.8	
HCM Control Delay, s	1.8		U		_	
	1.8		0		С	
HCM Control Delay, s	1.8		U		С	
HCM Control Delay, s HCM LOS		EBL	EBT	WBT		SBLn1
HCM Control Delay, s HCM LOS Minor Lane/Major Mvr			EBT			
HCM Control Delay, s HCM LOS Minor Lane/Major Mvr Capacity (veh/h)		1126	EBT -	-	WBR:	314
HCM Control Delay, s HCM LOS Minor Lane/Major Mvr Capacity (veh/h) HCM Lane V/C Ratio	nt	1126 0.148	EBT		WBR:	314 0.398
HCM Control Delay, s HCM LOS Minor Lane/Major Mvr Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s	nt	1126 0.148 8.8	EBT		WBR:	314 0.398 23.8
Future Vol, veh/h						

Intersection				
Intersection Delay, s/veh	4.9			
Intersection LOS	А			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	408	199	55	114
Demand Flow Rate, veh/h	413	201	55	115
Vehicles Circulating, veh/h	14	114	349	248
Vehicles Exiting, veh/h	349	290	78	67
Ped Vol Crossing Leg, #/h	0	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.4	4.4	4.2	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util				
	1.000	1.000	1.000	1.000
	2.609	2.609	2.609	2.609
Critical Headway, s	2.609 4.976	2.609 4.976	2.609 4.976	2.609 4.976
Critical Headway, s Entry Flow, veh/h	2.609 4.976 413	2.609 4.976 201	2.609 4.976 55	2.609 4.976 115
Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	2.609 4.976 413 1360	2.609 4.976 201 1228	2.609 4.976 55 967	2.609 4.976 115 1071
Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	2.609 4.976 413 1360 0.988	2.609 4.976 201 1228 0.990	2.609 4.976 55 967 0.999	2.609 4.976 115 1071 0.991
Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h	2.609 4.976 413 1360 0.988 408	2.609 4.976 201 1228 0.990 199	2.609 4.976 55 967 0.999 55	2.609 4.976 115 1071 0.991 114
Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	2.609 4.976 413 1360 0.988 408 1344	2.609 4.976 201 1228 0.990 199 1217	2.609 4.976 55 967 0.999 55 966	2.609 4.976 115 1071 0.991 114 1061
Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	2.609 4.976 413 1360 0.988 408 1344 0.304	2.609 4.976 201 1228 0.990 199 1217 0.164	2.609 4.976 55 967 0.999 55 966 0.057	2.609 4.976 115 1071 0.991 114 1061 0.107
Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	2.609 4.976 413 1360 0.988 408 1344 0.304 5.4	2.609 4.976 201 1228 0.990 199 1217 0.164 4.4	2.609 4.976 55 967 0.999 55 966 0.057 4.2	2.609 4.976 115 1071 0.991 114 1061 0.107 4.3
Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh LOS 95th %tile Queue, veh	2.609 4.976 413 1360 0.988 408 1344 0.304	2.609 4.976 201 1228 0.990 199 1217 0.164	2.609 4.976 55 967 0.999 55 966 0.057	2.609 4.976 115 1071 0.991 114 1061 0.107



Intersection											
Int Delay, s/veh 3.	9										
Movement EB	L EB1	EBR	WBL	WBT	WBR	NBL	NBT	<b>NBR</b>	SBL	SBT	SBR
Lane Configurations	ካ ተ፣	•	7	٨ß				7		લી	7
Traffic Vol, veh/h	1 839		284	1080	0	0	0	263	0	0	0
Future Vol, veh/h	1 839	46	284	1080	0	0	0	263	0	0	0
Conflicting Peds, #/hr	0 (	0 (	0	0	0	0	0	0	0	0	0
Sign Control Fre	e Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		- None	-		None	-		None	-		None
Storage Length 34	0		195		-	-	-	-	-	-	25
Veh in Median Storage		) -	-	0	-	-	0	-	_	0	-
Grade, %	- (		-	0	-	-	0	-	-	0	-
	2 92	92	92	92	92	92	92	92	92	92	92
	1 11		11	11	11	11	11	11	11	11	11
Mymt Flow	1 912			1174	0	0	0	286	0	0	0
	. 012	_ 00	200					_00			
Major/Minor Major	.1		laior?		N./	linor4		N.	linor?		
Major/Minor Major			lajor2	_		linor1			linor2	0756	
Conflicting Flow All117	4 (	) 0	962	0	0	-	-		2250		587
Stage 1	-		-	-	-	-	-		1792		-
Stage 2			-	-	-	-	-		458	964	-
Critical Hdwy 4.3			4.32	-	-	-	-	7.12	7.72		7.12
Critical Hdwy Stg 1			-	-	-	-	-	-	6.72		-
Critical Hdwy Stg 2	-		-	-	-	-	-	-		5.72	-
Follow-up Hdwy 2.3				-	-	-	-	3.41		4.11	
Pot Cap-1 Maneuve64			658	-	-	0	0	508	20	17	431
Stage 1	-		-	-	-	0	0	-	76	119	-
Stage 2	-		-	-	-	0	0	-	529	312	-
Platoon blocked, %				-	-						
Mov Cap-1 Maneuver4			658	-	-	-	-	508	6	9	431
Mov Cap-2 Maneuver	-		-	-	-	-	-	-	6	9	-
Stage 1	-		-	-	-	-	-	-	76	63	-
Stage 2	-		-	-	-	-	-	-	231	311	-
Approach E	В		WB			NB			SB		
HCM Control Delay, s	0		3.2			20.8			0		
HCM LOS						С			A		
Minor Lane/Major Mvn	NBI n1	I EBL	EBT	FBR	WBL	WRT	WBRS	Bl n1S	BI n2		
Capacity (veh/h)	508			LDIT	658						
HCM Lane V/C Ratio		30.002			0.469	-					
HCM Control Delay (s)				-				0	0		
HCM Lane LOS	20.0				15.2 C			A	A		
					2.5			А	А		
HCM 95th %tile Q(veh	) 3.4	+ 0	-	-	2.0	-	-	-	_		

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBT	WBT	WBR	SBI	SBR
Lane Configuration			44	7		7
Traffic Vol, veh/h	365		1177	19	0	186
Future Vol, veh/h	365		1177	19	0	186
Conflicting Peds, #		0	0	0	0	0
				Free		
RT Channelized		None		None		None
Storage Length	580	-				-
Veh in Median Stor			0	-	2	-
Grade. %	age,		0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %		10	10	10	10	10
Mymt Flow	397		1279	21	0	202
WWITH FIOW	391	001	1219	21	U	202
Major/Minor Major/Minor	ajor1	M	lajor2	M	linor2	
Conflicting Flow All	11300	0	-	0	-	640
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.3	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-		-	-	-
Critical Hdwy Stg 2		-	-	-	-	-
Follow-up Hdwy	2.3	-	-	-	-	3.4
Pot Cap-1 Maneuv		-	-	-	0	399
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked. %	,	-	-	-	- 0	
Mov Cap-1 Maneuv			_	-	-	399
Mov Cap-2 Maneuv		-	-	-	-	-
Stage 1	vei -					
Stage 1 Stage 2		-		-		
Staye 2	_	-	_	-	_	-
Approach	EB		WB		SB	
HCM Control Delay	y,1 <b>⊈</b> .3		0		22.9	
HCM LOS	, .				С	
Minor Lane/Major N	vivmt	EBL		WBT		
Capacity (veh/h)		488	-	-	-	399
HCM Lane V/C Rat		0.813	-	-		0.507
HCM Control Delay	y (s)	37.2	-	-	-	22.9
HCM Lane LOS		Е	-	-	-	С
HCM 95th %tile Q(	veh)	7.8	-	-	-	2.8

Near Term Plus 911 Unit Project AM MITIGATED

Queues

	•	$\rightarrow$	•	-	•	1	1		-	Į.	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	1	369	345	467	679	7	21	139	290	297	35	
v/c Ratio	0.01	0.34	0.82	0.44	0.47	0.07	0.20	0.27	0.69	0.70	0.07	
Control Delay	42.0	30.5	41.4	8.4	1.5	46.8	50.3	4.4	42.9	43.0	0.3	
Queue Delay	0.0	0.0	8.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.0	30.5	42.2	8.7	1.9	46.8	50.3	4.4	42.9	43.0	0.3	
Queue Length 50th (ft)	1	105	213	61	4	4	13	4	169	173	0	
Queue Length 95th (ft)	6	152	318	98	16	19	38	23	274	280	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	111	1151	489	1069	1452	97	103	572	453	461	533	
Starvation Cap Reductn	0	0	27	178	320	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.32	0.75	0.52	0.60	0.07	0.20	0.24	0.64	0.64	0.07	
Intersection Summary												

Beechwood SP 7: Riverside Ave & 13th Street Near Term Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> ↑		ች	<b>†</b>	7	ሻ	<b></b>	7	ሻ	ની	7
Traffic Volume (veh/h)	1	310	29	317	430	625	6	19	128	453	87	32
Future Volume (veh/h)	1	310	29	317	430	625	6	19	128	453	87	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	337	32	345	467	679	7	21	139	560	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	359	474	45	768	700	892	88	92	761	671	0	294
Arrive On Green	0.20	0.15	0.15	0.14	0.12	0.12	0.05	0.05	0.05	0.19	0.00	0.19
Sat Flow, veh/h	1767	3247	306	1767	1856	1572	1767	1856	1563	3534	0	1552
Grp Volume(v), veh/h	1	182	187	345	467	679	7	21	139	560	0	35
Grp Sat Flow(s), veh/h/ln	1767	1763	1790	1767	1856	1572	1767	1856	1563	1767	0	1552
Q Serve(q s), s	0.0	9.8	10.0	17.9	24.0	30.6	0.4	1.1	0.0	15.3	0.0	1.9
Cycle Q Clear(g c), s	0.0	9.8	10.0	17.9	24.0	30.6	0.4	1.1	0.0	15.3	0.0	1.9
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	359	257	261	768	700	892	88	92	761	671	0	294
V/C Ratio(X)	0.00	0.71	0.72	0.45	0.67	0.76	0.08	0.23	0.18	0.83	0.00	0.12
Avail Cap(c a), veh/h	359	423	430	768	863	1030	88	93	762	901	0	396
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		40.7	40.7	31.9	37.8	22.5	45.4	45.7	14.6	39.0	0.0	33.6
Incr Delay (d2), s/veh	0.0	15.1	15.5	0.3	1.0	2.1	0.4	1.2	0.1	5.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		5.3	5.5	8.5	12.1	18.8	0.2	0.5	1.7	6.9	0.0	0.7
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	31.8	55.7	56.2	32.2	38.8	24.6	45.7	46.9	14.7	44.2	0.0	33.8
LnGrp LOS	С	E	E	C	D	C	D	D	В	D	A	C
Approach Vol, veh/h		370			1491			167			595	
Approach Delay, s/veh		55.9			30.8			20.1			43.6	
Approach LOS		E			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		19.1		23.5	24.8	42.3		9.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	1x4,7s5	24.0		25.5	5.0	46.5		5.0				
Max Q Clear Time (g_c+	111)9\$9	12.0		17.3	2.0	32.6		3.1				
Green Ext Time (p_c), s	0.7	1.7		1.5	0.0	5.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			36.6									
HCM 6th LOS			D									

User approved volume balancing among the lanes for turning movement.

	<b>→</b>	_	_	←	•	•	<b>†</b>	<i>&gt;</i>	-	1	
			•			١,	٠,	- /	-	•	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	68	899	49	1252	377	234	12	249	5	8	
v/c Ratio	0.45	0.47	0.20	0.61	0.38	0.77	0.03	0.47	0.02	0.02	
Control Delay	47.4	10.6	37.8	17.5	5.4	53.2	27.5	7.0	27.0	0.0	
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.4	10.6	37.8	17.5	5.4	53.2	27.5	7.0	27.0	0.0	
Queue Length 50th (ft)	37	203	25	276	31	141	6	2	3	0	
Queue Length 95th (ft)	m66	207	62	407	98	210	19	58	11	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	170	2097	254	2036	1001	396	527	624	395	606	
Starvation Cap Reductn	0	276	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	61	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.40	0.49	0.19	0.63	0.38	0.59	0.02	0.40	0.01	0.01	

m Volume for 95th percentile queue is metered by upstream signal.

Beechwood SP 8: Paso Robles Street & 13th Street Near Term Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	$\rightarrow$	•	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	*	<b>↑</b> ↑		ሻ	<b>^</b>	7	ሻ	<b>*</b>	7	ሻ	1>	
Traffic Volume (veh/h)	63	779	48	45	1152	347	215	11	229	5	0	7
Future Volume (veh/h)	63	779	48	45	1152	347	215	11	229	5	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	68	847	52	49	1252	0	234	12	249	5	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	87	1036	64	635	2176		343	368	312	286	0	312
Arrive On Green	0.07	0.41	0.41	0.36	0.62	0.00	0.20	0.20	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1767	3372	207	1767	3526	1572	1396	1856	1572	1110	0	1572
Grp Volume(v), veh/h	68	443	456	49	1252	0	234	12	249	5	0	8
Grp Sat Flow(s), veh/h/ln	1767	1763	1816	1767	1763	1572	1396	1856	1572	1110	0	1572
Q Serve(q s), s	3.8	22.3	22.3	1.8	21.1	0.0	16.2	0.5	15.1	0.4	0.0	0.4
Cycle Q Clear(g c), s	3.8	22.3	22.3	1.8	21.1	0.0	16.6	0.5	15.1	0.9	0.0	0.4
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	542	558	635	2176		343	368	312	286	0	312
V/C Ratio(X)	0.78	0.82	0.82	0.08	0.58		0.68	0.03	0.80	0.02	0.00	0.03
Avail Cap(c a), veh/h	168	895	922	635	2176		466	531	450	384	0	450
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		27.1	27.1	21.1	11.4	0.0	39.0	32.3	38.2	32.7	0.0	32.3
Incr Delay (d2), s/veh	12.4	11.6	11.3	0.1	1.1	0.0	2.4	0.0	6.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		10.1	10.4	0.8	7.8	0.0	5.6	0.2	6.2	0.1	0.0	0.2
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	58.6	38.6	38.4	21.2	12.5	0.0	41.4	32.4	44.5	32.7	0.0	32.3
LnGrp LOS	E	D	D	С	В		D	С	D	С	А	С
Approach Vol, veh/h		967			1301	Α		495			13	
Approach Delay, s/veh		39.9			12.8	А		42.8			32.5	
Approach LOS		D			12.0 B			72.0 D			02.0	
• •											0	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		35.2		24.3	9.4	66.2		24.3				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	ax),7s1	50.8		28.6	9.5	48.4		28.6				
Max Q Clear Time (g_c+	11)3£8	24.3		2.9	5.8	23.1		18.6				
Green Ext Time (p_c), s	0.0	6.4		0.0	0.0	10.7		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			27.7									
HCM 6th LOS			С									

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	136	379	168	74	604	466	277	670	275	343	310	
v/c Ratio	0.81	0.35	0.28	0.52	0.66	0.72	0.89	0.71	0.61	0.43	0.60	
Control Delay	76.6	24.8	5.5	55.3	31.2	14.7	67.6	31.8	42.0	29.1	14.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.6	24.8	5.5	55.3	31.2	14.7	67.6	31.8	42.0	29.1	14.6	
Queue Length 50th (ft)	76	89	0	40	156	53	155	168	74	81	40	
Queue Length 95th (ft)	#199	133	45	#104	220	172	#339	243	124	126	124	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	250		250	150		150	230		245		100	
Base Capacity (vph)	167	1231	651	146	1189	738	312	1202	515	1121	638	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.81	0.31	0.26	0.51	0.51	0.63	0.89	0.56	0.53	0.31	0.49	

	۶	-	•	•	<b>←</b>	*	4	<b>†</b>	1	-	Ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	ሻ	<b>^</b>	7	ሻ	ħβ		ሻሻ	<b>^</b>	7
Traffic Volume (veh/h)	125	349	155	68	556	429	255	567	50	253	316	285
Future Volume (veh/h)	125	349	155	68	556	429	255	567	50	253	316	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.96	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	136	379	168	74	604	466	277	616	54	275	343	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	150	1170	515	94	1059	459	279	990	87	352	874	387
Arrive On Green	0.09	0.34	0.34	0.05	0.31	0.31	0.16	0.31	0.31	0.10	0.25	0.25
Sat Flow, veh/h	1739	3469	1526	1739	3469	1505	1739	3214	281	3374	3469	1536
Grp Volume(v), veh/h	136	379	168	74	604	466	277	332	338	275	343	310
Grp Sat Flow(s),veh/h/ln	1739	1735	1526	1739	1735	1505	1739	1735	1760	1687	1735	1536
Q Serve(g_s), s	7.1	7.5	7.5	3.9	13.4	28.0	14.6	15.0	15.1	7.3	7.5	17.3
Cycle Q Clear(g_c), s	7.1	7.5	7.5	3.9	13.4	28.0	14.6	15.0	15.1	7.3	7.5	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	150	1170	515	94	1059	459	279	534	542	352	874	387
V/C Ratio(X)	0.91	0.32	0.33	0.78	0.57	1.01	0.99	0.62	0.62	0.78	0.39	0.80
Avail Cap(c_a), veh/h	150	1170	515	131	1059	459	279	541	549	460	999	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.6	22.6	42.8	26.8	31.9	38.5	27.2	27.2	40.0	28.5	32.1
Incr Delay (d2), s/veh	47.3	0.2	0.4	18.6	0.7	45.7	52.1	2.2	2.2	6.3	0.3	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		2.9	0.1	2.1	5.4	15.3	10.1	6.3	6.4	3.3	3.1	7.1
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	88.9	22.8	23.0	61.4	27.5	77.5	90.6	29.3	29.3	46.4	28.8	41.1
LnGrp LOS	F	С	С	Е	С	F	F	С	С	D	С	D
Approach Vol, veh/h		683			1144			947			928	
Approach Delay, s/veh		36.0			50.1			47.3			38.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s14.1	32.7	9.5	35.4	19.2	27.6	12.4	32.5				
Change Period (Y+Rc),		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		28.6	6.9	29.0	14.7	26.4	7.9	28.0				
Max Q Clear Time (g c+		17.1	5.9	9.5	16.6	19.3	9.1	30.0				
Green Ext Time (p_c), s		3.1	0.0	2.8	0.0	1.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			43.8									
HCM 6th LOS			73.0 D									

User approved pedestrian interval to be less than phase max green.

Central Coast Transportation Consulting

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

# Beechwood SP 12: Creston Road & Stoney Creek Road

# Near Term Plus 911 Unit Project AM MITIGATED Queues

	$\rightarrow$	•	1	<b>†</b>	-	ļ
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	158	132	37	604	36	551
v/c Ratio	0.46	0.29	0.18	0.55	0.17	0.52
Control Delay	20.3	8.6	27.6	13.4	27.6	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	8.6	27.6	13.4	27.6	12.3
Queue Length 50th (ft)	28	5	9	90	9	77
Queue Length 95th (ft)	91	44	40	307	39	267
Internal Link Dist (ft)	560	1033		1337		2227
Turn Bay Length (ft)			30		70	
Base Capacity (vph)	893	1054	208	1247	208	1216
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.13	0.18	0.48	0.17	0.45
Intersection Summary						

Beechwood SP 12: Creston Road & Stoney Creek Road Near Term Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	₽		ሻ	₽	
Traffic Volume (veh/h)	99	6	40	8	15	98	34	553	3	33	422	85
Future Volume (veh/h)	99	6	40	8	15	98	34	553	3	33	422	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	7	43	9	16	107	37	601	3	36	459	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	22	67	109	40	207	76	785	4	74	636	127
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.42	0.42	0.04	0.42	0.42
Sat Flow, veh/h	998	142	426	56	251	1315	1781	1859	9	1781	1511	303
Grp Volume(v), veh/h	158	0	0	132	0	0	37	0	604	36	0	551
Grp Sat Flow(s),veh/h/ln	1566	0	0	1622	0	0	1781	0	1869	1781	0	1813
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	8.0	0.0	10.6	0.8	0.0	9.7
Cycle Q Clear(g_c), s	3.2	0.0	0.0	2.8	0.0	0.0	0.8	0.0	10.6	0.8	0.0	9.7
Prop In Lane	0.68		0.27	0.07		0.81	1.00		0.00	1.00		0.17
Lane Grp Cap(c), veh/h	405	0	0	356	0	0	76	0	789	74	0	764
V/C Ratio(X)	0.39	0.00	0.00	0.37	0.00	0.00	0.49	0.00	0.77	0.49	0.00	0.72
Avail Cap(c_a), veh/h	1148	0	0	1229	0	0	233	0	1391	233	0	1350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	0.0	14.8	0.0	0.0	17.9	0.0	9.4	17.9	0.0	9.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	4.8	0.0	1.6	4.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	/ln 1.1	0.0	0.0	1.0	0.0	0.0	0.4	0.0	3.1	0.4	0.0	2.7
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	15.5	0.0	0.0	15.4	0.0	0.0	22.7	0.0	11.0	22.8	0.0	10.5
LnGrp LOS	В	Α	Α	В	Α	Α	С	Α	В	С	Α	В
Approach Vol, veh/h		158			132			641			587	
Approach Delay, s/veh		15.5			15.4			11.7			11.3	
Approach LOS		В			В			В			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s 6.6	21.2		10.5	6.6	21.1		10.5				
Change Period (Y+Rc),		5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gma		28.5		27.0	5.0	28.5		27.0				
Max Q Clear Time (g c+		12.6		5.2	2.8	11.7		4.8				
Green Ext Time (p_c), s		3.5		0.9	0.0	3.3		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			12.3									
HCM 6th LOS			D									

Beechwood SP

Near Term Plus 911 Unit Project AM MITIGATED

13: Creston Road & Alamo Creek Terrace/Meadowlark Road

	$\rightarrow$	-	*	4	<b>†</b>	-	-	Į.	
Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	40	319	355	10	264	161	284	227	
v/c Ratio	0.31	0.72	0.48	0.08	0.39	0.24	1.64	0.12	
Control Delay	37.5	35.4	4.1	38.0	21.9	4.9	339.7	12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.5	35.4	4.1	38.0	21.9	4.9	339.7	12.5	
Queue Length 50th (ft)	15	141	0	5	95	0	~205	27	
Queue Length 95th (ft)	48	224	45	21	184	42	#389	71	
Internal Link Dist (ft)	284	314			712			1337	
Turn Bay Length (ft)			100	150			250		
Base Capacity (vph)	130	671	747	124	679	679	173	1830	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.48	0.48	0.08	0.39	0.24	1.64	0.12	

Queue shown is maximum after two cycles.

Beechwood SP Near Term Plus 911 Unit Project AM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark RoadCM 6th Signalized Intersection Summary

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	-	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ર્ન	7	7	<b>↑</b>	7	ሻ	<b>∱</b> î≽	
Traffic Volume (veh/h)	20	9	7	289	5	327	9	243	148	261	199	10
Future Volume (veh/h)	20	9	7	289	5	327	9	243	148	261	199	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	10	8	314	5	355	10	264	161	284	216	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	16	13	490	8	563	22	627	526	161	1376	70
Arrive On Green	0.04	0.04	0.04	0.28	0.28	0.28	0.01	0.34	0.34	0.09	0.40	0.40
Sat Flow, veh/h	931	423	339	1755	28	1503	1781	1870	1569	1781	3440	174
Grp Volume(v), veh/h	40	0	0	319	0	355	10	264	161	284	111	116
Grp Sat Flow(s),veh/h/ln		0	0	1783	0	1503	1781	1870	1569	1781	1777	1837
Q Serve(g_s), s	1.8	0.0	0.0	12.2	0.0	15.1	0.4	8.5	5.9	7.0	3.1	3.1
Cycle Q Clear(g_c), s	1.8	0.0	0.0	12.2	0.0	15.1	0.4	8.5	5.9	7.0	3.1	3.1
Prop In Lane	0.55		0.20	0.98		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	63	0	0	498	0	563	22	627	526	161	711	735
V/C Ratio(X)	0.63	0.00	0.00	0.64	0.00	0.63	0.45	0.42	0.31	1.77	0.16	0.16
Avail Cap(c_a), veh/h	109	0	0	621	0	666	115	627	526	161	711	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	24.5	0.0	20.2	38.0	20.0	19.1	35.3	14.9	14.9
Incr Delay (d2), s/veh	10.1	0.0	0.0	1.5	0.0	1.4	13.5	2.1	1.5	369.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		0.0	0.0	5.2	0.0	5.3	0.3	3.7	2.1	19.4	1.3	1.3
Unsig. Movement Delay												
LnGrp Delay(d),s/veh	46.9	0.0	0.0	26.0	0.0	21.6	51.5	22.0	20.6	404.3	15.4	15.4
LnGrp LOS	D	Α	Α	С	Α	С	D	С	С	F	В	В
Approach Vol, veh/h		40			674			435			511	
Approach Delay, s/veh		46.9			23.7			22.2			231.5	
Approach LOS		D			С			С			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		32.0		7.4	7.0	37.0		26.2				
Change Period (Y+Rc),		6.0		4.5	6.0	* 6		4.5				
Max Green Setting (Gma		26.0		5.0	5.0	* 28		27.0				
Max Q Clear Time (g_c+	·I1)9s0	10.5		3.8	2.4	5.1		17.1				
Green Ext Time (p_c), s	0.0	1.7		0.0	0.0	1.2		2.6				
Intersection Summary												
HCM 6th Ctrl Delay			87.8									
LICM 6th LOC												

HCM 6th LOS

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Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Intersection

Near Term Plus 911 Unit Project AM MITIGATED HCM 6th AWSC

Intersection Delay,	<b>₫/&amp;</b> #h	ı					
Intersection LOS	С						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations		#	- 15	44		#	
Traffic Vol, veh/h	192	136	229	208	125	371	
Future Vol, veh/h	192	136	229	208	125	371	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	209	148	249	226	136	403	
Number of Lanes	1	1	1	2	1	1	
Approach	EB		NB		SB		
Opposing Approach	n n		SB		NB		
Opposing Lanes	0		2		3		
Conflicting Approac		t	EB				
Conflicting Lanes L	eft 2		2		0		
Conflicting Approac		jht			EB		
Conflicting Lanes R			0		2		
HCM Control Delay			15.5		22		
HCM LOS	С		С		С		

Lane	NBLn1N	IBLn2N	IBLn <b>Œ</b>	BLn1	BLn2S	BLn1S	BLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	104	104	192	136	125	371
LT Vol	229	0	0	192	0	0	0
Through Vol	0	104	104	0	0	125	0
RT Vol	0	0	0	0	136	0	371
Lane Flow Rate	249	113	113	209	148	136	403
Geometry Grp	8	8	8	8	8	8	8
Degree of Util (X)	0.544	0.231	0.175	0.475	0.287	0.274	0.733
Departure Headway (H	ld7.873	7.362	5.572	8.198	6.979	7.261	6.545
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Сар	458	488	643	440	514	495	552
Service Time	5.616	5.105	3.314	5.941	4.722	5.002	4.285
HCM Lane V/C Ratio	0.544	0.232	0.176	0.475	0.288	0.275	0.73
HCM Control Delay	19.7	12.3	9.5	18.2	12.5	12.7	25.2
HCM Lane LOS	С	В	Α	С	В	В	D
HCM 95th-tile Q	3.2	0.9	0.6	2.5	1.2	1.1	6.2

Synchro 10 Report Page 13 Central Coast Transportation Consulting

Beechwood SP

Near Term Plus 911 Unit Project AM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	ၨ	-	•	<b>—</b>	*	1	†	1	1	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	20	336	1212	309	491	91	293	620	349	276	
v/c Ratio	0.09	0.63	0.95	0.45	0.48	0.81	0.58	0.39	0.83	0.39	
Control Delay	34.8	30.4	45.2	24.9	3.0	91.4	41.0	3.8	57.6	29.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.8	30.4	45.2	24.9	3.0	91.4	41.0	3.8	57.6	29.7	
Queue Length 50th (ft)	10	64	331	127	0	51	81	21	99	63	
Queue Length 95th (ft)	32	112	#560	235	50	#153	130	46	#198	106	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	358	760	1273	691	1030	112	720	1596	419	918	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.44	0.95	0.45	0.48	0.81	0.41	0.39	0.83	0.30	

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP Near Term Plus 911 Unit Project AM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	1	†	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>↑</b> ↑		77	<b>*</b>	7	*	<b>^</b>	77	77	<b>ት</b> Ъ	
Traffic Volume (veh/h)	18	194	115	1115	284	452	84	270	570	321	205	49
Future Volume (veh/h)	18	194	115	1115	284	452	84	270	570	321	205	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	ı	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	211	125	1212	309	491	91	293	620	349	223	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	288	163	1229	665	742	108	615	1475	405	622	145
Arrive On Green	0.13	0.13	0.13	0.36	0.36	0.36	0.06	0.17	0.17	0.12	0.22	0.22
Sat Flow, veh/h	1781	2184	1240	3456	1870	1564	1781	3554	2790	3456	2860	666
Grp Volume(v), veh/h	20	170	166	1212	309	491	91	293	620	349	137	139
Grp Sat Flow(s), veh/h/ln	1781	1777	1647	1728	1870	1564	1781	1777	1395	1728	1777	1749
Q Serve(q s), s	0.9	8.5	9.0	32.1	11.8	22.2	4.7	6.9	12.4	9.1	6.0	6.2
Cycle Q Clear(g c), s	0.9	8.5	9.0	32.1	11.8	22.2	4.7	6.9	12.4	9.1	6.0	6.2
Prop In Lane	1.00		0.75	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	235	234	217	1229	665	742	108	615	1475	405	387	380
V/C Ratio(X)	0.09	0.73	0.77	0.99	0.46	0.66	0.84	0.48	0.42	0.86	0.35	0.37
Avail Cap(c a), veh/h	346	345	320	1229	665	742	108	694	1537	405	447	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	38.4	38.7	29.5	22.9	18.7	42.9	34.4	13.2	40.0	30.6	30.7
Incr Delay (d2), s/veh	0.2	4.3	6.3	22.3	0.5	2.2	41.8	0.6	0.2	17.1	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	/ln 0.4	4.0	4.0	16.1	5.0	7.7	3.2	2.9	6.9	4.8	2.6	2.7
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	35.3	42.7	44.9	51.7	23.4	20.9	84.6	34.9	13.4	57.1	31.1	31.3
LnGrp LOS	D	D	D	D	С	С	F	С	В	Е	С	С
Approach Vol, veh/h		356			2012			1004			625	
Approach Delay, s/veh		43.3			39.9			26.1			45.7	
Approach LOS		D			D			С			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s15.5	21.8		16.7	11.4	25.9		38.2				
Change Period (Y+Rc),		5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gma		18.0		17.9	5.6	* 23		32.8				
Max Q Clear Time (q c+		14.4		11.0	6.7	8.2		34.1				
Green Ext Time (p_c), s		1.5		1.2	0.0	1.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			37.6									
HCM 6th LOS			D									
Notes												

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Central Coast Transportation Consulting Synchro 10 Report Page 15 Beechwood SP 17: S. River Road & Niblick Road Near Term Plus 911 Unit Project AM MITIGATED Queues

	•	-	•	1	<b>—</b>	*	1	<b>†</b>	-	<b>↓</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	111	701	298	129	1101	316	699	407	317	454	
v/c Ratio	0.64	0.67	0.32	0.68	0.89	0.43	0.83	0.57	0.83	0.71	
Control Delay	66.1	36.3	3.5	63.7	41.8	6.6	45.1	38.0	57.9	39.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	66.1	36.3	3.5	63.7	41.8	6.6	45.1	38.0	57.9	39.0	
Queue Length 50th (ft)	37	213	16	81	352	12	216	122	191	122	
Queue Length 95th (ft)	#84	310	49	#177	#549	82	308	171	#359	178	
Internal Link Dist (ft)		1510			1609			962		896	
Turn Bay Length (ft)	140			80			150		110		
Base Capacity (vph)	173	1042	994	204	1252	732	971	990	429	874	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.64	0.67	0.30	0.63	0.88	0.43	0.72	0.41	0.74	0.52	
Intersection Summary											

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Near Term Plus 911 Unit Project AM MITIGATED
HCM 6th Signalized Intersection Summary

	۶	-	•	•	-	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	44	7	ሻ	<b>^</b>	7	14.54	<b>†</b> 1>		ሻ	<b>†</b> }	
Traffic Volume (veh/h)	102	645	274	119	1013	291	643	321	53	292	273	144
Future Volume (veh/h)	102	645	274	119	1013	291	643	321	53	292	273	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	701	298	129	1101	316	699	349	58	317	297	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1107	864	160	1248	552	808	636	105	355	395	203
Arrive On Green	0.05	0.31	0.31	0.09	0.35	0.35	0.23	0.21	0.21	0.20	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	1781	3554	1572	3456	3051	502	1781	2268	1169
Grp Volume(v), veh/h	111	701	298	129	1101	316	699	202	205	317	231	223
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1572	1728	1777	1776	1781	1777	1660
Q Serve(g_s), s	3.0	16.0	3.0	6.7	27.5	15.4	18.3	9.6	9.8	16.3	11.6	12.1
Cycle Q Clear(g_c), s	3.0	16.0	3.0	6.7	27.5	15.4	18.3	9.6	9.8	16.3	11.6	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		0.70
Lane Grp Cap(c), veh/h	173	1107	864	160	1248	552	808	370	370	355	309	289
V/C Ratio(X)	0.64	0.63	0.34	0.81	0.88	0.57	0.87	0.55	0.55	0.89	0.75	0.77
Avail Cap(c_a), veh/h	183	1107	864	215	1319	583	1026	528	527	453	452	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	27.8	4.0	42.1	28.8	24.8	34.7	33.3	33.4	36.8	37.0	37.2
Incr Delay (d2), s/veh	6.8	1.2	0.2	14.8	7.1	1.2	6.5	1.3	1.3	16.5	3.9	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.	/ln 1.4	6.6	1.0	3.5	12.1	5.6	8.1	4.1	4.2	8.4	5.2	5.1
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	50.7	29.0	4.2	56.9	35.8	26.1	41.2	34.6	34.7	53.2	40.8	42.4
LnGrp LOS	D	С	Α	Е	D	С	D	С	С	D	D	D
Approach Vol, veh/h		1110			1546			1106			771	
Approach Delay, s/veh		24.5			35.6			38.8			46.4	
Approach LOS		С			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s13.0	33.9	26.5	20.9	9.2	37.6	23.3	24.1				
Change Period (Y+Rc),		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		28.6	28.0	24.0	5.0	35.0	24.0	28.0				
Max Q Clear Time (q c+		18.0	20.3	14.1	5.0	29.5	18.3	11.8				
Green Ext Time (p c), s		4.1	1.7	1.8	0.0	3.6	0.5	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			35.5									
HCM 6th LOS			D									
I IOM OUI LOO			U									

				_	•
Intersection					
Intersection Delay, s	√9r£h				
Intersection LOS	Α				
Anneach	WB	NB	SB	,	
Approach					
Entry Lanes	1	1 1	1	-	
Conflicting Circle La		•	1		
Adj Approach Flow,		101	397		
Demand Flow Rate,		103	405		
Vehicles Circulating		354	23	-	
Vehicles Exiting, veh		74	893		
Ped Vol Crossing Le		0	0	-	
Ped Cap Adj	1.000	1.000	1.000	-	
Approach Delay, s/v		4.8	5.4		
Approach LOS	В	Α	A	4	
Lane	Left	Left	Left		
Designated Moves	LR	TR	LT		
Assumed Moves	LR	TR	LT		
RT Channelized					
Lane Util 1.	000	1.000	1.000		
Follow-Up Headway	609	2.609	2.609		
Critical Headway, 4.		4.976	4.976		
	821	103	405		
Cap Entry Lane, ver		962	1348		
Entry HV Adj Factor		0.982	0.980		
Flow Entry, veh/h		101	397		
Cap Entry, veh/h 1		944	1321		
	656	0.107	0.300		
Control Delay, s/veh		4.8	5.4		
LOS	В	Α	A		
95th %tile Queue, ve	_	0	1		
,					

Intersection

intersection											
Int Delay, s/veh 10.5	5										
Movement EBI	EBT	FBR	WBI	WRT	WBR	NBI	NRT	NBR	SBL	SBT	SBR
	ጎ ተጉ		NDL N	<b>↑</b> ↑	WDIX	INDL	NDI	7	ODL	4	7
	1 TI→ 0 1074			1015	0	0	0	389	0	<b>4</b>	0
	1074	102		1015	0	0	0	389	0	0	0
Conflicting Peds, #/hr			0	0	1	0	0	0	0	0	0
	Free			_					_	_	_
		None	riee -		None	Stop -		None			None
						-	-	None	-		25
Storage Length 340			195	-	-	-	0		-	0	
Veh in Median Storage				0	-	-	_	-		_	-
O. a.a.o., 70	- 0		-		-	-	0	97	97	0	-
Peak Hour Factor 97			97	97	97	97	97			97	97
Heavy Vehicles, %			7	7	7	7	7	7	7	7	7
Mvmt Flow (	1107	105	334	1046	0	0	0	401	0	0	0
Major/Minor Major	1	N	lajor2		N	linor1		M	linor2		
Conflicting Flow All1047			1212	0	0	-	-	606	2269	2927	524
			-	-	-				1715		-
3		_				-		-		1212	
Critical Hdwy 4.24	1 -	_	4.24		-		-			6.64	7.04
,				-				7.04			7.04
, ,		_	-		-				6.64		-
Follow-up Hdwy 2.27		_	2.27				-	3.37		4.07	3.37
Pot Cap-1 Maneuve63		-	544			0	0	428	21	14	485
Stage 1		_	-			0	0		89	136	
Stage 2		-	_	-	-	0	0		472	243	_
Platoon blocked. %	-					U	U		712	240	
Mov Cap-1 Maneuve30		_	544	_	_		-	428	1	5	485
Mov Cap-2 Maneuver			-						1	5	
Stage 1		_	_	_	_	_	_	_	89	52	_
Stage 2								- 0	30	243	
Olago Z									50	2-10	
Approach EE			WB			NB			SB		
HCM Control Delay, s (	)		5.2			60.5			0		
HCM LOS						F			Α		
Minor Lane/Major Mvm	NIRI n1	EBL	EBT	ERP	WRI	WRT	W/RP	BLn1S	RI no		
						VVDI	VVDIC	ט וום	DLIIZ		
Capacity (veh/h)	428		-	-	544	-	-	-	-		
HCM Central Delay (a)	0.937		-		0.614	-	-	-	-		
HCM Control Delay (s)	60.5		-	-	21.6	-	-	0	0		
HCM Lane LOS	F 10.7	A	-	-	C	-	-	Α	Α		
HCM 95th %tile Q(veh)	10.7	0	-	-	4.1	-	-	-	-		

l=4=====4!==						
Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBT	WBT	<b>WBR</b>	SBL	SBR
Lane Configuratio	ns 🎙	44	44	7		7
Traffic Vol. veh/h		1180	977	13	0	362
Future Vol. veh/h		1180	977	13	0	362
Conflicting Peds,		0	0		0	0
Sign Control				Free		
RT Channelized		None		None		Stop
Storage Length	580	-				Stop -
Veh in Median Sto				100	2	-
	0 .		0			
Grade, %	- 04	•	0		0	- 0.4
Peak Hour Factor		94	94		94	94
Heavy Vehicles, 9		10	10		10	10
Mvmt Flow	302	1255	1039	14	0	385
Major/Minor N	/lajor1	N/	lajor2	N/	linor2	
Conflicting Flow A						520
		0	-	0	-	
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.3	-	-	-	-	7.1
Critical Hdwy Stg		-	-	-	-	-
Critical Hdwy Stg:	2 -	-	-	-	-	-
Follow-up Hdwy	2.3	-	-	-	-	3.4
Pot Cap-1 Maneu	ve611	-	-	-	0	481
Stage 1	-	-	-	-	0	-
Stage 2	_	-		_	0	
Platoon blocked.	2/6	-			0	
Mov Cap-1 Maneu					_	481
				_		401
Mov Cap-2 Maneu		-	-	-		
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Dela			0		36.2	
HCM LOS	ıy, <b>3</b> .2		U		30.2 E	
HOW LOS						
Minor Lane/Major	Mvmt	EBL	EBT	WBT	WBR	BLn1
Capacity (veh/h)		611		-	-	
HCM Lane V/C Ra	atio	0.494				0.801
LICIVI Lane V/C No		0.434				
HCM Control Dolo		16 F				
HCM Control Dela		16.5	-	-		36.2
HCM Control Dela HCM Lane LOS HCM 95th %tile Q	ay (s)	16.5 C	-	-	-	30.2 E 7.4

Beechwood SP

4: SR 46 E & Airport Road

HCM 6th TWSC

	۶	<b>→</b>	•	<b>←</b>	*	4	1	~	1	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	520	255	462	651	6	47	281	357	359	110	
v/c Ratio	0.20	0.46	0.77	0.48	0.48	0.06	0.42	0.62	0.75	0.75	0.19	
Control Delay	44.8	27.9	50.4	19.1	2.0	41.5	52.6	17.5	40.7	40.1	1.3	
Queue Delay	0.0	0.0	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.8	27.9	50.4	20.0	2.1	41.5	52.6	17.5	40.7	40.1	1.3	
Queue Length 50th (ft)	12	142	136	180	7	3	26	39	178	180	0	
Queue Length 95th (ft)	35	186	#233	305	44	16	#63	97	#325	#311	6	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	107	1178	372	965	1368	107	113	482	499	506	586	
Starvation Cap Reductn	0	0	0	257	136	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.20	0.44	0.69	0.65	0.53	0.06	0.42	0.58	0.72	0.71	0.19	
Intersection Summary												
# 95th percentile volum	ne exce	eds ca	pacity, c	lueue m	ay be lo	nger.						
Queue shown is maxi	mum a	fter two	cycles.									

	ၨ	-	$\rightarrow$	•	<b>←</b>	•	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 3	<b>↑</b> ↑		ሻ	<b>↑</b>	7	ሻ	<b>↑</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	20	458	31	240	434	612	6	44	264	589	84	103
Future Volume (veh/h)	20	458	31	240	434	612	6	44	264	589	84	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		400=	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	487	33	255	462	651	6	47	281	691	0	110
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	41	636	43	593	932	1135	100	105	616	817	0	362 0.23
Arrive On Green	0.02	0.19	0.19	0.33	0.49	0.49	0.06	0.06	0.06	0.23	0.00	
Sat Flow, veh/h	1795	3402	230	1795	1885	1560	1795	1885	1598	3591	0	1591
Grp Volume(v), veh/h	21	256	264	255	462	651	6	47	281	691	0	110
Grp Sat Flow(s),veh/h/ln		1791	1841	1795	1885	1560	1795	1885	1598	1795	0	1591
Q Serve(g_s), s	1.0	12.2	12.3	10.0	14.8	17.9	0.3	2.2	0.0	16.6	0.0	5.2
Cycle Q Clear(g_c), s	1.00	12.2	12.3	10.0	14.8	17.9	0.3	2.2	0.0	16.6	0.0	5.2
Prop In Lane	41	225	0.12	1.00	022	1.00	1.00	105	1.00	1.00 817	0	1.00
Lane Grp Cap(c), veh/h	0.52	335	344 0.77	593	932 0.50	0.57	100	105 0.45	616 0.46	0.85	0.00	0.30
V/C Ratio(X) Avail Cap(c a), veh/h	106	0.76 458	470	0.43 593	932	1135	0.06	105	616	1017	0.00	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		34.7	34.7	23.5	15.2	6.0	40.3	41.2	20.6	33.2	0.00	28.8
Incr Delay (d2), s/veh	9.7	15.2	15.1	0.4	0.3	0.5	0.2	3.0	0.5	5.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		6.7	6.9	4.2	6.1	11.1	0.1	1.1	4.3	7.6	0.0	2.0
Unsig. Movement Delay,		0.7	0.5	7.2	0.1	11.1	0.1	1.1	7.0	7.0	0.0	2.0
LnGrp Delay(d),s/veh	53.2	50.0	49.9	23.9	15.5	6.5	40.5	44.2	21.1	38.8	0.0	29.3
LnGrp LOS	D	D	D	C	В	Α	D	D	C	D	Α	C
Approach Vol, veh/h		541			1368			334			801	
Approach Delay, s/veh		50.0			12.8			24.7			37.5	
Approach LOS		D			12.0 B			C			D	
		_			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		21.3		25.0	6.5	49.0		9.5				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		23.0		25.5	5.3	36.2		5.0				
Max Q Clear Time (g_c+		14.3		18.6	3.0	19.9		4.2				
Green Ext Time (p_c), s	0.4	2.1		1.9	0.0	5.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			27.2									
HCM 6th LOS			С									

User approved volume balancing among the lanes for turning movement.

	•	$\rightarrow$	1	-	•	1	<b>†</b>	1	-	Į.	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	91	1319	20	1080	265	276	30	447	8	27	
v/c Ratio	0.54	0.63	0.17	0.60	0.29	0.77	0.06	0.84	0.02	0.05	
Control Delay	47.4	14.8	38.9	17.7	3.4	42.2	20.8	32.1	20.1	0.2	
Queue Delay	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.4	16.6	38.9	17.7	3.4	42.2	20.8	32.1	20.1	0.2	
Queue Length 50th (ft)	44	196	10	223	4	124	11	131	3	0	
Queue Length 95th (ft)	#99	369	31	294	45	204	29	#250	12	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	176	2079	121	1810	915	423	572	601	422	657	
Starvation Cap Reductn	0	557	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.52	0.87	0.17	0.60	0.29	0.65	0.05	0.74	0.02	0.04	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 8: Paso Robles Street & 13th Street Near Term Plus 911 Unit Project PM MITIGATED HCM 6th Signalized Intersection Summary

	۶	-	*	•	<b>←</b>	•	4	†	~	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		7	<b>^</b>	7	ሻ	<b>↑</b>	7	ሻ	f)	
Traffic Volume (veh/h)	85	1196	31	19	1004	246	257	28	416	7	0	25
Future Volume (veh/h)	85	1196	31	19	1004	246	257	28	416	7	0	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	91	1286	33	20	1080	0	276	30	447	8	0	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	117	1508	39	194	1668		492	566	480	357	0	480
Arrive On Green	0.07	0.42	0.42	0.11	0.47	0.00	0.30	0.30	0.30	0.30	0.00	0.30
Sat Flow, veh/h	1795	3565	91	1795	3582	1598	1394	1885	1598	925	0	1598
Grp Volume(v), veh/h	91	646	673	20	1080	0	276	30	447	8	0	27
Grp Sat Flow(s),veh/h/ln		1791	1866	1795	1791	1598	1394	1885	1598	925	0	1598
Q Serve(g_s), s	4.0	26.0	26.1	8.0	18.4	0.0	14.1	0.9	21.7	0.5	0.0	1.0
Cycle Q Clear(g_c), s	4.0	26.0	26.1	0.8	18.4	0.0	15.0	0.9	21.7	1.4	0.0	1.0
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	757	789	194	1668		492	566	480	357	0	480
V/C Ratio(X)	0.78	0.85	0.85	0.10	0.65		0.56	0.05	0.93	0.02	0.00	0.06
Avail Cap(c_a), veh/h	168	839	875	194	1668		500	577	489	363	0	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		20.8	20.8	32.2	16.3	0.0	25.3	19.9	27.2	20.4	0.0	19.9
Incr Delay (d2), s/veh	10.6	9.4	9.1	0.2	2.0	0.0	1.4	0.0	24.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		12.0	12.5	0.4	7.4	0.0	4.6	0.4	11.0	0.1	0.0	0.3
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	47.4	30.2	29.9	32.4	18.3	0.0	26.7	19.9	51.8	20.4	0.0	20.0
LnGrp LOS	D	С	С	С	В		С	В	D	С	Α	В
Approach Vol, veh/h		1410			1100	Α		753			35	
Approach Delay, s/veh		31.2			18.6			41.3			20.1	
Approach LOS		С			В			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		38.3		28.5	9.7	41.8		28.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	x),5s0	37.5		24.5	7.5	35.0		24.5				
Max Q Clear Time (g_c+l		28.1		3.4	6.0	20.4		23.7				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	6.7		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			29.2									
HCM 6th LOS			С									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Central Coast Transportation Consulting

11: Creston Road & Niblick Road/Sherwood Road

		-	*	•	_	_		T	-	+	*	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	167	608	357	127	473	363	228	455	391	545	143	
v/c Ratio	1.14	0.68	0.55	0.64	0.48	0.52	0.71	0.42	0.91	0.61	0.27	
Control Delay	155.6	34.0	6.8	56.1	28.1	5.6	51.0	24.6	55.6	21.1	3.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	155.6	34.0	6.8	56.1	28.1	5.6	51.0	24.6	55.6	21.1	3.9	
Queue Length 50th (ft)	~111	163	6	68	111	0	124	101	~129	103	0	
Queue Length 95th (ft)	#236	204	68	#175	156	61	#300	144	m#175	m210	m15	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	250		250	150		150	230		245		100	
Base Capacity (vph)	147	1101	721	197	1101	732	322	1088	428	1061	594	
Starvation Cap Reductr	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.14	0.55	0.50	0.64	0.43	0.50	0.71	0.42	0.91	0.51	0.24	

## Intersection Summary

Queue shown is maximum after two cycles.

Queue shown is maximum after two cycles.

	۶	<b>→</b>	*	•	<b>←</b>	•	1	†	/	/	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	ሻ	<b>^</b>	7	ሻ	<b>↑</b> ↑		77	<b>^</b>	7
Traffic Volume (veh/h)	160	584	343	122	454	348	219	371	66	375	523	137
Future Volume (veh/h)	160	584	343	122	454	348	219	371	66	375	523	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	608	357	127	473	362	228	386	69	391	545	143
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	969	425	149	971	424	406	1051	186	326	766	340
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.27	0.23	0.35	0.35	0.09	0.22	0.22
Sat Flow, veh/h	1781	3554	1559	1781	3554	1551	1781	3012	533	3456	3554	1576
Grp Volume(v), veh/h	167	608	357	127	473	362	228	226	229	391	545	143
Grp Sat Flow(s), veh/h/ln	1781	1777	1559	1781	1777	1551	1781	1777	1768	1728	1777	1576
Q Serve(g s), s	7.5	13.5	19.4	6.3	10.0	19.9	10.2	8.5	8.7	8.5	12.8	5.4
Cycle Q Clear(g c), s	7.5	13.5	19.4	6.3	10.0	19.9	10.2	8.5	8.7	8.5	12.8	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	148	969	425	149	971	424	406	620	617	326	766	340
V/C Ratio(X)	1.13	0.63	0.84	0.85	0.49	0.85	0.56	0.36	0.37	1.20	0.71	0.42
Avail Cap(c a), veh/h	148	1106	485	149	1106	483	406	620	617	326	1066	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	41.3	28.7	30.9	40.7	27.4	31.0	30.8	21.9	21.9	40.8	32.7	17.9
Incr Delay (d2), s/veh	111.4	0.9	11.2	34.9	0.4	12.7	1.8	1.7	1.7	109.2	4.2	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.	/ln 7.8	5.6	8.2	4.1	4.1	8.5	4.4	3.7	3.7	8.5	5.8	2.8
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	152.6	29.6	42.1	75.5	27.8	43.7	32.5	23.5	23.6	150.0	36.9	20.7
LnGrp LOS	F	С	D	Е	С	D	С	С	С	F	D	С
Approach Vol, veh/h		1132			962			683			1079	
Approach Delay, s/veh		51.7			40.1			26.6			75.7	
Approach LOS		D			D			С			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s13.0	35.9	12.0	29.1	25.0	23.9	12.0	29.1				
Change Period (Y+Rc), s	s 4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma	ax)8s5	28.0	7.5	28.0	9.5	27.0	7.5	28.0				
Max Q Clear Time (g c+	111)0s5	10.7	8.3	21.4	12.2	14.8	9.5	21.9				
Green Ext Time (p_c), s	0.0	2.4	0.0	2.8	0.0	3.2	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			51.1									
11011011100												

D

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

m Volume for 95th percentile queue is metered by upstream signal.

12: Creston Road &	Stone	y Cree	к коа	a				Queues
	-	<b>←</b>	4	<b>†</b>	-	ļ	4	
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	129	43	21	442	48	564	134	
v/c Ratio	0.54	0.28	0.05	0.40	0.32	0.74	0.19	
Control Delay	42.8	20.6	30.9	14.3	45.1	31.0	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.8	20.6	30.9	14.3	45.1	31.0	4.2	
Queue Length 50th (ft)	66	3	10	152	26	270	0	
Queue Length 95th (ft)	126	35	31	271	64	#495	35	
Internal Link Dist (ft)	560	1033		1337		2227		
Turn Bay Length (ft)			30		70		60	
Base Capacity (vph)	571	547	382	1112	169	760	708	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.08	0.05	0.40	0.28	0.74	0.19	
Intersection Summary								
# 95th percentile volum	ne exce	eds cap	pacity, c	ueue m	ay be l	onger.		
Queue shown is maxi	imum a	fter two	cycles.					

	•	$\rightarrow$	*	1	<b>—</b>	*	1	1	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	13		ሻ	<b>A</b>	7
Traffic Volume (veh/h)	111	4	13	4	1	38	21	428	10	48	558	133
Future Volume (veh/h)	111	4	13	4	1	38	21	428	10	48	558	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	112	4	13	4	1	38	21	432	10	48	564	134
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	164	6	19	8	2	71	384	1059	25	72	761	641
Arrive On Green	0.11	0.11	0.11	0.05	0.05	0.05	0.21	0.58	0.58	0.04	0.40	0.40
Sat Flow, veh/h	1537	55	178	148	37	1406	1795	1835	42	1795	1885	1588
Grp Volume(v), veh/h	129	0	0	43	0	0	21	0	442	48	564	134
Grp Sat Flow(s), veh/h/ln	1771	0	0	1591	0	0	1795	0	1877	1795	1885	1588
Q Serve(g s), s	5.9	0.0	0.0	2.2	0.0	0.0	0.8	0.0	11.0	2.2	21.5	4.6
Cycle Q Clear(g_c), s	5.9	0.0	0.0	2.2	0.0	0.0	0.8	0.0	11.0	2.2	21.5	4.6
Prop In Lane	0.87		0.10	0.09		0.88	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	189	0	0	81	0	0	384	0	1083	72	761	641
V/C Ratio(X)	0.68	0.00	0.00	0.53	0.00	0.00	0.05	0.00	0.41	0.67	0.74	0.21
Avail Cap(c_a), veh/h	567	0	0	510	0	0	384	0	1083	170	761	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	0.0	39.0	0.0	0.0	26.4	0.0	9.9	39.9	21.4	16.4
Incr Delay (d2), s/veh	4.3	0.0	0.0	5.3	0.0	0.0	0.3	0.0	1.1	10.2	6.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	/ln 2.7	0.0	0.0	1.0	0.0	0.0	0.4	0.0	4.3	1.2	10.1	1.7
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	40.6	0.0	0.0	44.3	0.0	0.0	26.6	0.0	11.0	50.1	27.8	17.1
LnGrp LOS	D	Α	Α	D	Α	Α	С	Α	В	D	С	В
Approach Vol, veh/h		129			43			463			746	
Approach Delay, s/veh		40.6			44.3			11.7			27.3	
Approach LOS		D			D			В			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s 8.4	53.6		13.5	23.0	39.0		8.8				
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gma	0e8(xe	44.0		27.0	18.0	34.0		27.0				
Max Q Clear Time (g c+		13.0		7.9	2.8	23.5		4.2				
Green Ext Time (p_c), s	0.0	2.9		0.6	0.0	3.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			С									

## Beechwood SP Near Term Plus 911 Unit Project PM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark Road

	$\rightarrow$	•	•	1	1		-	ţ	
Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	21	198	217	12	267	304	341	278	
v/c Ratio	0.10	0.45	0.40	0.02	0.28	0.32	0.60	0.15	
Control Delay	20.6	20.0	5.6	8.5	9.0	2.5	15.9	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	20.6	20.0	5.6	8.5	9.0	2.5	15.9	7.5	
Queue Length 50th (ft)	3	42	0	1	30	0	48	14	
Queue Length 95th (ft)	23	119	45	11	118	39	#230	55	
Internal Link Dist (ft)	284	314			712			1337	
Turn Bay Length (ft)				150			250		
Base Capacity (vph)	200	1085	1031	707	1223	1146	728	2309	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.18	0.21	0.02	0.22	0.27	0.47	0.12	

Beechwood SP Near Term Plus 911 Unit Project PM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark Road CM 6th Signalized Intersection Summary

	•	-	•	•	<b>←</b>	*	1	†	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			ર્ન	7	- ነ	<b>↑</b>	7	<u>ነ</u>	<b>∱</b> î≽	
Traffic Volume (veh/h)	8	2	9	181	3	202	11	248	283	317	246	12
Future Volume (veh/h)	8	2	9	181	3	202	11	248	283	317	246	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	9	2	10	195	3	217	12	267	304	341	265	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	18	4	20	361	6	323	656	967	817	499	1781	87
Arrive On Green	0.03 726	0.03	0.03	0.20	0.20	0.20	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h		161	807	1769	27	1586	1108	1885	1593	847	3471	169
Grp Volume(v), veh/h	21	0	0	198	0	217	12	267	304	341	136	142
Grp Sat Flow(s),veh/h/ln		0	0	1797	0	1586	1108	1885	1593	847	1791	1850
Q Serve(g_s), s	0.7	0.0	0.0	5.3	0.0	6.8	0.3	4.4	6.2	20.8	2.2	2.2
Cycle Q Clear(g_c), s	0.7	0.0	0.0	5.3	0.0	6.8	2.5	4.4	6.2	25.1	2.2	2.2
Prop In Lane	0.43	0	0.48	0.98	0	1.00	1.00	007	1.00	1.00	040	0.09
Lane Grp Cap(c), veh/h	42 0.50	0.00	0.00	366 0.54	0.00	323 0.67	656 0.02	967 0.28	817 0.37	499 0.68	919 0.15	949 0.15
V/C Ratio(X)	156	0.00	0.00	894	0.00	789	680	1008	851	517	957	989
Avail Cap(c_a), veh/h HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.00	0.00	19.3	0.00	19.9	7.6	7.5	7.9	14.6	7.0	7.0
Incr Delay (d2), s/veh	8.7	0.0	0.0	1.2	0.0	2.4	0.0	0.2	0.3	3.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0
%ile BackOfQ(50%),veh/		0.0	0.0	2.2	0.0	2.6	0.0	1.2	1.5	3.6	0.6	0.7
Unsig. Movement Delay,		0.0	0.0	2.2	0.0	2.0	0.1	1.2	1.0	0.0	0.0	0.7
LnGrp Delay(d),s/veh	34.8	0.0	0.0	20.6	0.0	22.3	7.6	7.6	8.2	18.1	7.0	7.0
LnGrp LOS	C	Α	Α	C	Α	C	Α.	Α.	A	В	Α.	Α.
Approach Vol, veh/h		21			415			583			619	
Approach Delay, s/veh		34.8			21.5			7.9			13.2	
Approach LOS		C			C C			Α.5			В	
					U							
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc),		32.8		5.9		32.8		15.6				
Change Period (Y+Rc), s		5.0		4.5		5.0		4.5				
Max Green Setting (Gma		29.0		5.0		29.0		27.0				
Max Q Clear Time (g_c+	I1), s	8.2		2.7		27.1		8.8				
Green Ext Time (p_c), s		2.4		0.0		0.7		1.9				
Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			В									

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Intersection

Near Term Plus 911 Unit Project PM MITIGATED HCM 6th AWSC

Intersection Delay,	,sl∧yem	l					
Intersection LOS	С						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configuration	าร 🏲	7	- ሽ	- 44	- ↑	7	
Traffic Vol, veh/h	342	247	148	200	198	238	
Future Vol, veh/h	342	247	148	200	198	238	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles, %	1	1	1	1	1	1	
Mvmt Flow	353	255	153	206	204	245	
Number of Lanes	1	1	1	2	1	1	
Approach	EB		NB		SB		
Opposing Approac	h		SB		NB		
Opposing Lanes	0		2		3		
Conflicting Approa	ch SLB f	t	EB				
Conflicting Lanes I	Left 2		2		0		
Conflicting Approa	ch <b>NRB</b> g	ht			EB		
Conflicting Lanes I	Righ®		0		2		
HCM Control Dela	y 24		13.2		16		
HCM LOS	С		В		С		

Lane	NBLn1	IBLn2N	BLn <b>Œ</b>	BLn1E	BLn2	BLn1S	BLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	100	100	342	247	198	238
LT Vol	148	0	0	342	0	0	0
Through Vol	0	100	100	0	0	198	0
RT Vol	0	0	0	0	247	0	238
Lane Flow Rate	153	103	103	353	255	204	245
Geometry Grp	8	8	8	8	8	8	8
Degree of Util (X)	0.354	0.225	0.174	0.756	0.46	0.435	0.474
Departure Headway (F	Hd\$.358	7.845	3.081	7.715	6.502	7.675	6.954
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Сар	430	458	590	469	555	469	518
Service Time	6.104	5.593	3.825	5.454	4.24	5.418	4.697
HCM Lane V/C Ratio	0.356	0.225	0.175	0.753	0.459	0.435	0.473
HCM Control Delay	15.6	12.9	10.1	30.7	14.7	16.2	15.8
HCM Lane LOS	С	В	В	D	В	С	С
HCM 95th-tile Q	1.6	0.9	0.6	6.4	2.4	2.2	2.5

Synchro 10 Report Central Coast Transportation Consulting Page 13 Beechwood SP

Near Term Plus 911 Unit Project PM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Lane Group EBT WBL WBT WBR NBL SBT Lane Group Flow (vph) 52 443 764 440 99 368 1197 632 324 208 v/c Ratio 0.23 0.93 0.86 0.43 0.46 0.37 0.69 0.38 Control Delay 38.5 64.7 30.9 20.2 1.5 38.9 43.6 27.7 38.6 27.4 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Total Delay 38.5 64.7 30.9 20.2 1.5 38.9 43.6 27.7 38.6 27.4 Queue Length 50th (ft) 27 123 174 60 51 105 303 73 62 #224 153 #410 Queue Length 95th (ft) #299 m95 0 100 229 112 Internal Link Dist (ft) 521 1372 680 Turn Bay Length (ft) 115 515 115 165 290 305 231 480 956 Base Capacity (vph) 476 886 268 536 1395 856 871 Starvation Cap Reductn 0 0 Spillback Cap Reductn Storage Cap Reductn 0 0 0 0 0 0 0

0.43 0.46

0.37

0.69

0.86

0.74 0.37

# Reduced v/c Ratio Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

0.23 0.93 0.86

Beechwood SP Near Term Plus 911 Unit Project PM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road HCM 6th Signalized Intersection Summary

	۶	-	•	•	-	•	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>∱</b> Љ		75	<b>*</b>	7	- 7	44	77	75	<b>↑</b> 1>	
Traffic Volume (veh/h)	50	328	102	741	202	427	96	357	1161	613	256	58
Future Volume (veh/h)	50	328	102	741	202	427	96	357	1161	613	256	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	52	338	105	764	208	440	99	368	1197	632	264	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	219	329	100	862	466	733	336	671	1264	758	626	140
Arrive On Green	0.12	0.12	0.12	0.25	0.25	0.25	0.19	0.19	0.19	0.22	0.22	0.22
Sat Flow, veh/h	1795	2691	822	3483	1885	1572	1795	3582	2908	3519	2909	650
Grp Volume(v), veh/h	52	223	220	764	208	440	99	368	1197	632	161	163
Grp Sat Flow(s), veh/h/ln		1791	1722	1742	1885	1572	1795	1791	1454	1760	1791	1768
Q Serve(q s), s	2.4	11.0	11.0	19.0	8.4	18.8	4.3	8.4	16.9	15.5	7.0	7.2
Cycle Q Clear(g c), s	2.4	11.0	11.0	19.0	8.4	18.8	4.3	8.4	16.9	15.5	7.0	7.2
Prop In Lane	1.00	11.0	0.48	1.00	0.4	1.00	1.00	0.4	1.00	1.00	7.0	0.37
Lane Grp Cap(c), veh/h	219	219	210	862	466	733	336	671	1264	758	386	381
V/C Ratio(X)	0.24	1.02	1.05	0.89	0.45	0.60	0.29	0.55	0.95	0.83	0.42	0.43
Avail Cap(c a), veh/h	219	219	210	890	482	746	336	671	1264	860	438	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		39.5	39.5	32.7	28.7	18.0	31.5	33.1	19.1	33.8	30.4	30.5
Incr Delay (d2), s/veh	0.5	65.7	74.5	10.5	0.7	1.3	2.2	3.2	15.4	6.4	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		8.8	9.0	8.8	3.7	9.7	2.0	3.7	15.5	7.1	3.0	3.1
Unsig. Movement Delay,		0.0	9.0	0.0	3.1	5.1	2.0	3.1	10.0	7.1	3.0	J. I
LnGrp Delay(d),s/veh	36.3	105.2	114.0	43.2	29.3	19.4	33.7	36.3	34.6	40.2	31.2	31.3
LnGrp LOS	D	103.2 F	F	43.2 D	29.5 C	19.4 B	33.7 C	50.5 D	34.0 C	40.2 D	C C	01.5 C
	U	495	Г	U	1412	Ь	U	1664	U	U	956	
Approach Vol, veh/h Approach Delay, s/veh		101.9			33.7			34.9			37.2	
		101.9 F			33.7 C			34.9 C			37.2 D	
Approach LOS		F			C			C			U	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc),	S	22.7		15.6		24.1		27.7				
Change Period (Y+Rc), s	3	5.8		4.6		4.7		5.4				
Max Green Setting (Gma	ax), s	13.5		11.0		22.0		23.0				
Max Q Clear Time (g_c+	l1), s	18.9		13.0		17.5		21.0				
Green Ext Time (p_c), s		0.0		0.0		1.9		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			42.3									
HCM 6th LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

Central Coast Transportation Consulting Synchro 10 Report Beechwood SP 17: S. River Road & Niblick Road Near Term Plus 911 Unit Project PM MITIGATED

	•	-	*	1	-	•	1	Ť	-	¥	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	269	1058	666	120	769	164	450	369	217	559	
v/c Ratio	0.80	0.92	0.83	0.93	0.72	0.27	0.70	0.37	0.96	0.71	
Control Delay	52.9	40.2	19.3	107.0	33.2	4.4	42.8	23.5	92.0	34.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.9	40.2	19.3	107.0	33.2	4.4	42.8	23.5	92.0	34.1	
Queue Length 50th (ft)	76	343	140	69	207	0	120	74	125	142	
Queue Length 95th (ft) n	n#109	m#452	m#258	#175	275	36	#235	112	#263	177	
Internal Link Dist (ft)		1510			1609			962		896	
Turn Bay Length (ft)	140			80			150		110		
Base Capacity (vph)	337	1155	801	129	1065	597	639	1070	226	1063	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.80	0.92	0.83	0.93	0.72	0.27	0.70	0.34	0.96	0.53	

# Intersection Summary

Page 15

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

M Volume for 95th percentile queue is metered by upstream signal.

	ၨ	-	•	•	<b>←</b>	•	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>^</b>	7	<u>ች</u>	<b>^</b>	7	77	<b>∱</b> î≽		"	<b>∱</b> î≽	
Traffic Volume (veh/h)	258	1016	639	115	738	157	432	272	83	208	408	129
Future Volume (veh/h)	258	1016	639	115	738	157	432	272	83	208	408	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	4005	4005	No	4005	4005	No	4005	4005	No	4005
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h Peak Hour Factor	269	1058 0.96	666 0.96	120 0.96	769 0.96	164 0.96	450 0.96	283 0.96	86 0.96	217 0.96	425 0.96	134 0.96
Percent Heavy Veh, %	0.96	0.96	0.96	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Cap, veh/h	290	1075	479	301	1376	613	445	560	167	227	549	171
Arrive On Green	0.08	0.30	0.30	0.17	0.38	0.38	0.13	0.21	0.21	0.13	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	3582	1595	3483	2720	810	1795	2683	838
Grp Volume(v), veh/h	269	1058	666	120	769	164	450	184	185	217	282	277
Grp Sat Flow(s), veh/h/ln		1791	1598	1795	1791	1595	1742	1791	1739	1795	1791	1730
Q Serve(q s), s	6.9	26.4	27.0	5.4	15.2	6.4	11.5	8.2	8.5	10.8	13.4	13.6
Cycle Q Clear(g c), s	6.9	26.4	27.0	5.4	15.2	6.4	11.5	8.2	8.5	10.8	13.4	13.6
Prop In Lane	1.00	20	1.00	1.00	.0.2	1.00	1.00	0.2	0.47	1.00		0.48
Lane Grp Cap(c), veh/h	290	1075	479	301	1376	613	445	368	358	227	366	354
V/C Ratio(X)	0.93	0.98	1.39	0.40	0.56	0.27	1.01	0.50	0.52	0.95	0.77	0.78
Avail Cap(c a), veh/h	290	1075	479	301	1376	613	445	539	524	227	537	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	31.3	31.5	33.4	21.7	19.0	39.3	31.6	31.8	39.0	33.8	33.9
Incr Delay (d2), s/veh	34.1	24.0	187.8	0.9	1.6	1.1	45.5	1.1	1.2	46.8	4.1	4.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		14.2	34.7	2.3	6.2	2.4	7.5	3.5	3.5	7.5	5.9	5.9
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	75.1	55.3	219.3	34.3	23.4	20.1	84.7	32.7	32.9	85.8	37.8	38.6
LnGrp LOS	Е	E	F	С	С	С	F	С	С	F	D	D
Approach Vol, veh/h		1993			1053			819			776	
Approach Delay, s/veh		112.8			24.1			61.3			51.5	
Approach LOS		F			С			Е			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s19.6	31.5	16.0	22.9	12.0	39.1	15.9	23.0				
Change Period (Y+Rc), s	s 4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma	ax),6s5	27.0	11.5	27.0	7.5	26.0	11.4	27.1				
Max Q Clear Time (g_c+		29.0	13.5	15.6	8.9	17.2	12.8	10.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	3.6	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			73.3									
HCM 6th LOS			Е									

Intersection					ĺ
Intersection Delay, s/8/2h					
Intersection LOS A					
Approach	WB	NB		SB	
Entry Lanes	1	1		1	
Conflicting Circle Lanes	1	1		1	
Adj Approach Flow, veh/h	503	124	8	81	
Demand Flow Rate, veh/h	1508	125	8	90	
Vehicles Circulating, veh/l	h 98	791		10	
Vehicles Exiting, veh/h	818	109	5	96	
Ped Vol Crossing Leg, #/h	ո 0	0		1	
Ped Cap Adj 1.	.000	1.000	1.0	000	
Approach Delay, s/veh	6.9	8.4	10	8.0	
Approach LOS	Α	Α		В	
Lane Left	Left	+	Left		
Designated Moves LR	TR		LT		
Assumed Moves LR	TR		LT		
RT Channelized	111	•	LI		
Lane Util 1.000	1.000		1.000		
Follow-Up Headw2v689	2.609		2.609		
Critical Headway, <b>4</b> .976	4.976		4.976		
	4.976		890		
	616		1366		
Cap Entry Lane, veh249					
Entry HV Adj Fact@r.990	0.992		0.990		
Flow Entry, veh/h 503	124		881		
Cap Entry, veh/h 1236	611		1352		
V/C Ratio 0.407	0.203		0.652		
Control Delay, s/veh 6.9	8.4		10.8		
LOS A	A		В		
95th %tile Queue, veh 2	1		5		



400 1624 1578

1900

3.5

0.97

1.00

0.95

1900

0.95

1.00

В D

4.0 7.3

1900 1900

0.95

1.00 0.85

1.00

198

7.3

1.00

1.00 0.95

188

1900

4.2

1.00 1.00

1.00 0.85

315

1900

3.7

Movement Lane Configurations Traffic Volume (vph) Future Volume (vph)
Ideal Flow (vphpl)
Total Lost time (s)
Lane Util. Factor

Flt Protected

	۶	<b>→</b>	←	*	-	1	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Group Flow (vph)	435	1765	1715	215	204	342	
v/c Ratio	0.81	0.55	0.94	0.24	0.78	0.65	
Control Delay	73.4	0.7	43.0	5.7	82.6	44.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.4	0.7	43.0	5.7	82.6	44.7	
Queue Length 50th (ft)	225	0	824	24	204	282	
Queue Length 95th (ft)	298	0	#1119	72	307	397	
Internal Link Dist (ft)		942	2695		514		
Turn Bay Length (ft)	345			330	450		
Base Capacity (vph)	641	3223	1984	950	331	639	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.68	0.55	0.86	0.23	0.62	0.54	
Intersection Summary							
# 95th percentile volume e	exceeds ca	pacity, qu	ueue may	be longer			
Queue shown is maximu			,				

150		Satd. Flow (prot)	3127	3223	3223	1442	1612	1442	
	639	Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00	
	0	Satd. Flow (perm)	3127	3223	3223	1442	1612	1442	
	0	Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
	0	Adj. Flow (vph)	435	1765	1715	215	204	342	
(	0.54	RTOR Reduction (vph)		0	0	71	0	10	
		Lane Group Flow (vph)		1765	1715	144	204	332	
		Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	
		Turn Type	Prot	NA	NA	Perm	Prot	Prot	
		Protected Phases	8	Free!	6		7!	4	
		Permitted Phases	_		-	6		4	
		Actuated Green, G (s)	25.7	148.8	83.9	83.9	24.2	53.9	
		Effective Green, g (s)	25.7	148.8	83.9	83.9	24.2	53.9	
		Actuated g/C Ratio	0.17	1.00	0.56	0.56	0.16	0.36	
		Clearance Time (s)	3.5		7.3	7.3	4.2	3.7	
		Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0	
		Lane Grp Cap (vph)	540	3223	1817	813	262	522	
		v/s Ratio Prot	c0.14	0.55	c0.53		c0.13	0.23	
		v/s Ratio Perm				0.10			
		v/c Ratio	0.81	0.55	0.94	0.18	0.78	0.64	
		Uniform Delay, d1	59.1	0.0	30.3	15.7	59.7	39.3	
		Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
		Incremental Delay, d2	8.6	0.7	10.7	0.1	13.9	2.5	
		Delay (s)	67.7	0.7	41.0	15.9	73.7	41.9	
		Level of Service	Е	Α	D	В	Е	D	

Intersection Summary				
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	С	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	148.8	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	78.4%	ICU Level of Service	D	
Analysis Period (min)	15			
! Phase conflict between lane groups.				

D

Approach Delay (s) Approach LOS

c Critical Lane Group

Z. Golden i illi i tode	a di Oi t	+0 L									`	20000
	*	<b>→</b>	*	•	<b>←</b>	*	1	†	/	<b>+</b>	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	435	1150	385	441	1176	326	450	644	253	248	304	
v/c Ratio	1.14	0.90	0.48	1.12	0.91	0.43	1.06	0.87	0.71	0.70	0.65	
Control Delay	144.9	53.9	4.8	140.5	55.1	6.1	119.8	69.1	78.6	66.9	24.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	144.9	53.9	4.8	140.5	55.1	6.1	119.8	69.1	78.6	66.9	24.1	
Queue Length 50th (ft)	~277	574	0	~277	591	14	~271	329	130	233	84	
Queue Length 95th (ft)	#434	708	69	#441	733	85	#431	435	193	348	200	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	383	1539	891	393	1539	848	426	888	426	474	554	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.14	0.75	0.43	1.12	0.76	0.38	1.06	0.73	0.59	0.52	0.55	
Intersection Summary												
<ul> <li>Volume exceeds capaci</li> </ul>	ty, queue is	theoretic	ally infini	ite.								
Queue shown is maximu	m after two	cycles.										
# 95th percentile volume e	exceeds ca	pacity, qu	eue may	be longe	r.							

Queue shown is maximum after two cycles.

	۶	<b>→</b>	*	•	<b>←</b>	•	1	†	1	-	Į.	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	<b>^</b>	7	77	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	400	1058	354	406	1082	300	414	504	88	233	228	280
Future Volume (veh/h)	400	1058	354	406	1082	300	414	504	88	233	228	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	4707	4707	No	4707	4000	No	4202	4303	No	4707
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	435	1150	385	441	1176	326	450	548	96	253	248	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	362	1282	572	362	1351	602	402	718	125	298	388	329
Arrive On Green	0.11	0.39	0.39	0.11	0.41	0.41	0.13	0.26	0.26	0.09	0.22	0.22
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	2802	489	3209	1737	1472
Grp Volume(v), veh/h	435	1150	385	441	1176	326	450	322	322	253	248	304
Grp Sat Flow(s), veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1641	1605	1737	1472
Q Serve(g_s), s	18.0	52.2	23.5	18.0	52.2	26.8	20.0	28.8	29.0	12.4	20.6	32.2
Cycle Q Clear(g_c), s	18.0	52.2	23.5	18.0	52.2	26.8	20.0	28.8	29.0	12.4	20.6	32.2
Prop In Lane	1.00 362	1202	1.00 572	1.00 362	1051	1.00	1.00	423	0.30	1.00 298	200	1.00 329
Lane Grp Cap(c), veh/h		1282		1.22	1351		402		420		388	
V/C Ratio(X)	1.20 362	0.90	0.67 646	362	0.87	0.54 646	1.12 402	0.76 424	0.77 422	0.85 402	0.64	0.92 378
Avail Cap(c_a), veh/h HCM Platoon Ratio	1.00	1448	1.00	1.00	1448	1.00	1.00	1.00	1.00	1.00	446 1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.8	45.8	18.6	70.8	43.3	35.8	69.8	54.8	54.9	71.3	56.1	60.6
Incr Delay (d2), s/veh	114.2	7.2	2.3	120.7	5.8	0.8	81.2	7.9	8.2	12.2	2.4	26.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%).veh/ln	12.9	21.6	8.2	13.3	21.3	9.7	12.7	12.8	12.8	5.6	9.3	14.3
Unsig. Movement Delay, s/veh		21.0	0.2	13.3	21.3	7.1	12.7	12.0	12.0	5.0	7.3	14.3
LnGrp Delay(d),s/veh	185.0	52.9	21.0	191.5	49.0	36.6	150.9	62.7	63.1	83.5	58.6	86.7
LnGrp LOS	F	D	C C	171.5 F	D	J0.0	F	02.7 E	65.1 F	03.5 F	50.0 E	50.7 F
Approach Vol, veh/h		1970		<u>'</u>	1943			1094			805	
Approach Delay, s/veh		75.9			79.3			99.1			77.0	
Approach LOS		73.7 F			77.3 F			77.1			77.0	
		_			_						L	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	69.3	24.0	41.0	22.0	72.6	18.8	46.2				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+l1), s	20.0	54.2	22.0	34.2	20.0	54.2	14.4	31.0				
Green Ext Time (p_c), s	0.0	7.8	0.0	1.4	0.0	7.8	0.4	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			81.5									
HCM 6th LOS			F									

Notes
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>^</b>	44	7		7
Traffic Vol, veh/h	0	1284	1688	30	0	100
Future Vol. veh/h	0	1284	1688	30	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length		-		165		-
Veh in Median Storage		0	0	-	2	
Grade. %		0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	1396	1835	33	0	109
IVIVIII TIUW	U	1370	1033	33	U	109
	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	918
Stage 1	-	-	-		-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy		-			-	7.1
Critical Hdwy Stg 1						
Critical Hdwy Stg 2	-			-		-
Follow-up Hdwy						3.4
Pot Cap-1 Maneuver	0				0	259
Stage 1	0				0	
Stage 2	0				0	
Platoon blocked, %	0				0	
Mov Cap-1 Maneuver						259
Mov Cap-1 Maneuver						209
Stage 1		-	-		-	-
			-			
Stage 2	-	-	-	-		-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		28.6	
HCM LOS					D	
Min 1 /NA-i A4		EDT	MDT	WIDE	CDI 4	
Minor Lane/Major Mvm	nt	EBT	WBT	WBR S		
Capacity (veh/h)		-	-	-	259	
HCM Lane V/C Ratio		-	-	-	0.42	
HCM Control Delay (s)		-	-		28.6	
HCM Lane LOS		-	-	-	D	
HCM 95th %tile Q(veh)	)	-		-	2	

tersection													
t Delay, s/veh	0.4												
ovement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
ne Configurations	ሻ		7	7	Φß			4	7		4		
affic Vol, veh/h	0	1228	56	3	1692	0	26	0	10	0	0	0	
uture Vol. veh/h	0	1228	56	3	1692	0	26	0	10	0	0	0	
onflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
an Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
T Channelized	1166	1166	None	-	1100	None	Siup	Stop -	None	Slup	Stop -	None	
orage Length	275		275	305		INUITE	-		25			NUITE -	
eh in Median Storage		0	2/3	303	0			2	23		2		
rade. %	:,# -	0			0			0			0		
eak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
eavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13	
						0							
vmt Flow	0	1335	61	3	1839	U	28	0	11	0	0	0	
										#' C			
	Major1			Major2			Minor1			Minor2			
onflicting Flow All	1839	0	0	1396	0	0	2261	3180	668	2513	3241	920	
Stage 1	-	-	-		-		1335	1335	-	1845	1845	-	
Stage 2	-	-	-	-	-	-	926	1845	-	668	1396	-	
ritical Hdwy	4.36	-	-	4.36	-	-	7.76	6.76	7.16	7.76	6.76	7.16	
ritical Hdwy Stg 1	-	-	-	-	-	-	6.76	5.76	-	6.76	5.76	-	
ritical Hdwy Stg 2	-	-	-	-	-	-	6.76	5.76	-	6.76	5.76	-	
ollow-up Hdwy	2.33	-	-	2.33	-	-	3.63	4.13	3.43	3.63	4.13	3.43	
ot Cap-1 Maneuver	285	-	-	433	-	-	~ 19	8	376	12	8	253	
Stage 1	-	-	-	-	-	-	147	201	-	68	110	-	
Stage 2		-	-	-	-	-	268	110	-	389	187	-	
atoon blocked, %		-	-		-	-							
ov Cap-1 Maneuver	285	-	-	433	-	-	~ 19	8	376	12	8	253	
ov Cap-2 Maneuver	-	-	-	-	-	-	121	89	-	63	87	-	
Stage 1	-	-	-	-	-	-	147	201	-	68	109	-	
Stage 2	-	-	-	-	-	-	266	109	-	378	187	-	
pproach	EB			WB			NB			SB			
CM Control Delay, s	0			0			35.6			0			
CM LOS	U			0			55.0 E			A			
OW EOS										,,			
inor Lane/Major Mvm	ıt	NBLn1	MRI n2	EBL	EBT	EBR	WBL	WBT	WBR S	SRI n1			
	ıı	121	376	285	LDI	LDI	433	WDI	WDIK.	JULITI			
apacity (veh/h)		0.234	0.029	285	-		0.008			-			
CM Lane V/C Ratio CM Control Delay (s)		43.6	14.9	0	-		13.4			0			
CM Lane LOS		43.0 E	14.9 B	A			13.4 B			A			
				A 0	-		0	-	-	А			
CM 95th %tile Q(veh)	)	0.9	0.1	0	-	-	0	-	-	-			
otes													

29.4

EB

626

645

1076

574

1.000

10.9

В

Left Right Bypass

253 1957

533 0.971

С

R

Free

168 4.645 4.328

1900

0.0 0.656

517 0.086

LT TR

2.535 2.535

4.544 4.544

0.971 0.969

224

533

518

14.0 15.5

754

993

685

1.000

21.1

С

TR

611

20.1

L

0.471 0.529

2.667 2.535

355

163 0.972 0.971

526 593

22.2

С

Intersection
Intersection Delay, s/veh

Entry Lanes Conflicting Circle Lanes Adj Approach Flow, veh/h

Ped Cap Adj

Approach LOS

Designated Moves

Assumed Moves

RT Channelized

Follow-Up Headway, s

Cap Entry Lane, veh/h

Entry HV Adj Factor

Control Delay, s/veh

95th %tile Queue, veh

Flow Entry, veh/h

Cap Entry, veh/h

V/C Ratio

Critical Headway, s

Entry Flow, veh/h

Lane Util

Lane

Intersection LOS Approach

Demand Flow Rate, veh/h

Vehicles Circulating, veh/h

Ped Vol Crossing Leg, #/h

Vehicles Exiting, veh/h

Approach Delay, s/veh

972

1001

649

0

1098

1.000

38.6

Left

LT

LT

2.667 2.535

0.720

4.645

721

743

700 272

722

0.970 0.342

50.3

15

0.971 0.971

Ε

R

R

0.280

4.328

280

818

795

8.6

Α

2

1058

1089

589

964

0.998

37.5

LT

4.645 4.328

764 325

0.971 0.972

761

0.975

49.8

16

0.702 0.298

2.667 2.535

Ε

R

861

316

836

0.378

8.8

#### Beechwood SP 7: Riverside Ave & 13th Street

	•	$\rightarrow$	1	-	*	1	<b>†</b>	1	-	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	11	421	388	483	740	11	22	166	341	346	43	
v/c Ratio	0.12	0.66	0.80	0.53	0.65	0.08	0.15	0.60	0.78	0.77	0.09	
Control Delay	53.4	42.7	47.6	20.9	4.4	47.0	47.8	17.2	47.5	47.1	0.3	
Queue Delay	0.0	0.0	0.8	1.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.4	42.7	48.4	22.3	5.0	47.0	47.8	17.2	47.5	47.1	0.3	
Queue Length 50th (ft)	7	131	225	196	0	7	13	0	203	206	0	
Queue Length 95th (ft)	28	201	#419	381	74	26	41	65	#397	#400	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	95	872	603	1026	1200	344	362	437	536	545	580	
Starvation Cap Reductn	0	0	58	338	167	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.48	0.71	0.70	0.72	0.03	0.06	0.38	0.64	0.63	0.07	

#### Intersection Summary

Queue shown is maximum after two cycles.

Central Coast Transportation Consulting	Synchro 10 Report
	Page 12

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Beechwood SP 7: Riverside Ave & 13th Street Cumulative AM HCM 6th Signalized Intersection Summary

	•	$\rightarrow$	*	1	-	*	1	1	1	-	Į.	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>†</b> 1>		ሻ	<b>†</b>	7	7	<b>*</b>	7	ሻ	ર્ન	7
Traffic Volume (veh/h)	10	355	32	357	444	681	10	20	153	541	91	40
Future Volume (veh/h)	10	355	32	357	444	681	10	20	153	541	91	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	386	35	388	483	740	11	22	166	659	0	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	804	73	424	878	744	221	232	196	765	0	337
Arrive On Green	0.01	0.25	0.25	0.24	0.47	0.47	0.12	0.12	0.12	0.22	0.00	0.22
Sat Flow, veh/h	1767	3265	294	1767	1856	1572	1767	1856	1569	3534	0	1554
Grp Volume(v), veh/h	11	207	214	388	483	740	11	22	166	659	0	43
Grp Sat Flow(s), veh/h/ln	1767	1763	1797	1767	1856	1572	1767	1856	1569	1767	0	1554
Q Serve(g_s), s	0.6	10.5	10.6	22.4	19.4	49.0	0.6	1.1	10.8	18.8	0.0	2.3
Cycle Q Clear(g_c), s	0.6	10.5	10.6	22.4	19.4	49.0	0.6	1.1	10.8	18.8	0.0	2.3
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	23	434	443	424	878	744	221	232	196	765	0	337
V/C Ratio(X)	0.48	0.48	0.48	0.91	0.55	0.99	0.05	0.09	0.85	0.86	0.00	0.13
Avail Cap(c_a), veh/h	84	434	443	532	878	744	304	319	270	997	0	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	33.7	33.7	38.7	19.6	27.4	40.3	40.5	44.8	39.5	0.0	33.0
Incr Delay (d2), s/veh	14.4	0.8	0.8	17.8	0.7	31.5	0.1	0.2	16.3	6.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.6	4.8	11.6	8.3	23.9	0.3	0.5	5.0	8.6	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	34.5	34.5	56.5	20.3	58.9	40.4	40.7	61.1	45.7	0.0	33.2
LnGrp LOS	Ε	С	С	Е	С	Е	D	D	Е	D	Α	С
Approach Vol, veh/h		432			1611			199			702	
Approach Delay, s/veh		35.3			46.8			57.7			44.9	
Approach LOS		D			D			Е			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.6	30.3		27.1	5.9	54.0		17.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	31.5	23.0		29.5	5.0	49.5		18.0				
Max Q Clear Time (g_c+l1), s	24.4	12.6		20.8	2.6	51.0		12.8				
Green Ext Time (p_c), s	8.0	1.9		1.9	0.0	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			45.4									
HCM 6th LOS			D									

User approved volume balancing among the lanes for turning movement.

8: Paso Robles Street & 13th Street

Beechwood SP

Cumulative AM Queues

	۶	<b>→</b>	•	<b>—</b>	*	4	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	1064	57	1365	422	235	22	272	11	11	
v/c Ratio	0.43	0.56	0.35	0.72	0.44	0.72	0.05	0.50	0.03	0.02	
Control Delay	52.0	15.7	50.3	19.6	6.3	47.4	29.6	11.1	29.6	0.1	
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.0	16.2	50.3	19.6	6.3	47.4	29.6	11.1	29.6	0.1	
Queue Length 50th (ft)	47	216	35	325	42	141	11	24	6	0	
Queue Length 95th (ft)	98	308	78	451	114	228	31	95	20	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	211	2272	200	2275	1092	483	645	694	479	666	
Starvation Cap Reductn	0	693	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.36	0.67	0.28	0.60	0.39	0.49	0.03	0.39	0.02	0.02	
Intersection Summary											

Cumulative AM HCM 6th Signalized Intersection Summary

8: Paso Robles Street & 13th Street

	•	-	*	•	-	•	1	1	1	-	Ų.	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>†</b> î>		ሻ	<b>^</b>	7	7	<b>†</b>	7	ሻ	ĥ	
Traffic Volume (veh/h)	70	928	51	52	1256	388	216	20	250	10	0	10
Future Volume (veh/h)	70	928	51	52	1256	388	216	20	250	10	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	1009	55	57	1365	0	235	22	272	11	0	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	99	1815	99	86	1856		402	404	342	331	0	342
Arrive On Green	0.06	0.53	0.53	0.05	0.53	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	1767	3398	185	1767	3526	1572	1392	1856	1572	1077	0	1572
Grp Volume(v), veh/h	76	523	541	57	1365	0	235	22	272	11	0	11
Grp Sat Flow(s), veh/h/ln	1767	1763	1821	1767	1763	1572	1392	1856	1572	1077	0	1572
Q Serve(q_s), s	2.9	13.3	13.3	2.1	20.2	0.0	10.8	0.6	11.1	0.6	0.0	0.4
Cycle Q Clear(q_c), s	2.9	13.3	13.3	2.1	20.2	0.0	11.2	0.6	11.1	1.2	0.0	0.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	941	973	86	1856		402	404	342	331	0	342
V/C Ratio(X)	0.77	0.56	0.56	0.66	0.74		0.58	0.05	0.79	0.03	0.00	0.03
Avail Cap(c a), veh/h	248	1433	1480	235	2840		665	754	639	534	0	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.5	10.4	10.4	31.6	12.4	0.0	25.3	20.9	25.0	21.4	0.0	20.8
Incr Delay (d2), s/veh	11.5	0.5	0.5	8.5	0.6	0.0	1.4	0.1	4.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.5	4.7	1.1	6.9	0.0	3.5	0.3	4.2	0.1	0.0	0.1
Unsig. Movement Delay, s/veh	1											
LnGrp Delay(d),s/veh	43.0	11.0	10.9	40.1	13.0	0.0	26.6	21.0	29.2	21.5	0.0	20.9
LnGrp LOS	D	В	В	D	В		С	С	С	С	Α	С
Approach Vol, veh/h		1140			1422	А		529			22	
Approach Delay, s/veh		13.1			14.0			27.7			21.2	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	40.6		19.2	8.3	40.1		19.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.0	55.0		27.5	9.5	54.5		27.5				
Max Q Clear Time (q c+l1), s	4.1	15.3		3.2	4.9	22.2		13.2				
Green Ext Time (p_c), s	0.0	8.9		0.0	0.1	13.4		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			16.1									
HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 18 Central Coast Transportation Consulting

Beechwood SP 9: River Road/Union Road & Creston Road Cumulative AM Queues

	7	$\rightarrow$	1	•	1	T		-	¥
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	342	949	65	1171	385	198	54	172	696
v/c Ratio	0.84	0.61	0.49	0.87	0.81	0.27	0.13	0.77	1.08dr
Control Delay	69.1	24.1	65.0	40.0	62.6	40.0	2.3	73.0	50.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	24.1	65.0	40.0	62.6	40.0	2.3	73.0	50.6
Queue Length 50th (ft)	136	266	49	417	151	68	0	130	213
Queue Length 95th (ft)	#217	338	96	511	#224	104	8	#235	#327
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	417	1595	155	1488	502	773	420	245	802
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.59	0.42	0.79	0.77	0.26	0.13	0.70	0.87

#### Intersection Summary

Sth percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

9: River Road/Union Road & Creston Road

Cumulative AM HCM 6th Signalized Intersection Summary

	<b>≯</b>	-	*	1	-	*	1	<b>†</b>	1	1	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>†</b> 1>		*	<b>†</b> 1>		16.54	<b>^</b>	7	*	<b>†</b> 1>	
Traffic Volume (veh/h)	315	579	294	60	892	185	354	182	50	158	190	450
Future Volume (veh/h)	315	579	294	60	892	185	354	182	50	158	190	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	629	0	65	970	201	385	198	54	172	207	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	437	1765		84	1222	253	487	408	182	212	330	
Arrive On Green	0.13	0.50	0.00	0.05	0.42	0.42	0.14	0.11	0.11	0.12	0.09	0.00
Sat Flow, veh/h	3456	3647	0	1781	2924	605	3456	3554	1585	1781	3647	0
Grp Volume(v), veh/h	342	629	0	65	589	582	385	198	54	172	207	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1752	1728	1777	1585	1781	1777	0
Q Serve(q s), s	7.8	8.8	0.0	2.9	23.4	23.5	8.7	4.2	2.5	7.6	4.5	0.0
Cycle Q Clear(q c), s	7.8	8.8	0.0	2.9	23.4	23.5	8.7	4.2	2.5	7.6	4.5	0.0
Prop In Lane	1.00		0.00	1.00		0.35	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	437	1765	0.00	84	742	732	487	408	182	212	330	0.00
V/C Ratio(X)	0.78	0.36		0.77	0.79	0.80	0.79	0.48	0.30	0.81	0.63	
Avail Cap(c a), veh/h	584	2284		218	1059	1044	703	1070	477	343	1030	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.3	12.5	0.0	38.2	20.5	20.6	33.7	33.6	32.9	34.8	35.4	0.0
Incr Delay (d2), s/veh	5.0	0.1	0.0	13.6	2.7	2.8	3.9	0.9	0.9	7.4	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	3.3	0.0	1.6	9.4	9.3	3.7	1.8	1.0	3.5	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	12.6	0.0	51.8	23.3	23.4	37.5	34.5	33.8	42.2	37.4	0.0
LnGrp LOS	D	В		D	С	С	D	С	С	D	D	
Approach Vol, veh/h		971	А		1236			637			379	Α
Approach Delay, s/veh		22.0	,,		24.8			36.3			39.6	, ,
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	44.8	15.9	12.0	14.7	38.4	14.1	13.8				
Change Period (Y+Rc), s	4.5	44.6	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.9	52.1	16.5	23.5	13.7	48.3	15.6	24.4				
Max Q Clear Time (g_c+l1), s	4.9	10.8	10.7	6.5	9.8	25.5	9.6	6.2				
Green Ext Time (p_c), s	0.0	5.0	0.7	1.0	0.5	8.4	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP 10: Creston Road & Golden Hill Road Cumulative AM Queues

	•	$\rightarrow$	-	-	4
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	96	467	1327	609	143
v/c Ratio	0.68	0.22	0.81	0.74	0.29
Control Delay	68.8	10.2	23.6	40.2	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	10.2	23.6	40.2	8.2
Queue Length 50th (ft)	52	48	247	157	0
Queue Length 95th (ft)	#183	147	#632	#364	56
Internal Link Dist (ft)		1151	2310	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	141	2269	1771	831	491
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.21	0.75	0.73	0.29
Intersection Summary					

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	-	_		-	•	•
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	<b>^</b>	<b>↑</b> Ъ		ሻሻ	7
Traffic Volume (vph)	88	430	675	546	560	132
Future Volume (vph)	88	430	675	546	560	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.93		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	3505	3247		3400	1568
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	3505	3247		3400	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	467	734	593	609	143
RTOR Reduction (vph)	0	0	108	0	0	110
Lane Group Flow (vph)	96	467	1219	0	609	33
Confl. Peds. (#/hr)				3		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases					4	4
Actuated Green, G (s)	7.4	55.0	43.1		22.2	22.2
Effective Green, g (s)	7.4	55.0	43.1		22.2	22.2
Actuated g/C Ratio	0.08	0.58	0.45		0.23	0.23
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	136	2033	1476		796	367
v/s Ratio Prot	c0.05	0.13	c0.38			
v/s Ratio Perm	22.20				c0.18	0.02
v/c Ratio	0.71	0.23	0.83		0.77	0.09
Uniform Delay, d1	42.6	9.6	22.6		33.9	28.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	15.4	0.1	3.9		4.4	0.1
Delay (s)	58.0	9.7	26.5		38.3	28.5
Level of Service	Е	Α	С		D	С
Approach Delay (s)	_	17.9	26.5		36.4	
Approach LOS		В	С		D	

→ ← < > √

Intersection Summary				
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	С	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	94.8	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

	<b>*</b>	<b>→</b>	*	•	<b>←</b>	•	4	†	<b>\</b>	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	142	422	128	92	835	620	191	528	291	280	311	
v/c Ratio	0.66	0.31	0.19	0.51	0.71	0.84	0.68	0.72	0.68	0.44	0.61	
Control Delay	60.9	24.0	4.5	57.3	33.2	23.7	55.3	43.1	53.3	41.4	11.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.9	24.0	4.5	57.3	33.2	23.7	55.3	43.1	53.3	41.4	11.9	
Queue Length 50th (ft)	92	105	0	60	254	162	123	174	97	89	11	
Queue Length 95th (ft)	#193	167	36	123	360	#386	216	247	#169	146	99	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	150		150	170		170	230		245		100	
Base Capacity (vph)	256	1535	752	240	1501	841	397	1077	483	794	572	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.55	0.27	0.17	0.38	0.56	0.74	0.48	0.49	0.60	0.35	0.54	

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

11: Creston Road & Niblick Road/Sherwood Road

Intersection Summary

Beechwood SP

Beechwood SP

12: Creston Road & Stoney Creek Road

Movement   EBL   EBT   EBR   WBL   WBL   WBL   WBL   NBL   NBT   NBR   SBL   SBT   SBR   Lane Configurations   N		۶	<b>→</b>	*	•	<b>←</b>	*	1	†	/	-	Į.	4
Traffic Volume (vehrh)	Movement	EBL					WBR	NBL		NBR			
Future Volume (veh/h)  131  388  118  85  768  570  176  446  440  268  258  286  nitial O (2b), veh  0  0  0  0  0  0  0  0  0  0  0  0  0			<b>^</b>			<b>^</b>			<b>↑</b> ↑			<b>^</b>	
Initial O (Ob), weh													
Ped-Bike Adj(A_pbT)													
Parking Bus, Adj		-	0		-	0	_	_	0		_	0	
Work Zone On Ápproach													
Adj Sal Flow, vehih/In  1826 1826 1826 1826 1826 1826 1826 1826		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Adj Flow Rate, veh/h  Adj Flow Rate, veh/h  142  422  128  92  835  620  191  485  43  291  280  311  Peak Hour Factor  0.92  0.10  0.10  0.10  0.10  0.10  0.10  0.10  0.10  0.10  0.10  0.10  0.10													
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92													
Percent Heavy Veh, % 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5													
Cap, veh/h  171  1482  652  116  1373  599  224  746  66  357  727  321  Arrive On Green  0.10  0.43  0.43  0.07  0.40  0.40  0.13  0.23  0.23  0.23  0.21  0.23  0.23  0.23  0.11  0.21  0.21  0.21  0.21  0.21  0.21  0.23  0.23  0.23  0.11  0.21  0.21  0.21  0.21  0.21  0.21  0.21  0.21  0.21  0.21  0.21  0.21  0.23  0.23  0.23  0.11  0.23  0.31  0.33  0.34  0.49  0.56  0.66  0.65  0.66  0.65													
Arrive On Green 0.10 0.43 0.43 0.07 0.40 0.40 0.13 0.23 0.23 0.11 0.21 0.21 Sat Flow, veh/h 1739 3469 1527 1739 3469 1515 1739 3208 283 3374 3469 1534 Grp Volume(v), veh/h 142 422 128 92 83 5 620 191 261 267 291 280 311 Grp Sat Flow(s), veh/h/h 1739 1735 1527 1739 1735 1515 1739 1735 1756 1687 1735 1534 O Serve(g_s), s 8.6 8.5 5.6 5.6 20.6 42.5 11.5 14.6 14.8 9.1 7.5 21.6 Cycle O Clear(g_c), s 8.6 8.5 5.6 5.6 20.6 42.5 11.5 14.6 14.8 9.1 7.5 21.6 Cycle O Clear(g_c), veh/h 171 1482 652 116 1373 599 224 403 408 357 727 321 V/C Ratio(X) 0.83 0.28 0.20 0.79 0.61 1.03 0.85 0.65 0.65 0.82 0.39 0.97 Avail Cap(c_a), veh/h 235 1482 652 220 1373 599 364 499 505 443 727 321 HCM Platon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0							-		-				
Sat Flow, veh/h         1739         3469         1527         1739         3469         1515         1739         3208         283         3374         3469         1534           Grp Volume(v), veh/h         142         422         128         92         835         620         191         267         291         280         311           Grp Sat Flow(s), veh/h/ln         1739         1735         1527         1739         1735         1515         1739         1735         1756         1687         1735         1534           O Serve(g.S), s         8.6         8.5         5.6         5.6         20.6         42.5         11.5         14.6         14.8         9.1         7.5         21.6           Cycle Q Clear(g.c), s         8.6         8.5         5.6         5.6         20.6         42.5         11.5         14.6         14.8         9.1         7.5         21.6           Prop In Lane         1.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>													
Grp Volume(v), veh/h													
Grp Sat Flow(s), veh/h/ln													
Q Serve(g_s), s 8.6 8.5 5.6 5.6 20.6 42.5 11.5 14.6 14.8 9.1 7.5 21.6 Cycle Q Clear(q_c), s 8.6 8.5 5.6 5.6 20.6 42.5 11.5 14.6 14.8 9.1 7.5 21.6 Cycle Q Clear(q_c), s 8.6 8.5 5.6 5.6 20.6 42.5 11.5 14.6 14.8 9.1 7.5 21.6 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0													
Cycle Q Clear(g_c), s 8.6 8.5 5.6 5.6 20.6 42.5 11.5 14.6 14.8 9.1 7.5 21.6 Prop In Lane													
Prop In Lane  1.00													
Lane Grp Cap(c), veh/h 171 1482 652 116 1373 599 224 403 408 357 727 321 V/C Ratio(X) 0.83 0.28 0.20 0.79 0.61 1.03 0.85 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.6			8.5			20.6	42.5		14.6			7.5	
V/C Ratio(X)  V/													
Avail Cap(c_a), veh/h 235 1482 652 220 1373 599 364 499 505 443 727 321 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0		171	1482	652	116	1373	599	224	403	408	357	727	321
HCM Platoon Ratio													
Upstream Filter(l)         1.00         3.2         37.3         47.0         36.5         4.2         1.10           Inter Log Log (g), Siveh         1.00         0.0         <		235	1482	652	220	1373	599	364	499	505	443	727	321
Uniform Delay (d), s/veh	HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incr Delay (d2), siveh   16.1   0.1   0.1   0.1   11.3   0.8   45.9   10.3   2.1   2.1   9.2   0.3   41.4     Initial O Delay (d3), siveh   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0     Bile BackOf(50%) (weh/ln   4.4   3.3   1.9   2.7   8.2   22.2   5.5   6.3   6.5   4.2   3.1   11.6     Unsig. Movement Delay, siveh		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Q Delay(d3),s/veh		47.5	20.1	19.2	49.4	25.8	32.4	45.8	37.2	37.3	47.0	36.5	
%ile BackOrÓ(50%),veh/ln		16.1	0.1	0.1	11.3	0.8	45.9	10.3	2.1	2.1	9.2	0.3	
Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 63.7 20.2 19.4 60.6 26.6 78.4 56.1 39.3 39.4 56.2 36.8 83.5 LnGrp LOS E C B E C F E D D E D F Approach Vol, veh/h 692 1547 719 882 Approach Delay, s/veh 28.9 49.4 43.8 59.7 Approach LOS C D D E  Timer - Assigned Phs 1 2 3 4 5 6 7 8 Phs Duration (G+Y+RC), s 15.9 29.5 11.7 50.4 18.3 27.0 15.1 47.0 Change Period (Y+RC), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 Max Green Setting (Gmax), s 14.1 30.9 13.6 43.4 22.5 22.5 14.5 42.5 Max Q Clear Time (g_c+  ), s 11.1 16.8 7.6 10.5 13.5 23.6 10.6 44.5 Green Ext Time (p_c), s 0.3 2.6 0.1 3.2 0.3 0.0 0.1 0.0  Intersection Summary HCM 6th Ctrl Delay	Initial Q Delay(d3),s/veh			0.0			0.0		0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh         63.7         20.2         19.4         60.6         26.6         78.4         56.1         39.3         39.4         56.2         36.8         83.5           LnGrp LOS         E         C         B         E         C         F         E         D         D         E         D         F           Approach Vol, veh/h         692         1547         719         882         77         88         77         88         77         89         79         89         79         79         79         79         79         79         79         79         79         79         79         79         79         79         79         79         79         79 <td></td> <td></td> <td>3.3</td> <td>1.9</td> <td>2.7</td> <td>8.2</td> <td>22.2</td> <td>5.5</td> <td>6.3</td> <td>6.5</td> <td>4.2</td> <td>3.1</td> <td>11.6</td>			3.3	1.9	2.7	8.2	22.2	5.5	6.3	6.5	4.2	3.1	11.6
LnGr LOS         E         C         B         E         C         F         E         D         D         E         D         F           Approach Vol, velvh         692         1547         719         882           Approach Delay, s/veh         28.9         49.4         43.8         59.7           Approach LOS         C         D         D         D         E           Timer - Assigned Phs         1         2         3         4         5         6         7         8           Phs Duration (G+Y+Rc), s         15.9         29.5         11.7         50.4         18.3         27.0         15.1         47.0           Change Period (Y+Rc), s         4.5													
Approach Vol, veh/h         692         1547         719         882           Approach Delay, s/veh         28.9         49.4         43.8         59.7           Approach LOS         C         D         D         E           Timer - Assigned Phs         1         2         3         4         5         6         7         8           Phs Duration (G+Y+Rc), s         15.9         29.5         11.7         50.4         18.3         27.0         15.1         47.0           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         14.1         30.9         13.6         43.4         22.5         22.5         14.5         42.5           Max Q Clear Time (g_c+l), s         11.1         16.8         7.6         10.5         13.5         23.6         10.6         44.5           Green Ext Time (p_c), s         0.3         2.6         0.1         3.2         0.3         0.0         0.1         0.0           Intersection Summary           HCM 6th Ctrl Delay         47.0	LnGrp Delay(d),s/veh	63.7		19.4	60.6		78.4	56.1	39.3	39.4	56.2	36.8	83.5
Approach Delay, s/veh         28.9         49.4         43.8         59.7           Approach LOS         C         D         D         E           Timer - Assigned Phs         1         2         3         4         5         6         7         8           Phs Duration (G+Y+Rc), s         15.9         29.5         11.7         50.4         18.3         27.0         15.1         47.0           Change Period (Y+Rc), s         4.5         4.5         4.5         4.5         4.5         4.5         4.5           Max Green Setting (Gmax), s         14.1         30.9         13.6         43.4         22.5         22.5         14.5         42.5           Max Q Clear Time (g_C+II), s         11.1         16.8         7.6         10.5         13.5         23.6         10.6         44.5           Green Ext Time (p_C), s         0.3         2.6         0.1         3.2         0.3         0.0         0.1         0.0           Intersection Summary           HCM 6th Ctrl Delay         47.0	LnGrp LOS	Ε		В	Ε		F	Е		D	Е		F
Approach LOS C D D E  Timer - Assigned Phs 1 2 3 4 5 6 7 8  Phs Duration (G+Y+Rc), s 15.9 29.5 11.7 50.4 18.3 27.0 15.1 47.0  Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Approach Vol, veh/h		692			1547			719			882	
Timer - Assigned Phs         1         2         3         4         5         6         7         8           Phs Duration (G+Y+Rc), s         15.9         29.5         11.7         50.4         18.3         27.0         15.1         47.0           Change Period (Y+Rc), s         4.5	Approach Delay, s/veh		28.9			49.4			43.8			59.7	
Phs Duration (G+Y+Rc), s 15.9 29.5 11.7 50.4 18.3 27.0 15.1 47.0 Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Approach LOS		С			D			D			Е	
Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Max Green Setting (Gmax), s       14.1       30.9       13.6       43.4       22.5       22.5       14.5       42.5         Max Q Clear Time (g_c+II), s       11.1       16.8       7.6       10.5       13.5       23.6       10.6       44.5         Green Ext Time (p_c), s       0.3       2.6       0.1       3.2       0.3       0.0       0.1       0.0         Intersection Summary         HCM 6th Ctrl Delay       47.0	Phs Duration (G+Y+Rc), s	15.9	29.5	11.7	50.4	18.3	27.0	15.1	47.0				
Max Green Setting (Gmax), s       14.1       30.9       13.6       43.4       22.5       22.5       14.5       42.5         Max Q Clear Time (g_c+II), s       11.1       16.8       7.6       10.5       13.5       23.6       10.6       44.5         Green Ext Time (p_c), s       0.3       2.6       0.1       3.2       0.3       0.0       0.1       0.0         Intersection Summary         HCM 6th Ctrl Delay       47.0		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Q Clear Time (g_c+l1), s 11.1 16.8 7.6 10.5 13.5 23.6 10.6 44.5  Green Ext Time (p_c), s 0.3 2.6 0.1 3.2 0.3 0.0 0.1 0.0  Intersection Summary  HCM 6th Ctrl Delay 47.0		14.1							42.5				
Green Ext Time (p_c), s 0.3 2.6 0.1 3.2 0.3 0.0 0.1 0.0  Intersection Summary  HCM 6th Ctrl Delay 47.0													
HCM 6th Ctrl Delay 47.0													
	Intersection Summary												
	HCM 6th Ctrl Delay			47.0									

Intersection												
Int Delay, s/veh	19.3											
		EDT	EDD	WDI	WDT	WIDD	NDI	NDT	NIDD	CDI	CDT	CDD
Movement Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	141	<b>♣</b>	40	10	4	104	<b>3</b> 0	<b>1</b> → 346	10	<b>1</b>	<b>↑</b> 325	101
Traffic Vol, veh/h Future Vol, veh/h	141	10	40	10 10	20	104 104	30	346	10	35	325	101
Conflicting Peds, #/hr	141	0	40	0	0	104	6	340	2	2	323	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	Jiup -	Stop	None	Stop -	Stop	None	1166	1166	None	-	1166	None
Storage Length			INUITE .			NONE	30		NONE	70		60
Veh in Median Storage		0			0		30	0		70	0	-
Grade. %	-, "	0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	153	11	43	11	22	113	33	376	11	38	353	110
											-	
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	951	890	359	961	995	385	469	0	0	389	0	0
Stage 1	435	435	-	450	450	300	107	-	-	-	-	-
Stage 2	516	455		511	545							
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12			4.12		
Critical Hdwy Stg 1	6.12	5.52		6.12	5.52							
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52		-			-		
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-		2.218		
Pot Cap-1 Maneuver	240	282	685	236	245	663	1093	-		1170		
Stage 1	600	580	-	589	572	-	-	-	-	-	-	-
Stage 2	542	569	-	545	519	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	175	262	681	203	228	661	1087	-		1168	-	
Mov Cap-2 Maneuver	175	262	-	203	228	-	-	-	-	-	-	-
Stage 1	578	557	-	570	554	-	-	-	-	-	-	-
Stage 2	418	551	-	484	499	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	104			16.6			0.7			0.6		
HCM LOS	F			С								
Minor Lane/Major Mvn	nt	NBL	NBT	NBR	EBLn1\	VBI n1	SBL	SBT	SBR			
Capacity (veh/h)		1087		-	212	455	1168	-	-			
HCM Lane V/C Ratio		0.03			0.979	0.32	0.033					
HCM Control Delay (s)	)	8.4			104	16.6	8.2					
HCM Lane LOS		Α			F	С	A					
HCM 95th %tile Q(veh	)	0.1	-	-	8.6	1.4	0.1	-	-			

Intersection Delay, s/veh Intersection LOS

Lane Configurations
Traffic Vol. veh/h

HCM 95th-tile Q

19.6

AM	Beechwood SP
WSC	13: Creston Road & Alamo Creek Terrace/Meadowlark Road

Intersection	
Intersection Delay, s/veh	
Intersection LOS	
Movement	SBR
	SBK
Larence	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	11
Number of Lanes	0
Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Hallic Vol, Vell/II	20	10	10	223	10	101	U	10	109	121	200	105
Future Vol, veh/h	20	10	10	223	10	181	0	10	189	121	206	169
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	11	242	11	197	0	11	205	132	224	184
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	11.1			26				13.3			18.9	
HCM LOS	В			D				В			С	
Lane		NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2					
Vol Left, %		5%	0%	50%	54%	71%	0%					
Vol Thru, %		95%	0%	25%	2%	29%	89%					
Vol Right, %		0%	100%	25%	44%	0%	11%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		199	121	40	414	291	95					
LT Vol		10	0	20	223	206	0					
Through Vol		189	0	10	10	85	85					
RT Vol		0	121	10	181	0	10					
Lane Flow Rate		216	132	43	450	316	103					
Geometry Grp		7	7	2	2	7	7					
Degree of Util (X)		0.422	0.23	0.089	0.762	0.63	0.192					
Departure Headway (Hd)		7.028	6.284	7.338	6.098	7.185	6.746					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Cap		513	571	487	599	502	531					
Service Time		4.779	4.034	5.404	4.098	4.934	4.495					
HCM Lane V/C Ratio		0.421	0.231	0.088	0.751	0.629	0.194					
HCM Control Delay		14.8	10.9	11.1	26	21.5	11.1					
HCM Lane LOS		В	В	В	D	С	В					

0.9

0.3

6.9 4.3

13. 00 101 0D 1\a	inp a i i	iic Oui	CCLGI	VIV CI OI	40 / 100	muc	11011	· omoigina	neou micoi	50000011	Jupucity 1	unding one
	۶	<b>→</b>	*	•	<b>←</b>	*	4	†	1	1	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ર્ન	7					<b>1</b>	
Traffic Volume (veh/h)	0	0	0	3	187	10	0	0	0	0	386	20
Future Volume (Veh/h)	0	0	0	3	187	10	0	0	0	0	386	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	3	203	11	0	0	0	0	420	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	532	431	431	431	442	0	442			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	532	431	431	431	442	0	442			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	60	99	100			100		
cM capacity (veh/h)	313	517	624	535	510	1085	1118			1623		
Direction, Lane #	WB 1	SB 1										
Volume Total	217	442										
Volume Left	3	0										
Volume Right	11	22										
cSH	531	1700										
Volume to Capacity	0.41	0.26										
Queue Length 95th (ft)	49	0										
Control Delay (s)	16.4	0.0										
Lane LOS	С											
Approach Delay (s)	16.4	0.0										
Approach LOS	С											
Intersection Summary												
Average Delay			5.4									
Intersection Capacity Utiliz	ation		38.2%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7	*	<b>^</b>	<u> </u>	7
Traffic Vol, veh/h	166	90	130	142	90	338
Future Vol. veh/h	166	90	130	142	90	338
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Jiop -	None	-	None	-	None
Storage Length	0	145	105	- INOTIC		0
Veh in Median Storage	-	143	100	0	0	-
Grade, %	0			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	180	98	141	154	98	367
Major/Minor	Minor2	1	Major1		Major2	
Conflicting Flow All	457	98	465	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	359					
Critical Hdwy		6.245	4 145	-	-	-
Critical Hdwy Stg 1	5.445	0.2.10				
Critical Hdwy Stg 2	5.845					
	3.5285		2 2285			
Pot Cap-1 Maneuver	545	954	1088			
Stage 1	923	754	1000		_	
Stage 2	676					
Platoon blocked, %	070	-	-			
	474	OF 4	1088			-
Mov Cap-1 Maneuver Mov Cap-2 Maneuver		954	1088			
	474				-	
Stage 1	803	-	-			-
Stage 2	676	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s			4.2		0	
HCM LOS	В		7.2		U	
TICIVI EOS	D					
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)		1088	-	474	954	-
HCM Lane V/C Ratio		0.13	-	0.381	0.103	-
HCM Control Delay (s	)	8.8	-	17.2	9.2	-
HCM Lane LOS		Α		С	Α	-
HCM 95th %tile Q(veh	1)	0.4		1.8	0.3	-
	,					

Beechwood SP	
16. LIC 101 Damna/Chrina	Ctroot 0

Cumulative AM Queues

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	<i>&gt;</i>	-	1	-	*	4	<b>†</b>	1	1	↓	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	25	365	1135	423	563	126	315	573	413	329	
v/c Ratio	0.11	0.77	0.78	0.53	0.51	0.66	0.68	0.36	0.75	0.51	
Control Delay	57.7	60.9	38.3	32.7	4.7	76.6	65.6	7.0	64.3	47.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.7	60.9	38.3	32.7	4.7	76.6	65.6	7.0	64.3	47.4	
Queue Length 50th (ft)	21	147	452	283	46	114	150	58	191	128	
Queue Length 95th (ft)	53	214	584	419	122	189	207	84	259	185	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	262	546	1642	891	1142	254	600	1752	664	768	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.67	0.69	0.47	0.49	0.50	0.53	0.33	0.62	0.43	
latana atian Communica											

Beechwood SP 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Cumulative AM HCM 6th Signalized Intersection Summary

	۶	-	•	•	-	*	1	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ħβ		ሻሻ	<b>*</b>	7	*	<b>^</b>	77	ሻሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	23	216	120	1044	389	518	116	290	527	380	210	93
Future Volume (veh/h)	23	216	120	1044	389	518	116	290	527	380	210	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	235	130	1135	423	563	126	315	573	413	228	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	293	157	1393	754	856	154	539	1548	491	480	206
Arrive On Green	0.13	0.13	0.13	0.40	0.40	0.40	0.09	0.15	0.15	0.14	0.20	0.20
Sat Flow, veh/h	1781	2238	1194	3456	1870	1564	1781	3554	2790	3456	2420	1037
Grp Volume(v), veh/h	25	185	180	1135	423	563	126	315	573	413	165	164
Grp Sat Flow(s), veh/h/ln	1781	1777	1655	1728	1870	1564	1781	1777	1395	1728	1777	1681
Q Serve(g_s), s	1.5	12.0	12.7	34.8	20.8	30.5	8.3	9.8	13.7	13.9	9.8	10.3
Cycle Q Clear(q_c), s	1.5	12.0	12.7	34.8	20.8	30.5	8.3	9.8	13.7	13.9	9.8	10.3
Prop In Lane	1.00	12.0	0.72	1.00	20.0	1.00	1.00	7.0	1.00	1.00	7.0	0.62
Lane Grp Cap(c), veh/h	234	233	217	1393	754	856	154	539	1548	491	352	333
V/C Ratio(X)	0.11	0.79	0.83	0.81	0.56	0.66	0.82	0.58	0.37	0.84	0.47	0.49
Avail Cap(c a), veh/h	290	289	269	1813	981	1046	281	661	1644	733	427	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	50.3	50.5	31.6	27.5	19.3	53.6	47.1	14.9	49.9	42.3	42.5
Incr Delay (d2), s/veh	0.2	11.5	16.1	2.3	0.7	1.1	10.2	1.0	0.1	5.7	1.0	1.1
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.1	6.3	14.3	9.1	10.6	4.1	4.3	8.5	6.4	4.4	4.4
Unsig. Movement Delay, s/veh		0.1	0.3	14.3	9.1	10.0	4.1	4.3	8.5	0.4	4.4	4.4
	45.9	61.7	66.7	33.9	28.1	20.4	63.7	48.1	15.0	55.5	43.3	43.6
LnGrp Delay(d),s/veh												
LnGrp LOS	D	E	E	С	C	С	E	D	В	E	D	D
Approach Vol, veh/h		390			2121			1014			742	
Approach Delay, s/veh		63.0			29.2			31.4			50.2	
Approach LOS		Е			С			С			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.7	23.9		20.2	16.1	29.5		53.5				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 25	22.2		19.4	18.8	* 29		62.6				
Max Q Clear Time (g_c+l1), s	15.9	15.7		14.7	10.3	12.3		36.8				
Green Ext Time (p_c), s	1.1	2.4		1.0	0.2	1.7		11.3				
Intersection Summary												
HCM 6th Ctrl Delay			36.4									
HCM 6th LOS			D									
Notes												

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Beechwood SP 17: S. River Road & Niblick Road

Storage Cap Reductn Reduced v/c Ratio

Cumulative AM Queues

17. S. River Road	X MIDIICI	Roac	l							Queues
	•	<b>→</b>	•	•	<b>←</b>	4	<b>†</b>	-	ļ	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	120	802	253	136	1458	599	350	304	493	
v/c Ratio	0.79	0.61	0.34	0.73	0.98	0.91	0.58	0.89	0.76	
Control Delay	87.5	32.3	4.7	71.8	50.4	64.8	44.7	73.3	43.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	87.5	32.3	4.7	71.8	50.4	64.8	44.7	73.3	43.8	
Queue Length 50th (ft)	44	247	0	95	522	219	117	214	147	
Queue Length 95th (ft)	#103	346	56	#195	#771	#354	166	#400	206	
Internal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	152	1309	745	203	1491	656	815	351	864	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Beechwood SP 17: S. River Road & Niblick Road

Cumulative AM HCM 6th Signalized Intersection Summary

Lane Configurations Traffic Volume (velvh) Tr		۶	<b>→</b>	*	•	<b>←</b>	4	1	†	~	/	Į.	4
Traffic Volume (vehrh) 110 738 233 125 1073 269 551 268 54 280 254 200 1101 110 738 233 125 1073 269 551 268 54 280 254 200 1101 110 738 233 125 1073 269 551 268 54 280 254 200 1101 110 110 110 110 110 110 110 11	Movement						WBR			NBR			SBR
Future Volume (veh/h) 110 738 233 125 1073 269 551 268 54 280 254 200	Lane Configurations												
Initial O (Ob), veh													
Ped-Bike Adj(A_pbT)													
Parking Bus, Adj		-	0		-	0		-	0	-	-	0	
Work Zone On Approach													
Adj Sat Flow, veh <sup>i</sup> h/in 1870 1870 1870 1870 1870 1870 1870 1870		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Adj Flow Rate, veh/h Peak Hour Factor Peak Hour Factor O.92 O.92 O.92 O.92 O.92 O.92 O.92 O.92													
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92													
Percent Heavy Veh, % 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2													
Cap, veh/h  152 1349 602 164 1205 298 651 541 108 332 349 265 Arrive On Green 0.04 0.38 0.09 0.43 0.19 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.18 0.19 0.18 0.18 0.18 0.18 0.18 0.18 0.18 0.18													
Arrive On Green 0.04 0.38 0.38 0.09 0.43 0.43 0.19 0.18 0.18 0.19 0.18 0.19 0.18 0.19 0.18 0.19 0.18 0.19 0.18 0.19 0.19 0.10 0.10 0.10 0.10 0.10 0.10		_	_	_	_	_	_	_	_	_	_	_	
Sat Flow, veh/h 3456 3554 1585 1781 2818 698 3456 2947 589 1781 1792 1463 Grp Volume(v), veh/h 120 802 253 136 730 728 599 174 176 304 255 238 Grp Sat Flow(s), veh/h/ln 1728 1777 1759 1781 1777 1769 0 Serve(g.s.) s 3.9 20.5 7.6 8.5 45.3 46.7 19.3 10.0 10.3 19.0 15.5 16.2 Cycle Q Clear(g.c), s 3.9 20.5 7.6 8.5 45.3 46.7 19.3 10.0 10.3 19.0 15.5 16.2 Cycle Q Clear(g.c), veh/h/l 152 1349 602 164 760 743 651 363 323 332 322 292 V/C Ratio(X) 0.79 0.59 0.42 0.83 0.96 0.98 0.92 0.53 0.55 0.92 0.79 0.82 Avail Cap(c.a), veh/h/l 152 1349 602 203 760 743 655 410 406 350 423 382 HCM Pataon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0													
Grp Volume(v), veh/h 120 802 253 136 730 728 599 174 176 304 255 238 Grp Satt Flow(S), veh/h/ln 1728 1777 1585 1781 1777 1739 1728 1777 1759 1781 1777 1759 1759 1781 1777 1759 1781 1777 1759 1759 1768 16.2 20ccccccccccccccccccccccccccccccccccc													
Grp Sat Flow(s), veh/h/ln													
O Šerve(g_ s), s													
Cycle Q Clear(g_c), s         3.9         20.5         7.6         8.5         45.3         46.7         19.3         10.0         10.3         19.0         15.5         16.2           Prop In Lane         1.00         1.00         1.00         0.40         1.00         0.33         1.00         0.91           Lane Grp Cap(c), velv/h         152         1349         602         164         760         743         651         323         332         322         229           V/C Ratio(X)         0.79         0.59         0.42         0.83         0.96         0.98         0.92         0.53         0.55         0.92         0.79         0.82           Avail Cap(c_a), velv/h         152         1349         602         203         760         743         655         410         406         350         423         382           HCM Platoon Ratio         1.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>													
Prop In Lane													
Lane Grp Cap(c), veh/h 152 1349 602 164 760 743 651 326 323 332 332 292 V/C Ratio(X) 0.79 0.59 0.42 0.83 0.96 0.98 0.92 0.53 0.55 0.92 0.79 0.82 8423 382 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0			20.5			45.3			10.0			15.5	
V/C Ratio(X)													
Avail Cap(c_a), veh/h 152 1349 602 203 760 743 655 410 406 350 423 382 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0													
HCM Platoon Ratio													
Upstream Filter(I)         1.00 <td></td>													
Uniform Delay (d), s/veh 53.7 28.2 8.4 50.6 31.6 32.0 45.2 41.9 42.0 45.3 44.4 44.6 Incr Delay (d2), s/veh 23.5 0.7 0.5 20.5 23.6 27.7 18.3 1.4 1.4 27.3 7.3 10.1 Initial O Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.													
Incr Delay (d2), siveh   23.5   0.7   0.5   20.5   23.6   27.7   18.3   1.4   1.4   27.3   7.3   10.1     Initial O Delay (d3), siveh   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0     Initial O Delay (d5), siveh   2.2   8.5   4.5   4.7   23.2   24.1   9.7   4.4   4.5   10.7   7.3   7.1     Unsig. Movement Delay, siveh   1.0   1.0   1.0   1.0   1.0     LnGrp LOS   E   C   A   E   E   E   E   D   D   E   D   D     Approach Vol, veh/h   1175   1594   949   797     Approach Delay, siveh   29.5   58.6   56.1   60.6     Approach LOS   C   E   E   E   E   E   E     Timer - Assigned Phs   1   2   3   4   5   6   7   8     Finance Phs   1   2   3   4   5   6   7   8     Finance Phs   1   2   3   4   5   6   7   8     Finance Phs   1   2   3   4   5   6   7   8     Finance Phs   1   2   3   4   5   6   5.3     Change Period (Y+RC), s   4.5   4.5   4.5   4.5   4.5   4.5   4.5   4.5     Max Green Setting (Gmax), s   12.9   40.6   21.5   27.0   5.0   48.5   22.3   26.2     Max Q Clear Time (g_c+II), s   10.5   22.5   21.3   18.2   5.9   48.7   21.0   12.3     Green Ext Time (g_c-c), s   0.1   5.9   0.1   1.9   0.0   0.0   0.1   1.6     Intersection Summary   HCM 6th Ctil Delay   50.8		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Q Delay(d3),s/veh									41.9	42.0			
%ile BackOfÓ(50%), veh/ln 2.2 8.5 4.5 4.7 23.2 24.1 9.7 4.4 4.5 10.7 7.3 7.1 Unsig. Movement Delay, s/veh LnGrp Delay(g), s/veh 77.2 28.9 8.9 71.1 55.2 59.6 63.5 43.3 43.5 72.6 51.7 54.7 LnGrp LOS E C A E E E E D D D E D D Approach Vol, veh/h 1175 1594 949 797 Approach Delay, s/veh 29.5 58.6 56.1 60.6 Approach LOS C E E E E E E E E E E E E E E E E E E													
Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 77.2 28.9 8.9 71.1 55.2 59.6 63.5 43.3 43.5 72.6 51.7 54.7 LnGrp LOS E C A E E E E D D D Approach Vol, veh/h 1175 1594 4949 797 Approach Delay, s/veh 29.5 58.6 56.1 60.6 Approach LOS C E E E E E E E E E E E E E E E E E E													
LnGrp Delay(d), s/veh 77.2 28.9 8.9 71.1 55.2 59.6 63.5 43.3 43.5 72.6 51.7 54.7 LnGrp LOS E C A E E E E D D D E D D Approach Vol, veh/h 1175 1594 949 797 Approach Delay, s/veh 29.5 58.6 56.1 60.6 Approach LOS C E E E E E E E E E E E E E E E E E E			8.5	4.5	4.7	23.2	24.1	9.7	4.4	4.5	10.7	7.3	7.1
LnGrp LOS													
Approach Vol, veh/h  Approach Delay, s/veh  29.5  58.6  56.1  60.6  Approach LOS  C  E  E  E  E  Timer - Assigned Phs  1  2  3  4  5  6  7  8  Phs Duration (G+Y+Rc), s  14.9  47.6  25.9  25.1  9.5  53.0  25.6  25.3  Change Period (Y+Rc), s  4.5  4.5  4.5  4.5  4.5  4.5  4.5  4.													54.7
Approach Delay, s/veh Approach LOS C C E E E E E E E E E E E E E E E E E		E		A	E		E	E		D	E		D
Approach LOS C E E E E E  Timer - Assigned Phs 1 2 3 4 5 6 7 8  Phs Duration (G+Y+Rc), s 14.9 47.6 25.9 25.1 9.5 53.0 25.6 25.3  Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Approach Vol, veh/h												
Timer - Assigned Phs 1 2 3 4 5 6 7 8  Phs Duration (G+Y+Rc), s 14.9 47.6 25.9 25.1 9.5 53.0 25.6 25.3  Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5  Max Green Setting (Gmax), s 12.9 40.6 21.5 27.0 5.0 48.5 22.3 26.2  Max O Clear Time (g_c+I1), s 10.5 22.5 21.3 18.2 5.9 48.7 21.0 12.3  Green Ext Time (p_c), s 0.1 5.9 0.1 1.9 0.0 0.0 0.1 1.6  Intersection Summary  HCM 6th Ctif Delay 50.8	Approach Delay, s/veh					58.6						60.6	
Phs Duration (G+Y+Rc), s 14.9 47.6 25.9 25.1 9.5 53.0 25.6 25.3 Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Approach LOS		С			Е			Е			Е	
Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Max Green Setting (Gmax), s       12.9       40.6       21.5       27.0       5.0       48.5       22.3       26.2         Max Q Clear Time (g_c+l1), s       10.5       22.5       21.3       18.2       5.9       48.7       21.0       12.3         Green Ext Time (p_c), s       0.1       5.9       0.1       1.9       0.0       0.0       0.1       1.6         Intersection Summary         HCM 6th Ctrl Delay       50.8	Phs Duration (G+Y+Rc), s	14.9	47.6	25.9	25.1	9.5	53.0	25.6	25.3				
Max Q Clear Time (g_c+l1), s 10.5 22.5 21.3 18.2 5.9 48.7 21.0 12.3  Green Ext Time (p_c), s 0.1 5.9 0.1 1.9 0.0 0.0 0.1 1.6  Intersection Summary  HCM 6th Ctrl Delay 50.8	Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Q Clear Time (g_c+l1), s 10.5 22.5 21.3 18.2 5.9 48.7 21.0 12.3  Green Ext Time (p_c), s 0.1 5.9 0.1 1.9 0.0 0.0 0.1 1.6  Intersection Summary  HCM 6th Ctrl Delay 50.8	Max Green Setting (Gmax), s	12.9	40.6	21.5	27.0	5.0	48.5	22.3	26.2				
Green Ext Time (p_c), s 0.1 5.9 0.1 1.9 0.0 0.0 0.1 1.6  Intersection Summary  HCM 6th Ctrl Delay 50.8	Max Q Clear Time (q_c+l1), s	10.5	22.5	21.3	18.2	5.9	48.7	21.0	12.3				
HCM 6th Ctrl Delay 50.8	Green Ext Time (p_c), s	0.1	5.9	0.1	1.9	0.0	0.0	0.1	1.6				
	Intersection Summary												
	HCM 6th Ctrl Delay			50.8									
	HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	LDIN	INDL	4	1	JUIN
Traffic Vol, veh/h	94	10	10	807	334	48
Future Vol. veh/h	94	10	10	807	334	48
Conflicting Peds, #/hr	0	10	0	007	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Jiop -	None	-	None	-	None
Storage Length	0	-		-		IVOIIC
Veh in Median Storage		-		0	0	
Grade, %	0			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mymt Flow	102	11	11	877	363	52
IVIVIIII I IOW	102	- 11	- 11	011	303	52
	Minor2		Major1	N	Major2	
Conflicting Flow All	1288	390	415	0	-	0
Stage 1	389	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-		-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	180	656	1139	-		-
Stage 1	683	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	655	1139	-		
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	670	-		-		
Stage 2	396					
	2.0					
A	ED		ND		CD	
Approach	EB		NB		SB	
HCM Control Delay, s	48.5		0.1		0	
HCM LOS	Е					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1139	-	190	-	
HCM Lane V/C Ratio		0.01		0.595		
HCM Control Delay (s)		8.2	0	48.5		
HCM Lane LOS		A	A	Е		
HCM 95th %tile Q(veh	)	0		3.3		

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	LDIT	1100	4	1	ODIT
Traffic Vol, veh/h	60	10	10	677	314	20
Future Vol. veh/h	60	10	10	677	314	20
Conflicting Peds, #/hr	0	0	0	0//	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop		Free		Free -	
		None		None		None
Storage Length	0	-	-	-	-	
Veh in Median Storage			-	0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	11	11	736	341	22
Major/Minor	Minor2		Major1	N	Najor2	
Conflicting Flow All	1110	352	363	0	viajuiz -	0
	352	352	303	-		
Stage 1						-
Stage 2	758	- ( 00	- 4.40	-	-	-
Critical Hdwy	6.42	6.22	4.12		-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318		-	-	-
Pot Cap-1 Maneuver	232	692	1196	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	463	-	-	-		-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	228	692	1196			
Mov Cap-2 Maneuver	408	- 072	- 1170			
Stage 1	701			_		
Stage 2	463					
Staye 2	403				-	
Approach	EB		NB		SB	
HCM Control Delay, s	15.1		0.1		0	
HCM LOS	С					
Min on Long (Marin 14	-4	ND	NDT	EDI4	CDT	CDD
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1196	-	433	-	-
HCM Lane V/C Ratio		0.009	-	0.176	-	-
HCM Control Delay (s)	)	8	0	15.1	-	-
HCM Lane LOS		Α	Α	С	-	-
HCM 95th %tile Q(veh	1)	0	-	0.6	-	
	,					

ntersection				
ntersection Delay, s/veh	7.6			
ntersection LOS	А			
pproach	WB	NB	SB	
ntry Lanes	1	1	1	
onflicting Circle Lanes	1	1	1	
dj Approach Flow, veh/h	665	126	352	
emand Flow Rate, veh/h	679	128	359	
ehicles Circulating, veh/h	117	293	28	
ehicles Exiting, veh/h	304	94	768	
ed Vol Crossing Leg, #/h	0	0	0	
ed Cap Adj	1.000	1.000	1.000	
proach Delay, s/veh	9.4	4.7	5.1	
proach LOS	A	A	A	
ane	Left	Left	Left	
esignated Moves	LR	TR	LT	
ssumed Moves	LR	TR	LT	
Γ Channelized				
	1.000	1.000	1.000	
ane Util ollow-Up Headway, s	2.609	2.609	2.609	
nne Util bllow-Up Headway, s ritical Headway, s				
T Channelized ane Util ollow-Up Headway, s riritical Headway, s ntry Flow, veh/h	2.609 4.976 679	2.609 4.976 128	2.609	
ane Util ollow-Up Headway, s ritical Headway, s ntry Flow, veh/h ap Entry Lane, veh/h	2.609 4.976 679 1225	2.609 4.976 128 1023	2.609 4.976 359 1341	
ine Util ollow-Up Headway, s itical Headway, s ntry Flow, veh/h ap Entry Lane, veh/h ntry HV Adj Factor	2.609 4.976 679	2.609 4.976 128	2.609 4.976 359 1341 0.980	
ine Util ollow-Up Headway, s ritical Headway, s ntry Flow, veh/h ap Entry Lane, veh/h ntry HV Adj Factor ow Entry, veh/h	2.609 4.976 679 1225 0.979 665	2.609 4.976 128 1023 0.982 126	2.609 4.976 359 1341 0.980 352	
ane Util  Jllow-Up Headway, s  ritical Headway, s  ntry Flow, veh/h  ap Entry Lane, veh/h  ntry HV Adj Factor  ow Entry, veh/h  ap Entry, veh/h	2.609 4.976 679 1225 0.979 665 1199	2.609 4.976 128 1023 0.982 126 1005	2.609 4.976 359 1341 0.980 352 1314	
ane Util Ollow-Up Headway, s ritical Headway, s rititcal Headway, s ntry Flow, veh/h ap Entry Lane, veh/h ntry HV Adj Factor ow Entry, veh/h ap Entry, veh/h C Ratio	2.609 4.976 679 1225 0.979 665 1199 0.554	2.609 4.976 128 1023 0.982 126 1005 0.125	2.609 4.976 359 1341 0.980 352 1314 0.268	
ine Util Illow-Up Headway, s Itilical Headway, s Itilical Headway, s Itily Flow, veh/h In Pap Entry, Lane, veh/h In Hory, veh/h In Pap Entry, veh/h C Ratio In Control Delay, s/veh	2.609 4.976 679 1225 0.979 665 1199 0.554 9.4	2.609 4.976 128 1023 0.982 126 1005 0.125 4.7	2.609 4.976 359 1341 0.980 352 1314 0.268 5.1	
ne Util Illow-Up Headway, s iltical Headway, s itiry Flow, veh/h ip Entry Lane, veh/h itry HV Adj Factor w Entry, veh/h p Entry, veh/h C Ratio	2.609 4.976 679 1225 0.979 665 1199 0.554	2.609 4.976 128 1023 0.982 126 1005 0.125	2.609 4.976 359 1341 0.980 352 1314 0.268	

Intersection						
Int Delay, s/veh	0.5					
iiii Deiay, S/veri	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	•	Þ		14	
Traffic Vol, veh/h	10	274	592	10	10	10
Future Vol, veh/h	10	274	592	10	10	10
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50		-	-	0	
Veh in Median Storage	2,# -	0	0		0	-
Grade, %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	11	298	643	11	11	11
	- 11	270	010	- 11	- 11	- 11
	Major1		Major2		Minor2	
Conflicting Flow All	660	0	-	0	975	655
Stage 1	-		-		655	-
Stage 2	-	-	-	-	320	-
Critical Hdwy	4.12	-		-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-		-		5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	928				279	466
Stage 1	-				517	-
Stage 2					736	
Platoon blocked. %						
Mov Cap-1 Maneuver	923				272	463
Mov Cap-2 Maneuver	720				272	-100
Stage 1					508	
Stage 2					732	
Staye 2					132	
Approach	EB		WB		SB	
HCM Control Delay, s	0.3		0		16.2	
HCM LOS					С	
Minor Lano/Major Mum	nt .	EBL	EBT	W/DT	WBR:	CRI n1
Minor Lane/Major Mvm	IL			WBT	WBR:	
Capacity (veh/h)		923	-	-	-	343
HCM Lane V/C Ratio		0.012	-	-	-	0.063
HCM Control Delay (s)		8.9	-	-	-	16.2
HCM Lane LOS		Α	-	-	-	С

HCM 95th %tile Q(veh)

HCM 95th %tile Q(veh)

													-
Intersection													
Int Delay, s/veh	2.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	ሻ	1>		*	ĵ.			4			4		
Traffic Vol, veh/h	20	254	10	10	542	28	10	0	10	43	0	50	
Future Vol, veh/h	20	254	10	10	542	28	10	0	10	43	0	50	
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None		-	None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-	
Veh in Median Storage	,# -	0			0			0			0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	22	276	11	11	589	30	11	0	11	47	0	54	
Major/Minor N	Major1			Major2			Vinor1		- 1	Minor2			
Conflicting Flow All	626	0	0	287	0	0	979	974	282	964	964	611	_
Stage 1	-	-	-				326	326	-	633	633		
Stage 2		-		-			653	648		331	331	-	
Critical Hdwy	4.12	-	-	4.12			7.12	6.52	6.22	7.12	6.52	6.22	
Critical Hdwy Stg 1		-	-	-			6.12	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2		-	-		-		6.12	5.52	-	6.12	5.52	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318	
Pot Cap-1 Maneuver	956	-		1275			229	252	757	235	255	494	
Stage 1	-	-	-	-	-	-	687	648	-	468	473	-	
Stage 2	-	-	-	-	-	-	456	466	-	682	645	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver	950	-	-	1275	-	-	199	242	757	224	245	491	
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	242	-	224	245	-	
Stage 1	-	-	-	-	-	-	671	633	-	454	465	-	
Stage 2	-	-	-	-	-	-	402	459	-	657	630	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.6			0.1			17.3			21.6			
HCM LOS							С			С			
Minor Lane/Major Mvm	t	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)		315	950			1275			317				
HCM Lane V/C Ratio		0.069	0.023			0.009			0.319				
HCM Control Delay (s)		17.3	8.9			7.8			21.6				
HCM Lane LOS		С	А			A			С				
HCM 05th %tilo O(voh)		0.2	0.1			0			1 2				

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EDL	EDI ↑	1	MDIZ	JDL W	JUK
Traffic Vol, veh/h	10	293	570	10	10	10
Future Vol. veh/h	10	293	570	10	10	10
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	- -	None
Storage Length	50	-		-	0	-
Veh in Median Storage		0	0		0	
Grade, %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	11	318	620	11	11	11
William Flow		010	020			
	Major1		Major2		Minor2	
Conflicting Flow All	640	0	-	0	975	635
Stage 1		-		-	635	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	4.12	-		-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	
Pot Cap-1 Maneuver	944	-	-	-	279	478
Stage 1	-	-	-	-	528	-
Stage 2			-		721	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	936				271	474
Mov Cap-2 Maneuver	-	-	-	-	271	-
Stage 1	-		-	-	517	-
Stage 2	-	-	-	-	715	-
Approach	FB		WB		SB	
HCM Control Delay, s	0.3		0		16.1	
HCM LOS	0.3		0		10.1	
I ICIVI LUS					C	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		936	-		-	345
HCM Lane V/C Ratio		0.012	-	-	-	0.063
HCM Control Delay (s)	)	8.9	-		-	16.1
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	1)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	•	Þ		N/	
Traffic Vol, veh/h	70	233	430	58	24	150
Future Vol, veh/h	70	233	430	58	24	150
Conflicting Peds, #/hr	8	0	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage	,# -	0	0		0	
Grade. %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	76	253	467	63	26	163
IVIVIIIL FIUW	/0	203	407	03	20	103
Major/Minor N	Major1	1	Major2		Vinor2	
Conflicting Flow All	538	0	-	0	912	507
Stage 1	-	-			507	-
Stage 2					405	
Critical Hdwy	4.11				6.41	6.21
Critical Hdwy Stg 1	4.11				5.41	0.21
Critical Hdwy Stg 1					5.41	
Follow-up Hdwy	2.209					3 300
Pot Cap-1 Maneuver	1035				3.509	568
	1035	-			607	208
Stage 1	-	-	-	-		_
Stage 2	-		-	-	676	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1027	-		-	278	564
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	558	-
Stage 2	-	-	-	-	671	-
, and the second						
			VA/ID		0.0	
Approach	EB		WB		SB	
HCM Control Delay, s	2		0		16.7	
HCM LOS					С	
Minor Lano/Major Mum	+	EBL	EBT	WBT	WBR	CDI n1
Minor Lane/Major Mvm	ι					
Capacity (veh/h)		1027	-	-		494
HCM Lane V/C Ratio		0.074	-	-	-	
HCM Control Delay (s)		8.8	-	-	-	16.7
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh)		0.2	-	-	-	1.8

Intersection												
Int Delay, s/veh	3.8											
	EDI	EDT	EDD	WDI	MDT	MDD	ND	NDT	NDD	CDI	CDT	CDD
Movement Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EC	127	0	0	<b>↔</b>	10	^	4	^	^	4	170
Traffic Vol, veh/h	50	137	0	0	254	10	0	0	0	0	0	170
Future Vol, veh/h	50	137	0	0	254	10	0	0	0	0	0	170
Conflicting Peds, #/hr	8	0	0	0	0	-	0	_	-	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None			None	-		None	-	-	None
Storage Length	-	-	-	-	-	-	-	-		-	-	-
Veh in Median Storage		0		-	0	-	-	0	-	-	0	-
Grade, % Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	140	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	54	149	0	0	276	11	0	0	0	0	0	185
Major/Minor	Major1		1	Major2			Vinor1			Minor2		
Conflicting Flow All	295	0	0	149	0	0	631	552	149	547	547	290
Stage 1	-	-	-	-	-	-	257	257	-	290	290	-
Stage 2							374	295		257	257	
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-		6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-		-	-		6.11	5.51		6.11	5.51	
Follow-up Hdwy	2.209		-	2.209	-		3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1272	-	-	1439	-	-	395	443	900	449	446	752
Stage 1	-	-	-	-	-		750	697	-	720	674	-
Stage 2		-	-	-	-	-	649	671	-	750	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1262	-	-	1439	-		286	419	900	430	421	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	286	419	-	430	421	-
Stage 1	-	-	-	-	-		715	664		681	669	
Stage 2	-	-	-	-	-		488	666		715	664	
, and the same of												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.1			0			0			11.4		
HCM LOS	2.1			U			A			11.4 B		
LICIVI EUS							А			ь		
Minor Lane/Major Mvn	ot N	VBLn1	EBL	EBT	EBR	WBL	WBT	WDD	SBLn1			
	n I	VDLIII			EDR	1439		WOR				
Capacity (veh/h)			1262	-	-		-	-	746			
HCM Cantrol Dalay (a)		-	0.043	-	-	-	-	-	0.248			
HCM Control Delay (s)	)	0	8	0	-	0	-	-	11.4			
HCM Lane LOS	١	Α	A	Α	-	A	-	-	B 1			
HCM 95th %tile Q(veh	)	-	0.1	-	-	0	-	-	1			

334 1626

0.64

56.3

56.3

125

224

345

850

0

0.49

0.5 31.5

0.0

0.5 31.5

0

0 854

1017 748

0

0.49 0.64

1622

547

0

159

4.5 62.4 36.4

4.5 62.4

50 228

330

1168

0

0.14

153

0.0

111

450

0 0

0.35 0.36

302

0.57

0.0

36.4

175

336

Lane Group Lane Group Flow (vph)

v/c Ratio

Control Delay Queue Delay

Total Delay

Queue Length 50th (ft)

Queue Length 95th (ft)
Internal Link Dist (ft)

Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn

Storage Cap Reductn Reduced v/c Ratio

Intersection Summary

Turn Bay Length (ft)

Cumulative PM Queues

## Beechwood SP

Cumulative PM HCM Signalized Intersection Capacity Analysis

1: SR 46 E & Buena Vista Drive

	۶	-	<b>←</b>	*	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	16	<b>^</b>	<b>^</b>	7	ች	7			
Traffic Volume (vph)	331	1610	1606	157	151	299			
Future Volume (vph)	331	1610	1606	157	151	299			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	3213	3312	3312	1482	1656	1482			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	3213	3312	3312	1482	1656	1482			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99			
Adj. Flow (vph)	334	1626	1622	159	153	302			
RTOR Reduction (vph)	0	0	0	57	0	12			
Lane Group Flow (vph)	334	1626	1622	102	153	290			
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases				6		4			
Actuated Green, G (s)	19.8	119.6	66.3	66.3	18.5	42.3			
Effective Green, g (s)	19.8	119.6	66.3	66.3	18.5	42.3			
Actuated g/C Ratio	0.17	1.00	0.55	0.55	0.15	0.35			
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	531	3312	1836	821	256	524			
v/s Ratio Prot	c0.10	0.49	c0.49		0.09	c0.20			
v/s Ratio Perm				0.07					
v/c Ratio	0.63	0.49	0.88	0.12	0.60	0.55			
Uniform Delay, d1	46.5	0.0	23.3	12.8	47.1	31.1			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	2.3	0.5	5.6	0.1	3.9	1.3			
Delay (s)	48.8	0.5	28.9	12.9	51.0	32.3			
Level of Service	D	Α	С	В	D	С			
Approach Delay (s)		8.8	27.4		38.6				
Approach LOS		Α	С		D				
Intersection Summary									
HCM 2000 Control Delay			19.9	H	CM 2000	Level of Service	e	В	
HCM 2000 Volume to Capa	city ratio		0.79						
Actuated Cycle Length (s)			119.6		um of los			15.0	
Intersection Capacity Utiliza	ation		75.1%	IC	:U Level	of Service		D	
Analysis Period (min)			15						
! Phase conflict between I	ane groups	ŝ.							
Critical Lane Group	- 5 up.								

c Critical Lane Group

Cumulative PM

Queues

	۶	<b>→</b>	$\searrow$	1	<b>←</b>	*	4	†	-	ļ	1	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	392	1056	368	399	1134	216	363	489	265	345	320	
v/c Ratio	0.97	0.87	0.48	0.89	0.90	0.31	0.83	0.60	0.71	0.86	0.63	
Control Delay	100.7	52.3	5.0	85.9	54.1	4.8	80.6	51.8	76.4	76.9	23.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	100.7	52.3	5.0	85.9	54.1	4.8	80.6	51.8	76.4	76.9	23.6	
Queue Length 50th (ft)	201	503	0	201	546	0	181	213	130	325	91	
Queue Length 95th (ft)	#372	618	67	#373	679	54	#311	311	201	#512	217	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	406	1630	909	447	1630	830	451	934	451	502	580	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.97	0.65	0.40	0.89	0.70	0.26	0.80	0.52	0.59	0.69	0.55	

Beechwood SP 2: Golden Hill Road & SR 46 E

Cumulative PM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	<b>^</b>	7	1,1	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	380	1024	357	387	1100	210	352	364	111	257	335	310
Future Volume (veh/h)	380	1024	357	387	1100	210	352	364	111	257	335	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	C
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	392	1056	368	399	1134	216	363	375	114	265	345	320
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	405	1229	548	405	1306	582	409	673	202	316	417	354
Arrive On Green	0.12	0.36	0.36	0.12	0.38	0.38	0.12	0.26	0.26	0.10	0.23	0.23
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2585	776	3319	1796	1522
Grp Volume(v), veh/h	392	1056	368	399	1134	216	363	246	243	265	345	320
Grp Sat Flow(s), veh/h/ln	1659	1706	1521	1659	1706	1521	1659	1706	1655	1659	1796	1522
Q Serve(g_s), s	17.3	42.3	20.7	17.7	45.3	15.1	15.9	18.4	18.8	11.6	26.9	30.1
Cycle Q Clear(g_c), s	17.3	42.3	20.7	17.7	45.3	15.1	15.9	18.4	18.8	11.6	26.9	30.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	405	1229	548	405	1306	582	409	444	431	316	417	354
V/C Ratio(X)	0.97	0.86	0.67	0.98	0.87	0.37	0.89	0.55	0.56	0.84	0.83	0.90
Avail Cap(c a), veh/h	405	1621	722	405	1621	722	450	475	460	450	500	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	43.7	18.8	64.6	42.1	32.8	63.6	47.1	47.3	65.6	53.8	55.0
Incr Delay (d2), s/veh	36.1	3.8	1.5	40.4	4.5	0.4	17.9	1.2	1.4	9.3	9.4	20.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	17.6	7.4	9.5	18.9	5.6	7.6	7.9	7.8	5.3	13.1	13.4
Unsig. Movement Delay, s/veh		17.0	7.4	7.3	10.7	5.0	7.0	1.7	7.0	5.5	13.1	13.4
LnGrp Delay(d),s/veh	100.5	47.5	20.4	105.0	46.6	33.1	81.5	48.3	48.7	74.9	63.2	75.3
LnGrp LOS	F	47.3 D	20.4 C	103.0 F	40.0 D	33.1 C	61.5 F	40.3 D	40.7 D	74.7 E	03.2 E	75.5 E
Approach Vol, veh/h	<u> </u>	1816		<u>'</u>	1749		- '	852	U		930	
Approach Delay, s/veh												
Approach LOS		53.5 D			58.2 F			62.6 F			70.7 F	
Approach LOS		_			_			_			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	60.4	22.2	39.6	22.0	63.7	18.0	43.7				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+l1), s	19.7	44.3	17.9	32.1	19.3	47.3	13.6	20.8				
Green Ext Time (p_c), s	0.0	8.8	0.3	2.1	0.0	8.4	0.5	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			59.5									
HCM 6th LOS			Е									
Nistan												

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection Int Delay, s/veh Movement Lane Configurations	0.8					
Int Delay, s/veh  Movement  Lane Configurations	0.0					
Movement Lane Configurations	0.8					
Lane Configurations	EBL	EBT	WBT	WBR	SBL	SBR
	EBL			WBR	SBL	SBR 7
	0	1551	<b>↑</b> ↑		0	
Traffic Vol, veh/h Future Vol, veh/h	0	1551	1597	20	0	100
Conflicting Peds, #/h	0 r 0	1551	1597	20	0	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	Free -		riee -	None	Stop -	None
Storage Length	- 1	None -		165		None -
Veh in Median Stora		0	0	100	2	-
		0	0		0	
Grade, % Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	1650	1699	21	0	106
Major/Minor	Major1	- 1	Major2	N	1inor2	
Conflicting Flow All	-	0	-	0	-	850
Stage 1	-	-	-	-		-
Stage 2		-	-	-		
Critical Hdwy		-	-	-		7.1
Critical Hdwy Stg 1						-
Critical Hdwy Stg 2						
Follow-up Hdwy						3.4
Pot Cap-1 Maneuver		-			0	288
Stage 1	0				0	200
Stage 2	0				0	- :
Platoon blocked. %	U				U	
Mov Cap-1 Maneuve	r			-		288
Mov Cap-1 Maneuve						200
IVIUV CAU-/ MAHEUVE	- 1		-		-	
		-	-	-		
Stage 1		-	-	-	-	-
	-					
Stage 1						
Stage 1	EB		WB		SB	
Stage 1 Stage 2	EB		WB 0		SB 24.6	
Stage 1 Stage 2 Approach	EB					
Stage 1 Stage 2 Approach HCM Control Delay,	EB				24.6	
Siage 1 Stage 2 Approach HCM Control Delay, HCM LOS	EB s 0	CDT	0	WPD	24.6 C	
Stage 1 Stage 2 Approach HCM Control Delay, HCM LOS Minor Lane/Major M	EB s 0	EBT		WBR S	24.6 C SBLn1	
Stage 1 Stage 2 Approach HCM Control Delay, HCM LOS Minor Lane/Major M Capacity (veh/h)	EB s 0	-	0 WBT	-	24.6 C SBLn1 288	
Stage 1 Stage 2 Approach HCM Control Delay, HCM LOS Minor Lane/Major M Capacity (velvh) HCM Lane V/C Ratic	EB s 0		0	-	24.6 C SBLn1 288 0.369	
Stage 1 Stage 2 Approach HCM Control Delay, HCM LOS Minor Lane/Major M Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay	EB s 0	-	0 WBT - -		24.6 C SBLn1 288 0.369 24.6	
Stage 1 Stage 2 Approach HCM Control Delay, HCM LOS Minor Lane/Major M Capacity (velvh) HCM Lane V/C Ratic	EB o	-	0 WBT	-	24.6 C SBLn1 288 0.369	

Intersection	1.4												
Int Delay, s/veh	1.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	- 1	<b>^</b>	7	7	ħβ			4	7		4		
Traffic Vol, veh/h	0	1518	33	3	1557	0	50	0	6	0	0	10	
Future Vol, veh/h	0	1518	33	3	1557	0	50	0	6	0	0	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-	
eh in Median Storage,	# -	0	-	-	0	-	-	2	-	-	2	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
eak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	
leavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12	
Лvmt Flow	0	1565	34	3	1605	0	52	0	6	0	0	10	
Major/Minor M	lajor1		N	Najor2		N	/linor1		1	Minor2			
Conflicting Flow All	1605	0	0	1599	0	0	2374	3176	783	2394	3210	803	
Stage 1	-	-	-	1077	-	-	1565	1565	700	1611	1611	-	
Stage 2							809	1611		783	1599		
critical Hdwy	4.34			4.34			7.74	6.74	7.14	7.74	6.74	7.14	
ritical Hdwy Stg 1	1.51			1.51			6.74	5.74	7.11	6.74	5.74	7.14	
critical Hdwy Stg 2							6.74	5.74		6.74	5.74		
ollow-up Hdwy	2.32			2.32			3.62	4.12	3.42	3.62	4.12	3.42	
of Cap-1 Maneuver	360			362	-		~ 16	9	316	15	8	306	
Stage 1	300	_	_	302			105	155	310	98	147	300	
Stage 2							320	147		332	149		
latoon blocked. %							320	177		332	177		
Nov Cap-1 Maneuver	360			362			~ 15	9	316	15	8	306	
Nov Cap-1 Maneuver	300			302			94	98	310	89	95	300	
Stage 1							105	155		98	146		
Stage 2							307	146		326	149		
Stage 2							307	140		320	147		
				MD			ND			CD			
pproach	EB			WB 0			NB			SB 17.2			
HCM Control Delay, s	0			0			75.3						
ICM LOS							F			С			
/linor Lane/Major Mvmt		NBLn1 N		EBL	EBT	EBR	WBL	WBT	WBR S				
Capacity (veh/h)		94	316	360	-	-	362	-	-	306			
ICM Lane V/C Ratio		0.548	0.02	-	-	-	0.009	-	-	0.034			
ICM Control Delay (s)		82.3	16.6	0	-	-	15	-	-	17.2			
ICM Lane LOS		F	С	Α	-	-	С	-	-	С			
HCM 95th %tile Q(veh)		2.5	0.1	0	-	-	0	-	-	0.1			
Votes											_		
-: Volume exceeds cap	acity	\$. Do	lav ovo	eeds 3	nne	+: Com	nutation	Not D	ofinod	*· ΔII	maior v	nluma i	in platoon
voidine exceeds cap	acity	φ. DE	idy exc	ccus 3	003	T. CUIII	putatiUl	I NOLD	Cillied	. All	majul	rolullie I	iii piatuuil

31.7

EB

860

869

1096

698

1.000

Left Right Bypass

374 1919

524

519 0.085

0.714

26.0

R

Free

163 4.645 4.328

0.990

161 0.991

1900

LT TR

2.535 2.535

4.544 4.544

0.990 0.991

332

524

518

21.4

С D 842

839

868

1.000

18.7

TR

696

21.0

0.990

L

0.406 0.594

2.667 2.535

342 500

618 689

15.4

С С

0.548

Intersection Intersection Delay, s/veh

Entry Lanes Conflicting Circle Lanes Adj Approach Flow, veh/h

Ped Cap Adj

Approach LOS

Designated Moves

Assumed Moves

RT Channelized

Follow-Up Headway, s

Critical Headway, s

Cap Entry Lane, veh/h

Entry HV Adj Factor

Control Delay, s/veh

95th %tile Queue, veh

Flow Entry, veh/h

Cap Entry, veh/h

V/C Ratio

Entry Flow, veh/h

Lane Util

Lane

Intersection LOS Approach

Demand Flow Rate, veh/h

Vehicles Circulating, veh/h Vehicles Exiting, veh/h

Ped Vol Crossing Leg, #/h

Approach Delay, s/veh

Cumulative PM HCM 6th Roundabout

1070

1080

714

967

1.000

59.4

LT

LT

2.667 2.535

0.698

4.645

754

700

747

693

1.077 0.421

80.7

20

0.990 0.991

F

R

R

0.302

4.328

326

774

323

767

10.2

В

0

883

892

815

987

1.000

22.4

LT

0.575

2.667 2.535

4.645 4.328

513

638

0.989 0.989

508

631

0.804

29.0

D

С

R

379

710

375

703

0.534

13.5

Beechwood SP

	•	<b>→</b>	•	<b>←</b>	•	•	†	1	-	ļ	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	525	309	494	743	7	54	319	376	376	117	
v/c Ratio	0.22	0.72	0.78	0.59	0.67	0.04	0.30	0.72	0.78	0.77	0.22	
Control Delay	58.0	44.3	52.4	27.0	5.4	45.4	49.8	15.4	46.4	45.4	4.9	
Queue Delay	0.0	0.0	0.1	3.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.0	44.3	52.5	30.0	6.1	45.4	49.8	15.4	46.4	45.4	4.9	
Queue Length 50th (ft)	14	170	192	222	0	4	35	0	234	233	0	
Queue Length 95th (ft)	44	263	#358	445	90	19	76	85	#436	#430	34	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	94	902	504	927	1144	344	362	565	605	615	643	
Starvation Cap Reductn	0	0	8	321	148	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.58	0.62	0.82	0.75	0.02	0.15	0.56	0.62	0.61	0.18	
Intersection Summary												

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Cumulative PM HCM 6th Signalized Intersection Summary

	۶	-	$\rightarrow$	•	<b>←</b>	*		<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>†</b> 1>		ሻ	<b>†</b>	7	7	<b>1</b>	7	ሻ	4	7
Traffic Volume (veh/h)	20	462	32	290	464	698	7	51	300	609	98	110
Future Volume (veh/h)	20	462	32	290	464	698	7	51	300	609	98	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	491	34	309	494	743	7	54	319	722	0	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	39	834	58	343	782	647	297	312	264	839	0	372
Arrive On Green	0.02	0.25	0.25	0.19	0.41	0.41	0.17	0.17	0.17	0.23	0.00	0.23
Sat Flow, veh/h	1795	3397	235	1795	1885	1559	1795	1885	1598	3591	0	1591
Grp Volume(v), veh/h	21	258	267	309	494	743	7	54	319	722	0	117
Grp Sat Flow(s), veh/h/ln	1795	1791	1841	1795	1885	1559	1795	1885	1598	1795	0	1591
Q Serve(q_s), s	1.3	13.9	14.0	18.4	22.7	45.4	0.4	2.7	18.1	21.1	0.0	6.7
Cycle Q Clear(q c), s	1.3	13.9	14.0	18.4	22.7	45.4	0.4	2.7	18.1	21.1	0.0	6.7
Prop In Lane	1.00	10.7	0.13	1.00	LL.,	1.00	1.00	2.7	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	39	440	452	343	782	647	297	312	264	839	0	372
V/C Ratio(X)	0.54	0.59	0.59	0.90	0.63	1.15	0.02	0.17	1.21	0.86	0.00	0.31
Avail Cap(c_a), veh/h	82	440	452	435	782	647	297	312	264	1099	0.00	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.0	36.4	36.4	43.3	25.4	32.0	38.3	39.2	45.7	40.2	0.0	34.7
Incr Delay (d2), s/veh	11.3	2.0	2.0	18.5	1.7	84.0	0.0	0.3	123.2	5.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.4	6.6	9.9	10.3	31.6	0.0	1.3	16.1	9.8	0.0	2.6
Unsig. Movement Delay, s/veh		0.4	0.0	7.7	10.5	31.0	0.2	1.3	10.1	7.0	0.0	2.0
LnGrp Delay(d),s/veh	64.3	38.4	38.5	61.7	27.0	116.0	38.3	39.5	168.9	45.8	0.0	35.2
LnGrp LOS	04.3 E	J0.4 D	30.3 D	01.7 E	27.0 C	F	30.3 D	37.3 D	F	43.0 D	Α	33.2 D
Approach Vol, veh/h		546	U		1546	<u> </u>	U	380	<u>'</u>	D	839	U
Approach Vol, ven/n Approach Delay, s/veh		39.4			76.7			148.1			44.3	
		39.4 D			70.7 F			148.1 F			44.3 D	
Approach LOS		U			E			г			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.4	31.4		30.1	6.9	49.9		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	23.9		33.5	5.0	45.4		18.1				
Max Q Clear Time (g_c+l1), s	20.4	16.0		23.1	3.3	47.4		20.1				
Green Ext Time (p_c), s	0.5	2.0		2.5	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			70.6									
HCM 6th LOS			Е									

User approved volume balancing among the lanes for turning movement.

Synchro 10 Report Page 15 Central Coast Transportation Consulting

Beechwood SP 8: Paso Robles Street & 13th Street Cumulative PM Queues

	•	$\rightarrow$	1	-	•	1	1		-	†	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	94	1382	30	1249	366	280	32	508	9	32	
v/c Ratio	0.53	0.75	0.27	0.76	0.43	0.63	0.05	0.85	0.02	0.05	
Control Delay	56.2	22.1	54.2	25.7	8.8	35.7	23.9	37.3	23.5	0.2	
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.2	23.3	54.2	25.7	8.8	35.7	23.9	37.3	23.5	0.2	
Queue Length 50th (ft)	60	381	20	355	51	155	14	237	4	0	
Queue Length 95th (ft)	#122	491	51	457	126	246	35	#415	15	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	205	2182	110	2013	983	595	808	761	595	761	
Starvation Cap Reductn	0	533	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.84	0.27	0.62	0.37	0.47	0.04	0.67	0.02	0.04	

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

8: Paso Robles Street & 13th Street

S: Paso Robies Sire	•		$\overline{}$		+	4	•	<b>+</b>	<b>→</b>	_	ī	7
			*	*			7		- /		*	_
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
ane Configurations	7	<b>↑</b> ↑		ሻ	<b>^</b>	7	76	<b>+</b>	7	ሻ	ĵ∍	
raffic Volume (veh/h)	87	1245	40	28	1162	340	260	30	472	8	0	3
uture Volume (veh/h)	87	1245	40	28	1162	340	260	30	472	8	0	3
nitial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Vork Zone On Approach		No			No			No			No	
ldj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
ldj Flow Rate, veh/h	94	1339	43	30	1249	0	280	32	508	9	0	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	
Cap, veh/h	121	1655	53	53	1540		547	656	556	376	0	55
Arrive On Green	0.07	0.47	0.47	0.03	0.43	0.00	0.35	0.35	0.35	0.35	0.00	0.3
Sat Flow, veh/h	1795	3539	114	1795	3582	1598	1388	1885	1598	872	0	159
Grp Volume(v), veh/h	94	677	705	30	1249	0	280	32	508	9	0	3
Grp Sat Flow(s), veh/h/ln	1795	1791	1861	1795	1791	1598	1388	1885	1598	872	0	159
Serve(g_s), s	4.5	28.3	28.4	1.4	26.7	0.0	14.7	1.0	26.5	0.6	0.0	1.
Cycle Q Clear(q_c), s	4.5	28.3	28.4	1.4	26.7	0.0	15.8	1.0	26.5	1.6	0.0	1.
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.0
ane Grp Cap(c), veh/h	121	837	870	53	1540		547	656	556	376	0	55
//C Ratio(X)	0.78	0.81	0.81	0.56	0.81		0.51	0.05	0.91	0.02	0.00	0.0
vail Cap(c_a), veh/h	195	1044	1085	105	1907		628	766	649	427	0	64
ICM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Jpstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.0
Jniform Delay (d), s/veh	40.1	19.9	19.9	41.8	21.8	0.0	24.2	18.9	27.2	19.4	0.0	18.
ncr Delay (d2), s/veh	10.2	3.9	3.8	9.1	2.2	0.0	0.7	0.0	15.9	0.0	0.0	0.
nitial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
6ile BackOfQ(50%),veh/ln	2.3	11.8	12.3	0.8	11.0	0.0	4.7	0.4	11.9	0.1	0.0	0.
Jnsig. Movement Delay, s/ve												
nGrp Delay(d),s/veh	50.3	23.8	23.7	50.9	24.0	0.0	24.9	18.9	43.1	19.4	0.0	19.
nGrp LOS	D	C	C	D	C	0.0	C	В	D	В	A	
Approach Vol, veh/h		1476			1279	Α		820			41	
approach Delay, s/veh		25.5			24.7	- / (		36.0			19.1	
Approach LOS		C			C			D			В	
imer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	45.3		34.9	10.4	42.0		34.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),		50.9		35.5	9.5	46.5		35.5				
Max Q Clear Time (q c+l1),		30.4		3.6	6.5	28.7		28.5				
Green Ext Time (p_c), s	0.0	10.2		0.2	0.0	8.9		1.9				
ntersection Summary												
ICM 6th Ctrl Delay			27.5									
1014 (11 1 00												

HCM 6th LOS

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

	•	<b>→</b>	1	<b>←</b>	1	†	1	<b>&gt;</b>	ļ
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	508	1307	105	955	286	251	74	142	821
v/c Ratio	0.83	0.87	0.72	0.81	0.73	0.33	0.17	0.72	0.93dr
Control Delay	58.4	34.5	80.2	39.8	61.3	40.2	0.8	70.6	42.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	34.5	80.2	39.8	61.3	40.2	0.8	70.6	42.7
Queue Length 50th (ft)	197	438	81	340	112	87	0	107	221
Queue Length 95th (ft)	#273	539	#171	423	#161	127	1	#194	#337
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	670	1674	152	1311	421	809	467	223	960
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.78	0.69	0.73	0.68	0.31	0.16	0.64	0.86

Intersection Summary

Beechwood SP

9: River Road & Creston Road

Sth percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Cumulative PM HCM 6th Signalized Intersection Summary

	۶	-	•	•	•	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> ↑		ሻ	<b>↑</b> ↑		1/1	<b>^</b>	7	ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	483	849	392	100	758	149	272	238	70	135	280	500
Future Volume (veh/h)	483	849	392	100	758	149	272	238	70	135	280	500
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	508	894	0	105	798	157	286	251	74	142	295	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	636	1626		135	1031	203	387	489	218	180	450	
Arrive On Green	0.18	0.45	0.00	0.08	0.35	0.35	0.11	0.14	0.14	0.10	0.13	0.00
Sat Flow, veh/h	3483	3676	0	1795	2976	585	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	508	894	0	105	480	475	286	251	74	142	295	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1770	1742	1791	1598	1795	1791	0
Q Serve(q s), s	10.7	14.0	0.0	4.4	18.4	18.4	6.1	5.0	3.2	5.9	6.0	0.0
Cycle Q Clear(q_c), s	10.7	14.0	0.0	4.4	18.4	18.4	6.1	5.0	3.2	5.9	6.0	0.0
Prop In Lane	1.00	1110	0.00	1.00	10.1	0.33	1.00	0.0	1.00	1.00	0.0	0.00
Lane Grp Cap(c), veh/h	636	1626	0.00	135	621	613	387	489	218	180	450	0.00
V/C Ratio(X)	0.80	0.55		0.78	0.77	0.77	0.74	0.51	0.34	0.79	0.66	
Avail Cap(c a), veh/h	973	2491		222	966	955	611	1169	521	324	1187	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.1	15.3	0.0	34.9	22.4	22.4	33.1	30.8	30.1	33.8	32.0	0.0
Incr Delay (d2), s/veh	2.7	0.3	0.0	9.2	2.1	2.1	2.8	0.8	0.9	7.5	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	5.3	0.0	2.2	7.5	7.4	2.6	2.1	1.2	2.8	2.5	0.0
Unsig. Movement Delay, s/veh		0.0	0.0		7.0	7	2.0	2		2.0	2.0	0.0
LnGrp Delay(d),s/veh	32.8	15.6	0.0	44.1	24.5	24.6	35.9	31.7	31.0	41.3	33.7	0.0
LnGrp LOS	C	В	0.0	D	C	C	D	C	C	D	C	0.0
Approach Vol, veh/h		1402	Α		1060			611			437	А
Approach Delay, s/veh		21.8	А		26.5			33.6			36.2	Д
Approach LOS		C C			20.5 C			C			D.2	
**							_				D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	39.4	13.1	14.2	18.6	31.2	12.2	15.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	53.5	13.5	25.5	21.5	41.5	13.9	25.1				
Max Q Clear Time (g_c+l1), s	6.4	16.0	8.1	8.0	12.7	20.4	7.9	7.0				
Green Ext Time (p_c), s	0.1	7.7	0.5	1.5	1.3	6.2	0.2	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			27.1									
HCM 6th LOS			С									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP 10: Creston Road & Golden Hill Road Cumulative PM Queues

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	<b>*</b>	-	-	*	-	4	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
ane Configurations	ች	<b>^</b>	ħβ		ሻሻ	7	
raffic Volume (vph)	89	517	581	570	577	88	
uture Volume (vph)	89	517	581	570	577	88	
eal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
tal Lost time (s)	4.5	4.5	4.5		4.5	4.5	
ane Util. Factor	1.00	0.95	0.95		0.97	1.00	
pb, ped/bikes	1.00	1.00	0.99		1.00	1.00	
pb, ped/bikes	1.00	1.00	1.00		1.00	1.00	
t	1.00	1.00	0.93		1.00	0.85	
It Protected	0.95	1.00	1.00		0.95	1.00	
atd. Flow (prot)	1787	3574	3282		3467	1599	
t Permitted	0.95	1.00	1.00		0.95	1.00	
atd. Flow (perm)	1787	3574	3282		3467	1599	
eak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	
dj. Flow (vph)	92	533	599	588	595	91	
RTOR Reduction (vph)	0	0	138	0	0	69	
ane Group Flow (vph)	92	533	1049	0	595	22	
Confl. Peds. (#/hr)				4			
leavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
urn Type	Prot	NA	NA		Perm	Perm	
Protected Phases	5	2	6				
Permitted Phases		_			4	4	
Actuated Green, G (s)	8.0	47.0	34.5		20.3	20.3	
ffective Green, g (s)	8.0	47.0	34.5		20.3	20.3	
Actuated g/C Ratio	0.09	0.56	0.41		0.24	0.24	
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	
/ehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	
ane Grp Cap (vph)	169	1990	1341		833	384	
/s Ratio Prot	c0.05	0.15	c0.32				
/s Ratio Perm					c0.17	0.01	
/c Ratio	0.54	0.27	0.78		0.71	0.06	
Jniform Delay, d1	36.5	9.7	21.7		29.4	24.7	
Progression Factor	1.00	1.00	1.00		1.00	1.00	
ncremental Delay, d2	3.6	0.1	3.1		2.9	0.1	
Delay (s)	40.0	9.8	24.7		32.3	24.7	
evel of Service	D	Α	С		С	С	
Approach Delay (s)		14.3	24.7		31.3		
Approach LOS		В	С		С		
ntersection Summary							
CM 2000 Control Delay			23.9	Н	CM 2000	Level of Service	С
ICM 2000 Volume to Capac	ity ratio		0.69				
ctuated Cycle Length (s)	,		84.4	S	um of lost	t time (s)	18.0
ntersection Capacity Utilizat	ion		67.2%			of Service	C
Analysis Period (min)			15				
Critical Lane Group							

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	1	†	1	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	208	822	266	148	563	474	176	395	405	443	146	
v/c Ratio	0.68	0.76	0.44	0.60	0.58	0.62	0.62	0.62	0.67	0.63	0.36	
Control Delay	52.3	36.5	12.5	53.3	34.4	7.1	50.6	40.1	45.0	41.4	13.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.3	36.5	12.5	53.3	34.4	7.1	50.6	40.1	45.0	41.4	13.2	
Queue Length 50th (ft)	122	236	37	87	156	0	103	114	122	134	13	
Queue Length 95th (ft)	236	384	125	179	262	89	199	185	205	217	72	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	150		150	170		170	230		245		100	
Base Capacity (vph)	415	1369	714	337	1215	840	434	1021	823	1022	534	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.60	0.37	0.44	0.46	0.56	0.41	0.39	0.49	0.43	0.27	
Intersection Summary												

Central Coast Transportation Consulting
Synchro 10 Report
Page 23
Synchro 10 Report
Page 25

HCM 6th LOS

11: Creston Road & Niblick Road/Sherwood Road

Beechwood SP

12: Creston Road & Stoney Creek Road

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	LDIT	1100	4	WEIN	ሻ	1	HOIL	ሻ	<u> </u>	7
Traffic Vol, veh/h	135	10	10	10	10	42	20	298	10	53	379	166
Future Vol. veh/h	135	10	10	10	10	42	20	298	10	53	379	166
Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0.7	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-		None	-	-	None
Storage Length			-				30			70		60
Veh in Median Storage	2,# -	0	-		0		-	0		-	0	-
Grade, %	-	0	-		0		-	0		-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	136	10	10	10	10	42	20	301	10	54	383	168
Major/Minor	Minor2			Minor1			Major1		- 1	Major2		
Conflicting Flow All	872	847	388	931	1010	310	556	0	0	311	0	0
Stage 1	496	496	-	346	346		-			-		-
Stage 2	376	351	-	585	664		-			-		-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51		-	-		-		-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51		-			-		-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	272	300	662	248	241	732	1020	-		1255	-	-
Stage 1	558	547	-	672	637	-	-	-	-	-	-	-
Stage 2	647	634		499	460		-	-	-	-	-	
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	234	280	659	226	225	729	1015	-		1255		-
Mov Cap-2 Maneuver	234	280	-	226	225	-	-	-	-	-	-	-
Stage 1	545	521	-	659	624		-	-	-	-	-	-
Stage 2	585	621	-	461	438	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	41.8			15			0.5			0.7		
HCM LOS	Е			С								
Minor Lane/Major Mvn	nt	NBL	NBT	NBR	EBLn1\	NBLn1	SBL	SBT	SBR			
Capacity (veh/h)		1015			247	424	1255					
HCM Lane V/C Ratio		0.02			0.634	0.148	0.043					
HCM Control Delay (s)		8.6			41.8	15	8					
HCM Lane LOS		А			Е	С	A					
HCM 95th %tile Q(veh	)	0.1			3.9	0.5	0.1					

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	В

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ર્ન	7		<b>€17</b> 196
Traffic Vol, veh/h	10	10	10	127	10	93	0	10	225	199	174	196
Future Vol, veh/h	10	10	10	127	10	93	0	10	225	199	174	196
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	11	11	11	137	11	100	0	11	242	214	187	211
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	10			13.1				11.9			14	
HCM LOS	Α			В				В			В	

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	33%	55%	64%	0%
Vol Thru, %	96%	0%	33%	4%	36%	83%
Vol Right, %	0%	100%	33%	40%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	235	199	30	230	272	118
LT Vol	10	0	10	127	174	0
Through Vol	225	0	10	10	98	98
RT Vol	0	199	10	93	0	20
Lane Flow Rate	253	214	32	247	292	127
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.423	0.314	0.058	0.408	0.515	0.208
Departure Headway (Hd)	6.022	5.29	6.522	5.938	6.335	5.89
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	596	678	546	606	567	608
Service Time	3.77	3.038	4.599	3.989	4.083	3.637
HCM Lane V/C Ratio	0.424	0.316	0.059	0.408	0.515	0.209
HCM Control Delay	13.1	10.5	10	13.1	15.7	10.2
HCM Lane LOS	В	В	Α	В	С	В
HCM 95th-tile Q	2.1	1.3	0.2	2	2.9	0.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	
Marrant	CDD
Movement	SBR
Lant Configurations	
Traffic Vol, veh/h	20
Future Vol, veh/h	20
Peak Hour Factor	0.93
Heavy Vehicles, %	1
Mvmt Flow	22
Number of Lanes	0
A	
Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	t
Conflicting Lanes Left	
Conflicting Approach Rigi	ht
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

### Beechwood SP 15: US 101 SB Ramp & Pine Street & Riverside Avenue

	*	-	*	1	-	*	4	<b>†</b>	-	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ર્ન	7					<b>1</b> >	
Traffic Volume (veh/h)	0	0	0	0	304	20	0	0	0	0	400	53
Future Volume (Veh/h)	0	0	0	0	304	20	0	0	0	0	400	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	330	22	0	0	0	0	435	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	629	464	464	464	493	0	493			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
O	/20	4/4	4/4	4/4	400	0	400			^		

vCu, unblocked vol	629	464	464	464	493	0	493	0
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1
tC, 2 stage (s)								
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2
p0 queue free %	100	100	100	100	31	98	100	100
cM capacity (veh/h)	172	497	600	510	478	1088	1076	1630
Direction, Lane #	WB 1	SB 1						
Volume Total	352	493						
Volume Left	0	0						
Volume Right	22	58						
cSH	499	1700						
Volume to Capacity	0.70	0.29						
Queue Length 95th (ft)	138	0						
Control Delay (s)	27.6	0.0						
Lane LOS	D							
Approach Delay (s)	27.6	0.0						
Approach LOS	D							

Approach LOS	D		
Intersection Summary			
Average Delay	11.5		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection							i
Int Delay, s/veh	6.6						
,							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations		7	ሻ	<b>^</b>	•	7	
Traffic Vol, veh/h	259	150	80	175	136	197	
Future Vol, veh/h	259	150	80	175	136	197	
Conflicting Peds, #/hr		0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None		None	
Storage Length	0	145	105	-	-	0	
Veh in Median Storag	e,# 0	-	-	0	0	-	
Grade, %	0	-		0	0	-	
Peak Hour Factor	97	97	97	97	97	97	
Heavy Vehicles, %	1	1	1	1	1	1	
Mymt Flow	267	155	82	180	140	203	
	14' 0				4 1 0		
Major/Minor	Minor2		Major1		Najor2		
Conflicting Flow All	394	140	343	0	-	0	
Stage 1	140	-	-	-		-	
Stage 2	254	-	-	-	-	-	
Critical Hdwy	6.615	6.215	4.115	-		-	
Critical Hdwy Stg 1	5.415	-	-	-	-	-	
Critical Hdwy Stg 2	5.815	-	-	-		-	
Follow-up Hdwy	3.5095	3.3095	2.2095	-	-	-	
Pot Cap-1 Maneuver	599	910	1221	-		-	
Stage 1	889	-	-	-	-	-	
Stage 2	768	-	-	-		-	
Platoon blocked. %							
Mov Cap-1 Maneuver	559	910	1221	-		-	
Mov Cap-2 Maneuver		710	1221				
Stage 1	829						
Stage 2	768					-	
Stage 2	/08					-	
Approach	EB		NB		SB		
HCM Control Delay, s	14.5		2.6		0		
HCM LOS	В						
		NDI	NIDT	EDI 4.0	-01 0	CDT	
Minor Lane/Major Mvi	mt	NBL		EBLn1 l		SBT	
Capacity (veh/h)		1221		559	910	-	
HCM Lane V/C Ratio		0.068	-	0.478	0.17	-	
HCM Control Delay (s	s)	8.2	-	17.2	9.8	-	
HCM Lane LOS		Α	-	С	Α	-	
HCM 95th %tile Q(vel	h)	0.2	-	2.6	0.6	-	

Cumulative PM

Queues

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	•	$\rightarrow$	1	<b>—</b>	*	1	<b>†</b>	1	-	↓	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	75	464	710	266	524	141	424	1103	758	461	
v/c Ratio	0.27	0.84	0.69	0.47	0.52	0.69	0.80	0.84	0.87	0.46	
Control Delay	58.0	69.9	48.3	44.8	8.3	79.6	71.5	26.9	63.3	40.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.0	69.9	48.3	44.8	8.3	79.6	71.5	26.9	63.3	40.8	
Queue Length 50th (ft)	65	222	317	213	104	135	212	276	365	177	
Queue Length 95th (ft)	118	#304	390	304	190	207	275	345	447	241	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	301	599	1114	604	1048	265	597	1376	957	1058	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.77	0.64	0.44	0.50	0.53	0.71	0.80	0.79	0.44	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Beechwood SP

Cumulative PM

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		<b>→</b>	*	₩			-/		7		*	•
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Lane Configurations	7	<b>↑</b> ↑		ሻሻ	<b>^</b>	7		<b>^</b>	77	ሻሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	73	338	113	689	258	508	137	411	1070	735	325	12
Future Volume (veh/h)	73	338	113	689	258	508	137	411	1070	735	325	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach	1005	No	4005	4005	No	4005	4005	No	4005	4005	No	400
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	75	348	116	710	266	524	141	424	1103	758	335	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	00
Cap, veh/h	276	405	133	996	539	833	167	609	1282	836	791	29
Arrive On Green	0.15	0.15	0.15	0.29	0.29	0.29	0.09	0.17	0.17	0.24	0.31	0.3
Sat Flow, veh/h	1795	2640	865	3483	1885	1573	1795	3582	2812	3483	2560	94
Grp Volume(v), veh/h	75	234	230	710	266	524	141	424	1103	758	233	22
Grp Sat Flow(s), veh/h/ln	1795	1791	1714	1742	1885	1573	1795	1791	1406	1742	1791	171
Q Serve(g_s), s	5.0	17.4	17.9	24.9	16.0	32.3	10.5	15.2	23.2	28.8	14.1	14
Cycle Q Clear(g_c), s	5.0	17.4	17.9	24.9	16.0	32.3	10.5	15.2	23.2	28.8	14.1	14
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		0.5
Lane Grp Cap(c), veh/h	276	275	263	996	539	833	167	609	1282	836	554	53
V/C Ratio(X)	0.27	0.85	0.87	0.71	0.49	0.63	0.85	0.70	0.86	0.91	0.42	0.4
Avail Cap(c_a), veh/h	308	307	294	1139	616	898	271	609	1282	978	554	53
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Uniform Delay (d), s/veh	51.0	56.2	56.4	43.7	40.5	23.0	60.9	53.3	26.5	50.3	37.4	37
Incr Delay (d2), s/veh	0.5	18.4	22.3	1.8	0.7	1.3	12.4	3.5	6.1	10.8	0.5	0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
%ile BackOfQ(50%),veh/ln	2.3	9.3	9.4	10.8	7.4	11.8	5.3	7.0	20.0	13.8	6.3	6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	74.6	78.7	45.5	41.2	24.2	73.3	56.7	32.6	61.1	37.9	38
LnGrp LOS	D	E	E	D	D	С	E	E	С	E	D	
Approach Vol, veh/h		539			1500			1668			1219	
Approach Delay, s/veh		73.2			37.3			42.2			52.4	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.4	29.0		25.5	18.5	48.0		44.4				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 38	23.2		23.4	20.6	* 41		44.6				
Max Q Clear Time (g_c+l1), s	30.8	25.2		19.9	12.5	16.5		34.3				
Green Ext Time (p_c), s	1.9	0.0		1.1	0.2	2.9		4.7				
Intersection Summary												
HCM 6th Ctrl Delay			46.6									
HCM 6th LOS			D									

Beechwood SP 17: S. River Road & Niblick Road Cumulative PM Queues

	•	<b>→</b>	*	1	+	1	†	1	Ţ	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	281	1115	582	140	994	383	351	205	523	
v/c Ratio	0.72	0.82	0.65	0.72	0.76	0.74	0.51	0.76	0.76	
Control Delay	59.8	37.5	9.9	70.8	34.0	54.6	37.8	64.3	46.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.8	37.5	9.9	70.8	34.0	54.6	37.8	64.3	46.6	
Queue Length 50th (ft)	103	376	55	100	317	138	108	143	180	
Queue Length 95th (ft)	#170	506	188	#208	432	201	156	#261	242	
Internal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	412	1473	933	209	1440	601	892	313	893	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.68	0.76	0.62	0.67	0.69	0.64	0.39	0.65	0.59	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 17: S. River Road & Niblick Road

Cumulative PM HCM 6th Signalized Intersection Summary

Synchro 10 Report Page 42

	۶	<b>→</b>	*	•	<b>—</b>	4	1	†	1	-	<b>+</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	<b>^</b>	7	ሻ	<b>↑</b> ↑		77	<b>↑</b> ↑		7	<b>↑</b> ↑	
Traffic Volume (veh/h)	270	1070	559	134	802	153	368	245	92	197	372	130
Future Volume (veh/h)	270	1070	559	134	802	153	368	245	92	197	372	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	281	1115	582	140	835	159	383	255	96	205	388	135
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	358	1393	621	172	1147	218	472	493	181	242	500	172
Arrive On Green	0.10	0.39	0.39	0.10	0.38	0.38	0.14	0.19	0.19	0.13	0.19	0.19
Sat Flow, veh/h	3483	3582	1598	1795	3001	571	3483	2566	941	1795	2612	897
Grp Volume(v), veh/h	281	1115	582	140	498	496	383	176	175	205	264	259
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1795	1791	1781	1742	1791	1716	1795	1791	1719
Q Serve(g_s), s	7.5	26.4	20.9	7.3	22.8	22.8	10.2	8.4	8.8	10.7	13.4	13.7
Cycle Q Clear(g_c), s	7.5	26.4	20.9	7.3	22.8	22.8	10.2	8.4	8.8	10.7	13.4	13.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.55	1.00		0.52
Lane Grp Cap(c), veh/h	358	1393	621	172	684	681	472	344	330	242	343	329
V/C Ratio(X)	0.79	0.80	0.94	0.81	0.73	0.73	0.81	0.51	0.53	0.85	0.77	0.79
Avail Cap(c_a), veh/h	462	1648	735	235	820	816	674	502	481	351	506	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	25.9	11.0	42.4	25.3	25.3	40.2	34.6	34.7	40.4	36.7	36.8
Incr Delay (d2), s/veh	6.7	2.5	17.8	14.3	2.7	2.7	5.0	1.2	1.3	12.2	4.3	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	10.9	9.3	3.8	9.5	9.5	4.6	3.6	3.7	5.4	6.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	28.4	28.7	56.7	27.9	28.0	45.2	35.8	36.1	52.7	40.9	41.9
LnGrp LOS	D	С	С	E	С	С	D	D	D	D	D	D
Approach Vol, veh/h		1978			1134			734			728	
Approach Delay, s/veh		31.4			31.5			40.8			44.6	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	41.7	17.5	22.8	14.3	41.1	17.4	22.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	44.0	18.5	27.0	12.7	43.8	18.7	26.8				
Max Q Clear Time (q c+l1), s	9.3	28.4	12.2	15.7	9.5	24.8	12.7	10.8				
Green Ext Time (p_c), s	0.1	8.8	0.7	2.3	0.3	6.0	0.3	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			35.0									
HCM 6th LOS			D									

Central Coast Transportation Consulting

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			41	ĵ.	
Traffic Vol, veh/h	57	10	10	468	734	105
Future Vol. veh/h	57	10	10	468	734	105
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None		None
Storage Length	0	-		-		-
Veh in Median Storage	-			0	0	-
Grade, %	0			0	0	
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	59	10	10	488	765	109
WWITE FIOW	37	10	10	400	703	107
	Vinor2		Major1		Najor2	
Conflicting Flow All	1329	821	875	0	-	0
Stage 1	821	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-		-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-		-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	171	374	771	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	604				-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	168	374	770			
Mov Cap-2 Maneuver	168	-			-	-
Stage 1	424					
Stage 2	603					
Olago L	000					
Annroach	EB		NB		SB	
Approach HCM Control Delay, s	36.3		0.2		0	
			0.2		0	
HCM LOS	Е					
Minor Lane/Major Mvm	it	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		770		183		
HCM Lane V/C Ratio		0.014		0.381		
HCM Control Delay (s)		9.7	0	36.3		
HCM Lane LOS		A	A	50.5 E		
HCM 95th %tile Q(veh	)	0	-	1.7		
TION 75th 70the Q(Veri		U		1.7		

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
		EBR	NRL			SBK
Lane Configurations	W			ની	1>	
Traffic Vol, veh/h	40	10	20	428	644	54
Future Vol, veh/h	40	10	20	428	644	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	e,# 2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mymt Flow	43	11	22	465	700	59
WWW	13	- ''	22	100	700	37
	Minor2		Major1		Najor2	
Conflicting Flow All	1239	730	759	0	-	0
Stage 1	730	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-		-	
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	193	421	848	-		-
Stage 1	475					
Stage 2	602					
Platoon blocked, %	002					
	10/	401	0.40			
Mov Cap-1 Maneuver	186	421	848	-		-
Mov Cap-2 Maneuver	382	-	-		-	
Stage 1	458	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	15.8		0.4		0	
HCM LOS	C		0.1		0	
200						
				EDI 6	CD.	CDD
		NIDO			SBT	SBR
Minor Lane/Major Mvn	nt	NBL	NBT		JUI	
Capacity (veh/h)	nt	NBL 848	NBT -	389	-	
	nt					
Capacity (veh/h)		848	-	389	-	-
Capacity (veh/h) HCM Lane V/C Ratio		848 0.026	-	389 0.14	-	-
Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	)	848 0.026 9.4	- 0	389 0.14 15.8	-	

Beechwood SP

21: Charolais Road & Holstein Drive

latana atian						
Intersection	0.4					
Int Delay, s/veh						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ň	<b>↑</b>	₽		Y	
Traffic Vol, veh/h	10	564	358	10	10	10
Future Vol, veh/h	10	564	358	10	10	10
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storag	e,# -	0	0	-	0	-
Grade, %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	11	613	389	11	11	11
Major/Minor	Major1	N.	/lajor2		Minor2	
Conflicting Flow All	414	0	- 10	0	1044	409
Stage 1	414	-		-	409	407
Stage 2					635	
Critical Hdwy	4.11	_			6.41	6.21
Critical Hdwy Stg 1	4.11				5.41	0.21
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209					
Pot Cap-1 Maneuver	1150				255	645
Stage 1	1100				673	040
Stage 2			-		530	
Platoon blocked, %					550	
Mov Cap-1 Maneuver	1135				246	636
Mov Cap-1 Maneuver					246	030
Stage 1	-		-		658	
					523	-
Stage 2	-	-	-		523	
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		15.8	
HCM LOS					С	
Minor Lane/Major Mvr	mt	EBL	EBT	WBT	WBR:	SBLn1
Capacity (veh/h)		1135	-			355
HCM Lane V/C Ratio		0.01	-			0.061
HCM Control Delay (s	5)	8.2	-			15.8
HCM Lane LOS		Α				С

HCM 95th %tile Q(veh)

HCM 95th %tile Q(veh)

													_
Intersection													
Int Delay, s/veh	1.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	2
Lane Configurations	*	ĵ.		*	ĵ.			4			4		_
Traffic Vol, veh/h	40	524	10	10	328	25	10	0	10	27	0	30	)
Future Vol. veh/h	40	524	10	10	328	25	10	0	10	27	0	30	)
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0	)
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	)
RT Channelized	-	-	None	-		None	-	-	None	-	-	None	
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-	
Veh in Median Storage	2,# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	j
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	
Mvmt Flow	42	552	11	11	345	26	11	0	11	28	0	32	!
Major/Minor I	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	383	0	0	563	0	0	1038	1047	558	1039	1039	370	)
Stage 1	-	-	-	-		-	642	642		392	392	-	
Stage 2	-		-	-			396	405		647	647	-	
Critical Hdwy	4.13	-	-	4.13		-	7.13	6.53	6.23	7.13	6.53	6.23	,
Critical Hdwy Stg 1		-		-		-	6.13	5.53		6.13	5.53		
Critical Hdwy Stg 2	-	-	-	-		-	6.13	5.53		6.13	5.53	-	
Follow-up Hdwy	2.227	-	-	2.227		-	3.527	4.027	3.327	3.527	4.027	3.327	
Pot Cap-1 Maneuver	1170	-		1003		-	208	227	527	208	230	673	,
Stage 1	-	-	-	-		-	461	467		631	605	-	
Stage 2	-	-	-	-	-	-	627	597	-	458	465	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver	1157	-		1003		-	191	214	527	194	217	665	)
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	214	-	194	217	-	
Stage 1	-	-	-	-	-	-	444	450	-	601	592	-	
Stage 2	-	-	-	-	-	-	591	584	-	433	448	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.6			0.2			18.9			19.4			
HCM LOS							С			С			
Minor Lane/Major Mvm	nt I	VBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)		280	1157	-	-	1003	-		309				
HCM Lane V/C Ratio		0.075	0.036			0.01			0.194				
HCM Control Delay (s)		18.9	8.2			8.6			19.4				
HCM Lane LOS		С	А			Α		-	С				
HOMOETI OUT OF 1	١	0.0	0.4						0.7				

Intersection   Int Delay, s/veh
Movement
Lane Configurations   Traffic Vol, velvh   10   552   352   10   10   10     Future Vol, velvh   10   552   352   10   10   10     Future Vol, velvh   9   0   0   9   0   0     Sign Control   Free   Free   Free   Free   Free   Stop   Stop     RT Channelized   None   None   None   None   None   None     Storage Length   50   0   0   0   0   0     Veh in Median Storage, #   0   0   0   0   0   0     Grade, %   0   0   0   0   0   0   0     Peak Hour Factor   92   92   92   92   92     Heavy Vehicles, %   1   1   1   1   1   1     Mwmt Flow   11   600   383   11   11   11     Major/Minor   Major   Major   Major   Minor     Stage 1   0   0   0   0   398     Stage 2   0   0   0   398     Stage 2   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0     Stage 1   0   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0   0     Critical Hdwy Stg 2   0   0   0   0   0   0   0   0     Stage 1   0   0   0   0   0   0   0   0   0
Traffic Vol, vel/h
Traffic Vol, veh/h         10         552         352         10         10         10           Future Vol, veh/h         10         552         352         10         10         10           Conflicting Peds, #hr         9         0         0         9         0         0           Sign Control         Free         Free         Free         Free         Stop         Stop           RT Channelized         - None         - None         - None         - None         - None           Storage Length         50         0         0         - 0         - 0           Veh in Median Storage, # - 0         0         0         0         - 0         - 0           Grade, % - 0         92
Future Vol, veh/h Conflicting Peds, #/hr Sign Control Free Free Free Free Free Free Free Fre
Conflicting Peds, #/hr   9
Sign Control         Free Pree Pree Pree Pree Pree Pree Pree
RT Channelized         - None         - None         - None           Storage Length         50         - 0         - 0         -           Veh in Median Storage, #         - 0         0         - 0         -           Grade, %         - 0         0         - 0         -           Peak Hour Factor         92         92         92         92         92         92           Heavy Vehicles, %         1         1         1         1         1         1         1         1         1           Major/Minor         Majort         Majort         Minor2         Minor2           Conflicting Flow All         403         0         0         1020         398           Stage 1         -         -         -         622         -           Critical Hdwy         4.11         -         -         6.41         6.21           Critical Hdwy Stg 1         -         -         -         5.41         -           Critical Hdwy Stg 2         -         -         5.41         -           Follow-up Hdwy         2.209         -         -         3.509         3.309           Pot Cap-1 Maneuver         1161
Storage Length   So
Veh in Median Storage, # - O O O Grade, % - O O O - O O - O O - O O O O O O O O
Grade, %         -         0         0         -         0         -         0         -         Post         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         D         -         Minor2         Minor2         C         Conflicting Flow All         403         0         -         0         1020         398         -         Stage 1         -         -         -         398         -         Stage 2         -         -         622         -         -         622         -         -         622         -         -         622         -         -         622         -         -         622         -         -         622         -         -         622         -         -         622         -         -         641         6.21         -         -         641         6.21         -         -         541         -         -         541         -         -         541         -
Peak Hour Factor         92         93
Heavy Vehicles, %
Momma         11         600         383         11         11         11           Major/Minor         Major1         Major2         Minor2           Conflicting Flow All         403         0         0         1020         398           Stage 1         -         -         -         622         -           Stage 2         -         -         -         622         -           Critical Hdwy         4.11         -         -         6.41         6.21           Critical Hdwy Stg 2         -         -         5.41         -           Follow-up Hdwy         2.209         -         -         3.509         3.309           Pot Cap-1 Maneuver         1161         -         -         263         654           Stage 2         -         -         -         537         -           Platoon blocked, %         -         -         537         -           Mov Cap-1 Maneuver         1151         -         256         648           Mov Cap-2 Maneuver         -         -         668         -
Major/Minor         Major1         Major2         Minor2           Conflicting Flow All         403         0         0         1020         398           Stage 1         -         -         622         -         622         -         622         -         622         -         622         -         641         6.21         -         641         6.21         -         641         6.21         -         5.41         -         641         6.21         -         5.41         -         67         -         5.41         -         5.61         5.25         5.53         3.309         9.00         5.35         5.309         3.309         9.00         5.35         5.37         -         5.37         -
Conflicting Flow All
Conflicting Flow All
Conflicting Flow All
Stage 1
Slage 2
Critical Hdwy         4.11         - 6.41         6.21           Critical Hdwy Stg 1         - 5.41         -           Critical Hdwy Stg 2         - 5.41         -           Follow-up Hdwy         2.209         - 3.509         3.309           Pot Cap-1 Maneuver         1161         - 263         654           Stage 1         - 681         -         537           Platoon blocked, %         -         -           Mov Cap-1 Maneuver         1151         - 256         648           Mov Cap-2 Maneuver         - 256         -         -           Stage 1         - 668         -         -
Critical Hdwy Stg 1     -     -     5.41     -       Critical Hdwy Stg 2     -     -     5.41     -       Follow-up Hdwy     2.209     -     -     3.509     3.309       Pot Cap-1 Maneuver     1161     -     263     654       Stage 1     -     -     681     -       Stage 2     -     -     537     -       Platoon blocked, %     -     -     -       Mov Cap-1 Maneuver     1151     -     -     256     648       Mov Cap-2 Maneuver     -     -     668     -     -       Stage 1     -     -     668     -
Critical Hdwy Stg 2     -     -     5.41     -       Follow-up Hdwy     2.209     -     3.509     3.309       Pot Cap-1 Maneuver     1161     -     263     654       Stage 1     -     -     681     -       Stage 2     -     -     537     -       Platoon blocked, %     -     -     -       Mov Cap-1 Maneuver     1151     -     256     648       Mov Cap-2 Maneuver     -     256     -     -       Stage 1     -     -     668     -
Follow-up Hdwy 2.209 - 3.509 3.309 Pot Cap-1 Maneuver 1161 - 263 654 Stage 1 - 681 - 537 Platoon blocked, % Mov Cap-1 Maneuver 1151 - 256 648 Mov Cap-2 Maneuver - 256 Stage 1 - 668 - 668
Pot Cap-1 Maneuver 1161 - 263 654 Stage 1 - 681 - Stage 2 - 537 - Platoon blocked, % - 256 648 Mov Cap-1 Maneuver 1151 - 256 648 Mov Cap-2 Maneuver - 256 - Stage 1 - 668 -
Stage 1 681 537
Stage 2       -       -       537       -         Platoon blocked, %       -       -       -       -         Mov Cap-1 Maneuver       1151       -       -       256       648         Mov Cap-2 Maneuver       -       -       256       -       -         Stage 1       -       -       668       -       -       -
Platoon blocked, %  Mov Cap-1 Maneuver 1151 - 256 648  Mov Cap-2 Maneuver - 256  Stage 1 - 668
Mov Cap-1 Maneuver         1151         -         -         256         648           Mov Cap-2 Maneuver         -         -         -         256         -           Stage 1         -         -         -         668         -
Mov Cap-1 Maneuver         1151         -         -         256         648           Mov Cap-2 Maneuver         -         -         -         256         -           Stage 1         -         -         -         668         -
Mov Cap-2 Maneuver 256 - Stage 1 668 -
Stage 1 668 -
Stage 2
Approach EB WB SB
HCM Control Delay, s 0.1 0 15.4
HCM LOS C
Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1
,
Capacity (veh/h) 1151 367
HCM Lane V/C Ratio 0.009 0.059
HCM Control Delay (s) 8.2 15.4
HCM Lane LOS A C
HCM 95th %tile Q(veh) 0 0.2

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	<b>A</b>	1	,,,,,,	W	00.1
Traffic Vol, veh/h	175	387	272	25	17	90
Future Vol. veh/h	175	387	272	25	17	90
Conflicting Peds, #/hr	2	0	0	23	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	- -	None
Storage Length	100	-		-	0	-
Veh in Median Storage		0	0		0	
Grade. %	, II -	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	190	421	296	27	18	98
IVIVIII TIUW	170	421	270	21	10	70
	Major1		Major2		Vinor2	
Conflicting Flow All	325	0	-	0	1113	312
Stage 1	-	-	-		312	
Stage 2	-	-	-	-	801	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1240	-	-		232	731
Stage 1			-	-	744	-
Stage 2			-		444	
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1238				196	730
Mov Cap-2 Maneuver	-				196	-
Stage 1			-		629	
Stage 2					443	
Jiage 2					113	
A 1			MD		CD.	
Approach	EB		WB		SB	
HCM Control Delay, s	2.6		0		14.2	
HCM LOS					В	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1238				509
HCM Lane V/C Ratio		0.154				0.228
HCM Control Delay (s)		8.4				14.2
HCM Lane LOS		Α.				В
HCM 95th %tile Q(veh	)	0.5				0.9
HOW FORT JOINE CI(VEI)	)	0.5				0.9

Intersection												
Int Delay, s/veh	3											
	EBL	EBT	EDD	WBL	WBT	WBR	NBL	NDT	NBR	SBL	SBT	CDD
Movement  Lane Configurations	EBL	€61	EBR	WDL	WB1	WBK	INDL	NBT	NBK	SBL		SBR
Traffic Vol. veh/h	70	248	0	0	155	٥	٥	4	0	10	4	110
Future Vol. veh/h	70	248	0	0	155	0	0	0	0	10	0	110
Conflicting Peds, #/hr	1	248	0	0	100	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	1166	1166	None	1166	1166	None	Siup -	Jiup -	None	Siup -	Stop -	None
Storage Length			NUITE -			INUITE -			INUITE			NUITE
Veh in Median Storage		0			0			0			0	
Grade, %		0			0			0			0	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mymt Flow	72	256	0	0	160	0	0	0	0	10	0	113
	12	200	- 0	0	100	0	0	0	- 0	10	0	113
Mainell Minne	4-:1			4-10			No. and			Ai		
	Major1			Major2			Minor1	F/4		Minor2	F ( 4	4/4
Conflicting Flow All	161	0	0	256	0	0	617	561	256	561	561	161
Stage 1	-	-	-		-	-	400	400	-	161	161	-
Stage 2	4 1 1		-	4 11	-		217	161	- ( 21	400	400	/ 21
Critical Hdwy	4.11			4.11			7.11 6.11	6.51 5.51	6.21	7.11 6.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-		5.51			5.51 5.51	
Critical Hdwy Stg 2 Follow-up Hdwy	2.209		-	2.209	- 1	-	6.11 3.509	4.009	3.309	6.11 3.509	4.009	3.309
Pot Cap-1 Maneuver	1424	-	-	1315		-	404	4.009	785	440	4.009	3.309
	1424		-	1313			628	603	780	843	767	887
Stage 1 Stage 2				-			788	767		628	603	
Platoon blocked, %			-				700	101	-	020	003	
Mov Cap-1 Maneuver	1423			1315	-		337	412	785	420	412	886
Mov Cap-2 Maneuver	1423			1313			337	412	700	420	412	000
Stage 1							591	567		792	766	
Stage 2							687	766		591	567	
Jiaye Z							007	700		371	307	
				14/0								
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.7			0			0			10.2		
HCM LOS							Α			В		
Minor Lane/Major Mvm	it	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR:	SBLn1			
Capacity (veh/h)		-	1423	-	-	1315	-	-	811			
HCM Lane V/C Ratio		-	0.051	-	-	-	-	-	0.153			
HCM Control Delay (s)		0	7.7	0	-	0	-	-	10.2			
HCM Lane LOS		Α	Α	Α	-	Α	-	-	В			

HCM 95th %tile Q(veh) - 0.2 - - 0 - - 0.5



#### Lane Group Lane Group Flow (vph) 435 1772 1728 220 342 v/c Ratio 0.55 0.65 Control Delay 0.7 43.5 5.7 84.1 45.4 Queue Delay 0.0 0.0 Total Delay Queue Length 50th (ft) 74.5 0.7 43.5 5.7 84.1 45.4 225 0 844 208 283 Queue Length 95th (ft) Internal Link Dist (ft) 298 0 #1133 74 312 398 942 2695 Turn Bay Length (ft) 345 330 450 Base Capacity (vph) 632 Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn 0 0 0 0 0 0 Reduced v/c Ratio 0.63 0.54 0.55 0.88 0.23 Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

1. OIX 40 L & DUCI	ia vista	DIIVC					Trown Signalized Inters	cettori capacity rinarysis
	۶	-	<b>←</b>	*	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	16.54	**	<b>^</b>	7	7	7		
Traffic Volume (vph)	400	1630	1590	202	190	315		
Future Volume (vph)	400	1630	1590	202	190	315		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7		
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00		
Frt	1.00	1.00	1.00	0.85	1.00	0.85		
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3127	3223	3223	1442	1612	1442		
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3127	3223	3223	1442	1612	1442		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	435	1772	1728	220	207	342		
RTOR Reduction (vph)	0	0	0	72	0	9		
Lane Group Flow (vph)	435	1772	1728	148	207	333		
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%		
Turn Type	Prot	NA	NA	Perm	Prot	Prot		
Protected Phases	8	Free!	6		7!	4		
Permitted Phases				6		4		
Actuated Green, G (s)	25.9	150.5	85.2	85.2	24.4	54.3		
Effective Green, g (s)	25.9	150.5	85.2	85.2	24.4	54.3		
Actuated g/C Ratio	0.17	1.00	0.57	0.57	0.16	0.36		
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7		
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0		
Lane Grp Cap (vph)	538	3223	1824	816	261	520		
v/s Ratio Prot	c0.14	0.55	c0.54		c0.13	0.23		
v/s Ratio Perm				0.10				
v/c Ratio	0.81	0.55	0.95	0.18	0.79	0.64		
Uniform Delay, d1	59.9	0.0	30.6	15.8	60.6	40.0		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	8.7	0.7	11.1	0.1	15.5	2.7		
Delay (s)	68.6	0.7	41.6	15.9	76.2	42.7		
Level of Service	E	Α	D	В	E	D		
Approach Delay (s)		14.1	38.7		55.3			
Approach LOS		В	D		Е			
Intersection Summary								
HCM 2000 Control Delay			29.1	Н	CM 2000	Level of Servic	e C	
HCM 2000 Volume to Capa	acity ratio		0.89					
Actuated Cycle Length (s)			150.5	S	um of lost	time (s)	15.0	
Intersection Capacity Utiliza	ation		78.8%	IC	CU Level o	of Service	D	
Analysis Period (min)			15					
! Phase conflict between	lane groups	S.						
c Critical Lane Group	-							

c Critical Lane Group

### Beechwood SP 2: Golden Hill Road & SR 46 E

# Cumulative Plus 674 Unit Project AM HCM 6th Signalized Intersection Summary

	•	-	*	1	<b>←</b>	*	1	<b>†</b>	1	↓	1	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	435	1157	387	443	1176	326	467	661	255	252	304	
v/c Ratio	1.14	0.91	0.48	1.14	0.92	0.43	1.11	0.88	0.72	0.69	0.64	
Control Delay	149.1	54.8	4.8	147.9	55.6	6.2	134.3	70.2	79.6	66.6	23.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	149.1	54.8	4.8	147.9	55.6	6.2	134.3	70.2	79.6	66.6	23.8	
Queue Length 50th (ft)	~285	590	0	~289	602	15	~298	344	134	239	85	
Queue Length 95th (ft)	#434	716	68	#445	733	87	#453	448	194	355	200	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	380	1524	887	387	1524	842	422	878	422	469	551	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.14	0.76	0.44	1.14	0.77	0.39	1.11	0.75	0.60	0.54	0.55	

#### Intersection Summary

Central Coast Transportation Consulting

	۶	<b>→</b>	*	•	<b>←</b>	4	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	<b>^</b>	7	ሻሻ	<b>^</b>	7	11	<b>†</b> î»		ሻሻ	<b>^</b>	7
Traffic Volume (veh/h)	400	1064	356	408	1082	300	430	516	92	235	232	280
Future Volume (veh/h)	400	1064	356	408	1082	300	430	516	92	235	232	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	435	1157	387	443	1176	326	467	561	100	255	252	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	361	1287	574	361	1355	604	401	713	127	299	388	329
Arrive On Green	0.11	0.39	0.39	0.11	0.41	0.41	0.12	0.26	0.26	0.09	0.22	0.22
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	2794	496	3209	1737	1472
Grp Volume(v), veh/h	435	1157	387	443	1176	326	467	331	330	255	252	304
Grp Sat Flow(s),veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1640	1605	1737	1472
Q Serve(g_s), s	18.0	52.7	23.7	18.0	52.2	26.8	20.0	29.9	30.1	12.5	21.1	32.4
Cycle Q Clear(g_c), s	18.0	52.7	23.7	18.0	52.2	26.8	20.0	29.9	30.1	12.5	21.1	32.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	361	1287	574	361	1355	604	401	421	418	299	388	329
V/C Ratio(X)	1.21	0.90	0.67	1.23	0.87	0.54	1.16	0.79	0.79	0.85	0.65	0.92
Avail Cap(c_a), veh/h	361	1443	644	361	1443	644	401	423	420	401	445	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.1	45.9	18.7	71.1	43.2	35.7	70.1	55.6	55.6	71.5	56.5	60.8
Incr Delay (d2), s/veh	115.9	7.4	2.4	124.7	5.7	0.8	98.2	9.4	9.8	12.5	2.7	26.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	21.9	8.3	13.5	21.3	9.7	13.6	13.4	13.5	5.6	9.5	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	187.0	53.3	21.1	195.7	48.9	36.5	168.3	64.9	65.4	84.0	59.2	87.1
LnGrp LOS	F	D	С	F	D	D	F	E	E	F	Е	F
Approach Vol, veh/h		1979			1945			1128			811	
Approach Delay, s/veh		76.4			80.2			107.8			77.5	
Approach LOS		Е			F			F			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	69.7	24.0	41.1	22.0	73.0	18.9	46.1				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (q c+l1), s	20.0	54.7	22.0	34.4	20.0	54.2	14.5	32.1				
Green Ext Time (p_c), s	0.0	7.7	0.0	1.4	0.0	7.7	0.4	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			83.9									
HCM 6th LOS			F									

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 4 Central Coast Transportation Consulting Synchro 10 Report Page 6

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		44	- 44	7		7
Traffic Vol, veh/h	0	1288	1690	30	0	100
Future Vol, veh/h	0	1288	1690	30	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	
Storage Length	-	-		165		-
Veh in Median Storage	e.# -	0	0	-	2	
Grade. %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10
Mymt Flow	0	1400	1837	33	0	109
IVIVITIL FIOW	0	1400	103/	33	0	109
Major/Minor	Major1	- 1	Major2	N	/linor2	
Conflicting Flow All	-	0	-	0	-	919
Stage 1		-		-		
Stage 2	-					
Critical Hdwy	_					7.1
Critical Hdwy Stg 1						7.1
Critical Hdwy Stg 2						
Follow-up Hdwy					- 1	3.4
	0			-	0	259
Pot Cap-1 Maneuver				-		
Stage 1	0	-	-		0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	259
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
, and the second						
Annroach	EP		MD		CD	
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		28.6	
HCM LOS					D	
Minor Lane/Major Mvr	nt	EBT	WBT	WBR S	SRI n1	
	110	LUI	WDI	WDIC	259	
Capacity (veh/h)						
HCM Cantrol Dalay (	`	-		-	0.42	
HCM Control Delay (s	)	-	-	-	28.6	
HCM Lane LOS		-	-	-	D	
HCM 95th %tile Q(veh	1)	-	-	-	2	

Intersection	0.1											
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	**	7	7	<b>∱</b> î≽			4	7		4	
Traffic Vol, veh/h	0	1232	56	3	1694	0	26	0	10	0	0	0
Future Vol, veh/h	0	1232	56	3	1694	0	26	0	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-		None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage	.,# -	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mvmt Flow	0	1339	61	3	1841	0	28	0	11	0	0	0
Major/Minor N	Major1			Wajor2			Minor1		1	Minor2		
Conflicting Flow All	1841	0	0	1400	0	0	2266	3186	670	2517	3247	921
Stage 1	-	-					1339	1339	-	1847	1847	-
Stage 2		-	-	-	-	-	927	1847	-	670	1400	-
Critical Hdwy	4.36	-		4.36			7.76	6.76	7.16	7.76	6.76	7.16
Critical Hdwy Stg 1		-	-	-	-	-	6.76	5.76	-	6.76	5.76	-
Critical Hdwy Stg 2		-					6.76	5.76	-	6.76	5.76	-
Follow-up Hdwy	2.33	-	-	2.33	-	-	3.63	4.13	3.43	3.63	4.13	3.43
Pot Cap-1 Maneuver	284	-		431	-	-	~ 19	8	375	12	7	252
Stage 1	-	-	-	-	-	-	146	200	-	68	109	-
Stage 2	-	-	-	-	-	-	268	109	-	388	186	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	284	-		431	-	-	~ 19	8	375	12	7	252
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	88	-	63	86	-
Stage 1	-	-	-	-	-	-	146	200	-	68	108	-
Stage 2	-	-	-	-	-	-	266	108	-	377	186	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			35.6			0		
HCM LOS							Ε			Α		
Minor Lane/Major Mvm	ıt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1		
Capacity (veh/h)		121	375	284			431	-	-	-		
HCM Lane V/C Ratio		0.234	0.029				0.008		-	-		
HCM Control Delay (s)		43.6	14.9	0	-	-	13.4	-	-	0		
HCM Lane LOS		Ε	В	Α	-		В	-	-	Α		
HCM 95th %tile Q(veh)	)	0.9	0.1	0	-	-	0	-	-	-		
Notes												
-: Volume exceeds car	nacity	\$. D.	elay exc	node 2	nne	L. Com	putation	Not D	ofinod	*. AII	majory	volume
voiume exceeds cap	Jacity	\$. DE	eiay ext	ceus 3	005	T. CUIII	putation	I NUL D	eilled	. All	majul 1	volume

Intersection										
Intersection Delay, s/veh	34.4									
Intersection LOS	D									
Approach		EB			WB		NB		SB	
Entry Lanes		2			2		2		2	
Conflicting Circle Lanes		1			2		2		2	
Adj Approach Flow, veh/h		626			736		1109		986	
Demand Flow Rate, veh/h		645			758		1142		1015	
Vehicles Circulating, veh/h		1094			1036		589		653	
Vehicles Exiting, veh/h		574			695		982		1141	
Ped Vol Crossing Leg, #/h		0			0		3		0	
Ped Cap Adj		1.000			1.000		0.998		1.000	
Approach Delay, s/veh		11.2			23.3		47.6		42.7	
Approach LOS		В			С		Е		Е	
Lane	Left	Right	Bypass	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	R	L	TR	LT	R	LT	R	
Assumed Moves	LT	TR	R	L	TR	LT	R	LT	R	
RT Channelized			Free							
Lane Util	0.470	0.530		0.474	0.526	0.707	0.293	0.724	0.276	
Follow-Up Headway, s	2.535	2.535		2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.544	4.544	168	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	224	253	1957	359	399	807	335	735	280	
Cap Entry Lane, veh/h	525	525	0.971	520	589	785	861	740	815	
Entry HV Adj Factor	0.971	0.969	163	0.972	0.971	0.971	0.970	0.971	0.971	
Flow Entry, veh/h	218	245	1900	349	387	784	325	714	272	
Cap Entry, veh/h	509	509	0.086	506	572	761	834	719	792	
V/C Ratio	0.427	0.482	0.0	0.690	0.678	1.029	0.390	0.993	0.344	
Control Delay, s/veh	14.4	15.9	Α	24.9	21.9	63.6	9.0	55.7	8.6	
LOS	В	С	0	С	С	F	Α	F	Α	
95th %tile Queue, veh	2	3		5	5	19	2	16	2	

7. 1 (1 V O 1 O 1 O 0 O 7 ( V O 0	1001100	001										
	۶	<b>→</b>	•	<b>←</b>	4	1	†	1	-	ļ	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	11	430	388	500	761	11	22	166	348	351	43	
v/c Ratio	0.12	0.68	0.81	0.55	0.66	0.08	0.15	0.60	0.78	0.78	0.09	
Control Delay	53.6	43.2	48.2	21.5	4.5	47.1	48.0	17.3	48.0	47.4	0.3	
Queue Delay	0.0	0.0	0.9	1.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.6	43.2	49.1	23.1	5.2	47.1	48.0	17.3	48.0	47.4	0.3	
Queue Length 50th (ft)	7	135	228	208	0	7	14	0	209	211	0	
Queue Length 95th (ft)	28	206	#419	398	75	26	41	65	#411	#412	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	94	862	596	1017	1206	340	358	434	530	538	575	
Starvation Cap Reductn	0	0	60	335	163	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.50	0.72	0.73	0.73	0.03	0.06	0.38	0.66	0.65	0.07	
Intersection Summary												
# 95th percentile volume e	exceeds cap	pacity, qu	eue may	be longer	r.							

Queue shown is maximum after two cycles.

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>↑</b> ↑		ሻ	<b>↑</b>	7	7	<b>↑</b>	7	ሻ	ર્ન	7
Traffic Volume (veh/h)	10	363	32	357	460	700	10	20	153	552	91	40
Future Volume (veh/h)	10	363	32	357	460	700	10	20	153	552	91	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	395	35	388	500	761	11	22	166	671	0	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	799	70	424	874	741	221	232	196	776	0	341
Arrive On Green	0.01	0.24	0.24	0.24	0.47	0.47	0.12	0.12	0.12	0.22	0.00	0.22
Sat Flow, veh/h	1767	3272	288	1767	1856	1572	1767	1856	1569	3534	0	1555
Grp Volume(v), veh/h	11	212	218	388	500	761	11	22	166	671	0	43
Grp Sat Flow(s),veh/h/ln	1767	1763	1798	1767	1856	1572	1767	1856	1569	1767	0	1555
Q Serve(g_s), s	0.6	10.8	11.0	22.5	20.5	49.5	0.6	1.1	10.9	19.2	0.0	2.3
Cycle Q Clear(g_c), s	0.6	10.8	11.0	22.5	20.5	49.5	0.6	1.1	10.9	19.2	0.0	2.3
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	23	431	439	424	874	741	221	232	196	776	0	341
V/C Ratio(X)	0.48	0.49	0.50	0.91	0.57	1.03	0.05	0.09	0.85	0.86	0.00	0.13
Avail Cap(c_a), veh/h	84	431	439	530	874	741	303	318	269	992	0	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.5	34.1	34.1	38.9	20.1	27.8	40.5	40.7	45.0	39.5	0.0	32.9
Incr Delay (d2), s/veh	14.4	0.9	0.9	18.0	0.9	40.2	0.1	0.2	16.5	6.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.8	4.9	11.7	8.8	25.8	0.3	0.5	5.1	8.8	0.0	0.9
Unsig. Movement Delay, s/veh		25.0	25.0	F( 0	04.0	(7.0	10 /	40.0	(4.5	4/ 1	0.0	00.4
LnGrp Delay(d),s/veh	65.9	35.0	35.0	56.9	21.0	67.9	40.6	40.9	61.5	46.1	0.0	33.1
LnGrp LOS	E	С	D	E	C	F	D	D	E	D	A	С
Approach Vol, veh/h		441			1649			199			714	
Approach Delay, s/veh		35.8			51.1			58.1			45.3	
Approach LOS		D			D			Е			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.7	30.2		27.6	5.9	54.0		17.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	31.5	23.0		29.5	5.0	49.5		18.0				
Max Q Clear Time (g_c+l1), s	24.5	13.0		21.2	2.6	51.5		12.9				
Green Ext Time (p_c), s	0.7	1.9		1.9	0.0	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			47.9									
HCM 6th LOS			D									

User approved volume balancing among the lanes for turning movement.

Central Coast Transportation Consulting
Synchro 10 Report
Page 15

Beechwood SP

Cumulative Plus 674 Unit Project AM

8: Paso Robles Street & 13th Street

	<b>≯</b>	<b>→</b>	•	<b>←</b>	*	4	†	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	1084	57	1403	430	235	22	272	11	11	
v/c Ratio	0.44	0.57	0.35	0.74	0.45	0.72	0.05	0.51	0.03	0.02	
Control Delay	52.4	15.8	50.6	20.0	6.6	47.8	29.7	11.5	29.6	0.1	
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	16.4	50.6	20.0	6.6	47.8	29.7	11.5	29.6	0.1	
Queue Length 50th (ft)	47	222	35	340	45	141	11	26	6	0	
Queue Length 95th (ft)	98	316	78	472	121	228	31	98	20	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	207	2258	196	2261	1086	474	633	683	470	655	
Starvation Cap Reductn	0	687	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.69	0.29	0.62	0.40	0.50	0.03	0.40	0.02	0.02	
Intersection Summary											

8: Paso Robles Street & 13th Street

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>↑</b> ↑		ሻ	<b>^</b>	7	7	<b>↑</b>	7	ሻ	₽	
Traffic Volume (veh/h)	70	947	51	52	1291	396	216	20	250	10	0	10
Future Volume (veh/h)	70	947	51	52	1291	396	216	20	250	10	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	1029	55	57	1403	0	235	22	272	11	0	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	1842	98	85	1882		397	402	340	327	0	340
Arrive On Green	0.06	0.54	0.54	0.05	0.53	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	1767	3403	182	1767	3526	1572	1392	1856	1572	1077	0	1572
Grp Volume(v), veh/h	76	533	551	57	1403	0	235	22	272	11	0	11
Grp Sat Flow(s), veh/h/ln	1767	1763	1822	1767	1763	1572	1392	1856	1572	1077	0	1572
Q Serve(q_s), s	3.0	13.8	13.8	2.2	21.4	0.0	11.1	0.7	11.4	0.6	0.0	0.4
Cycle Q Clear(q c), s	3.0	13.8	13.8	2.2	21.4	0.0	11.5	0.7	11.4	1.2	0.0	0.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	954	986	85	1882		397	402	340	327	0	340
V/C Ratio(X)	0.78	0.56	0.56	0.67	0.75		0.59	0.05	0.80	0.03	0.00	0.03
Avail Cap(c a), veh/h	242	1395	1442	229	2765		647	734	622	519	0	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	10.5	10.5	32.5	12.5	0.0	26.0	21.6	25.8	22.1	0.0	21.5
Incr Delay (d2), s/veh	12.3	0.5	0.5	8.9	0.6	0.0	1.4	0.1	4.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.7	4.9	1.1	7.3	0.0	3.6	0.3	4.4	0.1	0.0	0.1
Unsig. Movement Delay, s/veh	1.0	1.7	1.7	1.1	7.5	0.0	5.0	0.5	4.4	0.1	0.0	0.1
LnGrp Delay(d),s/veh	44.7	11.0	11.0	41.4	13.2	0.0	27.4	21.6	30.1	22.1	0.0	21.5
LnGrp LOS	D	В	В	D	В	0.0	C	C	C	C	A	C
Approach Vol, veh/h		1160			1460	Α		529			22	
Approach Delay, s/veh		13.2			14.3	А		28.6			21.8	
Approach LOS		13.2 B			14.3 B			20.0 C			21.0 C	
					_						C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	42.1		19.5	8.3	41.6		19.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.0	55.0		27.5	9.5	54.5		27.5				
Max Q Clear Time (g_c+l1), s	4.2	15.8		3.2	5.0	23.4		13.5				
Green Ext Time (p_c), s	0.0	9.1		0.0	0.1	13.7		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			В									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 18 Central Coast Transportation Consulting

Beechwood SP

9: River Road/Union Road & Creston Road

Cumulative Plus 674 Unit Project AM

	<b>→</b>	-	•	•	4	†	-	1	Ţ
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	342	969	65	1195	410	202	54	174	698
v/c Ratio	0.85	0.62	0.49	0.88	0.86	0.27	0.13	0.79	1.09dr
Control Delay	70.5	24.3	65.5	40.9	67.1	40.4	2.3	74.3	52.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	24.3	65.5	40.9	67.1	40.4	2.3	74.3	52.5
Queue Length 50th (ft)	136	274	49	430	162	70	0	132	216
Queue Length 95th (ft)	#217	347	96	526	#246	106	8	#240	#330
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	411	1576	153	1468	496	760	414	241	791
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.61	0.42	0.81	0.83	0.27	0.13	0.72	0.88

### Intersection Summary

Sth percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

9: River Road/Union Road & Creston Road

	۶	-	•	•	-	*	4	<b>†</b>	-	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>↑</b> 1>		ሻ	<b>↑</b> 1>		1/1	<b>^</b>	7	ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	315	590	302	60	911	189	377	186	50	160	192	450
Future Volume (veh/h)	315	590	302	60	911	189	377	186	50	160	192	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	641	0	65	990	205	410	202	54	174	209	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	1773		84	1231	254	507	425	189	213	328	
Arrive On Green	0.13	0.50	0.00	0.05	0.42	0.42	0.15	0.12	0.12	0.12	0.09	0.00
Sat Flow, veh/h	3456	3647	0.00	1781	2925	604	3456	3554	1585	1781	3647	0.00
Grp Volume(v), veh/h	342	641	0	65	601	594	410	202	54	174	209	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1753	1728	1777	1585	1781	1777	0
Q Serve(q s), s	8.1	9.2	0.0	3.0	24.8	24.9	9.6	4.4	2.6	8.0	4.8	0.0
Cycle Q Clear(q_c), s	8.1	9.2	0.0	3.0	24.8	24.9	9.6	4.4	2.6	8.0	4.8	0.0
Prop In Lane	1.00	7.2	0.00	1.00	24.0	0.34	1.00	4.4	1.00	1.00	4.0	0.00
Lane Grp Cap(c), veh/h	433	1773	0.00	84	748	738	507	425	189	213	328	0.00
V/C Ratio(X)	0.79	0.36		0.77	0.80	0.81	0.81	0.48	0.28	0.82	0.64	
Avail Cap(c a), veh/h	565	2209		210	1024	1010	680	1035	462	332	997	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.6	12.8	0.00	39.5	21.2	21.3	34.6	34.4	33.6	36.0	36.7	0.0
Incr Delay (d2), s/veh	5.6	0.1	0.0	14.0	3.3	3.4	5.3	0.8	0.8	8.7	2.1	0.0
Initial Q Delay(d3),s/veh					0.0							
	0.0	0.0 3.5	0.0	0.0 1.6		0.0	0.0 4.2	0.0	0.0	0.0	0.0 2.0	0.0
%ile BackOfQ(50%),veh/ln		3.5	0.0	1.0	10.1	10.0	4.2	1.9	1.0	3.8	2.0	0.0
Unsig. Movement Delay, s/veh		12.0	0.0	F2.4	245	247	20.0	25.2	24.4	447	20.7	0.0
LnGrp Delay(d),s/veh	41.2	13.0	0.0	53.4	24.5	24.7	39.9	35.3	34.4	44.7	38.7	0.0
LnGrp LOS	D	В		D	C	С	D	D	С	D	D	
Approach Vol, veh/h		983	Α		1260			666			383	Α
Approach Delay, s/veh		22.8			26.1			38.1			41.5	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	46.3	16.8	12.2	15.0	39.8	14.5	14.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.9	52.1	16.5	23.5	13.7	48.3	15.6	24.4				
Max Q Clear Time (g_c+l1), s	5.0	11.2	11.6	6.8	10.1	26.9	10.0	6.4				
Green Ext Time (p_c), s	0.0	5.1	0.7	1.0	0.4	8.4	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.3									
HCM 6th LOS			С									
Matan												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Beechwood SP 10: Creston Road & Golden Hill Road Cumulative Plus 674 Unit Project AM

	<i>&gt;</i>	$\rightarrow$	-	-	4	
Lane Group	EBL	EBT	WBT	SBL	SBR	
Lane Group Flow (vph)	96	488	1404	629	143	
v/c Ratio	0.71	0.23	0.83	0.79	0.30	
Control Delay	73.4	10.0	24.2	44.0	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.4	10.0	24.2	44.0	8.2	
Queue Length 50th (ft)	53	51	275	167	0	
Queue Length 95th (ft)	#183	154	#699	#382	56	
Internal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	135	2165	1698	793	475	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.71	0.23	0.83	0.79	0.30	
Intersection Summary						

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

•	Que

Lane Group         EBL         EBT         EBR         WBL         WBT         WBR         NBL         NBT         SBL         SBT         SB           Lane Group Flow (vph)         142         426         153         97         843         633         238         609         298         320         31           v/c Ratio         0.68         0.32         0.22         0.54         0.72         0.86         0.77         0.71         0.71         0.52         0.6           Control Delay         64.7         25.3         5.0         60.2         34.6         27.4         60.5         45.1         56.8         44.3         14	
v/c Ratio 0.68 0.32 0.22 0.54 0.72 0.86 0.77 0.77 0.71 0.52 0.6	R
	1
Control Delay 64 7 25 3 5 0 60 2 34 6 27 4 60 5 45 1 56 8 44 3 14	3
	7
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0
Total Delay 64.7 25.3 5.0 60.2 34.6 27.4 60.5 45.1 56.8 44.3 14	7
Queue Length 50th (ft) 100 114 0 69 273 196 166 218 109 114 2	5
Queue Length 95th (ft) #194 169 44 129 366 #451 #287 288 #176 165 11	9
Internal Link Dist (ft) 1092 186 1440 2310	
Turn Bay Length (ft) 150 150 170 170 230 245 10	0
Base Capacity (vph) 245 1469 735 230 1437 815 380 1030 462 760 54	3
Starvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0	0
Spillback Cap Reductn 0 0 0 0 0 0 0 0 0 0	0
Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0	0
Reduced v/c Ratio 0.58 0.29 0.21 0.42 0.59 0.78 0.63 0.59 0.65 0.42 0.5	7

Movement
Traffic Volume (vph)         88         449         710         581         579         132           Future Volume (vph)         88         449         710         581         579         132           Ideal Flow (vphpl)         1900         1900         1900         1900         1900           Total Lost time (s)         4.5         4.5         4.5         4.5         4.5           Lane Uili. Factor         1.00         0.95         0.95         0.97         1.00           Fripb, ped/bikes         1.00         1.00         0.99         1.00         1.00           Flip p, ped/bikes         1.00         1.00         1.00         0.85           Flit Profected         0.95         1.00         1.00         0.95         1.00           Satd. Flow (prot)         1752         3505         3245         3400         1568           Flt Permitted         0.95
Traffic Volume (vph)         88         449         710         581         579         132           Future Volume (vph)         88         449         710         581         579         132           Ideal Flow (vphpl)         1900         1900         1900         1900         1900           Ideal Flow (vphpl)         1900         1900         1900         1900           Total Lost time (s)         4.5         4.5         4.5         4.5         4.5           Frpb, ped/bikes         1.00         0.95         0.95         0.97         1.00           Filp ped/bikes         1.00         1.00         0.99         1.00         1.00           Filp ped/bikes         1.00         1.00         0.93         1.00         0.05           Filt Protected         0.95         1.00         1.00         0.95         1.00           Satd. Flow (prot)         1752         3505         3245         3400         1568           Filt Permitted         0.95         1.00         1.00         0.95         1.00           Satd. Flow (prot)         1752         3505         3245         3400         1568           Filt Permitted         0.95         1.0
Ideal Flow (vphpl)         1900         1900         1900         1900         1900         1900           Total Lost time (s)         4.5         4.5         4.5         4.5         4.5         4.5           Lane Util. Factor         1.00         0.95         0.95         0.97         1.00           Frpb, ped/bikes         1.00         1.00         0.99         1.00         1.00           Flpb, ped/bikes         1.00         1.00         1.00         1.00         1.00           Flt Protected         0.95         1.00         0.93         1.00         0.85           Flt Protected         0.95         1.00         1.00         0.95         1.00           Satd. Flow (prot)         1752         3505         3245         3400         1568           Flt Permitted         0.95         1.00         1.00         0.95         1.00           Satd. Flow (perm)         1752         3505         3245         3400         1568           Flt Permitted         0.95         1.00         1.00         0.95         1.00           Satd. Flow (perm)         1752         3505         3245         3400         1568           Peak-hour factor, PHF
Total Lost time (s)
Lane Util. Factor 1.00 0.95 0.95 0.97 1.00  Friph, ped/bikes 1.00 1.00 0.99 1.00 1.00  Firth ped/bikes 1.00 1.00 1.00 1.00 1.00  Firth 1.00 1.00 1.00 1.00 1.00 1.00  Fith Protected 0.95 1.00 1.00 0.95 1.00  Satd. Flow (prot) 1752 3505 3245 3400 1568  Fit Permitted 0.95 1.00 1.00 0.95 1.00  Satd. Flow (perm) 1752 3505 3245 3400 1568  Fith Power of the foliation of the first state of the firs
Frpb, ped/bikes 1.00 1.00 0.99 1.00 1.00 1.00 Flpb, ped/bikes 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Flpb, ped/bikes 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Flft Protected 0.95 1.00 1.00 0.95 1.00 0.95 1.00 Satd. Flow (prot) 1752 3505 3245 3400 1568 Flft Permitted 0.95 1.00 1.00 0.95 1.00 0.95 1.00 Satd. Flow (perm) 1752 3505 3245 3400 1568 Flft Permitted 0.95 1.00 1.00 0.95 1.00 Satd. Flow (perm) 1752 3505 3245 3400 1568 Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
Fipb, ped/bikes 1.00 1.00 1.00 1.00 1.00 1.00 0.85 Fit 1.00 1.00 1.00 0.93 1.00 0.85 Fit Protected 0.95 1.00 1.00 0.95 1.00 Sald. Flow (prot) 1752 3505 3245 3400 1568 Fit Permitted 0.95 1.00 1.00 0.95 1.00 Sald. Flow (perm) 1752 3505 3245 3400 1568 Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92 Adj. Flow (ph) 96 488 772 632 629 143 RTOR Reduction (vph) 0 0 105 0 0 111 Lane Group Flow (vph) 96 488 1299 0 629 32 Confl. Peds. (#hr) 3 Heavy Vehicles (%) 3% 3% 3% 3% 3% 3% 3% Turn Type Prot NA NA Perm Perm Permitted Phases 4 4 Actualed Green, G (s) 7.3 58.6 46.8 22.1 22.1
Frit 1.00 1.00 0.93 1.00 0.85  Fit Protected 0.95 1.00 1.00 0.95 1.00  Satd. Flow (prot) 1752 3505 3245 3400 1568  Fit Permitted 0.95 1.00 1.00 0.95 1.00  Satd. Flow (perm) 1752 3505 3245 3400 1568  Fit Permitted 0.95 1.00 1.00 0.95 1.00  Satd. Flow (perm) 1752 3505 3245 3400 1568  Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92  Adj. Flow (vph) 96 488 772 632 629 143  RTOR Reduction (vph) 0 0 105 0 0 111  Lane Group Flow (vph) 96 488 1299 0 629 32  Confl. Peds. (#hr) 3  Heavy Vehicles (%) 3% 3% 3% 3% 3% 3% 3%  Turn Type Prot NA NA Perm Perm  Protected Phases 5 2 6  Permitted Phases  Actuated Green, G (s) 7.3 58.6 46.8 22.1 22.1
Fit Protected 0.95 1.00 1.00 0.95 1.00   Sald. Flow (prot) 1752 3505 3245 3400 1568   Fit Permitted 0.95 1.00 1.00 0.95 1.00   Sald. Flow (perm) 1752 3505 3245 3400 1568   Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92   Adj. Flow (vph) 96 488 772 632 629 143   RTOR Reduction (vph) 0 0 105 0 0 111   Lane Group Flow (vph) 96 488 1299 0 629 32   Confl. Peds. (#/hr) 3   Heavy Vehicles (%) 3% 3% 3% 3% 3% 3% 3% 3%   Turn Type Prot NA NA Perm Perm Protected Phases 5 2 6   Permitted Phases 4 4 4   Actuated Green, G (s) 7.3 58.6 46.8 22.1 22.1
Satd. Flow (prot)       1752       3505       3245       3400       1568         FIL Permitted       0.95       1.00       1.00       0.95       1.00         Satd. Flow (perm)       1752       3505       3245       3400       1568         Peak-hour factor, PHF       0.92       0.92       0.92       0.92       0.92       0.92         Adj. Flow (vph)       96       488       772       632       629       143         RTOR Reduction (vph)       0       0       105       0       0       111         Lane Group Flow (vph)       96       488       1299       0       629       32         Confl. Peds. (#/hr)       3       3%       3%       3%       3%       3%         Heavy Vehicles (%)       3%       3%       3%       3%       3%       3%         Turn Type       Prot       NA       NA       Perm       Perm         Protected Phases       5       2       6         Permitted Phases       4       4         Actuated Green, G (s)       7.3       58.6       46.8       22.1       22.1
Fit Permitted 0.95 1.00 1.00 0.95 1.00 1568 Sald. Flow (perm) 1752 3505 3245 3400 1568 Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92 Adj. Flow (vph) 96 488 772 632 629 143 RTOR Reduction (vph) 0 0 105 0 0 111 Lane Group Flow (vph) 96 488 1299 0 629 32 Confl. Peds. (#hr) 3 3 3% 3% 3% 3% 3% 3% 3% 3% 100 100 100 100 100 100 100 100 100 10
Satd. Flow (perm)         1752         3505         3245         3400         1568           Peak-hour factor, PHF         0.92
Peak-hour factor, PHF     0.92     0.92     0.92     0.92     0.92     0.92       Adj. Flow (vph)     96     488     772     632     629     143       RTOR Reduction (vph)     0     0     105     0     0     111       Lane Group Flow (vph)     96     488     1299     0     629     32       Confl. Peds. (#/hr)     3     3%     3%     3%     3%       Heavy Vehicles (%)     3%     3%     3%     3%     3%       Turn Type     Prot     NA     NA     Perm     Perm       Protected Phases     5     2     6       Permitted Phases     4     4       Actuated Green, G (s)     7.3     58.6     46.8     22.1     22.1
Adj. Flow (vph)     96     488     772     632     629     143       RTOR Reduction (vph)     0     0     105     0     0     111       Lane Group Flow (vph)     96     488     1299     0     629     32       Confl. Peds. (#/hr)     3     3%     3%     3%     3%     3%     3%       Heavy Vehicles (%)     3%     3%     3%     3%     3%     3%       Turn Type     Prot     NA     NA     Perm     Perm       Protected Phases     5     2     6       Permitted Phases     4     4       Actuated Green, G (s)     7.3     58.6     46.8     22.1     22.1
RTOR Reduction (vph)         0         0         105         0         0         111           Lane Group Flow (vph)         96         488         1299         0         629         32           Confl. Peds. (#hr)         3         3         3         3         3         38         3%
Lane Group Flow (vph)     96     488     1299     0     629     32       Confl. Peds. (#/hr)     3       Heavy Vehicles (%)     3%     3%     3%     3%     3%       Turn Type     Port     NA     NA     Perm     Perm       Pormitted Phases     5     2     6       Permitted Phases     4     4       Actuated Green, G (s)     7.3     58.6     46.8     22.1     22.1
Confl. Peds. (#/hr)  Heavy Vehicles (%) 3% 3% 3% 3% 3% 3%  Turn Type Prot NA NA Perm Perm  Protected Phases 5 2 6  Permitted Phases 4 4  Actuated Green, G (s) 7.3 58.6 46.8 22.1 22.1
Heavy Vehicles (%)         3%
Turn Type         Prot         NA         NA         Perm         Perm           Protected Phases         5         2         6           Permitted Phases         4         4           Actualed Green, G (s)         7.3         58.6         46.8         22.1         22.1
Protected Phases         5         2         6           Permitted Phases         4         4           Actualed Green, G (s)         7.3         58.6         46.8         22.1         22.1
Permitted Phases         4         4           Actuated Green, G (s)         7.3         58.6         46.8         22.1         22.1
Actuated Green, G (s) 7.3 58.6 46.8 22.1 22.1
Effective Green, g (s) 7.3 58.6 46.8 22.1 22.1
Actuated g/C Ratio 0.07 0.59 0.48 0.22 0.22
Clearance Time (s) 4.5 4.5 4.5 4.5
Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0
Lane Grp Cap (vph) 129 2085 1541 762 351
v/s Ratio Prot c0.05 0.14 c0.40
v/s Ratio Perm c0.19 0.02
v/c Ratio 0.74 0.23 0.84 0.83 0.09
Uniform Delay, d1 44.7 9.4 22.6 36.4 30.2
Progression Factor 1.00 1.00 1.00 1.00 1.00
Incremental Delay, d2 20.5 0.1 4.4 7.3 0.1
Delay (s) 65.2 9.4 27.0 43.6 30.4
Level of Service E A C D C
Approach Delay (s) 18.6 27.0 41.2
Approach LOS B C D
Intersection Summary
HCM 2000 Control Delay 29.2 HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio 0.78
Actuated Cycle Length (s) 98.5 Sum of lost time (s) 18.0
Intersection Capacity Utilization 71.1% ICU Level of Service C
Analysis Period (min) 15
c Critical Lane Group

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

11: Creston Road & Niblick Road/Sherwood Road

Beechwood SP 12: Creston Road & Stoney Creek Road Cumulative Plus 674 Unit Project AM HCM 6th TWSC

	ၨ	<b>→</b>	•	•	<b>←</b>	*	1	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	ሻ	<b>^</b>	7	7	<b>↑</b> ↑		ሻሻ	<b>^</b>	7
Traffic Volume (veh/h)	131	392	141	89	776	582	219	512	48	274	294	286
Future Volume (veh/h)	131	392	141	89	776	582	219	512	48	274	294	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.95	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	142	426	153	97	843	633	238	557	52	298	320	311
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	170	1424	627	122	1327	579	269	799	74	361	703	311
Arrive On Green	0.10	0.41	0.41	0.07	0.38	0.38	0.15	0.25	0.25	0.11	0.20	0.20
Sat Flow, veh/h	1739	3469	1527	1739	3469	1513	1739	3191	297	3374	3469	1534
Grp Volume(v), veh/h	142	426	153	97	843	633	238	302	307	298	320	311
Grp Sat Flow(s), veh/h/ln	1739	1735	1527	1739	1735	1513	1739	1735	1754	1687	1735	1534
Q Serve(g_s), s	8.9	9.2	7.3	6.1	22.0	42.5	14.9	17.5	17.7	9.6	9.0	22.5
Cycle Q Clear(g_c), s	8.9	9.2	7.3	6.1	22.0	42.5	14.9	17.5	17.7	9.6	9.0	22.5
Prop In Lane	1.00		1.00	1.00	4007	1.00	1.00	105	0.17	1.00	700	1.00
Lane Grp Cap(c), veh/h	170	1424	627	122	1327	579	269	435	439	361	703	311
V/C Ratio(X)	0.83	0.30	0.24	0.80	0.64	1.09	0.88	0.69	0.70	0.83	0.46	1.00
Avail Cap(c_a), veh/h	227	1424	627	213	1327	579	352	483	488	428	703	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2 17.7	22.0	21.4	50.9 11.2	28.0	34.3	46.0	37.8	37.8 3.9	48.6	38.9	44.3
Incr Delay (d2), s/veh		0.1	0.2		1.0	65.3	18.5	3.8		10.9	0.5	51.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln Unsig. Movement Delay, s/veh	4.6	3.6	2.6	3.0	8.9	25.2	7.7	7.8	7.9	4.5	3.8	12.7
LnGrp Delay(d),s/veh	66.9	22.1	21.6	62.0	29.0	99.6	64.4	41.6	41.7	59.5	39.4	95.6
LnGrp LOS	00.9 E	22.1 C	21.0 C	02.0 F	29.0 C	99.0 F	04.4 F	41.0 D	41.7 D	59.5 F	39.4 D	95.6 F
Approach Vol, veh/h	E	721	C		1573	г	E	847	D	E	929	
		30.8			59.4			48.0			64.7	
Approach Delay, s/veh Approach LOS		30.8 C			59.4 F			48.0 D			64.7 F	
Approach LOS		C			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	32.3	12.3	50.1	21.7	27.0	15.4	47.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.1	30.9	13.6	43.4	22.5	22.5	14.5	42.5				
Max Q Clear Time (g_c+l1), s	11.6	19.7	8.1	11.2	16.9	24.5	10.9	44.5				
Green Ext Time (p_c), s	0.3	2.8	0.1	3.3	0.3	0.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.2									
HCM 6th LOS			D									

nt Delay, s/veh  Movement  Lane Configurations  Traffic Vol, veh/h	45.6											
Lane Configurations	501											
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
		4			4		*	₽		*	<b></b>	7
	141	10	42	10	20	104	34	474	10	35	394	101
Future Vol. veh/h	141	10	42	10	20	104	34	474	10	35	394	101
Conflicting Peds, #/hr	1	0	0	0	0	1	6	0	2	2	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None			None		-	None
Storage Length			-			-	30		-	70		60
Veh in Median Storage	# -	0			0		-	0		-	0	-
Grade, %	-	0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	153	11	46	11	22	113	37	515	11	38	428	110
VIVIIICT IOW	100	- 11	70	- 11	22	113	31	313	- 11	30	720	110
Major/Minor N	Vinor2			Vinor1			Major1			Major2		
Conflicting Flow All	1173	1112	434	1185	1217	524	544	0	0	528	0	0
Stage 1	510	510	-	597	597	-	-	-	-	-	-	-
Stage 2	663	602		588	620							
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12		-	4.12	-	
Critical Hdwy Stg 1	6.12	5.52	0.22	6.12	5.52	0.22						
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52		-			-		
Follow-up Hdwy	3.518	4.018	3.318		4.018	3.318	2.218			2.218		
Pot Cap-1 Maneuver	169	209	622	166	181	553	1025			1039		
Stage 1	546	538	022	490	491	-	1025			1007		
Stage 2	450	489		495	480		-			-		
Platoon blocked, %	100	107		170	100							
Mov Cap-1 Maneuver	_ 11/	192	618	139	167	551	1019			1037		
Mov Cap-1 Maneuver		192	010	139	167	331	1017			1037		
Stage 1	523	515		471	472				_			
Stage 2	329	470		432	459							
Staye 2	327	470		432	409							
Approach	EB			WB			NB			SB		
HCM Control Delay, s\$				22.3			0.6			0.6		
HCM LOS	500.2 F			22.3 C			0.0			0.0		
ICIVI EOS	'			C								
Minor Lane/Major Mvm	ıt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		1019			142	352	1037					
HCM Lane V/C Ratio		0.036			1.477		0.037					
HCM Control Delay (s)		8.7			306.2	22.3	8.6					
HCM Lane LOS		A		-	F	C	A					
HCM 95th %tile Q(veh)	١	0.1			14.1	2	0.1					
, ,	/	0.1			17.1		0.1					
Notes -: Volume exceeds cap			elay exc				putation				major v	

Intersection	
Intersection Delay, s/veh	49.8
Intersection LOS	Ε

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		44			4				ર્ન	7		414
Traffic Vol, veh/h	20	10	12	270	10	266	0	14	236	146	252	194
Future Vol, veh/h	20	10	12	270	10	266	0	14	236	146	252	194
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	13	293	11	289	0	15	257	159	274	211
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	12.9			89.3				18.5			33	
HCM LOS	В			F				С			D	

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	
Vol Left, %	6%	0%	48%	49%	72%	0%	
Vol Thru, %	94%	0%	24%	2%	28%	91%	
Vol Right, %	0%	100%	29%	49%	0%	9%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	250	146	42	546	349	107	
LT Vol	14	0	20	270	252	0	
Through Vol	236	0	10	10	97	97	
RT Vol	0	146	12	266	0	10	
Lane Flow Rate	272	159	46	593	379	116	
Geometry Grp	7	7	2	2	7	7	
Degree of Util (X)	0.58	0.306	0.107	1.087	0.823	0.239	
Departure Headway (Hd)	8.126	7.369	8.813	6.595	8.242	7.8	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	448	490	409	552	444	463	
Service Time	5.826	5.069	6.813	4.599	5.942	5.5	
HCM Lane V/C Ratio	0.607	0.324	0.112	1.074	0.854	0.251	
HCM Control Delay	21.5	13.3	12.9	89.3	39.2	12.9	
HCM Lane LOS	С	В	В	F	Е	В	
HCM 95th-tile Q	3.6	1.3	0.4	18.2	7.7	0.9	

ntersection	
Intersection Delay, s/veh	
Intersection LOS	
Movement	SBR
Lanconfigurations	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	11
Number of Lanes	0
Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Righ	nt
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

	•	-	*	•	<b>←</b>	*	1	<b>†</b>	1	-	Į.	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ર્ન	7					î,	
Traffic Volume (veh/h)	0	0	0	3	191	10	0	0	0	0	386	20
Future Volume (Veh/h)	0	0	0	3	191	10	0	0	0	0	386	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	3	208	11	0	0	0	0	420	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	535	431	431	431	442	0	442			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	535	431	431	431	442	0	442			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	59	99	100			100		
cM capacity (veh/h)	308	517	624	535	510	1085	1118			1623		
Direction, Lane #	WB 1	SB 1										
Volume Total	222	442										
Volume Left	3	0										
Volume Right	11	22										
cSH	530	1700										
Volume to Capacity	0.42	0.26										
Queue Length 95th (ft)	51	0.20										
Control Delay (s)	16.6	0.0										
Lane LOS	C	0.0										
Approach Delay (s)	16.6	0.0										
Approach LOS	C	0.0										
Intersection Summary												
Average Delay			5.5									
Intersection Capacity Utiliza	ation		38.4%	IC	U Level	of Service			Α			
Analysis Period (min)			15									
			.5									

mersection						
Int Delay, s/veh	8.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EDL	EDK	NDL	<u>ND1</u>	301	JDK 7
Traffic Vol, veh/h	191	128	200	<b>TT</b>	117	385
Future Vol. veh/h		128	200	192	117	
	191					385
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None		None
Storage Length	0	145	105			0
Veh in Median Storag		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	208	139	217	209	127	418
Major/Minor	Minor2		Major1		Major2	
	666	127	545	0		0
Conflicting Flow All	127	127	545	0	-	U
Stage 1						-
Stage 2	539	-		-	-	-
Critical Hdwy	6.645	6.245		-	-	-
Critical Hdwy Stg 1	5.445	-	-		-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285			-	-	-
Pot Cap-1 Maneuver	406	920	1016	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	547	-				
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	319	920	1016	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	547	-	-	-	-	
			ND		00	
Approach	EB		NB		SB	
HCM Control Delay, s			4.8		0	
HCM LOS	С					
Minor Lane/Major Mvr	mt	NBL	NBT	EBLn1	FBI n2	SBT
Capacity (veh/h)	110	1016	-	319	920	301
HCM Lane V/C Ratio		0.214		0.651		
HCM Control Delay (s	-)	9.5		35.1	9.6	
HCM Lane LOS	)	9.5 A		33.1 F	9.0 A	
	۵)	0.8		4.3	0.5	
HCM 95th %tile Q(veh	I)	0.8	-	4.3	0.5	-

Central Coast Transportation Consulting

	۶	<b>→</b>	1	-	*	4	<b>†</b>	-	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	25	371	1198	436	580	126	315	608	427	329	
v/c Ratio	0.11	0.79	0.81	0.54	0.52	0.67	0.70	0.38	0.76	0.51	
Control Delay	58.1	63.6	40.3	33.2	5.0	78.6	67.5	7.5	65.8	48.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.1	63.6	40.3	33.2	5.0	78.6	67.5	7.5	65.8	48.0	
Queue Length 50th (ft)	21	154	507	304	53	117	153	69	200	129	
Queue Length 95th (ft)	53	220	632	435	135	189	207	92	269	185	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	253	527	1586	860	1140	245	580	1697	641	743	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.70	0.76	0.51	0.51	0.51	0.54	0.36	0.67	0.44	
Intersection Summary											

Beechwood SP Cumulative Plus 674 Unit Project AM
16: US 101 Ramps/Spring Street & 1st Street/Niblick Road HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>↑</b> 1>		ሻሻ	<b>†</b>	7	ň	<b>^</b>	77	ሻሻ	<b>↑</b> ↑	
Traffic Volume (veh/h)	23	222	120	1102	401	534	116	290	559	393	210	93
Future Volume (veh/h)	23	222	120	1102	401	534	116	290	559	393	210	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	241	130	1198	436	580	126	315	608	427	228	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	294	153	1425	771	874	152	542	1575	499	490	210
Arrive On Green	0.13	0.13	0.13	0.41	0.41	0.41	0.09	0.15	0.15	0.14	0.20	0.20
Sat Flow, veh/h	1781	2259	1177	3456	1870	1564	1781	3554	2790	3456	2420	1037
Grp Volume(v), veh/h	25	188	183	1198	436	580	126	315	608	427	165	164
Grp Sat Flow(s),veh/h/ln	1781	1777	1659	1728	1870	1564	1781	1777	1395	1728	1777	1681
Q Serve(g_s), s	1.6	13.1	13.8	39.7	22.8	33.3	8.9	10.5	15.5	15.4	10.4	11.0
Cycle Q Clear(g_c), s	1.6	13.1	13.8	39.7	22.8	33.3	8.9	10.5	15.5	15.4	10.4	11.0
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	232	231	216	1425	771	874	152	542	1575	499	360	340
V/C Ratio(X)	0.11	0.81	0.85	0.84	0.57	0.66	0.83	0.58	0.39	0.86	0.46	0.48
Avail Cap(c_a), veh/h	271	271	253	1698	919	997	263	619	1636	686	400	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	53.9	54.2	33.7	28.7	19.9	57.3	50.2	15.4	53.2	44.7	44.9
Incr Delay (d2), s/veh	0.2	14.9	20.6	3.4	0.7	1.4	10.7	1.1	0.2	7.8	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.9	7.0	16.7	10.1	11.7	4.4	4.6	9.7	7.2	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	68.8	74.7	37.1	29.3	21.3	68.0	51.3	15.6	61.0	45.6	45.9
LnGrp LOS	D	E	E	D	С	С	E	D	В	E	D	D
Approach Vol, veh/h		396			2214			1049			756	
Approach Delay, s/veh		70.3			31.4			32.6			54.4	
Approach LOS		Е			С			С			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.1	25.2		21.2	16.7	31.6		57.9				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 25	22.2		19.4	18.8	* 29		62.6				
Max Q Clear Time (q_c+l1), s	17.4	17.5		15.8	10.9	13.0		41.7				
Green Ext Time (p_c), s	1.0	2.0		0.8	0.2	1.7		10.8				
Intersection Summary												
HCM 6th Ctrl Delay HCM 6th LOS			39.1 D									

Notes
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

17: S. River Road & Niblick Road

	<i>▶</i>	-	*	1	-	4	<b>†</b>	-	Ų.
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	120	823	292	136	1505	662	384	309	507
v/c Ratio	0.79	0.63	0.38	0.73	1.01	1.01	0.63	0.90	0.77
Control Delay	88.4	33.0	4.7	72.4	59.3	84.8	46.2	75.3	44.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.4	33.0	4.7	72.4	59.3	84.8	46.2	75.3	44.5
Queue Length 50th (ft)	45	258	0	96	~571	~253	132	219	154
Queue Length 95th (ft)	#104	360	60	#196	#819	#413	183	#412	213
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	151	1302	767	202	1483	653	811	349	860
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.63	0.38	0.67	1.01	1.01	0.47	0.89	0.59

### Intersection Summary

	۶	<b>→</b>	*	•	<b>—</b>	4	1	<b>†</b>	<i>&gt;</i>	/	<b>+</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,6	<b>^</b>	7	ሻ	<b>∱</b> ⊅		1,1	ħβ		ሻ	ħβ	
Traffic Volume (veh/h)	110	757	269	125	1108	277	609	299	54	284	267	200
Future Volume (veh/h)	110	757	269	125	1108	277	609	299	54	284	267	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	823	292	136	1204	301	662	325	59	309	290	217
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	1340	598	164	1199	296	651	554	99	336	362	263
Arrive On Green	0.04	0.38	0.38	0.09	0.43	0.43	0.19	0.18	0.18	0.19	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	1781	2820	696	3456	3006	539	1781	1963	1427
Grp Volume(v), veh/h	120	823	292	136	753	752	662	191	193	309	262	245
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1739	1728	1777	1768	1781	1777	1613
Q Serve(q s), s	3.9	21.4	9.2	8.6	48.2	48.5	21.5	11.2	11.4	19.4	16.1	16.7
Cycle Q Clear(g_c), s	3.9	21.4	9.2	8.6	48.2	48.5	21.5	11.2	11.4	19.4	16.1	16.7
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.30	1.00		0.88
Lane Grp Cap(c), veh/h	152	1340	598	164	756	740	651	328	326	336	328	298
V/C Ratio(X)	0.79	0.61	0.49	0.83	1.00	1.02	1.02	0.58	0.59	0.92	0.80	0.82
Avail Cap(c a), veh/h	152	1340	598	201	756	740	651	408	406	348	421	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	28.8	8.8	50.9	32.7	32.8	46.3	42.5	42.6	45.4	44.5	44.7
Incr Delay (d2), s/veh	24.2	0.8	0.6	20.8	31.7	37.5	39.4	1.6	1.7	28.3	8.1	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.9	2.9	4.7	26.0	26.8	12.5	4.9	5.0	11.0	7.6	7.4
Unsig. Movement Delay, s/veh		0.7	2.7		20.0	20.0	12.0	11.7	0.0	1110	7.0	,
LnGrp Delay(d),s/veh	78.2	29.6	9.4	71.7	64.3	70.2	85.6	44.1	44.3	73.7	52.6	55.6
LnGrp LOS	E	C	A	E	E	F	F	D	D	E	D	E
Approach Vol, veh/h		1235			1641			1046			816	
Approach Delay, s/veh		29.6			67.7			70.4			61.5	
Approach LOS		C			E			70.4 E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	47.5	26.0	25.5	9.5	53.0	26.0	25.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.9	40.6	21.5	27.0	5.0	48.5	22.3	26.2				
Max Q Clear Time (q c+l1), s	10.6	23.4	23.5	18.7	5.9	50.5	21.4	13.4				
Green Ext Time (p_c), s	0.1	6.1	0.0	1.9	0.0	0.0	0.1	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			57.3									
HOM OF LOC												

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	₩.	LDI	INDL	4	<u>361</u>	JUK
Traffic Vol, veh/h	94	10	10	908	389	48
		10		908	389	48
Future Vol, veh/h	94	10	10			48
Conflicting Peds, #/hr			0	0	0	-
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	102	11	11	987	423	52
Major/Minor 1	Minor2		Major1	N	Najor2	
Conflicting Flow All	1458	450	475	0	-	0
Stage 1	449	100	47.5	-		-
Stage 2	1009					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.23	т. 13			
Critical Hdwy Stg 2	5.43					
	3.527	3.327	2.227	-		
Follow-up Hdwy				-	-	-
Pot Cap-1 Maneuver	142	607	1082		-	
Stage 1	641	-	-	-	-	-
Stage 2	351			-		-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	139	606	1082	-	-	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	626			-	-	-
Stage 2	351	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	79.5		0.1		0	
			U. I		0	
HCM LOS	F					
	F					
		NBL	NBT	EBLn1	SBT	SBR
HCM LOS  Minor Lane/Major Mvm			NBT		SBT -	SBR -
Minor Lane/Major Mvm Capacity (veh/h)		1082	-	150		SBR -
Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	nt	1082 0.01	- :	150 0.754	-	-
Minor Lane/Major Mvm Capacity (veh/h)	nt	1082	-	150		-

Intersection						
Int Delay, s/veh	1					
	EDI	EDD	ND	NDT	CDT	CDD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	¥	4.0	4.	4	<b>^}</b>	0.0
Traffic Vol, veh/h	60	12	14	778	369	20
Future Vol, veh/h	60	12	14	778	369	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	e,# 2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	65	13	15	846	401	22
	- 00			0.0		
	Minor2		Major1		Najor2	
Conflicting Flow All	1288	412	423	0	-	0
Stage 1	412			-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42		-		-	
Critical Hdwy Stg 2	5.42				-	
Follow-up Hdwy	3.518	3.318	2.218	-		-
Pot Cap-1 Maneuver	181	640	1136			
Stage 1	669	- 010				
Stage 2	407					
Platoon blocked. %	407					
	17/	410	112/		-	
Mov Cap-1 Maneuver	176	640	1136	-	-	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	652			-	-	-
Stage 2	407	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	16.8		0.1		0	
HCM LOS	10.6 C		0.1		U	
LICIVI LUS	C					
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1136		384		
HCM Lane V/C Ratio		0.013		0.204		
HCM Control Delay (s	)	8.2	0	16.8		
HCM Lane LOS	,	Α.2	A	C		
	.)	0	A	0.8		_
HCM 95th %tile Q(veh	I)	0	-	0.8	-	

Intersection						
Intersection Delay, s/veh	9.1					
Intersection LOS	А					
Approach	V	VB	NB		SB	
Entry Lanes		1	1		1	
Conflicting Circle Lanes		1	1		1	
Adj Approach Flow, veh/h	7	79	126		414	
Demand Flow Rate, veh/h	7	95	128		422	
Vehicles Circulating, veh/h	1	17	356		28	
Vehicles Exiting, veh/h	3	67	94		884	
Ped Vol Crossing Leg, #/h		0	0		0	
Ped Cap Adj	1.0		1.000		1.000	
Approach Delay, s/veh	11	1.6	5.1		5.6	
Approach LOS		В	Α		Α	
Lane	Left	Left		Left		
Designated Moves	LR	TR		LT		
Assumed Moves	LR	TR		LT		
RT Channelized						
Lane Util	1.000	1.000		1.000		
Follow-Up Headway, s	2.609	2.609		2.609		
Critical Headway, s	4.976	4.976		4.976		
Entry Flow, veh/h	795	128		422		
Cap Entry Lane, veh/h	1225	960		1341		
Entry HV Adj Factor	0.980	0.982		0.980		
Flow Entry, veh/h	779	126		414		
Cap Entry, veh/h	1200	943		1315		
V/C Ratio	0.649	0.133		0.315		
Control Delay, s/veh	11.6	5.1		5.6		
LOS	В	A		A		
95th %tile Queue, veh	5	0		1		

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	Ť,	<b>↑</b>	1>	WDIX	W	JUK
Traffic Vol, veh/h	<b>1</b> 0	<b>T</b> 331	697	10	10	10
Future Vol, veh/h	10	331	697	10	10	10
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	e,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	11	360	758	11	11	11
		-				
Maile #/Miles = #	NA-11		4-12		Alm O	
	Major1		Major2		Minor2	770
Conflicting Flow All	775	0	-	0	1152	770
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-		-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	841	-	-	-	219	401
Stage 1	-				457	-
Stage 2	-	-			690	-
Platoon blocked. %					0,0	
Mov Cap-1 Maneuver	836				214	399
Mov Cap-1 Maneuver	030				214	377
					448	
Stage 1						-
Stage 2	-	-	-	-	686	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.3		0		19	
HCM LOS					С	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR:	CRI n1
	n.					
Capacity (veh/h)		836	-	-	-	279
HCM Lane V/C Ratio		0.013	-	-	-	0.078
HCM Control Delay (s)	)	9.4	-	-	-	19
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	)	0	-	-	-	0.3

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	ĵ.		- 1	Þ			4			4	
Traffic Vol, veh/h	20	311	10	10	647	32	10	0	10	45	0	50
Future Vol, veh/h	20	311	10	10	647	32	10	0	10	45	0	50
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	None		-	None		-	None	-		None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	338	11	11	703	35	11	0	11	49	0	54
Maior/Minor 1	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	745	0	0	349	0	0	1158	1155	344	1143	1143	728
Stage 1	7-10	-	-	517	-	-	388	388	511	750	750	720
Stage 2							770	767		393	393	
Critical Hdwy	4.12			4.12			7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	1.12			7.12			6.12	5.52	0.22	6.12	5.52	0.22
Critical Hdwy Stg 2							6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218			2.218			3.518	4.018		3.518	4.018	3.318
Pot Cap-1 Maneuver	863			1210			173	197	699	177	200	423
Stage 1	-						636	609	-	403	419	- 120
Stage 2							393	411		632	606	
Platoon blocked, %												
Mov Cap-1 Maneuver	857			1210			147	189	699	169	192	420
Mov Cap-2 Maneuver	-						147	189	-	169	192	-
Stage 1							619	593		390	412	
Stage 2		-					339	404		606	590	
572							307	70 1		300	370	
Approach	EB			WB			NB			SB		
	0.5			0.1			21.3			29.7		
HCM Control Delay, s HCM LOS	0.5			U. I			21.3 C			29.7 D		
HCIVI LUS							C			U		
Minor Lane/Major Mvm	+ 1	NBLn1	EBL	EBT	EBR	WBL	WBT	WDD	SBLn1			
	it I	243	857	EDI	EDR	1210	WDI	NOK	247			
Capacity (veh/h)		0.089	0.025		- 1	0.009	- 1	-	0.418			
HCM Control Dolay (c)		21.3	9.3	-		0.009		-	29.7			
HCM Control Delay (s)				-			-					
HCM Lane LOS		С	Α	-	-	Α	-	-	D			

0.3 0.1 - - 0 - - 1.9

-						
Intersection						
Int Delay, s/veh	0.5					
		EDT	WDT	WIDD	CDI	CDD
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b>↑</b>	- ♣		¥	
Traffic Vol, veh/h	10	352	679	10	10	10
Future Vol, veh/h	10	352	679	10	10	10
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	e,# -	0	0		0	
Grade, %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	11	383	738	11	11	11
IVIVIIIL I IUW	- 11	303	730	- 11	- 11	- 11
Major/Minor	Major1	N	/lajor2	1	Vinor2	
Conflicting Flow All	758	0	-	0	1158	753
Stage 1			-		753	
Stage 2					405	
Critical Hdwy	4.12				6.42	6.22
Critical Hdwy Stg 1					5.42	0.22
Critical Hdwy Stg 2					5.42	
Follow-up Hdwy	2.218				3.518	
		-				
Pot Cap-1 Maneuver	853		-		217	410
Stage 1	-	-	-	-	465	-
Stage 2		-	-	-	673	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	846	-	-		210	406
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-		455	
Stage 2					667	
230 2					507	
			1115		0.5	
Approach	EB		WB		SB	
HCM Control Delay, s	0.3		0		19.1	
HCM LOS					С	
Minor Long/Mais-Min	m+	EDI	EDT	WDT	WDD	CDI 54
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR:	
Capacity (veh/h)		846	-			277
HCM Lane V/C Ratio		0.013	-	-	-	0.078
HCM Control Delay (s)	)	9.3	-	-	-	19.1
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh	1)	0				0.3

HCM 95th %tile Q(veh)

Interception						
Intersection	4					
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b>↑</b>	ĥ		¥	
Traffic Vol, veh/h	70	292	539	66	28	150
Future Vol, veh/h	70	292	539	66	28	150
Conflicting Peds, #/hr	8	0	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage	2,# -	0	0		0	-
Grade, %	-	0	0		0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	76	317	586	72	30	163
Maine/Minne	M-11		4-10		Min 2	
	Major1		Major2		Minor2	/20
Conflicting Flow All	666	0	-	0	1099	630
Stage 1	-	-	-	-	630	
Stage 2	-	-	-	-	469	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	
Pot Cap-1 Maneuver	928	-	-		236	483
Stage 1	-	-	-	-	533	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	921	-	-	-	213	479
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-		-	-	485	-
Stage 2	-	-	-		627	-
, and the second						
Annroach	EB		WB		SB	
Approach					22.1	
HCM Control Delay, s	1.8		0			
HCM LOS					С	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		921	-			400
HCM Lane V/C Ratio		0.083				0.484
HCM Control Delay (s)		9.3	-			22.1
HCM Lane LOS		A				С

Intersection				
Intersection Delay, s/veh	5.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	253	336	55	187
Demand Flow Rate, veh/h	256	339	55	189
Vehicles Circulating, veh/h	9	97	235	366
Vehicles Exiting, veh/h	546	193	30	70
Ped Vol Crossing Leg, #/h	0	0	0	8
Ped Cap Adj	1.000	1.000	1.000	0.999
Approach Delay, s/veh	4.2	5.3	3.7	5.8
Approach LOS	A	A	А	Α
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
IXT CHAITICIZEU				LIII
Lane Util	1.000	1.000	1.000	1.000
Lane Util Follow-Up Headway, s	1.000 2.609	1.000 2.609	1.000 2.609	
Lane Util Follow-Up Headway, s				1.000
Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	2.609	2.609	2.609	1.000 2.609
Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	2.609 4.976	2.609 4.976	2.609 4.976	1.000 2.609 4.976
Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	2.609 4.976 256 1367 0.989	2.609 4.976 339 1250 0.991	2.609 4.976 55 1086 0.999	1.000 2.609 4.976 189 950 0.989
Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	2.609 4.976 256 1367	2.609 4.976 339 1250 0.991 336	2.609 4.976 55 1086 0.999 55	1.000 2.609 4.976 189 950
Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV AdJ Factor Flow Entry, veh/h Cap Entry, veh/h	2.609 4.976 256 1367 0.989 253 1352	2.609 4.976 339 1250 0.991 336 1238	2.609 4.976 55 1086 0.999 55 1085	1.000 2.609 4.976 189 950 0.989 187
Lane Util Follow-Up Headway, s Critical Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h V/C Ratio	2.609 4.976 256 1367 0.989 253 1352 0.187	2.609 4.976 339 1250 0.991 336 1238 0.271	2.609 4.976 55 1086 0.999 55 1085 0.051	1.000 2.609 4.976 189 950 0.989 187 939 0.199
Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cyc Batio Control Delay, s/veh	2.609 4.976 256 1367 0.989 253 1352	2.609 4.976 339 1250 0.991 336 1238	2.609 4.976 55 1086 0.999 55 1085	1.000 2.609 4.976 189 950 0.989 187
	2.609 4.976 256 1367 0.989 253 1352 0.187	2.609 4.976 339 1250 0.991 336 1238 0.271	2.609 4.976 55 1086 0.999 55 1085 0.051	1.000 2.609 4.976 189 950 0.989 187 939 0.199

### Beechwood SP 1: SR 46 E & Buena Vista Drive

## Cumulative Plus 674 Unit Project PM

### Lane Group 162 Lane Group Flow (vph) 334 1639 1631 157 302 v/c Ratio 0.49 0.57 Control Delay 57.2 0.5 32.0 4.5 63.2 36.7 Queue Delay 0.0 Total Delay Queue Length 50th (ft) 57.2 0.5 32.0 4.5 63.2 36.7 0 560 116 178 Queue Length 95th (ft) Internal Link Dist (ft) 224 0 871 51 234 336 Turn Bay Length (ft) 345 330 450 Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn 1159 Storage Cap Reductn Reduced v/c Ratio 0 0 0 0 0 0 0.14 0.36 0.36 0.49 0.65 Intersection Summary

Beechwood SP 1: SR 46 E & Buena Vista Drive

### Cumulative Plus 674 Unit Project PM HCM Signalized Intersection Capacity Analysis

	•	<b>→</b>	<b>←</b>	*	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	14	<b>^</b>	<b>^</b>	7	Ţ	7		
Traffic Volume (vph)	331	1623	1615	160	155	299		
Future Volume (vph)	331	1623	1615	160	155	299		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7		
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00		
Frt	1.00	1.00	1.00	0.85	1.00	0.85		
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3213	3312	3312	1482	1656	1482		
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3213	3312	3312	1482	1656	1482		
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99		
Adj. Flow (vph)	334	1639	1631	162	157	302		
RTOR Reduction (vph)	0	0	0	57	0	12		
Lane Group Flow (vph)	334	1639	1631	105	157	290		
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%		
Turn Type	Prot	NA	NA	Perm	Prot	Prot		
Protected Phases	8	Free!	6		7!	4		
Permitted Phases				6		4		
Actuated Green, G (s)	19.9	121.1	67.3	67.3	18.9	42.8		
Effective Green, g (s)	19.9	121.1	67.3	67.3	18.9	42.8		
Actuated g/C Ratio	0.16	1.00	0.56	0.56	0.16	0.35		
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7		
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0		
Lane Grp Cap (vph)	527	3312	1840	823	258	523		
v/s Ratio Prot	c0.10	0.49	c0.49		c0.09	0.20		
v/s Ratio Perm				0.07				
v/c Ratio	0.63	0.49	0.89	0.13	0.61	0.55		
Uniform Delay, d1	47.2	0.0	23.6	12.9	47.7	31.5		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	2.5	0.5	5.7	0.1	4.2	1.3		
Delay (s)	49.7	0.5	29.3	13.0	51.9	32.7		
Level of Service	D	A	C	В	D	С		
Approach Delay (s)		8.9	27.8		39.3			
Approach LOS		Α	С		D			
Intersection Summary								
HCM 2000 Control Delay			20.2	Н	CM 2000	Level of Service	С	
HCM 2000 Volume to Capa	acity ratio		0.79					
Actuated Cycle Length (s)			121.1		um of los		15.0	
Intersection Capacity Utiliza	ation		75.6%	IC	CU Level	of Service	D	
Analysis Period (min)			15					
! Phase conflict between	lane groups	S.						
Critical Lano Croup								

c Critical Lane Group

	۶	-	*	•	<b>←</b>	*	1	<b>†</b>	-	<b>↓</b>	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	392	1069	372	403	1134	216	375	503	269	355	320	
v/c Ratio	0.98	0.87	0.48	0.94	0.90	0.31	0.85	0.61	0.72	0.87	0.63	
Control Delay	104.3	52.8	5.0	94.6	54.9	4.8	82.1	52.1	77.5	78.6	23.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	104.3	52.8	5.0	94.6	54.9	4.8	82.1	52.1	77.5	78.6	23.4	
Queue Length 50th (ft)	~207	518	0	207	555	0	191	223	134	339	91	
Queue Length 95th (ft)	#372	626	67	#384	679	54	#328	321	204	#537	217	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	401	1609	904	429	1609	822	446	922	446	496	575	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.98	0.66	0.41	0.94	0.70	0.26	0.84	0.55	0.60	0.72	0.56	
. " 0												

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	1	/	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	<b>^</b>	7	1,1	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	380	1037	361	391	1100	210	364	373	114	261	344	310
Future Volume (veh/h)	380	1037	361	391	1100	210	364	373	114	261	344	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj Work Zone On Approach	1.00	1.00 No	1.00	1.00	1.00 No	1.00	1.00	1.00 No	1.00	1.00	1.00 No	1.00
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	392	1069	372	403	1134	216	375	385	11790	269	355	320
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	398	1238	552	398	1313	585	418	675	204	319	416	353
Arrive On Green	0.12	0.36	0.36	0.12	0.38	0.38	0.13	0.26	0.26	0.10	0.23	0.23
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2579	781	3319	1796	1522
Grp Volume(v), veh/h	392	1069	372	403	1134	216	375	253	250	269	355	320
Grp Sat Flow(s), veh/h/ln	1659	1706	1521	1659	1706	1521	1659	1706	1654	1659	1796	1522
Q Serve(g_s), s	17.7	43.6	21.2	18.0	45.9	15.3	16.7	19.3	19.7	12.0	28.4	30.7
Cycle Q Clear(g_c), s	17.7	43.6	21.2	18.0	45.9	15.3	16.7	19.3	19.7	12.0	28.4	30.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	398	1238	552	398	1313	585	418	447	433	319	416	353
V/C Ratio(X)	0.98	0.86	0.67	1.01	0.86	0.37	0.90	0.57	0.58	0.84	0.85	0.91
Avail Cap(c_a), veh/h	398	1593	710	398	1593	710	443	467	452	443	491	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh Incr Delay (d2), s/veh	65.8 40.7	44.3 4.2	18.9 1.7	66.0 48.0	42.5 4.4	33.1 0.4	64.6 19.9	48.0 1.5	48.1 1.7	66.6 10.2	55.1 12.0	56.0 21.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%).veh/ln	9.5	18.3	7.5	10.0	19.2	5.7	8.1	8.3	8.3	5.5	14.1	13.7
Unsig. Movement Delay, s/veh		10.3	7.5	10.0	19.2	5.7	0.1	0.3	0.3	0.0	14.1	13.7
LnGrp Delay(d),s/veh	106.5	48.5	20.5	114.0	46.9	33.5	84.5	49.5	49.8	76.9	67.1	77.1
LnGrp LOS	F	70.5 D	20.5 C	F	D	C	04.5 F	47.5 D	47.0 D	70.7 F	E	77.1 E
Approach Vol, veh/h	<u> </u>	1833		<u>'</u>	1753			878			944	
Approach Delay, s/veh		55.2			60.7			64.5			73.3	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	61.7	22.9	40.1	22.0	65.0	18.4	44.5				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g c+l1), s	20.0	45.6	18.7	32.7	19.7	47.9	14.0	21.7				
Green Ext Time (p_c), s	0.0	8.8	0.2	2.1	0.0	8.3	0.5	2.7				
* '	0.0	0.0	0.2		0.0	0.0	0.0					
Intersection Summary HCM 6th Ctrl Delay			61.7									
HCM 6th Ctri Delay			61.7 E									
LON OUI FOS			E									

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	0.8					
		ED7	MOT	MIDE	CD:	CDC
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>^</b>	<b>^</b>	7		7
Traffic Vol, veh/h	0	1554	1601	20	0	100
Future Vol, veh/h	0	1554	1601	20	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	165		-
Veh in Median Storag	e,# -	0	0	-	2	-
Grade, %	-, -	0	0		0	
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	10	10	10	10
Mymt Flow	0	1653	1703	21	0	106
IVIVIII I IOW	U	1000	1703	21	U	100
Major/Minor	Major1	1	Major2	1	Vinor2	
Conflicting Flow All	-	0	-	0	-	852
Stage 1	-	-		-		
Stage 2						
Critical Hdwy						7.1
Critical Hdwy Stg 1						
Critical Hdwy Stg 2						
Follow-up Hdwy						3.4
Pot Cap-1 Maneuver	0				0	287
Stage 1	0				0	201
		-	-	-		
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver		-	-	-	-	287
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
					24.7	
HCM Control Delay, s	0		0			
HCM LOS					С	
Minor Lane/Major Mvi	nt	EBT	WBT	WBR :	SBI n1	
Capacity (veh/h)		LUI	77-01	WDIV.	287	
HCM Lane V/C Ratio					0.371	
	1			-	24.7	
HCM Control Delay (s	)		-			
HCM Lane LOS		-	-	-	С	
HCM 95th %tile Q(vel	1)	-	-	-	1.6	

Intersection Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	<u>₽</u>	EBR	WBL	<b>↑</b> ↑	WDK	INDL	IND I	INDR	SDL	SB1	SDR
Traffic Vol. veh/h	0	1521	33	3	1561	0	50	0	6	0	0	10
Future Vol, veh/h	0	1521	33	3	1561	0	50	0	6	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	1100	-	None	-	1100	None	Stop -	Jiop -	None	Jiop -	Jiop -	None
Storage Length	275		275	305		-			25			-
Veh in Median Storage		0	275	-	0			2	-		2	
Grade, %		0			0			0			0	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mymt Flow	0	1568	34	3	1609	0	52	0	6	0	0	10
WWW. Tiow	0	1300	51	3	1007	U	52	0	U	U	U	10
Major/Minor 1	Major1		1	Major2		- 1	Minor1		1	Minor2		
Conflicting Flow All	1609	0	0	1602	0	0	2379	3183	784	2399	3217	805
Stage 1	-	-					1568	1568	-	1615	1615	
Stage 2	-	-	-		-		811	1615	-	784	1602	
Critical Hdwy	4.34	-	-	4.34	-	-	7.74	6.74	7.14	7.74	6.74	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.74	5.74	-	6.74	5.74	-
Critical Hdwy Stg 2	-	-	-		-	-	6.74	5.74	-	6.74	5.74	
Follow-up Hdwy	2.32	-	-	2.32	-	-	3.62	4.12	3.42	3.62	4.12	3.42
Pot Cap-1 Maneuver	358	-	-	361	-	-	~ 16	8	315	15	8	305
Stage 1	-	-	-	-	-	-	105	154	-	98	146	-
Stage 2	-	-					319	146	-	331	148	
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	358	-		361		-	~ 15	8	315	15	8	305
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	97	-	89	94	-
Stage 1	-		-	-	-	-	105	154	-	98	145	-
Stage 2	-	-	-	-	-	-	306	145	-	325	148	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			75.3			17.2		
HCM LOS							F			С		
Minor Lane/Major Mvm	ıt I	NBLn1 I		EBL	EBT	EBR	WBL	WBT	WBR S			
Capacity (veh/h)		94	315	358	-	-	361	-	-	305		
HCM Lane V/C Ratio		0.548	0.02	-	-	-	0.009	-	-	0.034		
HCM Control Delay (s)		82.3	16.7	0	-	-	15.1	-	-	17.2		
HCM Lane LOS		F	С	Α	-	-	С	-	-	С		
HCM 95th %tile Q(veh)	)	2.5	0.1	0	-	-	0	-	-	0.1		
Notes												

Beechwood SP

7: Riverside Ave & 13th Street

Intersection										
Intersection Delay, s/veh	37.4									
Intersection LOS	Е									
Approach		EB			WB		NB		SB	
Entry Lanes		2			2		2		2	
Conflicting Circle Lanes		1			2		2		2	
Adj Approach Flow, veh/h		860			843		923		1099	
Demand Flow Rate, veh/h		869			851		933		1110	
Vehicles Circulating, veh/h		1135			873		815		723	
Vehicles Exiting, veh/h		698			875		1026		1001	
Ped Vol Crossing Leg, #/h		1			1		1		0	
Ped Cap Adj		1.000			1.000		1.000		1.000	
Approach Delay, s/veh		21.2			20.3		26.1		72.7	
Approach LOS		С			С		D		F	
Lane	Left	Right	Bypass	Left	Right	Left	Right	Left	Right	
			Буразэ	LCIT	Kignt	Leit	Right	ECIT	rtigitt	
Designated Moves	LT	TR	R	L	TR	LT	R	LT	R	
	LT LT									
Assumed Moves		TR	R		TR	LT	R	LT	R	
Assumed Moves RT Channelized Lane Util		TR	R R		TR	LT	R	LT	R	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s	0.470 2.535	TR TR 0.530 2.535	R R Free	0.412 2.667	TR TR 0.588 2.535	LT LT 0.586 2.667	R R 0.414 2.535	LT LT 0.706 2.667	R R 0.294 2.535	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	0.470 2.535 4.544	TR TR 0.530 2.535 4.544	R R Free	0.412 2.667 4.645	TR TR 0.588 2.535 4.328	LT LT 0.586 2.667 4.645	R R 0.414 2.535 4.328	LT LT 0.706 2.667 4.645	R R 0.294 2.535 4.328	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	0.470 2.535 4.544 332	TR TR 0.530 2.535 4.544 374	R R Free 163 1919	0.412 2.667 4.645 351	TR TR 0.588 2.535 4.328 500	LT LT 0.586 2.667 4.645 547	R R 0.414 2.535 4.328 386	LT LT 0.706 2.667 4.645 784	R R 0.294 2.535 4.328 326	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	0.470 2.535 4.544 332 505	TR TR 0.530 2.535 4.544 374 505	R R Free 163 1919 0.990	L L 0.412 2.667 4.645 351 605	TR TR 0.588 2.535 4.328 500 676	LT LT 0.586 2.667 4.645 547 638	R R 0.414 2.535 4.328 386 710	LT LT 0.706 2.667 4.645 784 694	R R 0.294 2.535 4.328 326 768	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	0.470 2.535 4.544 332 505 0.990	TR TR 0.530 2.535 4.544 374 505 0.991	R R Free 163 1919 0.990 161	L 0.412 2.667 4.645 351 605 0.991	TR TR 0.588 2.535 4.328 500 676 0.990	LT LT 0.586 2.667 4.645 547 638 0.990	R R 0.414 2.535 4.328 386 710 0.990	LT LT 0.706 2.667 4.645 784 694 0.990	R R 0.294 2.535 4.328 326 768 0.991	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h	0.470 2.535 4.544 332 505 0.990 329	TR TR 0.530 2.535 4.544 374 505 0.991 371	R R Free 163 1919 0.990 161 1900	L 0.412 2.667 4.645 351 605 0.991 348	TR TR 0.588 2.535 4.328 500 676 0.990 495	LT LT 0.586 2.667 4.645 547 638 0.990 541	R R 0.414 2.535 4.328 386 710 0.990 382	LT LT 0.706 2.667 4.645 784 694 0.990 776	R R 0.294 2.535 4.328 326 768 0.991 323	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	0.470 2.535 4.544 332 505 0.990 329 500	TR TR 0.530 2.535 4.544 374 505 0.991 371 501	R R Free 163 1919 0.990 161 1900 0.085	L 0.412 2.667 4.645 351 605 0.991 348 599	TR TR 0.588 2.535 4.328 500 676 0.990 495 669	LT LT 0.586 2.667 4.645 547 638 0.990 541 631	R R 0.414 2.535 4.328 386 710 0.990 382 703	LT LT 0.706 2.667 4.645 784 694 0.990 776 687	R R 0.294 2.535 4.328 326 768 0.991 323 761	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h V/C Ratio	0.470 2.535 4.544 332 505 0.990 329 500 0.657	TR TR 0.530 2.535 4.544 374 505 0.991 371 501 0.740	R R Free 163 1919 0.990 161 1900 0.085 0.0	L 0.412 2.667 4.645 351 605 0.991 348 599 0.581	TR TR 0.588 2.535 4.328 500 676 0.990 495 669 0.740	LT LT 0.586 2.667 4.645 547 638 0.990 541 631 0.858	R R 0.414 2.535 4.328 386 710 0.990 382 703 0.544	LT LT 0.706 2.667 4.645 784 694 0.990 776 687 1.129	R R R 0.294 2.535 4.328 326 768 0.991 323 761 0.424	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h V/C Ratio Control Delay, s/veh	0.470 2.535 4.544 332 505 0.990 329 500 0.657 23.2	TR TR 0.530 2.535 4.544 374 505 0.991 371 501 0.740 28.6	R R Free 163 1919 0.990 161 1900 0.085 0.0	L 0.412 2.667 4.645 351 605 0.991 348 599 0.581 16.9	TR TR 0.588 2.535 4.328 500 676 0.990 495 669 0.740 22.8	LT LT 0.586 2.667 4.645 547 638 0.990 541 631 0.858	R R 0.414 2.535 4.328 386 710 0.990 382 703 0.544 13.8	LT LT 0,706 2,667 4,645 784 694 0,990 776 687 1,129 98.6	R R R 0.294 2.535 4.328 326 768 0.991 323 761 0.424 10.3	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h V/C Ratio	0.470 2.535 4.544 332 505 0.990 329 500 0.657	TR TR 0.530 2.535 4.544 374 505 0.991 371 501 0.740	R R Free 163 1919 0.990 161 1900 0.085 0.0	L 0.412 2.667 4.645 351 605 0.991 348 599 0.581	TR TR 0.588 2.535 4.328 500 676 0.990 495 669 0.740	LT LT 0.586 2.667 4.645 547 638 0.990 541 631 0.858	R R 0.414 2.535 4.328 386 710 0.990 382 703 0.544	LT LT 0.706 2.667 4.645 784 694 0.990 776 687 1.129	R R R 0.294 2.535 4.328 326 768 0.991 323 761 0.424	

	۶	-	*	1	-	4	4	<b>†</b>	-	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
_ane Configurations	*	<b>†</b> 1>		*	<b></b>	7	*	<b></b>	7	*	ની	
Traffic Volume (veh/h)	20	480	32	290	476	714	7	51	300	631	98	11
Future Volume (veh/h)	20	480	32	290	476	714	7	51	300	631	98	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	21	511	34	309	506	760	7	54	319	745	0	11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	-
Cap, veh/h	39	826	55	343	776	642	295	309	262	859	0	38
Arrive On Green	0.02	0.24	0.24	0.19	0.41	0.41	0.16	0.16	0.16	0.24	0.00	0.24
Sat Flow, veh/h	1795	3407	226	1795	1885	1559	1795	1885	1598	3591	0	159
Grp Volume(v), veh/h	21	268	277	309	506	760	7	54	319	745	0	11
Grp Sat Flow(s), veh/h/ln	1795	1791	1842	1795	1885	1559	1795	1885	1598	1795	0	159
Q Serve(q s), s	1.3	14.7	14.8	18.5	23.8	45.4	0.4	2.7	18.1	22.0	0.0	6.
Cycle Q Clear(q_c), s	1.3	14.7	14.8	18.5	23.8	45.4	0.4	2.7	18.1	22.0	0.0	6.
Prop In Lane	1.00		0.12	1.00	20.0	1.00	1.00	2.7	1.00	1.00	0.0	1.0
Lane Grp Cap(c), veh/h	39	434	447	343	776	642	295	309	262	859	0	38
V/C Ratio(X)	0.54	0.62	0.62	0.90	0.65	1.18	0.02	0.17	1.22	0.87	0.00	0.3
Avail Cap(c_a), veh/h	81	434	447	431	776	642	295	309	262	1091	0.00	48
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.0
Uniform Delay (d), s/veh	53.4	37.2	37.2	43.6	26.1	32.4	38.7	39.7	46.1	40.2	0.0	34.
Incr Delay (d2), s/veh	11.4	2.6	2.6	18.8	1.9	98.0	0.0	0.3	127.0	6.2	0.0	0.
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.8	7.0	10.0	10.9	34.0	0.2	1.3	16.3	10.2	0.0	2.0
Unsig. Movement Delay, s/veh		0.0	7.0	10.0	10.7	0110	0.2	1.0	10.0	10.2	0.0	
LnGrp Delay(d),s/veh	64.8	39.8	39.9	62.4	28.0	130.5	38.7	39.9	173.1	46.5	0.0	34.9
LnGrp LOS	Е	D	D	Е	С	F	D	D	F	D	A	(
Approach Vol, veh/h		566			1575	<u> </u>		380	<u> </u>		862	
Approach Delay, s/veh		40.8			84.2			151.7			44.9	
Approach LOS		D			F F			F			D	
**												
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.5	31.2		30.9	6.9	49.9		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	23.9		33.5	5.0	45.4		18.1				
Max Q Clear Time (g_c+l1), s	20.5	16.8		24.0	3.3	47.4		20.1				
Green Ext Time (p_c), s	0.5	2.0		2.4	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			74.5									
HCM 6th LOS			Ε									

	۶	<b>→</b>	•	<b>←</b>	•	1	†	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	94	1425	30	1280	372	280	32	508	9	32	
v/c Ratio	0.53	0.77	0.28	0.77	0.44	0.63	0.05	0.85	0.02	0.05	
Control Delay	56.8	22.9	54.5	26.2	9.1	35.8	23.9	37.8	23.5	0.2	
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.8	24.3	54.5	26.2	9.1	35.8	23.9	37.8	23.5	0.2	
Queue Length 50th (ft)	61	402	20	370	55	155	14	238	4	0	
Queue Length 95th (ft)	#122	516	51	475	132	246	35	#417	15	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	202	2185	108	1986	971	587	797	752	587	751	
Starvation Cap Reductn	0	521	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.86	0.28	0.64	0.38	0.48	0.04	0.68	0.02	0.04	
Intersection Summary											
# 95th percentile volume e	exceeds cap	pacity, qu	eue may	be longe	1.						

Queue shown is maximum after two cycles.

Beechwood SP

8: Paso Robles Street & 13th Street

8: Paso Robles Street & 13th Street

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*		<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>†</b> 1>		7	<b>^</b>	7	7	<b>*</b>	7	7	ĵ»	
Traffic Volume (veh/h)	87	1285	40	28	1190	346	260	30	472	8	0	30
Future Volume (veh/h)	87	1285	40	28	1190	346	260	30	472	8	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	94	1382	43	30	1280	0	280	32	508	9	0	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	121	1674	52	53	1557		543	654	554	373	0	554
Arrive On Green	0.07	0.47	0.47	0.03	0.43	0.00	0.35	0.35	0.35	0.35	0.00	0.35
Sat Flow, veh/h	1795	3543	110	1795	3582	1598	1388	1885	1598	872	0	1598
Grp Volume(v), veh/h	94	698	727	30	1280	0	280	32	508	9	0	32
Grp Sat Flow(s), veh/h/ln	1795	1791	1862	1795	1791	1598	1388	1885	1598	872	0	1598
Q Serve(q s), s	4.6	30.0	30.2	1.5	28.0	0.0	15.0	1.0	27.2	0.6	0.0	1.2
Cycle Q Clear(q_c), s	4.6	30.0	30.2	1.5	28.0	0.0	16.2	1.0	27.2	1.6	0.0	1.2
Prop In Lane	1.00	30.0	0.06	1.00	20.0	1.00	1.00	1.0	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	121	846	880	53	1557	1.00	543	654	554	373	0	554
V/C Ratio(X)	0.78	0.82	0.83	0.57	0.82		0.52	0.05	0.92	0.02	0.00	0.06
Avail Cap(c a), veh/h	191	1022	1062	103	1867		614	750	636	418	0.00	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00		1.00	0.00		1.00	1.00	1.00	0.00	
	1.00	1.00		1.00			1.00					1.00
Uniform Delay (d), s/veh	41.0	20.3	20.4	42.7	22.2	0.0	24.8	19.4	27.9	19.9	0.0	19.4
Incr Delay (d2), s/veh	10.3	4.7		9.3		0.0		0.0	16.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	12.8	13.3	0.8	11.6	0.0	4.8	0.4	12.3	0.1	0.0	0.4
Unsig. Movement Delay, s/veh	= - 0	05.4	05.0	=0.0	0.10		05.4			100		40.5
LnGrp Delay(d),s/veh	51.2	25.1	25.0	52.0	24.8	0.0	25.6	19.4	44.8	19.9	0.0	19.5
LnGrp LOS	D	С	С	D	С		С	В	D	В	A	В
Approach Vol, veh/h		1519			1310	Α		820			41	
Approach Delay, s/veh		26.7			25.4			37.3			19.6	
Approach LOS		С			С			D			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	46.7		35.4	10.5	43.3		35.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	50.9		35.5	9.5	46.5		35.5				
Max Q Clear Time (q c+l1), s	3.5	32.2		3.6	6.6	30.0		29.2				
Green Ext Time (p_c), s	0.0	10.0		0.2	0.0	8.7		1.8				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			С									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 18 Central Coast Transportation Consulting

Beechwood SP

Cumulative Plus 674 Unit Project PM

9: River Road & Creston Road

	<b>≯</b>	-	1	•	4	<b>†</b>	-	-	Į.
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	508	1349	105	975	306	254	74	146	825
v/c Ratio	0.84	0.88	0.73	0.81	0.78	0.33	0.17	0.74	0.94dr
Control Delay	59.6	35.9	82.4	40.2	65.0	40.7	0.8	73.0	44.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	35.9	82.4	40.2	65.0	40.7	0.8	73.0	44.4
Queue Length 50th (ft)	197	461	81	351	120	88	0	111	225
Queue Length 95th (ft)	#273	567	#171	434	#185	129	1	#204	#343
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	656	1640	149	1283	412	795	461	218	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.82	0.70	0.76	0.74	0.32	0.16	0.67	0.87

### Intersection Summary

Sth percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

	۶	-	$\rightarrow$	•	-	*	1	<b>†</b>		-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>↑</b> 1>		ሻ	<b>↑</b> ↑		777	<b>^</b>	7	ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	483	871	410	100	774	152	291	241	70	139	284	500
Future Volume (veh/h)	483	871	410	100	774	152	291	241	70	139	284	500
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	508	917	0	105	815	160	306	254	74	146	299	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	632	1633		135	1041	204	404	499	223	184	450	
Arrive On Green	0.18	0.46	0.00	0.08	0.35	0.35	0.12	0.14	0.14	0.10	0.13	0.00
Sat Flow, veh/h	3483	3676	0	1795	2977	584	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	508	917	0	105	490	485	306	254	74	146	299	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1771	1742	1791	1598	1795	1791	0
Q Serve(g_s), s	11.1	14.8	0.0	4.5	19.4	19.4	6.7	5.2	3.3	6.3	6.3	0.0
Cycle Q Clear(g_c), s	11.1	14.8	0.0	4.5	19.4	19.4	6.7	5.2	3.3	6.3	6.3	0.0
Prop In Lane	1.00		0.00	1.00		0.33	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	632	1633		135	626	619	404	499	223	184	450	
V/C Ratio(X)	0.80	0.56		0.78	0.78	0.78	0.76	0.51	0.33	0.79	0.66	
Avail Cap(c_a), veh/h	946	2420		215	939	928	594	1135	506	315	1153	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.1	15.8	0.0	36.0	23.1	23.1	33.9	31.6	30.8	34.7	33.0	0.0
Incr Delay (d2), s/veh	3.1	0.3	0.0	9.3	2.5	2.6	3.2	8.0	0.9	7.6	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	5.7	0.0	2.3	8.0	7.9	2.9	2.2	1.3	3.0	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	16.1	0.0	45.2	25.6	25.6	37.2	32.4	31.6	42.3	34.7	0.0
LnGrp LOS	С	В		D	С	С	D	С	С	D	С	
Approach Vol, veh/h		1425	Α		1080			634			445	Α
Approach Delay, s/veh		22.5			27.5			34.6			37.2	
Approach LOS		С			С			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	40.6	13.7	14.5	18.9	32.2	12.6	15.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	53.5	13.5	25.5	21.5	41.5	13.9	25.1				
Max Q Clear Time (g_c+I1), s	6.5	16.8	8.7	8.3	13.1	21.4	8.3	7.2				
Green Ext Time (p_c), s	0.1	7.9	0.5	1.5	1.3	6.3	0.2	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			С									

Movement	FBL	FBI	EBR	WBL	WBI	WBR	NBL	NRT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	<b>†</b> 1>		ሻ	<b>†</b> î>		1,14	<b>^</b>	7	ሻ	<b>†</b> 1>	
Fraffic Volume (veh/h)	483	871	410	100	774	152	291	241	70	139	284	500
uture Volume (veh/h)	483	871	410	100	774	152	291	241	70	139	284	500
nitial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nork Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	508	917	0	105	815	160	306	254	74	146	299	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	632	1633		135	1041	204	404	499	223	184	450	
Arrive On Green	0.18	0.46	0.00	0.08	0.35	0.35	0.12	0.14	0.14	0.10	0.13	0.00
Sat Flow, veh/h	3483	3676	0	1795	2977	584	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	508	917	0	105	490	485	306	254	74	146	299	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1771	1742	1791	1598	1795	1791	0
2 Serve(g_s), s	11.1	14.8	0.0	4.5	19.4	19.4	6.7	5.2	3.3	6.3	6.3	0.0
Cycle Q Clear(q_c), s	11.1	14.8	0.0	4.5	19.4	19.4	6.7	5.2	3.3	6.3	6.3	0.0
Prop In Lane	1.00		0.00	1.00		0.33	1.00		1.00	1.00		0.00
ane Grp Cap(c), veh/h	632	1633		135	626	619	404	499	223	184	450	
//C Ratio(X)	0.80	0.56		0.78	0.78	0.78	0.76	0.51	0.33	0.79	0.66	
Avail Cap(c_a), veh/h	946	2420		215	939	928	594	1135	506	315	1153	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Jpstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Jniform Delay (d), s/veh	31.1	15.8	0.0	36.0	23.1	23.1	33.9	31.6	30.8	34.7	33.0	0.0
ncr Delay (d2), s/veh	3.1	0.3	0.0	9.3	2.5	2.6	3.2	0.8	0.9	7.6	1.7	0.0
nitial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	5.7	0.0	2.3	8.0	7.9	2.9	2.2	1.3	3.0	2.7	0.0
Jnsig. Movement Delay, s/veh												
_nGrp Delay(d),s/veh	34.2	16.1	0.0	45.2	25.6	25.6	37.2	32.4	31.6	42.3	34.7	0.0
_nGrp LOS	С	В		D	С	С	D	С	С	D	С	
Approach Vol, veh/h		1425	Α		1080			634			445	А
Approach Delay, s/veh		22.5			27.5			34.6			37.2	
Approach LOS		С			С			С			D	
imer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	40.6	13.7	14.5	18.9	32.2	12.6	15.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	53.5	13.5	25.5	21.5	41.5	13.9	25.1				
Max Q Clear Time (g_c+I1), s	6.5	16.8	8.7	8.3	13.1	21.4	8.3	7.2				
Green Ext Time (p_c), s	0.1	7.9	0.5	1.5	1.3	6.3	0.2	1.6				
ntersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			С									
latos												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

TOT OTTOGRAM	x 00.00					
	•	<b>→</b>	+	-	4	
Lane Group	EBL	EBT	WBT	SBL	SBR	
Lane Group Flow (vph)	92	574	1244	636	91	
v/c Ratio	0.57	0.28	0.80	0.72	0.19	
Control Delay	57.6	11.2	22.8	36.8	8.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.6	11.2	22.8	36.8	8.9	
Queue Length 50th (ft)	46	63	215	147	0	
Queue Length 95th (ft)	#168	189	#560	#358	45	
Internal Link Dist (ft)		1151	2310	505		
Turn Bay Length (ft)	125			120		
Base Capacity (vph)	162	2412	1845	1005	528	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.57	0.24	0.67	0.63	0.17	
Intersection Summary						
# 95th percentile volume 6	exceeds ca	pacity, qu	ieue may	be longer	1.	

Queue shown is maximum after two cycles.

### Beechwood SP 10: Creston Road & Golden Hill Road

### Cumulative Plus 674 Unit Project PM HCM Signalized Intersection Capacity Analysis

	•	$\rightarrow$	<b>—</b>	*	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	*	<b>^</b>	<b>↑</b> 1>		ሻሻ	7		
Traffic Volume (vph)	89	557	609	598	617	88		
uture Volume (vph)	89	557	609	598	617	88		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
otal Lost time (s)	4.5	4.5	4.5		4.5	4.5		
ane Util. Factor	1.00	0.95	0.95		0.97	1.00		
rpb, ped/bikes	1.00	1.00	0.99		1.00	1.00		
lpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		
rt	1.00	1.00	0.93		1.00	0.85		
Flt Protected	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1787	3574	3282		3467	1599		
Flt Permitted	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (perm)	1787	3574	3282		3467	1599		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97		
Adj. Flow (vph)	92	574	628	616	636	91		
RTOR Reduction (vph)	0	0	134	0	0	69		
ane Group Flow (vph)	92	574	1110	0	636	22		
Confl. Peds. (#/hr)				4				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%		
urn Type	Prot	NA	NA		Perm	Perm		
Protected Phases	5	2	6					
Permitted Phases					4	4		
ctuated Green, G (s)	7.8	50.0	37.7		21.9	21.9		
Effective Green, g (s)	7.8	50.0	37.7		21.9	21.9		
Actuated g/C Ratio	0.09	0.56	0.42		0.25	0.25		
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	156	2001	1385		850	392		
//s Ratio Prot	c0.05	0.16	c0.34					
v/s Ratio Perm					c0.18	0.01		
//c Ratio	0.59	0.29	0.80		0.75	0.06		
Jniform Delay, d1	39.2	10.3	22.5		31.2	25.8		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	5.6	0.1	3.4		3.6	0.1		
Delay (s)	44.8	10.4	26.0		34.8	25.9		
_evel of Service	D	В	С		С	С		
Approach Delay (s)		15.1	26.0		33.7			
pproach LOS		В	С		С			
ntersection Summary								
HCM 2000 Control Delay			25.4	Н	CM 2000	Level of Service	e	С
HCM 2000 Volume to Car	pacity ratio		0.72					
Actuated Cycle Length (s)			89.3	S	um of lost	time (s)		18.0
Intersection Capacity Utiliz			70.0%			of Service		С
Analysis Period (min)			15					
- California - Carrier								

c Critical Lane Group

Central Coast Transportation Consulting
Synchro 10 Report
Page 23

### Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Cumulative Plus 674 Unit Project PM

	•	<b>→</b>	*	1	<b>←</b>	4	1	†	1	Į.	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	208	831	317	157	569	483	211	456	419	522	146	
v/c Ratio	0.71	0.78	0.51	0.65	0.59	0.64	0.70	0.64	0.70	0.71	0.36	
Control Delay	56.7	39.9	14.0	58.0	36.7	8.1	55.7	41.2	48.3	44.7	16.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.7	39.9	14.0	58.0	36.7	8.1	55.7	41.2	48.3	44.7	16.6	
Queue Length 50th (ft)	137	267	51	104	174	7	139	147	142	178	25	
Queue Length 95th (ft)	236	390	148	189	265	105	237	215	212	256	86	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	150		150	170		170	230		245		100	
Base Capacity (vph)	390	1289	704	317	1143	815	408	963	774	962	496	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.64	0.45	0.50	0.50	0.59	0.52	0.47	0.54	0.54	0.29	
Intersection Summary												

HCM 6th Ctrl Delay HCM 6th LOS

Second   Company   Compa	Intersection												
Carne Configurations	Int Delay, s/veh	15.1											
Traffic Vol, veh/h 135 10 14 10 10 42 23 401 10 53 526 166 vilure Vol, veh/h 135 10 14 10 10 42 23 401 10 53 526 166 vilure Vol, veh/h 135 10 14 10 10 42 23 401 10 53 526 166 conflicting Peds, #hr 4 0 0 0 0 0 4 5 0 0 0 0 5 500 Stop Stop Stop Stop Stop Stop Stop Stop	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR		SBT	SBR
Future Vol, veh/h  Future Veh/h  Fut	Lane Configurations		4			4		7	₽		7	<b>↑</b>	7
Conflicting Peds, #/hr	Traffic Vol, veh/h	135	10	14	10	10	42	23	401	10	53	526	166
Stop	Future Vol, veh/h	135	10	14	10	10	42	23	401	10	53	526	166
None   - N	Conflicting Peds, #/hr	4	0	0	0	0	4	5	0	0	0	0	5
Storage Length	Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Veh in Median Storage, # - 0	RT Channelized	-	-	None	-	-	None	-		None	-	-	None
Grade, % - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	Storage Length	-	-	-	-	-	-	30	-	-	70	-	60
Peak Hour Factor   99   99   99   99   99   99   99	Veh in Median Storage	2,# -	0			0		-	0		-	0	
Heavy Vehicles, %	Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Major/Minor   Minor2   Minor1   Major1   Major2   Maj	Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Major/Minor   Minor2   Minor1   Major1   Major2	Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Flow All   1130   1105   536   1191   1268   414   704   0   0   415   0   0	Mvmt Flow	136	10	14	10	10	42	23	405	10	54	531	168
Conflicting Flow All   1130   1105   536   1191   1268   414   704   0   0   415   0   0													
Conflicting Flow All   1130   1105   536   1191   1268   414   704   0   0   415   0   0	Major/Minor	Minor2			Minor1			Maior1			Maior2		
Stage 1			1105			1268			n			n	n
Stage 2								704	-	-	TIJ	-	-
Critical Hdwy 7.11 6.51 6.21 7.11 6.51 6.21 4.11 - 4.11 7.11 6.51 6.21 4.11 4.11 7.11 6.11 6.51 6.21 4.11 4.11 7.11 6.11 6.51 6.21 4.11 4.11 7.11 6.11 6.51 6.11 5.51													
Critical Hdwy Stg 1 6.11 5.51 - 6.11 5.51											4 11		
Critical Hdwy Stg 2 6.11 5.51 - 6.11 5.51											4.11		
Follow-up Hdwy 3.509 4.009 3.309 3.509 4.009 3.309 2.209 - 2.209 - 2.209 - 2.001 Cap-1 Maneuver 182 212 547 165 169 640 898 - 1149 - 3.000													
Pot Cap-1 Maneuver 182 212 547 165 169 640 898 - 1149 - Stage 1 463 470 - 586 570				3 309			3 309	2 209			2 209		
Stage 1													
Stage 2   565   567   413   394											-		
Palaton blocked, %								-			-		
Mov Cap-1 Maneuver Alov Cap-2 Maneuver         151         196         544         146         156         638         894         -         1149         -													
Mov Cap-2 Maneuver   151   196		151	196	544	146	156	638	894	-	-	1149		-
Stage 1         449         446         - 571         555								-			-		
Stage 2   503   552   - 375   374			446		571	555							
Approach EB WB NB SB  1CM Control Delay, s 120.8 19.4 0.5 0.6  HCM LOS F C   CINITAR - Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR  Capacity (veh/h) 894 - 164 312 1149  1CM Lane V/C Ratio 0.026 - 0.979 0.201 0.047  1CM Control Delay (s) 9.1 - 120.8 19.4 8.3  1CM Lane LOS A - F C A				-							-		
1CM Control Delay, s   120.8   19.4   0.5   0.6													
1CM Control Delay, s   120.8   19.4   0.5   0.6	Annroach	FP			WR			NP			SP		
C   C   C   C   C   C   C   C   C   C													
### Alinor Lane/Major Mvmt   NBL   NBT   NBR EBLn1WBLn1   SBL   SBT   SBR								0.5			0.0		
Capacity (veh/n) 894 - 164 312 1149 16CM Lane V/C Ratio 0.026 - 0.979 0.201 0.047 16CM Control Delay (s) 9.1 - 120.8 19.4 8.3 16CM Lane LOS A - F C A	LICINI FO2	г			C								
Capacity (veh/n) 894 - 164 312 1149 16CM Lane V/C Ratio 0.026 - 0.979 0.201 0.047 16CM Control Delay (s) 9.1 - 120.8 19.4 8.3 16CM Lane LOS A - F C A	Minor Long (Maior Ad		ND	NDT	NDD	EDI 41	NDI4	CDI	CDT	CDD			
1CM Lane V/C Ratio 0.026 - 0.979 0.201 0.047 1 1CM Control Delay (s) 9.1 - 120.8 19.4 8.3 1 1CM Lane LOS A - F C A		11			MRK				2R1	SRK			
HCM Control Delay (s) 9.1 - 120.8 19.4 8.3 HCM Lane LOS A - F C A					-				-	-			
HCM Lane LOS A F C A					-				-	-			
					-				-	-			
HCM 95th %tile Q(veh) 0.1 7.6 0.7 0.1				-	-				-	-			
	HCM 95th %tile Q(veh	)	0.1	-	-	7.6	0.7	0.1	-	-			

Beechwood SP

12: Creston Road & Stoney Creek Road

Intersection	
Intersection Delay, s/veh	24.2
Intersection LOS	С

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4			4				ર્ન	7		414
Traffic Vol, veh/h	10	10	14	164	10	162	0	13	262	253	272	250
Future Vol, veh/h	10	10	14	164	10	162	0	13	262	253	272	250
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	11	11	15	176	11	174	0	14	282	272	292	269
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	11.7			22.1				17.1			33.1	
HCM LOS	В			С				С			D	

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	
Vol Left, %	5%	0%	29%	49%	69%	0%	
Vol Thru, %	95%	0%	29%	3%	31%	86%	
Vol Right, %	0%	100%	41%	48%	0%	14%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	275	253	34	336	397	145	
LT Vol	13	0	10	164	272	0	
Through Vol	262	0	10	10	125	125	
RT Vol	0	253	14	162	0	20	
Lane Flow Rate	296	272	37	361	427	156	
Geometry Grp	7	7	2	2	7	7	
Degree of Util (X)	0.58	0.478	0.081	0.668	0.862	0.295	
Departure Headway (Hd)	7.066	6.323	7.961	6.658	7.271	6.821	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	512	569	449	542	499	527	
Service Time	4.81	4.066	6.029	4.692	5.014	4.564	
HCM Lane V/C Ratio	0.578	0.478	0.082	0.666	0.856	0.296	
HCM Control Delay	19.2	14.8	11.7	22.1	40.6	12.4	
HCM Lane LOS	С	В	В	С	Е	В	
HCM 95th-tile Q	3.6	2.6	0.3	4.9	9.1	1.2	

Intersection	
Intersection Delay, s/veh	
Intersection LOS	
intersection EOS	
Movement	SBR
La <b>de</b> Configurations	
Traffic Vol, veh/h	20
Future Vol, veh/h	20
Peak Hour Factor	0.93
Heavy Vehicles, %	1
Mvmt Flow	22
Number of Lanes	0
Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	t
Conflicting Lanes Left	
Conflicting Approach Rig	ht
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

HCM Lane LOS

HCM 95th %tile Q(veh)

Α

### Movement EBT EBR WBL WBT WBR Lane Configurations Traffic Volume (veh/h) 400 Future Volume (Veh/h) 0 0 313 20 0 0 0 0 400 53 Sign Control Stop Free Free Grade 0% 0% 0% 0% Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 Hourly flow rate (vph) 0 340 22 0 0 0 435 58 0 Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage Right turn flare (veh) Median type Median storage veh) None None Upstream signal (ft) pX, platoon unblocked vC, conflicting volume 464 464 464 493 0 493 0 634 vC1, stage 1 conf vol vC2, stage 2 conf vol vCu, unblocked vol 464 tC, single (s) 7.1 6.5 6.2 7.1 6.5 6.2 4.1 4.1 tC, 2 stage (s) tF (s) 3.5 4.0 3.3 3.5 4.0 3.3 2.2 2.2 p0 queue free % 100 cM capacity (veh/h) 1076 1630 163 497 600 510 478 1088 Direction, Lane # WB 1 SB 1 Volume Total 362 493 Volume Left 0 0 Volume Right 22 58 1700 499 Volume to Capacity 0.73 0.29 Queue Length 95th (ft) Control Delay (s) 29.0 0.0 Lane LOS Approach Delay (s) 29.0 0.0 Approach LOS Intersection Summary Average Delay 12.3

ICU Level of Service

47.4%

Intersection							
Int Delay, s/veh	12.9						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Ť	7	ሻ	**		7	
Traffic Vol, veh/h	313	230	136	216	194	234	
Future Vol, veh/h	313	230	136	216	194	234	
Conflicting Peds, #/hr		0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	145	105	-	-	0	
Veh in Median Storag				0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	97	97	97	97	97	97	
Heavy Vehicles, %	1	1	1	1	1	1	
Mvmt Flow	323	237	140	223	200	241	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	592	200	441	0	-	0	
Stage 1	200					-	
Stage 2	392					-	
Critical Hdwy	6.615	6.215	4.115			-	
Critical Hdwy Stg 1	5.415	-	-	-	-	-	
Critical Hdwy Stg 2	5.815					-	
Follow-up Hdwy	3.5095	3.3095	2.2095			-	
Pot Cap-1 Maneuver	455	843	1123			-	
Stage 1	836	-	-			-	
Stage 2	655	-	-	-	-	-	
Platoon blocked, %						-	
Mov Cap-1 Maneuver	r 398	843	1123			-	
Mov Cap-2 Maneuver	r 398					-	
Stage 1	732					-	
Stage 2	655					-	
ŭ .							
Approach	EB		NB		SB		
HCM Control Delay, s			3.3		0		
HCM LOS	27.4 D		3.3		U		
HCW LOS	D						
Minor Lane/Major Mv	mt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)		1123	-	398	843	-	
HCM Lane V/C Ratio		0.125	-	0.811		-	-
HCM Control Delay (s	s)	8.7	-	43	10.9	-	-

E B

0.4 - 7.3 1.2

Intersection Capacity Utilization

Analysis Period (min)

	<b>≯</b>	-	1	←	*	4	<b>†</b>	1	-	ļ	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	75	478	759	275	536	141	424	1172	786	461	
v/c Ratio	0.27	0.87	0.72	0.48	0.52	0.70	0.81	0.89	0.90	0.46	
Control Delay	58.2	73.6	50.2	45.5	8.7	81.0	73.1	32.0	66.0	41.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.2	73.6	50.2	45.5	8.7	81.0	73.1	32.0	66.0	41.1	
Queue Length 50th (ft)	65	231	344	222	112	135	212	307	383	177	
Queue Length 95th (ft)	118	#321	421	316	201	207	275	411	#489	241	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	293	583	1084	588	1043	258	581	1347	931	1039	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.82	0.70	0.47	0.51	0.55	0.73	0.87	0.84	0.44	

# # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Synchro 10 Report Page 37 Central Coast Transportation Consulting Central Coast Transportation Consulting

Beechwood SP Cumulative Plus 674 Unit Project PM HCM 6th Signalized Intersection Summary 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	-	*	1	←	•	1	<b>†</b>	1	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	7	<b>↑</b> ↑		ሻሻ	<b>^</b>	7		<b>^</b>	77	77	<b>↑</b> ↑	
Traffic Volume (veh/h)	73	351	113	736	267	520	137	411	1137	762	325	12
Future Volume (veh/h)	73	351	113	736	267	520	137	411	1137	762	325	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	75	362	116	759	275	536	141	424	1172	786	335	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	
Cap, veh/h	278	414	131	1001	542	845	166	593	1273	856	796	29
Arrive On Green	0.16	0.16	0.16	0.29	0.29	0.29	0.09	0.17	0.17	0.25	0.31	0.3
Sat Flow, veh/h	1795	2668	842	3483	1885	1573	1795	3582	2812	3483	2560	94
Grp Volume(v), veh/h	75	241	237	759	275	536	141	424	1172	786	233	22
Grp Sat Flow(s),veh/h/ln	1795	1791	1719	1742	1885	1573	1795	1791	1406	1742	1791	171
Q Serve(g_s), s	5.2	18.4	18.9	27.8	17.1	33.8	10.8	15.7	23.2	30.8	14.4	14.
Cycle Q Clear(g_c), s	5.2	18.4	18.9	27.8	17.1	33.8	10.8	15.7	23.2	30.8	14.4	14.
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.5
Lane Grp Cap(c), veh/h	278	278	267	1001	542	845	166	593	1273	856	557	53
V/C Ratio(X)	0.27	0.87	0.89	0.76	0.51	0.63	0.85	0.72	0.92	0.92	0.42	0.4
Avail Cap(c_a), veh/h	300	299	287	1108	600	893	264	593	1273	952	557	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Uniform Delay (d), s/veh	52.2	57.8	58.0	45.5	41.7	23.2	62.6	55.4	27.3	51.5	38.3	38.
Incr Delay (d2), s/veh	0.5	21.8	25.8	2.8	0.7	1.4	13.6	4.1	11.0	12.8	0.5	0.
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	2.4	10.1	10.2	12.2	8.0	12.4	5.5	7.3	22.6	15.0	6.5	6.
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	79.6	83.8	48.3	42.4	24.5	76.3	59.4	38.3	64.2	38.8	38.
LnGrp LOS	D	E	F	D	D	С	Ε	E	D	Ε	D	
Approach Vol, veh/h		553			1570			1737			1247	
Approach Delay, s/veh		77.7			39.2			46.5			54.9	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.1	29.0		26.3	18.8	49.4		45.7				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 38	23.2		23.4	20.6	* 41		44.6				
Max Q Clear Time (q_c+l1), s	32.8	25.2		20.9	12.8	16.8		35.8				
Green Ext Time (p_c), s	1.6	0.0		0.8	0.2	2.9		4.4				
Intersection Summary												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									

Notes
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 39

	<b>*</b>	<b>→</b>	*	1	-	4	<b>†</b>	1	ļ	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	281	1156	661	140	1031	432	377	215	551	
v/c Ratio	0.74	0.86	0.74	0.74	0.79	0.80	0.52	0.80	0.78	
Control Delay	62.4	40.4	15.1	74.2	36.1	59.1	39.1	69.0	48.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.4	40.4	15.1	74.2	36.1	59.1	39.1	69.0	48.4	
Queue Length 50th (ft)	107	415	127	104	350	162	121	156	195	
Queue Length 95th (ft)	#170	#536	299	#208	453	#240	171	#278	258	
Internal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	398	1422	912	202	1390	579	860	302	862	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.71	0.81	0.72	0.69	0.74	0.75	0.44	0.71	0.64	
Intersection Summary										

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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	۶	<b>→</b>	*	✓	<b>←</b>	*	1	1	1	/	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	<b>^</b>	7	ሻ	<b>↑</b> ↑		ሻሻ	<b>∱</b> î≽		ሻ	<b>∱</b> β	
Traffic Volume (veh/h)	270	1110	635	134	830	159	415	270	92	206	399	130
Future Volume (veh/h)	270	1110	635	134	830	159	415	270	92	206	399	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1005	No	4005	4005	No	4005	4005	No	4005	4005	No	4005
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	281	1156	661	140	865	166	432	281	96	215	416	135
Peak Hour Factor Percent Heavy Veh, %	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Cap, veh/h	351	1389	620	171	1145	220	510	534	179	249	519	167
Arrive On Green	0.10	0.39	0.39	0.10	0.38	0.38	0.15	0.20	0.20	0.14	0.19	0.19
Sat Flow, veh/h	3483	3582	1598	1795	2997	575	3483	2636	881	1795	2663	855
	281			140	517	514		189		215		
Grp Volume(v), veh/h	1742	1156 1791	661 1598	1795		1781	432 1742	1791	188 1727	1795	278	273
Grp Sat Flow(s), veh/h/ln Q Serve(q s), s	8.1	29.9	24.5	7.8	1 <b>791</b> 25.7	25.7	1742	9.6	10.0	1795	1791 15.2	1727 15.5
Cycle Q Clear(q_c), s	8.1	29.9	24.5	7.8	25.7	25.7	12.4	9.6	10.0	12.0	15.2	15.5
Prop In Lane	1.00	29.9	1.00	1.00	25.7	0.32	1.00	9.0	0.51	1.00	15.2	0.50
Lane Grp Cap(c), veh/h	351	1389	620	171	684	680	510	363	350	249	349	336
V/C Ratio(X)	0.80	0.83	1.07	0.82	0.76	0.76	0.85	0.52	0.54	0.86	0.80	0.81
Avail Cap(c a), veh/h	432	1538	686	219	766	761	629	469	452	328	472	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	28.3	11.9	45.5	27.5	27.5	42.6	36.4	36.5	43.2	39.3	39.4
Incr Delay (d2), s/veh	8.5	3.7	54.3	17.3	3.9	3.9	8.8	1.2	1.3	16.6	6.7	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	12.7	16.8	4.2	11.1	11.0	5.8	4.2	4.2	6.3	7.1	7.1
Unsig. Movement Delay, s/veh		12.7	10.0			1110	0.0	1.2	112	0.0	,,,	,
LnGrp Delay(d),s/veh	53.5	32.1	66.2	62.8	31.4	31.4	51.4	37.6	37.8	59.7	46.1	47.2
LnGrp LOS	D	С	F	Е	С	С	D	D	D	Е	D	D
Approach Vol, veh/h		2098	<u> </u>		1171			809			766	_
Approach Delay, s/veh		45.7			35.1			45.0			50.3	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	44.2	19.5	24.5	14.8	43.6	18.7	25.3				
Change Period (Y+Rc), s	4.5	44.2	4.5	4.5	4.5	43.0	4.5	4.5				
Max Green Setting (Gmax), s	12.5	44.0	18.5	27.0	12.7	43.8	18.7	26.8				
Max Q Clear Time (q c+l1), s	9.8	31.9	14.4	17.5	10.1	27.7	14.0	12.0				
Green Ext Time (p. c), s	0.1	7.8	0.6	2.2	0.2	5.8	0.2	1.8				
Intersection Summary	0.1	7.0	0.0		0.2	0.0	U.E	110				
HCM 6th Ctrl Delay			43.8									
			43.8 D									
HCM 6th LOS			D									

Synchro 10 Report Page 40 Synchro 10 Report Page 42 Central Coast Transportation Consulting

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EDL.	EDR	INDL	IND I		JDK
Traffic Vol, veh/h	<b>'Y'</b> 57	10	10	549	<b>₽</b> 850	105
		10		549	850	105
Future Vol, veh/h	57	10	10			105
Conflicting Peds, #/hr	0	0		0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	-	0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	10	10	572	885	109
Major/Minor	Minor2		Major1	N	Najor2	
Conflicting Flow All	1533	941	995	0	-	0
Stage 1	941	711		-		-
Stage 2	592					
Critical Hdwy	6.42	6.22	4.12			
Critical Hdwy Stg 1	5.42	0.22	1.12			
Critical Hdwy Stg 2	5.42					
Follow-up Hdwy	3.518	3.318	2 218			
Pot Cap-1 Maneuver	128	319	695			
Stage 1	380	319	090			
Stage 1	553	-				
	003	-		-		
Platoon blocked, %	105	210	(04	-	-	
Mov Cap-1 Maneuver	125	319	694	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	372	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	55.8		0.2		0	
HCM LOS	55.6		0.2		- 3	
200						
Minor Lane/Major Mvm	nt	NBL	NBT I	EBLn1	SBT	SBR
Capacity (veh/h)		694		137	-	-
HCM Lane V/C Ratio		0.015	-	0.509	-	-
HCM Control Delay (s)	)	10.3	0	55.8	-	-
HCM Lane LOS		В	Α	F	-	-
HCM 95th %tile Q(veh	)	0	-	2.4	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1	
Traffic Vol, veh/h	40	14	23	509	760	54
Future Vol. veh/h	40	14	23	509	760	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Jiop -	None	-		-	None
Storage Length	0	None -		None -		None -
	-			0		-
Veh in Median Storage	- 1				0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	43	15	25	553	826	59
Major/Minor	Minor2		Major1	, n	/lajor2	
						0
Conflicting Flow All	1459	856	885	0	-	0
Stage 1	856		-		-	-
Stage 2	603		-		-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	142	356	761	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	135	356	761	-		
Mov Cap-2 Maneuver	326	-	-			
Stage 1	395					
Stage 2	544					
Staye 2	344					
Approach	EB		NB		SB	
HCM Control Delay, s	18.1		0.4		0	
HCM LOS	С					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		761	-	333	-	-
HCM Lane V/C Ratio		0.033	-	0.176	-	-
HCM Control Delay (s)	)	9.9	0	18.1	-	
HCM Lane LOS		Α	A	С		
HCM 95th %tile Q(veh	1)	0.1	-	0.6		
HOW FOUT FOUTE CE (VEH	'/	U. I		0.0		

Intersection				
ntersection Delay, s/veh	8.8			
ntersection LOS	А			
Approach	WB	NB	SB	
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	491	142	838	
Demand Flow Rate, veh/h	496	143	846	
Vehicles Circulating, veh/h	110	729	11	
/ehicles Exiting, veh/h	762	128	595	
Ped Vol Crossing Leg, #/h	0	0	1	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	6.9	8.2	10.0	
Approach LOS	Α	A	В	
Lane	Left	Left	Left	
Designated Moves	LR	TR	LT	
Assumed Moves	LR	TR	LT	
RT Channelized				
ane Util	1.000	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	2.609	
Critical Headway, s	4.976	4.976	4.976	
Entry Flow, veh/h	496	143	846	
Cap Entry Lane, veh/h	1233	656	1364	
Entry HV Adj Factor	0.990	0.992	0.990	
			020	
low Entry, veh/h	491	142	838	
Flow Entry, veh/h Cap Entry, veh/h	1221	651	1351	
Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	1221 0.402	651 0.218	1351 0.620	
Flow Entry, veh/h Cap Entry, veh/h I/C Ratio Control Delay, s/veh	1221 0.402 6.9	651 0.218 8.2	1351 0.620 10.0	
Flow Entry, veh/h Cap Entry, veh/h //C Ratio	1221 0.402	651 0.218	1351 0.620	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	T T	<u></u>	₩ <u>Ы</u>	ושייי	JDL W	אושכ
Traffic Vol, veh/h	10	684	442	10	10	10
Future Vol. veh/h	10	684	442	10	10	10
Conflicting Peds, #/hr	14	004	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	1100	None	1166	None	Jiup -	None
Storage Length	50	NONE -		NUITE -	0	NUITE -
Veh in Median Storage		0	0		0	
Grade, %	:,# -	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	11	743	480	11	11	11
Major/Minor I	Major1	1	Major2	1	Minor2	
Conflicting Flow All	505	0	-	0	1265	500
Stage 1	-	-		-	500	
Stage 2					765	
Critical Hdwy	4.11			-	6.41	6.21
Critical Hdwy Stg 1	-				5.41	0.21
Critical Hdwy Stg 2					5.41	
Follow-up Hdwy	2.209				3.509	3.309
Pot Cap-1 Maneuver	1065				188	573
Stage 1	1005				611	
Stage 2					461	
Platoon blocked, %					401	
Mov Cap-1 Maneuver	1051				181	565
Mov Cap-1 Maneuver	1001				181	303
					597	
Stage 1				-	455	
Stage 2	-		-	-	455	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		19.3	
HCM LOS					С	
Mineral and Marie Ad		EDI	EDT	MDT	MDD	CDL4
Minor Lane/Major Mvm	11	EBL	EBT	WBT	WRK	SBLn1
Capacity (veh/h)		1051	-	-	-	274
HCM Lane V/C Ratio		0.01	-	-		0.079
HCM Control Delay (s)		8.5	-	-	-	19.3
HCM Lane LOS		Α	-	-	-	С
HCM 95th %tile Q(veh)	)	0	-		-	0.3

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.		7	ĵ.			4			4	
Traffic Vol, veh/h	40	644	10	10	412	28	10	0	10	31	0	30
Future Vol, veh/h	40	644	10	10	412	28	10	0	10	31	0	30
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None		-	None	-	-	None	-		None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage	.,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3		3	3	3	3	3	3	3	3	3	3
Mvmt Flow	42	678	11	11	434	29	11	0	11	33	0	32
Maior/Minor 1	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	475	0	0	689	0	0	1255	1265	684	1256	1256	461
Stage 1	-	-	-	-		-	768	768	-	483	483	-
Stage 2							487	497		773	773	
Critical Hdwy	4.13		-	4.13			7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1			-				6.13	5.53		6.13	5.53	-
Critical Hdwy Stg 2		-	-	-		-	6.13	5.53		6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227		-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1082		-	901			148	168	447	147	171	598
Stage 1			-				393	409	-	563	551	-
Stage 2	-						560	543		390	407	
Platoon blocked, %												
Mov Cap-1 Maneuver	1070			901			135	158	447	136	161	591
Mov Cap-2 Maneuver	-			-			135	158	-	136	161	-
Stage 1	-		-	-	-	-	378	393	-	535	538	-
Stage 2	-	-		-	-	-	524	531		366	391	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			24.4			28.1		
HCM LOS	0.5			0.2			24.4 C			20.1 D		
TIOW EOS							C			U		
Minor Lane/Major Mvm	nt	NBLn1	EBL	EBT	EBR	WBL	WBT	WRP	SBLn1			
Capacity (veh/h)	it.	207	1070	EDI	LDK	901	WDI	NOK	219			
HCM Lane V/C Ratio		0.102				0.012			0.293			
HCM Control Delay (s)		24.4	8.5	-		0.012			28.1			
HCM Lane LOS		24.4 C	8.5 A			9 A			28.1 D			
LICINI FUIL FOS		C	A	-	-	A	-	-	U			

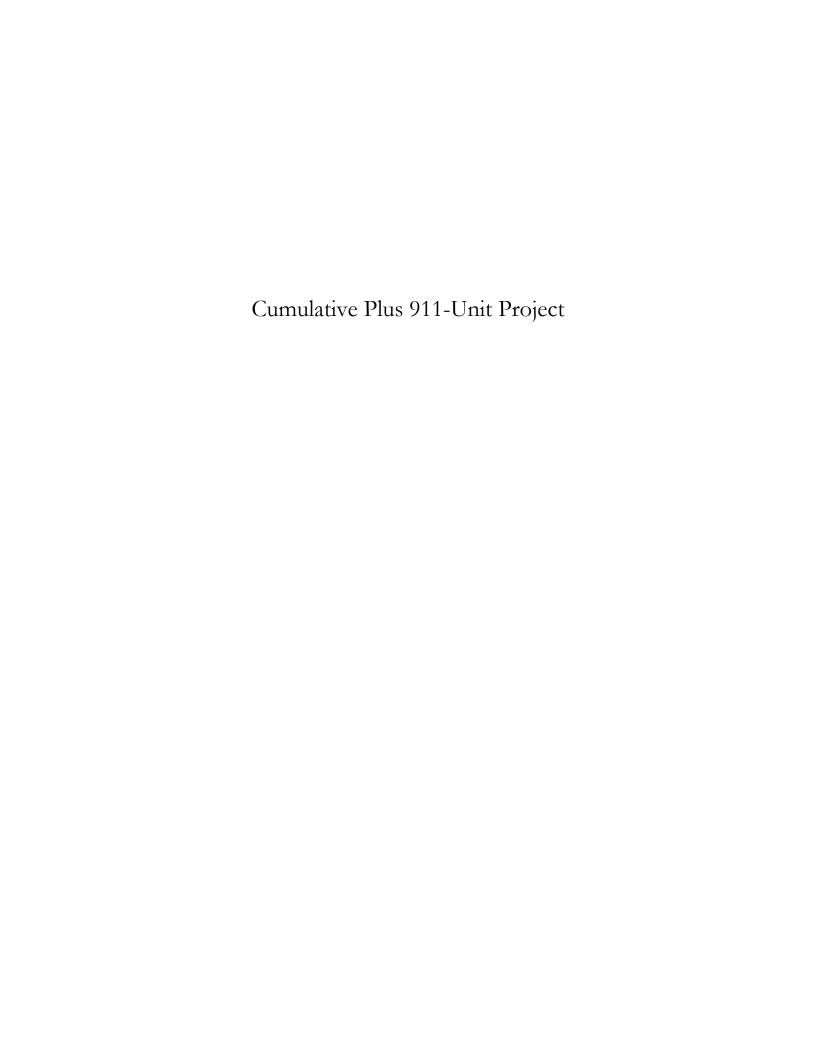
0.3 0.1 - - 0 - - 1.2

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b>↑</b>	1	,,,,,,	W	00.1
Traffic Vol, veh/h	10	677	439	10	10	10
Future Vol. veh/h	10	677	439	10	10	10
Conflicting Peds, #/hr	9	0//	437	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	riee -	None	riee -	None		None
	50				- 0	
Storage Length		-	-	-		-
Veh in Median Storage		0	0	-	0	
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	11	736	477	11	11	11
Marian/Minar	NA-:1		4-10	,	Min 2	
	Major1		Major2		Minor2	
Conflicting Flow All	497	0	-	0	1250	492
Stage 1	-	-	-		492	
Stage 2	-	-	-	-	758	-
Critical Hdwy	4.11	-	-		6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-		-		5.41	
Follow-up Hdwy	2.209	-	-		3.509	3.309
Pot Cap-1 Maneuver	1072				192	579
Stage 1					617	-
Stage 2	-				465	
Platoon blocked, %					-100	
Mov Cap-1 Maneuver	1063	-	-		187	574
			-			
Mov Cap-2 Maneuver	-	-	-	-	187	-
Stage 1	-	-	-		605	
Stage 2	-	-	-	-	461	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		18.8	
	0.1		0		18.8 C	
HCM LOS					C	
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1063	-			282
HCM Lane V/C Ratio		0.01				0.077
HCM Control Delay (s	)	8.4				18.8
	)	0.4 A			- 1	10.0 C
HCM Lane LOS	. \		-	-		
HCM 95th %tile Q(veh	1)	0	-	-	-	0.2

HCM 95th %tile Q(veh)

	_	_		_		_
Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	T T	<u> </u>	1	TIDIN	₩.	ODIN
Traffic Vol, veh/h	175	<b>T</b> 512	359	31	26	90
Future Vol. veh/h	175	512	359	31	26	90
Conflicting Peds, #/hr	1/5	512	359	21	26	90
	Free	Free	Free	_		-
Sign Control RT Channelized		None		Free None	Stop	Stop
	100		-		-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage		0	0		0	
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	190	557	390	34	28	98
Major/Minor I	Major1	ħ	Major2		Winor2	
						400
Conflicting Flow All	426	0	-	0	1346	409
Stage 1	-	-	-		409	
Stage 2	-	-	-	-	937	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1139	-	-		168	645
Stage 1	-	-	-	-	673	-
Stage 2		-		-	383	-
Platoon blocked, %						
Mov Cap-1 Maneuver	1137				139	644
Mov Cap-1 Maneuver	1137				139	
Stage 1					559	
Stage 2					382	
Staye 2					302	
Approach	EB		WB		SB	
HCM Control Delay, s	2.2		0		20.6	
HCM LOS					С	
A 4:     A 4-: A 4		EDI	EDT	WDT	WDD	CDI -4
Minor Lane/Major Mvm	11	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1137	-	-	-	355
HCM Lane V/C Ratio		0.167	-	-	-	0.355
HCM Control Delay (s)		8.8	-		-	20.6
HCM Lane LOS		Α	-	-	-	С
HCM 05th %tilo O(vob	)	0.6				1.6

Intersection				
Intersection Delay, s/veh	5.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	416	211	41	127
Demand Flow Rate, veh/h	420	213	41	128
Vehicles Circulating, veh/h	27	105	389	242
Vehicles Exiting, veh/h	343	325	58	76
Ped Vol Crossing Leg, #/h	0	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	4.4	4.3	4.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
	Lon	LUIT	LOIT	Leit
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves				
	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s	LTR LTR	LTR LTR	LTR LTR	LTR LTR 1.000 2.609
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s	LTR LTR	LTR LTR	LTR LTR 1.000	LTR LTR 1.000
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR LTR 1.000 2.609 4.976 420	LTR LTR 1.000 2.609 4.976 213	LTR LTR 1.000 2.609 4.976 41	LTR LTR 1.000 2.609 4.976 128
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	LTR LTR 1.000 2.609 4.976 420 1342	LTR LTR 1.000 2.609 4.976 213 1240	LTR LTR 1.000 2.609 4.976 41 928	LTR LTR 1.000 2.609 4.976 128 1078
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	LTR LTR 1.000 2.609 4.976 420 1342 0.990	LTR LTR 1.000 2.609 4.976 213 1240 0.991	LTR LTR 1.000 2.609 4.976 41 928 0.999	LTR LTR 1.000 2.609 4.976 128 1078 0.992
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h	LTR LTR 1.000 2.609 4.976 420 1342 0.990 416	LTR LTR 1.000 2.609 4.976 213 1240 0.991 211	LTR LTR 1.000 2.609 4.976 41 928 0.999 41	LTR LTR 1.000 2.609 4.976 128 1078 0.992 127
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	LTR LTR 1.000 2.609 4.976 420 1342 0.990 416 1329	LTR LTR 1.000 2.609 4.976 213 1240 0.991 211 1228	LTR LTR 1.000 2.609 4.976 41 928 0.999 41 927	LTR LTR 1.000 2.609 4.976 128 1078 0.992 127 1069
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 420 1342 0.990 416 1329 0.313	LTR LTR 1.000 2.609 4.976 213 1240 0.991 211	LTR LTR 1.000 2.609 4.976 41 928 0.999 41 927 0.044	LTR LTR 1.000 2.609 4.976 128 1078 0.992 127
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	LTR LTR 1.000 2.609 4.976 420 1342 0.990 416 1329 0.313 5.5	LTR LTR 1.000 2.609 4.976 213 1240 0.991 211 1228 0.112 4.4	LTR LTR 1.000 2.609 4.976 41 928 0.999 41 927 0.044 4.3	LTR LTR 1.000 2.609 4.976 128 1078 0.992 127 1069 0.119 4.4
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	LTR LTR 1.000 2.609 4.976 420 1342 0.990 416 1329 0.313	LTR LTR 1.000 2.609 4.976 213 1240 0.991 211 1228 0.172	LTR LTR 1.000 2.609 4.976 41 928 0.999 41 927 0.044	LTR LTR 1.000 2.609 4.976 128 1078 0.992 127 1069 0.119



	۶	-	<b>←</b>	*	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	435	1773	1732	221	207	342
v/c Ratio	0.82	0.55	0.95	0.25	0.80	0.65
Control Delay	75.1	0.7	43.3	5.8	84.8	45.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	0.7	43.3	5.8	84.8	45.8
Queue Length 50th (ft)	225	0	848	25	208	283
Queue Length 95th (ft)	298	0	#1139	74	312	398
Internal Link Dist (ft)		942	2695		514	
Turn Bay Length (ft)	345			330	450	
Base Capacity (vph)	628	3223	1942	934	324	625
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.55	0.89	0.24	0.64	0.55
Intersection Summary						
# 95th percentile volume e	exceeds cap	oacity, qu	ueue may	be longer	:	

Queue shown is maximum after two cycles.

	<b>→</b>	-	<b>—</b>	•	1	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	ሻሻ	<b>^</b>	<b>^</b>	7	*	7			
Traffic Volume (vph)	400	1631	1593	203	190	315			
Future Volume (vph)	400	1631	1593	203	190	315			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7			
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00			
Frt	1.00	1.00	1.00	0.85	1.00	0.85			
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)	3127	3223	3223	1442	1612	1442			
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)	3127	3223	3223	1442	1612	1442			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	435	1773	1732	221	207	342			
RTOR Reduction (vph)	0	0	0	71	0	9			
Lane Group Flow (vph)	435	1773	1732	150	207	333			
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%			
Turn Type	Prot	NA	NA	Perm	Prot	Prot			
Protected Phases	8	Free!	6		7!	4			
Permitted Phases	U	1100.	0	6	,.	4			
Actuated Green, G (s)	25.8	151.3	86.0	86.0	24.5	54.3			
Effective Green, g (s)	25.8	151.3	86.0	86.0	24.5	54.3			
Actuated g/C Ratio	0.17	1.00	0.57	0.57	0.16	0.36			
Clearance Time (s)	3.5	1.00	7.3	7.3	4.2	3.7			
Vehicle Extension (s)	3.0		4.0	4.0	3.5	3.0			
Lane Grp Cap (vph)	533	3223	1831	819	261	517			
v/s Ratio Prot	c0.14	0.55	c0.54	017	c0.13	0.23			
v/s Ratio Perm	00.11	0.00	00.04	0.10	00.10	0.23			
v/c Ratio	0.82	0.55	0.95	0.18	0.79	0.64			
Uniform Delay, d1	60.5	0.0	30.5	15.7	61.0	40.4			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	9.4	0.7	10.9	0.1	15.5	2.8			
Delay (s)	69.8	0.7	41.4	15.9	76.5	43.2			
Level of Service	E	A	D	В	F	D			
Approach Delay (s)		14.3	38.5		55.8				
Approach LOS		В	D		E				
Intersection Summary									
HCM 2000 Control Delay			29.2	Н	CM 2000	Level of Service	е	С	
HCM 2000 Volume to Capa	acity ratio		0.89						
Actuated Cycle Length (s)			151.3	S	um of los	t time (s)		15.0	
Intersection Capacity Utiliz	ation		78.9%	IC	CU Level	of Service		D	
Analysis Period (min)			15						
Phase conflict between	lane groups	S.							
0.111 1.11 0									

c Critical Lane Group

Z. Colden i illi i tode	a di Oi t	+0 L									`	20000
	•	<b>→</b>	*	•	<b>←</b>	*	1	†	-	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	435	1158	387	443	1176	326	472	665	255	253	304	
v/c Ratio	1.15	0.91	0.48	1.15	0.92	0.43	1.12	0.88	0.72	0.70	0.64	
Control Delay	149.8	54.8	4.8	150.2	55.7	6.2	138.4	70.5	79.8	66.6	23.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	149.8	54.8	4.8	150.2	55.7	6.2	138.4	70.5	79.8	66.6	23.8	
Queue Length 50th (ft)	~286	592	0	~291	604	15	~306	347	134	240	85	
Queue Length 95th (ft)	#434	716	68	#445	733	87	#458	452	194	357	200	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	379	1521	886	385	1521	841	421	876	421	468	550	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.15	0.76	0.44	1.15	0.77	0.39	1.12	0.76	0.61	0.54	0.55	
Intersection Summary  Volume exceeds capaci			ally infin	ite.								
Queue shown is maximu	m after two	cycles.										

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	۶	-	$\rightarrow$	•	-	*	1	<b>†</b>		-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>↑</b> 1>		ሻሻ	<b>^</b>	7
Traffic Volume (veh/h)	400	1065	356	408	1082	300	434	519	93	235	233	280
Future Volume (veh/h)	400	1065	356	408	1082	300	434	519	93	235	233	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	435	1158	387	443	1176	326	472	564	101	255	253	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	361	1288	574	361	1356	605	401	712	127	299	388	329
Arrive On Green	0.11	0.39	0.39	0.11	0.41	0.41	0.12	0.26	0.26	0.09	0.22	0.22
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	2792	498	3209	1737	1472
Grp Volume(v), veh/h	435	1158	387	443	1176	326	472	333	332	255	253	304
Grp Sat Flow(s), veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1640	1605	1737	1472
Q Serve(g_s), s	18.0	52.8	23.7	18.0	52.3	26.9	20.0	30.1	30.3	12.5	21.2	32.4
Cycle Q Clear(g_c), s	18.0	52.8	23.7	18.0	52.3	26.9	20.0	30.1	30.3	12.5	21.2	32.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	361	1288	574	361	1356	605	401	421	418	299	388	329
V/C Ratio(X)	1.21	0.90	0.67	1.23	0.87	0.54	1.18	0.79	0.79	0.85	0.65	0.92
Avail Cap(c_a), veh/h	361	1442	643	361	1442	643	401	422	420	401	445	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.1	45.9	18.7	71.1	43.2	35.7	70.1	55.7	55.8	71.5	56.5	60.9
Incr Delay (d2), s/veh	116.2	7.4	2.4	124.9	5.6	0.8	103.2	9.7	10.1	12.5	2.8	26.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	22.0	8.3	13.5	21.3	9.7	13.9	13.6	13.6	5.6	9.5	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	187.3	53.3	21.1	196.0	48.9	36.5	173.3	65.4	65.9	84.1	59.3	87.2
LnGrp LOS	F	D	С	F	D	D	F	E	E	F	E	F
Approach Vol, veh/h		1980			1945			1137			812	
Approach Delay, s/veh		76.4			80.3			110.3			77.5	
Approach LOS		Е			F			F			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	69.8	24.0	41.1	22.0	73.1	18.9	46.2				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+I1), s	20.0	54.8	22.0	34.4	20.0	54.3	14.5	32.3				
Green Ext Time (p_c), s	0.0	7.7	0.0	1.4	0.0	7.7	0.4	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			84.4									
HCM 6th LOS			F									

Notes
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>^</b>	- 44	7		7
Traffic Vol, veh/h	0	1289	1690	30	0	100
Future Vol, veh/h	0	1289	1690	30	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	-	-		165	-	-
Veh in Median Storag	e,# -	0	0	-	2	
Grade, %		0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	1401	1837	33	0	109
IVIVIII I IOW	U	1101	1037	33	U	107
Major/Minor	Major1	- 1	Major2	٨	/linor2	
Conflicting Flow All	-	0	-	0	-	919
Stage 1	-					
Stage 2	-			-		
Critical Hdwy	-					7.1
Critical Hdwy Stg 1	-					-
Critical Hdwy Stg 2	-					
Follow-up Hdwy						3.4
Pot Cap-1 Maneuver	0			_	0	259
Stage 1	0				0	237
Stage 2	0	_			0	
Platoon blocked. %	0				U	
		-	-	-		250
Mov Cap-1 Maneuver		-	-	-	-	259
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-		-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s			0		28.6	
HCM LOS	0		U		20.0 D	
HCIVI LUS					U	
Minor Lane/Major Mvr	nt	EBT	WBT	WBR S	SBLn1	
Capacity (veh/h)				-	259	
HCM Lane V/C Ratio					0.42	
HCM Control Delay (s	)				28.6	
HCM Lane LOS	,				20.0 D	
	2)				2	
HCM 95th %tile Q(vel	1)	-	-			

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ኘ	44	7	ሻ	ΦÞ	****	1100	4	7	ODL	4	ODIT
Traffic Vol, veh/h	0	1233	56	3	1694	0	26	0	10	0	0	0
Future Vol. veh/h	0	1233	56	3	1694	0	26	0	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	1100	-	None	-	1100	None	Jiop -	Jiop -	None	Jiop -	Jiop -	None
Storage Length	275		275	305		-			25			-
Veh in Median Storage		0	270	-	0			2	20		2	
Grade, %	. "	0			0			0			0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13	13	13	13	13	13	13
Mymt Flow	0	1340	61	3	1841	0	28	0	11	0	0	0
WWW. Tiow	U	1340	01	5	1011	0	20	U	- ''	U	U	U
Major/Minor Major1		Major2		Minor1			Minor2					
Conflicting Flow All	1841	0	0	1401	0	0	2267	3187	670	2517	3248	921
Stage 1	-	-	-	-	-	-	1340	1340	-	1847	1847	-
Stage 2	-	-	-	-	-	-	927	1847	-	670	1401	-
Critical Hdwy	4.36	-		4.36	-		7.76	6.76	7.16	7.76	6.76	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-	6.76	5.76	-	6.76	5.76	-
Critical Hdwy Stg 2		-			-		6.76	5.76	-	6.76	5.76	
Follow-up Hdwy	2.33	-	-	2.33	-	-	3.63	4.13	3.43	3.63	4.13	3.43
Pot Cap-1 Maneuver	284	-		431	-		~ 19	8	375	12	7	252
Stage 1	-	-	-	-	-	-	146	200	-	68	109	-
Stage 2	-	-		-	-		268	109	-	388	186	-
Platoon blocked, %		-	-		-	-					_	
Mov Cap-1 Maneuver	284	-	-	431	-		~ 19	8	375	12	7	252
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	88	-	63	86	-
Stage 1	-		-	-	-		146	200		68	108	-
Stage 2	-	-	-	-	-	-	266	108	-	377	186	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			35.6			0		
HCM LOS							Е			A		
Minor Land/Major Mum	+	NIDI n11	VIDI na	EDI	EDT	EDD	W/DI	W/DT	WDD	CDI n1		
Minor Lane/Major Mvm	l	NBLn11		EBL	EBT	EBR	WBL	WBT	WBR S			
Capacity (veh/h)		121	375	284	-	-	431	-	-	-		
HCM Carter Dalay (a)		0.234	0.029	-	-		0.008			-		
HCM Control Delay (s)		43.6	14.9	0	-	-	13.4	-	-	0		
HCM Lane LOS		E	В	A	-	-	В			Α		
HCM 95th %tile Q(veh)		0.9	0.1	0	-	-	0	-	-	-		
Notes												
-: Volume exceeds cap	acity	\$: De	elav exc	eeds 3	00s	+: Com	putation	n Not D	efined	*: All	maior	volume
		ψ. Βι	one	20000	230	00111	- 3101101	D	2.11100		ujoi	. 5141176

36.2

645

1099

574

1.000

Left Right Bypass

Intersection Intersection Delay, s/veh Intersection LOS

Approach

Entry Lanes Conflicting Circle Lanes Adj Approach Flow, veh/h

Demand Flow Rate, veh/h

Vehicles Circulating, veh/h
Vehicles Exiting, veh/h
Ped Vol Crossing Leg, #/h
Ped Cap Adj
Approach Delay, s/veh

Approach LOS

989

1018

655

1155 0

1.000

43.8

Ε

1124

1158

589

987

0.998

51.4

	<b>≯</b>	<b>→</b>	1	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	11	432	388	504	767	11	22	166	349	351	43	
v/c Ratio	0.12	0.68	0.81	0.56	0.66	0.08	0.15	0.60	0.78	0.78	0.09	
Control Delay	53.7	43.2	48.4	21.6	4.6	47.2	48.1	17.3	48.2	47.5	0.3	
Queue Delay	0.0	0.0	0.9	1.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	43.2	49.3	23.2	5.2	47.2	48.1	17.3	48.2	47.5	0.3	
Queue Length 50th (ft)	7	136	229	211	0	7	14	0	210	211	0	
Queue Length 95th (ft)	28	207	#419	403	75	26	41	65	#412	#412	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	94	861	595	1017	1208	339	358	433	529	537	574	
Starvation Cap Reductn	0	0	60	335	163	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.50	0.73	0.74	0.73	0.03	0.06	0.38	0.66	0.65	0.07	
Intersection Summary												

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Designated Moves	LT	TR	R	L	TR	LT	R	LT	R	
Assumed Moves	LT	TR	R	L	TR	LT	R	LT	R	
RT Channelized			Free							
Lane Util	0.470	0.530		0.474	0.526	0.709	0.291	0.725	0.275	
Follow-Up Headway, s	2.535	2.535		2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.544	4.544	168	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	224	253	1957	360	399	821	337	738	280	
Cap Entry Lane, veh/h	522	522	0.971	514	582	785	861	739	814	
Entry HV Adj Factor	0.971	0.969	163	0.972	0.971	0.971	0.970	0.971	0.971	
Flow Entry, veh/h	218	245	1900	350	387	797	327	717	272	
Cap Entry, veh/h	507	506	0.086	500	565	761	834	718	791	
V/C Ratio	0.429	0.484	0.0	0.701	0.686	1.047	0.392	0.999	0.344	
Control Delay, s/veh	14.5	16.0	Α	25.9	22.6	68.8	9.0	57.2	8.6	
LOS	В	С	0	D	С	F	Α	F	Α	
95th %tile Queue, veh	2	3		5	5	20	2	16	2	

759

1050

697

1.000

24.1

Cumulative Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*		<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>↑</b> ↑		ሻ	<b>^</b>	7	*	<b>^</b>	7	ሻ	4	7
Traffic Volume (veh/h)	10	365	32	357	464	706	10	20	153	553	91	40
Future Volume (veh/h)	10	365	32	357	464	706	10	20	153	553	91	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	397	35	388	504	767	11	22	166	672	0	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	799	70	424	874	741	221	232	196	777	0	342
Arrive On Green	0.01	0.24	0.24	0.24	0.47	0.47	0.12	0.12	0.12	0.22	0.00	0.22
Sat Flow, veh/h	1767	3274	287	1767	1856	1572	1767	1856	1569	3534	0	1555
Grp Volume(v), veh/h	11	213	219	388	504	767	11	22	166	672	0	43
Grp Sat Flow(s), veh/h/ln	1767	1763	1798	1767	1856	1572	1767	1856	1569	1767	0	1555
Q Serve(q s), s	0.6	10.9	11.0	22.5	20.7	49.5	0.6	1.1	10.9	19.2	0.0	2.3
Cycle Q Clear(q_c), s	0.6	10.9	11.0	22.5	20.7	49.5	0.6	1.1	10.9	19.2	0.0	2.3
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	23	430	439	424	874	741	221	232	196	777	0	342
V/C Ratio(X)	0.48	0.49	0.50	0.92	0.58	1.04	0.05	0.09	0.85	0.86	0.00	0.13
Avail Cap(c a), veh/h	84	430	439	530	874	741	303	318	269	992	0	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.5	34.1	34.2	38.9	20.2	27.8	40.5	40.7	45.0	39.5	0.0	32.9
Incr Delay (d2), s/veh	14.4	0.9	0.9	18.0	0.9	42.6	0.1	0.2	16.5	6.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.8	5.0	11.7	8.9	26.3	0.3	0.5	5.1	8.9	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	35.0	35.1	56.9	21.1	70.4	40.6	40.9	61.5	46.1	0.0	33.1
LnGrp LOS	Е	D	D	Е	С	F	D	D	Е	D	Α	С
Approach Vol, veh/h		443			1659	<u> </u>		199			715	
Approach Delay, s/veh		35.8			52.3			58.1			45.3	
Approach LOS		D			D			F			D	
**	1	2		4	-	,		8				
Timer - Assigned Phs					5	6						
Phs Duration (G+Y+Rc), s	29.7	30.2		27.6	5.9	54.0		17.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	31.5	23.0		29.5	5.0	49.5		18.0				
Max Q Clear Time (g_c+l1), s	24.5	13.0		21.2	2.6	51.5		12.9				
Green Ext Time (p_c), s	0.7	1.9		1.9	0.0	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			48.6									
HCM 6th LOS			D									

User approved volume balancing among the lanes for turning movement.

Synchro 10 Report Page 15 Central Coast Transportation Consulting Central Coast Transportation Consulting

## Beechwood SP

8: Paso Robles Street & 13th Street

Cumulative Plus 911 Unit Project AM

	۶	<b>→</b>	•	<b>←</b>	•	4	<b>†</b>	-	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	1088	57	1414	433	235	22	272	11	11	
v/c Ratio	0.44	0.57	0.35	0.74	0.45	0.72	0.05	0.51	0.03	0.02	
Control Delay	52.5	15.9	50.7	20.1	6.6	47.9	29.7	11.6	29.6	0.1	
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.5	16.4	50.7	20.1	6.6	47.9	29.7	11.6	29.6	0.1	
Queue Length 50th (ft)	47	223	35	345	46	141	11	27	6	0	
Queue Length 95th (ft)	98	318	78	477	123	228	31	99	20	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	207	2257	196	2260	1086	473	631	681	469	654	
Starvation Cap Reductn	0	686	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.69	0.29	0.63	0.40	0.50	0.03	0.40	0.02	0.02	
Intersection Summary											

Cumulative Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

8: Paso Robles Street & 13th Street

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	1	/	<b>+</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	<b>↑</b> ↑		ሻ	<b>^</b>	7	7	<b>^</b>	7	ň	ĵ∍	
Traffic Volume (veh/h)	70	950	51	52	1301	398	216	20	250	10	0	10
Future Volume (veh/h)	70	950	51	52	1301	398	216	20	250	10	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	1033	55	57	1414	0	235	22	272	11	0	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	1849	98	85	1889		396	401	340	325	0	340
Arrive On Green	0.06	0.54	0.54	0.05	0.54	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	1767	3403	181	1767	3526	1572	1392	1856	1572	1077	0	1572
Grp Volume(v), veh/h	76	535	553	57	1414	0	235	22	272	11	0	11
Grp Sat Flow(s), veh/h/ln	1767	1763	1822	1767	1763	1572	1392	1856	1572	1077	0	1572
Q Serve(g_s), s	3.0	13.9	13.9	2.2	21.8	0.0	11.2	0.7	11.5	0.6	0.0	0.4
Cycle Q Clear(g_c), s	3.0	13.9	13.9	2.2	21.8	0.0	11.6	0.7	11.5	1.2	0.0	0.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	958	990	85	1889		396	401	340	325	0	340
V/C Ratio(X)	0.78	0.56	0.56	0.67	0.75		0.59	0.05	0.80	0.03	0.00	0.03
Avail Cap(c_a), veh/h	240	1384	1430	227	2742		642	728	617	515	0	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	10.5	10.5	32.8	12.6	0.0	26.3	21.8	26.0	22.3	0.0	21.7
Incr Delay (d2), s/veh	12.3	0.5	0.5	9.0	0.7	0.0	1.4	0.1	4.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.7	4.9	1.1	7.4	0.0	3.6	0.3	4.4	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	11.0	11.0	41.8	13.3	0.0	27.7	21.8	30.4	22.3	0.0	21.7
LnGrp LOS	D	В	В	D	В		С	С	С	С	A	С
Approach Vol, veh/h		1164			1471	Α		529			22	
Approach Delay, s/veh		13.2			14.4			28.8			22.0	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	42.6		19.6	8.4	42.0		19.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.0	55.0		27.5	9.5	54.5		27.5				
Max Q Clear Time (q c+l1), s	4.2	15.9		3.2	5.0	23.8		13.6				
Green Ext Time (p_c), s	0.0	9.2		0.0	0.1	13.8		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			В									
Matan												

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 18 Central Coast Transportation Consulting

Beechwood SP

9: River Road/Union Road & Creston Road

Cumulative Plus 911 Unit Project AM

	۶	<b>→</b>	•	<b>←</b>	1	†	-	-	Ţ
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	342	972	65	1204	417	203	54	174	698
v/c Ratio	0.85	0.62	0.49	0.89	0.87	0.27	0.13	0.79	1.09dr
Control Delay	70.8	24.4	65.5	41.3	68.5	40.5	2.3	74.7	53.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	24.4	65.5	41.3	68.5	40.5	2.3	74.7	53.0
Queue Length 50th (ft)	136	276	49	435	165	70	0	132	216
Queue Length 95th (ft)	#217	349	96	533	#253	106	8	#240	#331
Internal Link Dist (ft)		353		673		608			523
Turn Bay Length (ft)	295		235		140		130	225	
Base Capacity (vph)	410	1575	153	1463	494	758	413	241	788
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.62	0.42	0.82	0.84	0.27	0.13	0.72	0.89

## Intersection Summary

Sth percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Cumulative Plus 911 Unit Project AM HCM 6th Signalized Intersection Summary

9: River Road/Union Road & Creston Road

	۶	-	*	•	•	*	1	<b>†</b>	-	-	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	<b>†</b> 1>		ሻ	<b>↑</b> ↑		777	<b>^</b>	7	7	ħβ	
Traffic Volume (veh/h)	315	591	304	60	917	190	384	187	50	160	192	450
Future Volume (veh/h)	315	591	304	60	917	190	384	187	50	160	192	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	642	0	65	997	207	417	203	54	174	209	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	431	1777		84	1235	256	512	430	192	212	327	_
Arrive On Green	0.12	0.50	0.00	0.05	0.42	0.42	0.15	0.12	0.12	0.12	0.09	0.00
Sat Flow, veh/h	3456	3647	0.00	1781	2923	606	3456	3554	1585	1781	3647	0.00
Grp Volume(v), veh/h	342	642	0	65	605	599	417	203	54	174	209	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1752	1728	1777	1585	1781	1777	0
Q Serve(q_s), s	8.1	9.3	0.0	3.1	25.3	25.4	9.9	4.5	2.6	8.1	4.8	0.0
Cycle Q Clear(q_c), s	8.1	9.3	0.0	3.1	25.3	25.4	9.9	4.5	2.6	8.1	4.8	0.0
Prop In Lane	1.00	7.3	0.00	1.00	23.3	0.35	1.00	4.0	1.00	1.00	4.0	0.00
Lane Grp Cap(c), veh/h	431	1777	0.00	84	751	740	512	430	192	212	327	0.00
V/C Ratio(X)	0.79	0.36		0.77	0.81	0.81	0.81	0.47	0.28	0.82	0.64	
Avail Cap(c a), veh/h	559	2187		208	1014	1000	673	1024	457	328	986	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.0	12.9	0.00	39.9	21.4	21.5	34.9	34.7	33.9	36.4	37.1	0.00
Incr Delay (d2), s/veh	5.9	0.1	0.0	13.9	3.5	3.7	5.8	0.8	0.8	9.1	2.1	0.0
Initial Q Delay(d3),s/veh					0.0							
	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.5	0.0	1.6	10.4	10.3	4.4	1.9	1.0	3.8	2.1	0.0
Unsig. Movement Delay, s/veh		12.0	0.0	E2.0	240	25.1	40.7	25.5	247	45.5	20.2	0.0
LnGrp Delay(d),s/veh	41.9	13.0	0.0	53.8	24.9	25.1	40.7	35.5	34.7	45.5	39.2	0.0
LnGrp LOS	D	В		D	С	С	D	D	С	D	D	
Approach Vol, veh/h		984	Α		1269			674			383	A
Approach Delay, s/veh		23.1			26.5			38.7			42.0	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	46.8	17.1	12.3	15.1	40.3	14.6	14.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.9	52.1	16.5	23.5	13.7	48.3	15.6	24.4				
Max Q Clear Time (q c+l1), s	5.1	11.3	11.9	6.8	10.1	27.4	10.1	6.5				
Green Ext Time (p_c), s	0.0	5.1	0.7	1.0	0.4	8.4	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.8									
HCM 6th LOS			C									
Notes												

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 21 Central Coast Transportation Consulting

## Beechwood SP

Cumulative Plus 911 Unit Project AM

## 10: Creston Road & Golden Hill Road

	•	$\rightarrow$	•	-	4
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	96	491	1425	633	143
//c Ratio	0.71	0.23	0.84	0.80	0.30
Control Delay	73.4	10.1	24.8	44.2	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	73.4	10.1	24.8	44.2	8.2
Queue Length 50th (ft)	53	51	284	169	0
Queue Length 95th (ft)	#183	155	#717	#386	56
Internal Link Dist (ft)		1151	2310	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	135	2165	1698	793	475
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.23	0.84	0.80	0.30
ntersection Summany					

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	•	-	·	1	-	•	4	<b>†</b>	-	Į.	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	142	427	158	98	846	636	252	632	299	326	311	
v/c Ratio	0.69	0.32	0.23	0.55	0.72	0.87	0.80	0.78	0.72	0.53	0.64	
Control Delay	65.6	25.6	5.0	61.3	35.2	28.3	62.6	45.8	57.8	44.8	15.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.6	25.6	5.0	61.3	35.2	28.3	62.6	45.8	57.8	44.8	15.4	
Queue Length 50th (ft)	103	116	0	71	278	204	179	231	112	119	29	
Queue Length 95th (ft)	#194	170	45	130	367	#458	#314	301	#177	168	124	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	150		150	170		170	230		245		100	
Base Capacity (vph)	242	1457	733	227	1421	809	376	1019	457	752	536	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.59	0.29	0.22	0.43	0.60	0.79	0.67	0.62	0.65	0.43	0.58	

## Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
ane Configurations	ሻ	<b>^</b>	<b>†</b> 1>		ሻሻ	7	
Fraffic Volume (vph)	88	452	720	591	582	132	
Future Volume (vph)	88	452	720	591	582	132	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.93		1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	3245		3400	1568	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)	1752	3505	3245		3400	1568	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	96	491	783	642	633	143	
RTOR Reduction (vph)	0	0	105	0	0	111	
Lane Group Flow (vph)	96	491	1320	0	633	32	
Confl. Peds. (#/hr)				3			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	
Turn Type	Prot	NA	NA		Perm	Perm	
Protected Phases	5	2	6				
Permitted Phases					4	4	
Actuated Green, G (s)	7.3	58.6	46.8		22.1	22.1	
Effective Green, g (s)	7.3	58.6	46.8		22.1	22.1	
Actuated g/C Ratio	0.07	0.59	0.48		0.22	0.22	
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	129	2085	1541		762	351	
v/s Ratio Prot	c0.05	0.14	c0.41		0.46	0.00	
v/s Ratio Perm	0.74	0.04	0.07		c0.19	0.02	
v/c Ratio	0.74	0.24	0.86		0.83	0.09	
Uniform Delay, d1	44.7	9.4	22.9		36.4	30.2	
Progression Factor	1.00	1.00	1.00		1.00 7.7	1.00 0.1	
Incremental Delay, d2 Delay (s)	20.5 65.2	0.1 9.5	4.9 27.8		44.1	30.4	
Level of Service	65.2 F	9.5 A	27.8 C		44. I	30.4 C	
Approach Delay (s)	E	18.6	27.8		41.6	C	
Approach LOS		10.0 B	21.0 C		41.0 D		
**		ט	C		U		
Intersection Summary							
HCM 2000 Control Delay			29.7	H	CM 2000	Level of Servi	ice C
HCM 2000 Volume to Capac	ity ratio		0.79				
Actuated Cycle Length (s)			98.5		um of lost		18.0
Intersection Capacity Utilizati Analysis Period (min)	ion		71.7%	IC	U Level o	of Service	С
			15				

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<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Ctrl Delay

HCM 6th LOS

### 11: Creston Road & Niblick Road/Sherwood Road Movement Lane Configurations **↑**↑ Traffic Volume (veh/h) 232 Future Volume (veh/h) 131 393 145 90 778 585 232 532 50 275 300 286 Initial Q (Qb), veh Ped-Bike Adj(A\_pbT) 1.00 0.99 1.00 0.98 1.00 0.95 1.00 0.99 Parking Bus, Adj 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Work Zone On Approach No No Adj Sat Flow, veh/h/ln 1826 1826 Adj Flow Rate, veh/h 142 427 158 98 846 636 252 578 54 299 326 311 Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 Percent Heavy Veh, % Cap, veh/h 170 573 282 817 361 696 308 1409 620 123 76 Arrive On Green 0.10 0.41 0.41 0.07 0.38 0.38 0.16 0.26 0.26 0.11 0.20 0.20 Sat Flow, veh/h 3469 1739 3469 1513 297 3469 1533 Grp Volume(v), veh/h 142 427 158 98 846 636 252 313 319 299 326 311 Grp Sat Flow(s), veh/h/ln 1739 1735 1739 1735 1513 1739 1754 1687 1735 1533 Q Serve(g\_s), s 9.0 9.4 7.7 6.2 22.5 42.5 15.9 18.4 18.5 9.7 9.3 22.5 Cycle Q Clear(g\_c), s 9.0 9.4 22.5 42.5 15.9 18.5 9.7 9.3 22.5 7.7 6.2 18.4 Prop In Lane 1.00 1.00 1.00 1.00 1.00 0.17 1.00 1.00 444 Lane Grp Cap(c), veh/h 573 282 449 361 308 V/C Ratio(X) 0.84 0.30 0.47 0.25 0.80 0.64 1.11 0.89 0.71 0.71 0.83 1.01 Avail Cap(c\_a), veh/h 225 308 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Upstream Filter(I) 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Uniform Delay (d), s/veh 22.1 51.3 28.6 34.8 46.0 37.9 37.9 49.1 39.6 44.8 54.2 Incr Delay (d2), s/veh 0.5 Initial Q Delay(d3),s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 %ile BackOfQ(50%),veh/ln 3.7 2.7 3.0 9.2 26.1 8.4 8.2 8.4 4.6 4.0 Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 29.7 106.2 LnGrp LOS С С С D D D 1580 Approach Vol, veh/h 884 936 Approach Delay, s/veh 31.4 62.5 49.3 66.2 Approach LOS Ε Phs Duration (G+Y+Rc), s 22.7 16.5 33.2 12.4 50.1 27.0 15.5 47.0 Change Period (Y+Rc), s 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 Max Green Setting (Gmax), s 14.1 30.9 43.4 22.5 22.5 42.5 13.6 Max Q Clear Time (g\_c+l1), s 11.7 20.5 8.2 11.4 17.9 24.5 11.0 44.5 0.3 2.8 Green Ext Time (p\_c), s 0.1 3.4 0.3 0.0 0.1 0.0 Intersection Summary

nt Delay, s/veh	55												
Novement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
ane Configurations		4			4		7	Þ		7	•	7	
raffic Vol, veh/h	141	10	42	10	20	104	35	513	10	35	407	101	
uture Vol, veh/h	141	10	42	10	20	104	35	513	10	35	407	101	
Conflicting Peds, #/hr	1	0	0	0	0	1	6	0	2	2	0	6	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length		-	-	-	-	-	30		-	70	-	60	
/eh in Median Storage	.,# -	0	-		0		-	0	-	-	0	-	
Grade. %		0	-	-	0		-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Nymt Flow	153	11	46	11	22	113	38	558	11	38	442	110	
	100		10			110	00	000		00		110	
lajor/Minor I	Minor2			Minor1			Major1		ı	Major2			
Conflicting Flow All	1232	1171	448	1244	1276	567	558	0	0	571	0	0	
Stage 1	524	524	440	642	642	307	330	-	-	3/1	-	-	
Stage 2	708	647		602	634		-		-	-		-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12			4.12			
Critical Hdwy Stg 1	6.12	5.52	0.22	6.12	5.52	0.22	4.12			4.12			
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52								
			3.318		4.018	3.318	2 210		-	2.218		-	
Follow-up Hdwy								-	-			-	
Pot Cap-1 Maneuver	154	193	611	151	167	523	1013		-	1002			
Stage 1	537	530	-	463	469	-	-	-	-	-		-	
Stage 2	426	467	-	486	473			- 1	-				
Platoon blocked, %									-		-	-	
Mov Cap-1 Maneuver		177	608	125	153	522	1007			1000	-	-	
Mov Cap-2 Maneuver		177	-	125	153	-	-	-	-	-	-	-	
Stage 1	514	507	-	444	450	-	-	-	-		-	-	
Stage 2	305	448	-	423	452	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s\$	386.4			24.6			0.5			0.6			
HCM LOS	F			С									
Minor Lane/Major Mvm	it	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR				
Capacity (veh/h)		1007	-	-	127	327	1000	-	-				
HCM Lane V/C Ratio		0.038			1.652	0.445	0.038		-				
HCM Control Delay (s)		8.7		-\$	386.4	24.6	8.7	-					
HCM Lane LOS		А		-	F	С	Α		-				
HCM 95th %tile Q(veh)	)	0.1	-	-	15.4	2.2	0.1	-	-				
10101 95111 761118 Q(Ver)													
lotes													

55.0

Beechwood SP

Intersection		
Intersection Delay, s/veh	63.3	
Intersection LOS	F	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		44			44				ની	7		414
Traffic Vol, veh/h	20	10	12	284	10	292	0	15	250	151	261	199
Future Vol, veh/h	20	10	12	284	10	292	0	15	250	151	261	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	13	309	11	317	0	16	272	164	284	216
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	13.3			118.5				20.1			37.3	
HCM LOS	В			F				С			Е	

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	
Vol Left, %	6%	0%	48%	48%	72%	0%	
Vol Thru, %	94%	0%	24%	2%	28%	91%	
Vol Right, %	0%	100%	29%	50%	0%	9%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	265	151	42	586	361	110	
LT Vol	15	0	20	284	261	0	
Through Vol	250	0	10	10	100	100	
RT Vol	0	151	12	292	0	10	
Lane Flow Rate	288	164	46	637	392	119	
Geometry Grp	7	7	2	2	7	7	
Degree of Util (X)	0.619	0.32	0.108	1.17	0.857	0.246	
Departure Headway (Hd)	8.369	7.61	9.159	6.614	8.486	8.044	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	435	476	394	548	431	450	
Service Time	6.069	5.31	7.159	4.684	6.186	5.744	
HCM Lane V/C Ratio	0.662	0.345	0.117	1.162	0.91	0.264	
HCM Control Delay	23.7	13.9	13.3	118.5	44.6	13.3	
HCM Lane LOS	С	В	В	F	Е	В	
HCM 95th-tile Q	4.1	1.4	0.4	22.1	8.5	1	

	·
Intersection	
Intersection Delay, s/veh	
Intersection LOS	
Movement	SBR
Ladenconfigurations	
Traffic Vol, veh/h	10
Future Vol, veh/h	10
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	11
Number of Lanes	0
Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Righ	ht
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

HCM Control Delay (s)

HCM 95th %tile Q(veh)

HCM Lane LOS

## 15: US 101 SB Ramp & Pine Street & Riverside Avenue

	۶	<b>→</b>	•	•	<b>—</b>	•	•	†	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ર્ન	7					î»	
Traffic Volume (veh/h)	0	0	0	3	192	10	0	0	0	0	386	20
Future Volume (Veh/h)	0	0	0	3	192	10	0	0	0	0	386	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	3	209	11	0	0	0	0	420	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	536	431	431	431	442	0	442			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536	431	431	431	442	0	442			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	59	99	100			100		
cM capacity (veh/h)	307	517	624	535	510	1085	1118			1623		
Direction, Lane #	WB 1	SB 1										
Volume Total	223	442										
Volume Left	3	0										
Volume Right	11	22										
cSH	530	1700										
Volume to Capacity	0.42	0.26										
Queue Length 95th (ft)	52	0										
Control Delay (s)	16.6	0.0										
Lane LOS	С											
Approach Delay (s)	16.6	0.0										
Approach LOS	С											
Intersection Summary												
Average Delay			5.6									
Intersection Capacity Utilizat												
intersection capacity offitzat	ion		38.5%	IC	:U Level o	of Service			Α			

Intersection						
Int Delay, s/veh	10					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ች	7	ሻ	<b>^</b>	<b>^</b>	7
Traffic Vol, veh/h	196	135	221	208	122	399
Future Vol, veh/h	196	135	221	208	122	399
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None		None		None
Storage Length	0	145	105	-	-	0
Veh in Median Storag	e, # 0	-	-	0	0	-
Grade, %	0			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	213	147	240	226	133	434
Major/Minor	Minor2		Major1	N	Major2	
Conflicting Flow All	726	133	567	0	viajoiz	0
Stage 1	133	133	307	U		U
Stage 2	593		-			-
Critical Hdwy	6.645		1115			
Critical Hdwy Stg 1	5.445	0.243	4.140			
Critical Hdwy Stg 2	5.845					
Follow-up Hdwy	3.5285	2 2205	2 2205		- 1	
Pot Cap-1 Maneuver	373	913	997			
	890		991			-
Stage 1	514	-	-			
Stage 2	514	-		-	-	
Platoon blocked, %	000	040	007		-	
Mov Cap-1 Maneuver		913	997	-		-
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	676		-	-		-
Stage 2	514				-	
Approach	EB		NB		SB	
HCM Control Delay, s	32.4		5		0	
HCM LOS	D					
Minor Lane/Major Mvi	mt	NBL	NRT	EBLn1 l	FRI n2	SBT
Capacity (veh/h)		997	INDI	283	913	301
HCM Lane V/C Ratio		0.241		0.753		
ICIVI LATIE V/C RALIO		U.Z4 I	-	U./JJ	U. 101	-

- 48.1 9.7

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Central Coast Transportation Consulting
Synchro 10 Report
Page 34
Central Coast Transportation Consulting
Synchro 10 Report
Page 35

Cumulative Plus 911 Unit Project AM

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	•	<b>→</b>	1	-	*	4	<b>†</b>	-	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	25	372	1217	439	585	126	315	613	429	329	
v/c Ratio	0.11	0.79	0.82	0.55	0.53	0.67	0.70	0.38	0.76	0.50	
Control Delay	58.1	64.0	41.0	33.4	5.1	78.8	67.6	7.6	66.0	48.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.1	64.0	41.0	33.4	5.1	78.8	67.6	7.6	66.0	48.0	
Queue Length 50th (ft)	21	155	520	308	55	117	153	71	201	129	
Queue Length 95th (ft)	53	221	647	438	140	189	207	94	270	185	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	252	525	1582	858	1140	244	578	1692	639	741	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.71	0.77	0.51	0.51	0.52	0.54	0.36	0.67	0.44	
Intersection Summary											

Synchro 10 Report Page 37 Central Coast Transportation Consulting

Beechwood SP

Cumulative Plus 911 Unit Project AM ad HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	, N	<b>↑</b> ↑		77	<b>^</b>	7	ň	<b>^</b>	77	77	<b>↑</b> ↑	
Traffic Volume (veh/h)	23	223	120	1120	404	538	116	290	564	395	210	93
Future Volume (veh/h)	23	223	120	1120	404	538	116	290	564	395	210	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	C
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	242	130	1217	439	585	126	315	613	429	228	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	294	152	1435	777	878	152	540	1582	499	490	210
Arrive On Green	0.13	0.13	0.13	0.42	0.42	0.42	0.09	0.15	0.15	0.14	0.20	0.20
Sat Flow, veh/h	1781	2262	1174	3456	1870	1564	1781	3554	2790	3456	2420	1037
Grp Volume(v), veh/h	25	188	184	1217	439	585	126	315	613	429	165	164
Grp Sat Flow(s), veh/h/ln	1781	1777	1659	1728	1870	1564	1781	1777	1395	1728	1777	1681
Q Serve(q s), s	1.6	13.3	14.0	41.1	23.2	34.0	9.0	10.7	15.7	15.7	10.6	11.1
Cycle Q Clear(q c), s	1.6	13.3	14.0	41.1	23.2	34.0	9.0	10.7	15.7	15.7	10.6	11.1
Prop In Lane	1.00	10.0	0.71	1.00	20.2	1.00	1.00	10.7	1.00	1.00	10.0	0.62
Lane Grp Cap(c), veh/h	231	231	215	1435	777	878	152	540	1582	499	360	340
V/C Ratio(X)	0.11	0.82	0.85	0.85	0.57	0.67	0.83	0.58	0.39	0.86	0.46	0.48
Avail Cap(c a), veh/h	268	267	249	1675	906	987	259	611	1638	677	395	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	54.7	55.0	34.1	28.9	20.0	58.1	51.0	15.5	54.0	45.3	45.5
Incr Delay (d2), s/veh	0.2	15.7	21.6	3.8	0.6	1.5	10.8	1.1	0.2	8.3	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.0	7.2	17.3	10.3	12.0	4.4	4.7	9.9	7.4	4.8	4.8
Unsig. Movement Delay, s/veh		7.0	1.2	17.3	10.3	12.0	4.4	4.7	7.7	7.4	4.0	4.0
LnGrp Delay(d),s/veh	49.8	70.4	76.6	37.9	29.5	21.5	69.0	52.1	15.7	62.3	46.2	46.6
LnGrp LOS	49.0 D	70.4 E	70.0 E	37.9 D	29.5 C	21.5 C	09.0 E	32.1 D	13.7 B	02.3 E	40.2 D	
	D		E	U		C	E		Б	E		D
Approach Vol, veh/h		397			2241			1054			758	
Approach Delay, s/veh		72.0			32.0			32.9			55.4	
Approach LOS		Е			С			С			Е	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.4	25.4		21.4	16.8	31.9		59.0				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 25	22.2		19.4	18.8	* 29		62.6				
Max Q Clear Time (q_c+l1), s	17.7	17.7		16.0	11.0	13.1		43.1				
Green Ext Time (p_c), s	1.0	1.9		0.8	0.2	1.7		10.6				
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									
Notes												

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 39 Central Coast Transportation Consulting

	•	_	$\sim$	_	←	•	<b>†</b>	-	1	
			•	•		١,	'	•	•	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	120	826	299	136	1518	682	394	310	509	
v/c Ratio	0.79	0.63	0.39	0.73	1.02	1.05	0.64	0.91	0.77	
Control Delay	88.4	33.1	4.7	72.4	61.8	92.6	46.8	75.7	44.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	88.4	33.1	4.7	72.4	61.8	92.6	46.8	75.7	44.5	
Queue Length 50th (ft)	45	260	0	96	~608	~276	136	220	155	
Queue Length 95th (ft)	#104	362	61	#196	#829	#429	188	#415	214	
Internal Link Dist (ft)		1510			1609		962		896	
Turn Bay Length (ft)	140			80		150		110		
Base Capacity (vph)	151	1301	771	202	1483	652	811	349	860	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.79	0.63	0.39	0.67	1.02	1.05	0.49	0.89	0.59	

## Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,14	<b>^</b>	7	ሻ	<b>∱</b> }		ሻሻ	<b>†</b> 1>		ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	110	760	275	125	1118	279	627	308	54	285	269	200
Future Volume (veh/h)	110	760	275	125	1118	279	627	308	54	285	269	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	826	299	136	1215	303	682	335	59	310	292	217
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1340	597	164	1200	295	651	557	97	337	364	263
Arrive On Green	0.04	0.38	0.38	0.09	0.43	0.43	0.19	0.18	0.18	0.19	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	1781	2822	694	3456	3021	526	1781	1969	1422
Grp Volume(v), veh/h	120	826	299	136	759	759	682	195	199	310	263	246
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1740	1728	1777	1771	1781	1777	1614
Q Serve(q_s), s	3.9	21.5	9.4	8.6	48.5	48.5	21.5	11.5	11.8	19.5	16.1	16.7
Cycle Q Clear(q_c), s	3.9	21.5	9.4	8.6	48.5	48.5	21.5	11.5	11.8	19.5	16.1	16.7
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.30	1.00		0.88
Lane Grp Cap(c), veh/h	151	1340	597	164	755	739	651	327	326	337	329	299
V/C Ratio(X)	0.79	0.62	0.50	0.83	1.00	1.03	1.05	0.60	0.61	0.92	0.80	0.82
Avail Cap(c a), veh/h	151	1340	597	201	755	739	651	408	407	348	420	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	28.9	8.9	50.9	32.8	32.8	46.3	42.7	42.8	45.4	44.5	44.7
Incr Delay (d2), s/veh	24.3	0.9	0.7	20.8	33.8	40.2	48.3	1.7	1.8	28.5	8.2	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.0	3.0	4.7	26.7	27.4	13.3	5.1	5.2	11.1	7.7	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.3	29.7	9.6	71.7	66.6	73.0	94.6	44.4	44.6	73.9	52.7	55.8
LnGrp LOS	Е	С	A	Е	F	F	F	D	D	Ε	D	Е
Approach Vol, veh/h		1245			1654			1076			819	
Approach Delay, s/veh		29.6			70.0			76.3			61.6	
Approach LOS		C			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	47.5	26.0	25.6	9.5	53.0	26.1	25.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.9	40.6	21.5	27.0	5.0	48.5	22.3	26.2				
Max Q Clear Time (q c+l1), s	10.6	23.5	23.5	18.7	5.9	50.5	21.5	13.8				
Green Ext Time (p_c), s	0.1	6.1	0.0	1.9	0.0	0.0	0.1	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			59.5									

HCM 6th LOS

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Synchro 10 Report Page 46

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	M	LDI	NDL	4	1	JUIN
Traffic Vol, veh/h	94	10	10	938	398	48
Future Vol. veh/h	94	10	10	938	398	48
Conflicting Peds, #/hr	0	10	0	938	398	48
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop	None	Free	None	Free -	None
Storage Length	0	None		None -		None
	-		-			
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	- 02	0	0	- 02
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	102	11	11	1020	433	52
Major/Minor	Minor2		Major1	N	Najor2	
Conflicting Flow All	1501	460	485	0	viajoiz	0
Stage 1	459	-	700	-		-
Stage 2	1042					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.23	4.13			
Critical Hdwy Stg 2	5.43					
Follow-up Hdwy		3.327	2 227	-		-
				-		_
Pot Cap-1 Maneuver	133	599	1073			
Stage 1	634	-		-		-
Stage 2	338	-	-	-		-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	130	598	1073	-	-	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	619			-		-
Stage 2	338	-	-	-	-	-
, and the second						
Approach	FB		NB		SB	
HCM Control Delay, s			0.1		0	
	91.0 F		0.1		U	
HCM LOS	r					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1073		141		
HCM Lane V/C Ratio		0.01		0.802		
HCM Control Delay (s	)	8.4	0	91.8		
HCM Lane LOS		Α	A	71.0 F		
HCM 95th %tile Q(veh	1)	0	A .	5		
TION FULL FOLLIE (VEL	')	0		3		

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	₩.	LDK	INDL	NDI 4	3B1	JUIC
Traffic Vol, veh/h	60	12	15	808	378	20
Future Vol. veh/h	60	12	15	808	378	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Jiop -	None	1100	None	-	None
Storage Length	0	- INOTIC		-		-
Veh in Median Storage	-			0	0	
Grade. %	2,# 2			0	0	
Peak Hour Factor	92	92	92	92	92	92
	2	2	2	2		
Heavy Vehicles, %					2	2
Mvmt Flow	65	13	16	878	411	22
Major/Minor	Minor2		Major1	1	Major2	
Conflicting Flow All	1332	422	433	0	-	0
Stage 1	422	-	-	-		-
Stage 2	910					
Critical Hdwy	6.42	6.22	4.12			
Critical Hdwy Stg 1	5.42	0.22	1.12			
Critical Hdwy Stg 2	5.42					
Follow-up Hdwy	3.518	3.318	2 218			
Pot Cap-1 Maneuver	170	632	1127			
Stage 1	662	032	1127			
Stage 2	393					
Platoon blocked, %	373					
Mov Cap-1 Maneuver	165	632	1127		-	-
	344		1127			
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	17.2		0.2		0	
HCM LOS	17.2		0.2		0	
HOW EOS	C					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1127	-	372	-	-
HCM Lane V/C Ratio		0.014		0.21		
HCM Control Delay (s)	)	8.2	0	17.2		
HCM Lane LOS		A	A	С		
HCM 95th %tile Q(veh	1)	0	-	0.8		
TOWN 75th 70the Q(VCI)	'/	U		0.0		

Major/Minor	Major1	M	ajor2	Λ	/linor2	
Conflicting Flow All	808	0	- -	0	1196	803
Stage 1	000	U	_	-	803	- 003
					393	
Stage 2	112	-	-	-		( ))
Critical Hdwy	4.12			- 1	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	
Pot Cap-1 Maneuver	817	-	-	-	206	383
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	682	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	812		-	-	201	381
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-		678	-
J						
Approach	EB		WB		SB	
HCM Control Delay, s	0.3		0		19.9	
HCM LOS					С	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SE	3Ln1
Capacity (veh/h)	812	-	-	-	263
HCM Lane V/C Ratio	0.013	-	-	- 0	.083
HCM Control Delay (s)	9.5	-		-	19.9
HCM Lane LOS	Α	-	-	-	С
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection Delay, s/veh	9.7			
Intersection LOS	A			
Approach	WB	NB	SB	
Entry Lanes	1	1	1	
Conflicting Circle Lanes	1	1	1	
Adj Approach Flow, veh/h	813	126	425	
Demand Flow Rate, veh/h	830	128	433	
Vehicles Circulating, veh/h	117	367	28	
Vehicles Exiting, veh/h	378	94	919	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	12.4	5.1	5.7	
Approach LOS	В	A	A	
ane	Left	Left	Left	
Designated Moves	LR	TR	LT	
Assumed Moves	LR	TR	LT	
RT Channelized				
Lane Util	1.000	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	2.609	
Critical Headway, s	4.976	4.976	4.976	
Entry Flow, veh/h	830	128	433	
Cap Entry Lane, veh/h	1225	949	1341	
Entry HV Adj Factor	0.980	0.982	0.981	
Flow Entry, veh/h	813	126	425	
Cap Entry, veh/h	1200	932	1315	
V/C Ratio	0.678	0.135	0.323	
Control Delay, s/veh	12.4	5.1	5.7	
LOS	В	A	A	
95th %tile Queue, veh	6	0	1	

Beechwood SP

Heavy Vehicles, % Mvmt Flow

11 371 791 11

HCM 6th TWSC

HCM 95th %tile Q(veh)

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1→		7	ĵ.			4			4	
Traffic Vol, veh/h	20	321	10	10	678	33	10	0	10	45	0	50
Future Vol, veh/h	20	321	10	10	678	33	10	0	10	45	0	50
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None		-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage	e,# -	0	-		0	-	-	0			0	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	349	11	11	737	36	11	0	11	49	0	54
Major/Minor	Major1		- 1	Major2		1	Minor1			Minor2		
Conflicting Flow All	780	0	0	360	0	0	1203	1201	355	1188	1188	762
Stage 1		-		-			399	399		784	784	-
Stage 2							804	802		404	404	
Critical Hdwy	4.12	-		4.12			7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1				-			6.12	5.52		6.12	5.52	-
Critical Hdwy Stg 2							6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218	-		2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	837	-		1199	-	-	161	185	689	165	188	405
Stage 1	-	-	-	-	-	-	627	602	-	386	404	-
Stage 2	-	-	-	-	-	-	377	396	-	623	599	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	831	-	-	1199	-	-	135	177	689	157	180	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	135	177	-	157	180	-
Stage 1		-		-	-	-	611	586	-	373	398	-
Stage 2	-	-	-	-	-	-	323	390	-	597	583	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			22.6			32.6		
HCM LOS	0.0			0.1			C			D		
Minor Lane/Major Mvm	nt i	VBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		226	831			1199			231			
HCM Lane V/C Ratio			0.026			0.009			0.447			
HCM Control Delay (s)		22.6	9.4			8			32.6			
HCM Lane LOS		C	A			A			D.			
LICH OF IL OVER OVER	`	0.0	0.4						2.4			

Conflicting Flow All							
Movement	Intersection						
Movement		0.5					
Lane Configurations		FRI	FRT	WRT	WRP	SRI	SRP
Traffic Vol, veh/h         10         362         711         10         10         10           Future Vol, veh/h         10         362         711         10         10         10           Conflicting Peds, #/hr         9         0         0         9         0         0           Sign Control         Free         Free         Free         Free         Free         Free         Free         Storage Length         50         0					WDK		JUIN
Future Vol, veh/h Conflicting Peds, #/hr Sign Control Free Free Free Free Free Free Free Fre					10		10
Conflicting Peds, #/hr         9         0         0         9         0         0           Sign Control         Free         Free         Free         Free         Free         Stop         None							
Sign Control         Free RTCANNORE         Free None         Free None         Stop None         Stop None         Stop None         Stop None         Stop None							
RT Channelized         - None         - None         - None         - None         - None           Storage Length         50         0         - 0         - 0           Veh in Median Storage, # - 0         0         0         - 0         - 0           Grade, % - 0         0         0         - 0         - 0           Peak Hour Factor         92         92         92         92         92         92           Heary Vehicles, % 2         2							_
Storage Length							
Veh in Median Storage, #         0         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         0         -         PP							
Grade, %         -         0         0         -         0         -         0         -         Popeak Hour Factor         92         93         73         11         11         11         11         11         11         11         11         11         11         11         11         11         11         11							
Peak Hour Factor         92			_	-			
Heavy Vehicles, % 2 2 2 2 2 2 2 2 2 2   Mvmt Flow							
Mynnt Flow         11         393         773         11         11         11           Major/Minor         Major1         Major2         Minor2           Conflicting Flow All         793         0         0         0         1203         788           Stage 1         -         -         -         415         -         -         415         -         -         415         -         -         6.42         6.22         -         -         6.42         6.22         -         -         6.42         6.22         -         -         6.42         6.22         -         -         5.42         -         -         -         5.42         -         -         -         5.42         -         -         5.42         -         -         -         5.42         -         -         -         5.42         -         -         -         5.42         -         -         -         5.42         -         -         -         5.42         -         -         -         204         391         3.318         9.318         9.318         -         -         204         391         -         -         -         448         -							
Major/Minor   Major1   Major2   Minor2							
Conflicting Flow All	NIVMI FIOW	- 11	393	113	- 11	- 11	- 11
Conflicting Flow All							
Conflicting Flow All	Major/Minor N	Major1	N	Major2	- 1	Minor2	
Stage 1		793	0		0	1203	788
Stage 2		-	-		-	788	-
Critical Hdwy         4.12         -         -         6.42         6.22           Critical Hdwy Stg 1         -         -         -         5.42         -           Critical Hdwy Stg 2         -         -         -         5.42         -           Follow-up Hdwy         2.218         -         -         3.518         3.318           Pot Cap-1 Maneuver         828         -         -         204         391           Stage 1         -         -         -         666         -           Platoon blocked, %         -         -         -         -         666         -           Mov Cap-1 Maneuver         821         -         -         198         388           Mov Cap-2 Maneuver         -         -         -         198         388           Mov Cap-1 Maneuver         821         -         -         198         388           Mov Cap-2 Maneuver         -         -         -         198         388           Mov Cap-2 Maneuver         -         -         -         438         -         -         -         198         388           Mov Cap-1 Maneuver         BB         WB         SB							
Critical Hdwy Stg 1       -       -       5.42       -         Critical Hdwy Stg 2       -       -       5.42       -         Critical Hdwy Stg 2       -       -       -       5.42       -         Follow-up Hdwy       2.218       -       -       204       391         Stage 1       -       -       -       204       391         Stage 2       -       -       -       -       -         Mov Cap-1 Maneuver       821       -       -       198       388         Mov Cap-2 Maneuver       -       -       -       198       38         Stage 1       -       -       -       660       -         Stage 2       -       -       -       660       -         Stage 1       -       -       -       438       -         Stage 2       -       -       -       660       -         Approach       EB       WB       SB         HCM Control Delay, s       0.3       0       20         HCM Lane Major Mvmt       EBL       BBL       WBT       WBR SBLn1         Capacity (veh/h)       821       -       -		4.12					6.22
Critical Hdwy Stg 2       -       -       5.42       -         Follow-up Hdwy       2.218       -       -       3.518       3.318         Pot Cap-1 Maneuver       828       -       -       204       391         Stage 1       -       -       -       666       -         Platoon blocked, %       -       -       -       666       -         Mov Cap-1 Maneuver       821       -       -       198       388         Mov Cap-2 Maneuver       -       -       438       -         Stage 1       -       -       -       438       -         Stage 2       -       -       -       660       -         Approach       EB       WB       SB         HCM Control Delay, s       0.3       0       20         HCM LOS       C       C         Minor Lane/Major Mvmt       EBL       EBT       WBT       WBR SBLn1         Capacity (veh/h)       821       -       -       262         HCM Control Delay (s)       9.4       -       -       20         HCM Lane V/C Ratio       0.013       -       -       0.083         HCM Lan							
Follow-up Hdwy 2.218 - 3.518 3.318 Pot Cap-1 Maneuver 828 - 204 391 Stage 1 - 6.66 - 6.66 Platoon blocked, % Mov Cap-1 Maneuver 821 - 198 388 Mov Cap-2 Maneuver 51age 1 - 198 - 388 Mov Cap-2 Maneuver 51age 2 - 6.66 - 6.60  Approach EB WB SB HCM Control Delay, s 0.3 0 20 HCM LOS C  Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1 Capacity (veh/h) 821 - 262 HCM Lane V/C Ratio 0.013 - 0.083 HCM Control Delay (s) 9.4 - 20 HCM Lone COS A - 20 HCM Lone							
Pot Cap-1 Maneuver							3 318
Stage 1							
Stage 2							
Platoon blocked, %   -   -   -							
Mov Cap-1 Maneuver         821         -         -         198         388           Mov Cap-2 Maneuver         -         -         -         198         -           Stage 1         -         -         -         438         -           Stage 2         -         -         -         660         -           Approach         EB         WB         SB           HCM Control Delay, s         0.3         0         20           HCM LOS         C         C             Minor Lane/Major Mvmt         EBL         EBT         WBT         WBR SBLn1           Capacity (veh/h)         821         -         -         262           HCM Canter VC Ratio         0.013         -         -         0.083           HCM Control Delay (s)         9.4         -         -         0.083           HCM Lane LOS         A         -         -         C						000	
Mov Cap-2 Maneuver         -         -         198         -           Stage 1         -         -         -         438         -           Stage 2         -         -         -         660         -           Approach         EB         WB         SB           HCM Control Delay, s         0.3         0         20           HCM LOS         C         C           Minor Lane/Major Mvmt         EBL         EBT         WBT         WBR SBLn1           Capacity (veh/h)         821         -         -         262           HCM Lane V/C Ratio         0.013         -         -         0.083           HCM Control Delay (s)         9.4         -         -         20           HCM Lane LOS         A         -         -         C		021				100	200
Stage 1							
Stage 2		-			-		
Approach   EB   WB   SB     HCM Control Delay, S   0.3   0   20     HCM LOS   C     Minor Lane/Major Mvmt   EBL   EBT   WBT   WBR SBLn1     Capacity (veh/h)   821   - 262     HCM Lane V/C Ratio   0.013   - 0.083     HCM Control Delay (s)   9.4   - 20     HCM Lane LOS   A   - C   C		-			-		
HCM Control Delay, s	Stage 2	-	-	-	-	660	-
HCM Control Delay, s							
HCM Control Delay, s	Approach	EB		WB		SB	
HCM LOS   C							
Minor Lane/Major Mvmt         EBL         EBT         WBT         WBR SBLn1           Capacity (veh/h)         821         -         -         262           HCM Lane V/C Ratio         0.013         -         -         0.083           HCM Control Delay (s)         9.4         -         -         20           HCM Lane LOS         A         -         -         C		3.0		- 0			
Capacity (veh/h)         821         -         -         262           HCM Lane V/C Ratio         0.013         -         -         0.083           HCM Control Delay (s)         9.4         -         -         20           HCM Lane LOS         A         -         -         C	TIOWI EOS					U	
Capacity (veh/h)         821         -         -         262           HCM Lane V/C Ratio         0.013         -         -         0.083           HCM Control Delay (s)         9.4         -         -         20           HCM Lane LOS         A         -         -         C							
HCM Lane V/C Ratio 0.013 0.083 HCM Control Delay (s) 9.4 20 HCM Lane LOS A C	Minor Lane/Major Mvm	t	EBL	EBT	WBT	WBR	SBLn1
HCM Lane V/C Ratio         0.013         -         -         0.083           HCM Control Delay (s)         9.4         -         -         20           HCM Lane LOS         A         -         -         C	Capacity (veh/h)		821	-			262
HCM Control Delay (s)         9.4         -         -         20           HCM Lane LOS         A         -         -         C			0.013				0.083
HCM Lane LOS A C	HCM Control Delay (s)		9.4				20
	HCM 95th %tile Q(veh)		0				0.3

HCM 95th %tile Q(veh)

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WDD	SBL	SBR
Lane Configurations	EBL			WBR	SBF	SBR
Traffic Vol. veh/h	<b>1</b>	<b>↑</b> 302	<b>1</b> → 571	68	<b>1</b> 71	150
Future Vol. veh/h	70	302	571	68	29	150
Conflicting Peds, #/hr		0	0	8	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	1100	None	-	None	Jiop -	None
Storage Length	100	-		NOTIC -	0	-
Veh in Median Storag		0	0		0	
Grade, %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	76	328	621	74	32	163
WWIIICTION	70	320	021	7.1	52	100
Major/Minor	Major1		/lajor2		Vinor2	
Conflicting Flow All	703	0	-	0	1146	666
Stage 1	-	-	-		666	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	4.11	-	-		6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-		5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	
Pot Cap-1 Maneuver	899	-	-	-	221	461
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	892	-	-	-	199	457
Mov Cap-2 Maneuver	-	-	-	-	199	-
Stage 1	-	-	-		466	-
Stage 2	-	-	-	-	619	-
Approach	EB		WB		SB	
HCM Control Delay, s			0		24.2	
HCM LOS	1.0		U		C C	
TICIVI EOS					C	
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR	
Capacity (veh/h)		892	-	-	-	378
HCM Lane V/C Ratio		0.085	-	-	-	0.515
HCM Control Delay (s	)	9.4	-	-	-	24.2
HCM Lane LOS		Α	-	-	-	С
LIONA OF IL OVEL OVER	<b>V</b>	0.0				0.0

Intersection				
Intersection Delay, s/veh	5.1			
Intersection LOS	А			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	262	349	70	187
Demand Flow Rate, veh/h	265	352	70	189
Vehicles Circulating, veh/h	10	109	241	390
Vehicles Exiting, veh/h	569	202	34	71
Ped Vol Crossing Leg, #/h	0	0	0	8
Ped Cap Adj	1.000	1.000	1.000	0.999
Approach Delay, s/veh	4.3	5.5	3.9	6.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.07/			4.976
onitical neadway, s	4.976	4.976	4.976	4.970
Entry Flow, veh/h	265	352	70	189
Entry Flow, veh/h Cap Entry Lane, veh/h	265 1366	352 1235	70 1079	189 927
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	265 1366 0.989	352 1235 0.991	70 1079 0.999	189 927 0.989
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h	265 1366 0.989 262	352 1235 0.991 349	70 1079 0.999 70	189 927 0.989 187
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	265 1366 0.989 262 1351	352 1235 0.991 349 1223	70 1079 0.999 70 1078	189 927 0.989 187 916
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio	265 1366 0.989 262	352 1235 0.991 349 1223 0.285	70 1079 0.999 70 1078 0.065	189 927 0.989 187
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	265 1366 0.989 262 1351 0.194 4.3	352 1235 0.991 349 1223 0.285 5.5	70 1079 0.999 70 1078 0.065 3.9	189 927 0.989 187 916 0.204 6.0
Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	265 1366 0.989 262 1351 0.194	352 1235 0.991 349 1223 0.285	70 1079 0.999 70 1078 0.065	189 927 0.989 187 916 0.204

## Beechwood SP 1: SR 46 E & Buena Vista Drive

# Cumulative Plus 911 Unit Project PM

### Lane Group Lane Group Flow (vph) 334 1643 1634 163 159 302 v/c Ratio 0.50 0.57 Control Delay Queue Delay 57.5 0.5 32.2 4.6 63.4 36.9 0.0 Total Delay Queue Length 50th (ft) 57.5 0.5 32.2 4.6 63.4 36.9 0 566 12 118 180 Queue Length 95th (ft) Internal Link Dist (ft) 224 0 879 52 235 336 1017 Turn Bay Length (ft) 345 330 450 Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio 0 0 0 0 0 0 0.37 0.36 0.50 0.65 0.14 Intersection Summary

Beechwood SP 1: SR 46 E & Buena Vista Drive Cumulative Plus 911 Unit Project PM HCM Signalized Intersection Capacity Analysis

	۶	-	<b>←</b>	*	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	77	<b>^</b>	<b>^</b>	7	7	7		
Traffic Volume (vph)	331	1627	1618	161	157	299		
uture Volume (vph)	331	1627	1618	161	157	299		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	3.5	4.0	7.3	7.3	4.2	3.7		
ane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00		
-rt	1.00	1.00	1.00	0.85	1.00	0.85		
It Protected	0.95	1.00	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3213	3312	3312	1482	1656	1482		
It Permitted	0.95	1.00	1.00	1.00	0.95	1.00		
atd. Flow (perm)	3213	3312	3312	1482	1656	1482		
eak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99		
.dj. Flow (vph)	334	1643	1634	163	159	302		
RTOR Reduction (vph)	0	0	0	57	0	12		
ane Group Flow (vph)	334	1643	1634	106	159	290		
leavy Vehicles (%)	9%	9%	9%	9%	9%	9%		
urn Type	Prot	NA	NA	Perm	Prot	Prot		
rotected Phases	8	Free!	6		7!	4		
Permitted Phases				6		4		
ctuated Green, G (s)	19.9	121.6	67.6	67.6	19.1	43.0		
ffective Green, g (s)	19.9	121.6	67.6	67.6	19.1	43.0		
ctuated g/C Ratio	0.16	1.00	0.56	0.56	0.16	0.35		
Clearance Time (s)	3.5		7.3	7.3	4.2	3.7		
/ehicle Extension (s)	3.0		4.0	4.0	3.5	3.0		
ane Grp Cap (vph)	525	3312	1841	823	260	524		
/s Ratio Prot	c0.10	0.50	c0.49		c0.10	0.20		
/s Ratio Perm				0.07				
//c Ratio	0.64	0.50	0.89	0.13	0.61	0.55		
Jniform Delay, d1	47.5	0.0	23.7	12.9	47.8	31.6		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		
ncremental Delay, d2	2.5	0.5	5.8	0.1	4.4	1.3		
Delay (s)	50.0	0.5	29.4	13.0	52.2	32.9		
evel of Service	D	Α	С	В	D	С		
Approach Delay (s)		8.9	27.9		39.5			
pproach LOS		Α	С		D			
tersection Summary								
CM 2000 Control Delay			20.3	Н	CM 2000	Level of Service	;	С
CM 2000 Volume to Capac	city ratio		0.79					
ctuated Cycle Length (s)	-		121.6	S	um of lost	time (s)	1	5.0
ntersection Capacity Utilizat	tion		75.8%		CU Level o			D
Analysis Period (min)			15					
Phase conflict between la	ne groups	i.						

c Critical Lane Group

	<b>*</b>	-	*	*	•	*	4	<b>†</b>	-	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	392	1073	374	405	1134	216	378	507	271	357	320	
v/c Ratio	0.98	0.87	0.48	0.95	0.90	0.31	0.85	0.61	0.73	0.88	0.63	
Control Delay	105.1	53.0	5.0	97.6	55.2	4.8	82.4	52.1	77.8	79.0	23.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	105.1	53.0	5.0	97.6	55.2	4.8	82.4	52.1	77.8	79.0	23.3	
Queue Length 50th (ft)	~211	522	0	210	556	0	193	225	136	341	92	
Queue Length 95th (ft)	#372	628	68	#388	679	54	#331	323	205	#541	217	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	400	1604	903	425	1604	821	444	920	444	495	574	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.98	0.67	0.41	0.95	0.71	0.26	0.85	0.55	0.61	0.72	0.56	

## Intersection Summary

	۶	<b>→</b>	$\rightarrow$	1	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	<b>^</b>	7	ሻሻ	<b>^</b>	7	77	<b>↑</b> ↑		1/2	<b>↑</b>	7
Traffic Volume (veh/h)	380	1041	363	393	1100	210	367	376	115	263	346	310
Future Volume (veh/h)	380	1041	363	393	1100	210	367	376	115	263	346	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	392	1073	374	405	1134	216	378	388	119	271	357	320
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	397	1241	553	397	1316	586	420	675	204	321	416	353
Arrive On Green	0.12	0.36	0.36	0.12	0.39	0.39	0.13	0.26	0.26	0.10	0.23	0.23
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2579	781	3319	1796	1522
Grp Volume(v), veh/h	392	1073	374	405	1134	216	378	255	252	271	357	320
Grp Sat Flow(s), veh/h/ln	1659	1706	1521	1659	1706	1521	1659	1706	1654	1659	1796	1522
Q Serve(g_s), s	17.8	44.0	21.4	18.0	46.1	15.3	16.9	19.6	20.0	12.1	28.7	30.8
Cycle Q Clear(g_c), s	17.8	44.0	21.4	18.0	46.1	15.3	16.9	19.6	20.0	12.1	28.7	30.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	397	1241	553	397	1316	586	420	446	433	321	416	353
V/C Ratio(X)	0.99	0.86	0.68	1.02	0.86	0.37	0.90	0.57	0.58	0.85	0.86	0.91
Avail Cap(c a), veh/h	397	1586	707	397	1586	707	441	464	450	441	489	414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	44.5	18.9	66.3	42.6	33.2	64.8	48.3	48.4	66.9	55.5	56.3
Incr Delay (d2), s/veh	42.0	4.3	1.8	50.7	4.4	0.4	20.5	1.6	1.8	10.5	12.6	21.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	18.4	7.6	10.2	19.2	5.7	8.3	8.5	8.4	5.6	14.3	13.8
Unsig. Movement Delay, s/veh	1											
LnGrp Delay(d),s/veh	108.2	48.8	20.6	117.0	47.0	33.5	85.3	49.8	50.2	77.5	68.1	77.6
LnGrp LOS	F	D	С	F	D	С	F	D	D	E	Е	Е
Approach Vol, veh/h		1839			1755			885			948	
Approach Delay, s/veh		55.7			61.5			65.1			74.0	
Approach LOS		F			E			F			F	
	1	_	2			,	7	_				
Timer - Assigned Phs	1	2	3	40.0	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	62.1	23.1	40.2	22.0	65.4	18.6	44.7				
Change Period (Y+Rc), s	7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gmax), s	18.0	* 70	20.0	41.0	18.0	70.0	20.0	41.0				
Max Q Clear Time (g_c+l1), s	20.0	46.0	18.9	32.8	19.8	48.1	14.1	22.0				
Green Ext Time (p_c), s	0.0	8.8	0.2	2.1	0.0	8.3	0.5	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			62.3									
HCM 6th LOS			Е									

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection	0.0					
Int Delay, s/veh	8.0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<b>^</b>	44	7		7
Traffic Vol, veh/h	0	1555	1603	20	0	100
Future Vol. veh/h	0	1555	1603	20	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	
Storage Length		-		165	-	-
Veh in Median Storage	p# -	0	0	-	2	-
Grade. %	-	0	0		0	
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	10	10	10	10
Mymt Flow		1654	1705	21	0	106
WWITH FIOW	0	1004	1705	21	U	100
Major/Minor	Major1	- 1	Major2	- 1	Vinor2	
Conflicting Flow All	-	0	-	0	-	853
Stage 1		-	-	-	-	-
Stage 2		-				
Critical Hdwy						7.1
Critical Hdwy Stg 1						7.1
Critical Hdwy Stg 2						
Follow-up Hdwy						3.4
Pot Cap-1 Maneuver	0				0	287
	0				0	
Stage 1	0	-	-	-		-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		005
Mov Cap-1 Maneuver	-	-	-	-		287
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
	0		0		24.7	
HCM Control Delay, s	0		0		24.7 C	
HCM LOS					C	
Minor Lane/Major Mvr	nt	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)		-	-		287	
HCM Lane V/C Ratio						
HCM Control Delay (s	)				24.7	
HCM Lane LOS	)				24.7 C	
HCM 95th %tile Q(veh	)				1.6	
HUN 95th %tile Q(ver	1)	-	-	-	1.6	

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	44	7	7	ħβ			ની	7		4	
Traffic Vol, veh/h	0	1522	33	3	1563	0	50	0	6	0	0	10
Future Vol, veh/h	0	1522	33	3	1563	0	50	0	6	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	275	305	-	-	-	-	25	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	2		-	2	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	0	1569	34	3	1611	0	52	0	6	0	0	10
Major/Minor M	lajor1		1	Major2		1	/linor1		N	Minor2		
Conflicting Flow All	1611	0	0	1603	0	0	2381	3186	785	2402	3220	806
Stage 1	-	-	-	-	-	-	1569	1569	-	1617	1617	-
Stage 2	-	-				-	812	1617		785	1603	
Critical Hdwy	4.34	-		4.34		-	7.74	6.74	7.14	7.74	6.74	7.14
Critical Hdwy Stg 1	-	-				-	6.74	5.74		6.74	5.74	
Critical Hdwy Stg 2	-						6.74	5.74		6.74	5.74	
Follow-up Hdwy	2.32	-		2.32		-	3.62	4.12	3.42	3.62	4.12	3.42
Pot Cap-1 Maneuver	358	-		360		-	~ 16	8	315	15	8	305
Stage 1	-	-				-	105	154		98	146	
Stage 2	-	-		-	-	-	318	146		331	148	
Platoon blocked. %		-	-		-	-						
Mov Cap-1 Maneuver	358	-		360		-	~ 15	8	315	15	8	305
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	97	-	89	94	-
Stage 1	-	-	-	-	-	-	105	154	-	98	145	-
Stage 2	-	-	-	-	-	-	305	145		325	148	
J												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			75.3			17.2		
HCM LOS	U			U			7 5.5 F			C		
TIOM EOS												
Minor Lane/Major Mvmt		NBLn1	VRI n2	EBL	EBT	EBR	WBL	WBT	WBR S	SBI n1		
Capacity (veh/h)		94	315	358	LD1	LDI(	360	7701	.TDIC.	305		
HCM Lane V/C Ratio		0.548	0.02	300			0.009			0.034		
HCM Control Delay (s)		82.3	16.7	0			15.1			17.2		
HCM Lane LOS		02.3 F	C	A			C		- 1	17.2 C		
HCM 95th %tile Q(veh)		2.5	0.1	0	-		0			0.1		
		2.0	0.1	U			U			0.1		
Notes												
~: Volume exceeds capa	acity	\$: De	elay exc	eeds 3	UUS	+: Com	putatior	n Not D	etined	*: All	major v	/olume

Intersection										
Intersection Delay, s/veh	39.1									
Intersection LOS	E									
Approach		EB			WB		NB		SB	
Entry Lanes		2			2		2		2	
Conflicting Circle Lanes		1			2		2		2	
Adj Approach Flow, veh/h		860			846		934		1106	
Demand Flow Rate, veh/h		869			855		944		1117	
Vehicles Circulating, veh/h		1146			882		815		727	
Vehicles Exiting, veh/h		698			877		1037		1010	
Ped Vol Crossing Leg, #/h		1			1		1		0	
Ped Cap Adj		1.000			1.000		1.000		1.000	
Approach Delay, s/veh		21.8			20.9		27.3		76.5	
Approach LOS		С			С		D		F	
Lane	Left	Right	Bypass	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	R	L	TR	LT	R	LT	R	
Assumed Moves	LT	TR	R	L	TR	LT	R	LT	R	
RT Channelized			Free							
Lane Util	0.470	0.530		0.415	0.585	0.589	0.411	0.708	0.292	
Follow-Up Headway, s	2.535	2.535		2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.544	4.544	163	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	332	374	1919	355	500	556	388	791	326	
Cap Entry Lane, veh/h	500	500	0.990	600	671	638	710	692	765	
Entry HV Adj Factor	0.990	0.991	161	0.989	0.990	0.990	0.990	0.990	0.991	
Flow Entry, veh/h	329	371	1900	351	495	550	384	783	323	
Cap Entry, veh/h	495	496	0.085	593	664	631	703	685	758	
V/C Ratio	0.663	0.747	0.0	0.592	0.745	0.872	0.546	1.144	0.426	
Control Delay, s/veh	23.8	29.5	Α	17.5	23.3	36.6	13.8	103.8	10.4	
LOS	С	D	0	С	С	E	В	F	В	
95th %tile Queue, veh	5	6		4	7	10	3	24	2	

	۶	<b>→</b>	•	<b>←</b>	4	1	†	1	-	ļ	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	550	309	510	763	7	54	319	387	396	117	
v/c Ratio	0.23	0.75	0.78	0.61	0.69	0.04	0.30	0.72	0.79	0.80	0.21	
Control Delay	58.6	45.6	53.6	27.8	5.5	45.6	50.3	15.6	47.1	47.5	4.8	
Queue Delay	0.0	0.0	0.1	4.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.6	45.6	53.7	32.1	6.3	45.6	50.3	15.6	47.1	47.5	4.8	
Queue Length 50th (ft)	14	184	199	240	0	5	36	0	247	253	0	
Queue Length 95th (ft)	44	276	#358	463	94	19	76	85	#458	#467	34	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	93	886	494	913	1148	337	355	560	594	602	633	
Starvation Cap Reductn	0	0	9	319	146	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.62	0.64	0.86	0.76	0.02	0.15	0.57	0.65	0.66	0.18	
Intersection Summary												
# 95th percentile volume e	xceeds car	nacity qu	elle may	he longer								

Queue shown is maximum after two cycles.

Beechwood SP

User approved volume balancing among the lanes for turning movement.

Central Coast Transportation Consulting

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b> 1>		ሻ	<b>†</b>	7	*	<b></b>	7	7	ની	7
Traffic Volume (veh/h)	20	485	32	290	479	717	7	51	300	638	98	110
Future Volume (veh/h)	20	485	32	290	479	717	7	51	300	638	98	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	516	34	309	510	763	7	54	319	753	0	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	39	823	54	342	774	640	294	309	262	866	0	384
Arrive On Green	0.02	0.24	0.24	0.19	0.41	0.41	0.16	0.16	0.16	0.24	0.00	0.24
Sat Flow, veh/h	1795	3409	224	1795	1885	1559	1795	1885	1598	3591	0	1591
Grp Volume(v), veh/h	21	270	280	309	510	763	7	54	319	753	0	117
Grp Sat Flow(s), veh/h/ln	1795	1791	1843	1795	1885	1559	1795	1885	1598	1795	0	1591
Q Serve(g_s), s	1.3	14.9	15.0	18.6	24.2	45.4	0.4	2.7	18.1	22.3	0.0	6.7
Cycle Q Clear(g_c), s	1.3	14.9	15.0	18.6	24.2	45.4	0.4	2.7	18.1	22.3	0.0	6.7
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	432	445	342	774	640	294	309	262	866	0	384
V/C Ratio(X)	0.54	0.63	0.63	0.90	0.66	1.19	0.02	0.17	1.22	0.87	0.00	0.30
Avail Cap(c_a), veh/h	81	432	445	430	774	640	294	309	262	1088	0	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	37.5	37.5	43.7	26.3	32.6	38.8	39.8	46.2	40.3	0.0	34.3
Incr Delay (d2), s/veh	11.4	2.8	2.8	18.9	2.1	101.2	0.0	0.3	128.3	6.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.9	7.1	10.0	11.1	34.5	0.2	1.3	16.4	10.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.9	40.3	40.3	62.7	28.4	133.8	38.8	40.1	174.5	46.7	0.0	34.8
LnGrp LOS	Ε	D	D	Е	С	F	D	D	F	D	Α	С
Approach Vol, veh/h		571			1582			380			870	
Approach Delay, s/veh		41.2			85.9			152.9			45.1	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.6	31.2		31.2	6.9	49.9		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	23.9		33.5	5.0	45.4		18.1				
Max Q Clear Time (q c+l1), s	20.6	17.0		24.3	3.3	47.4		20.1				
Green Ext Time (p_c), s	0.5	1.9		2.4	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			75.5									
HCM 6th LOS			Е									

	-	_	•	•		-	١,	- 1	- /	-	•	•
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b> 1>		*	<b>*</b>	7	7	<b>1</b>	7	7	ની	7
Traffic Volume (veh/h)	20	485	32	290	479	717	7	51	300	638	98	110
Future Volume (veh/h)	20	485	32	290	479	717	7	51	300	638	98	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	516	34	309	510	763	7	54	319	753	0	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	39	823	54	342	774	640	294	309	262	866	0	384
Arrive On Green	0.02	0.24	0.24	0.19	0.41	0.41	0.16	0.16	0.16	0.24	0.00	0.24
Sat Flow, veh/h	1795	3409	224	1795	1885	1559	1795	1885	1598	3591	0	1591
Grp Volume(v), veh/h	21	270	280	309	510	763	7	54	319	753	0	117
Grp Sat Flow(s), veh/h/ln	1795	1791	1843	1795	1885	1559	1795	1885	1598	1795	0	1591
Q Serve(q_s), s	1.3	14.9	15.0	18.6	24.2	45.4	0.4	2.7	18.1	22.3	0.0	6.7
Cycle Q Clear(q_c), s	1.3	14.9	15.0	18.6	24.2	45.4	0.4	2.7	18.1	22.3	0.0	6.7
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	432	445	342	774	640	294	309	262	866	0	384
V/C Ratio(X)	0.54	0.63	0.63	0.90	0.66	1.19	0.02	0.17	1.22	0.87	0.00	0.30
Avail Cap(c_a), veh/h	81	432	445	430	774	640	294	309	262	1088	0	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	37.5	37.5	43.7	26.3	32.6	38.8	39.8	46.2	40.3	0.0	34.3
Incr Delay (d2), s/veh	11.4	2.8	2.8	18.9	2.1	101.2	0.0	0.3	128.3	6.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.9	7.1	10.0	11.1	34.5	0.2	1.3	16.4	10.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.9	40.3	40.3	62.7	28.4	133.8	38.8	40.1	174.5	46.7	0.0	34.8
LnGrp LOS	Ε	D	D	Е	С	F	D	D	F	D	Α	С
Approach Vol, veh/h		571			1582			380			870	
Approach Delay, s/veh		41.2			85.9			152.9			45.1	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.6	31.2		31.2	6.9	49.9		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	23.9		33.5	5.0	45.4		18.1				
Max Q Clear Time (q_c+l1), s	20.6	17.0		24.3	3.3	47.4		20.1				
Green Ext Time (p_c), s	0.5	1.9		2.4	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			75.5									

.27	0.21	0.17	0.11	0.11	0.10	0.10	0.10	0.21	0.00	0.21
409	224	1795	1885	1559	1795	1885	1598	3591	0	1591
270	280	309	510	763	7	54	319	753	0	117
791	1843	1795	1885	1559	1795	1885	1598	1795	0	1591
4.9	15.0	18.6	24.2	45.4	0.4	2.7	18.1	22.3	0.0	6.7
4.9	15.0	18.6	24.2	45.4	0.4	2.7	18.1	22.3	0.0	6.7
	0.12	1.00		1.00	1.00		1.00	1.00		1.00
432	445	342	774	640	294	309	262	866	0	384
1.63	0.63	0.90	0.66	1.19	0.02	0.17	1.22	0.87	0.00	0.30
432	445	430	774	640	294	309	262	1088	0	482
.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
7.5	37.5	43.7	26.3	32.6	38.8	39.8	46.2	40.3	0.0	34.3
2.8	2.8	18.9	2.1	101.2	0.0	0.3	128.3	6.4	0.0	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.9	7.1	10.0	11.1	34.5	0.2	1.3	16.4	10.4	0.0	2.6
0.3	40.3	62.7	28.4	133.8	38.8	40.1	174.5	46.7	0.0	34.8
D	D	Ε	С	F	D	D	F	D	Α	С
571			1582			380			870	
1.2			85.9			152.9			45.1	
D			F			F			D	
2		4	5	6		8				
1.2		31.2	6.9	49.9		22.6				
4.5		4.5	4.5	4.5		4.5				
3.9		33.5	5.0	45.4		18.1				
7.0		24.3	3.3	47.4		20.1				
1.9		2.4	0.0	0.0		0.0				

Synchro 10 Report Page 15

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	*	<b>→</b>	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	94	1437	30	1287	374	280	32	508	9	32	
v/c Ratio	0.53	0.78	0.28	0.78	0.44	0.63	0.05	0.85	0.02	0.05	
Control Delay	56.8	23.1	54.6	26.4	9.1	35.8	23.9	38.0	23.5	0.2	
Queue Delay	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.8	24.6	54.6	26.4	9.1	35.8	23.9	38.0	23.5	0.2	
Queue Length 50th (ft)	61	408	20	374	56	155	14	239	4	0	
Queue Length 95th (ft)	#122	523	51	479	133	246	35	#418	15	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	202	2187	108	1980	969	586	795	749	586	749	
Starvation Cap Reductn	0	518	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.86	0.28	0.65	0.39	0.48	0.04	0.68	0.02	0.04	
Intersection Summary											
# 95th percentile volume 6	exceeds cal	nacity du	elle may	he longe	r						

# 95th percentile volume exceeds capacity, queue may be longer Queue shown is maximum after two cycles.

Cumulative Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

8: Paso Robles Street & 13th Street

	ၨ	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	$\blacktriangleleft$	<b>†</b>	1	-	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ች	<b>↑</b> ↑		ሻ	<b>^</b>	7	7	<b>*</b>	7	ሻ	ĥ	
Traffic Volume (veh/h)	87	1296	40	28	1197	348	260	30	472	8	0	30
Future Volume (veh/h)	87	1296	40	28	1197	348	260	30	472	8	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	94	1394	43	30	1287	0	280	32	508	9	0	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	121	1681	52	53	1563		542	653	553	372	0	553
Arrive On Green	0.07	0.47	0.47	0.03	0.44	0.00	0.35	0.35	0.35	0.35	0.00	0.35
Sat Flow, veh/h	1795	3544	109	1795	3582	1598	1388	1885	1598	872	0	1598
Grp Volume(v), veh/h	94	703	734	30	1287	0	280	32	508	9	0	32
Grp Sat Flow(s), veh/h/ln	1795	1791	1862	1795	1791	1598	1388	1885	1598	872	0	1598
Q Serve(q s), s	4.6	30.6	30.7	1.5	28.4	0.0	15.2	1.0	27.4	0.6	0.0	1.2
Cycle Q Clear(g_c), s	4.6	30.6	30.7	1.5	28.4	0.0	16.4	1.0	27.4	1.6	0.0	1.2
Prop In Lane	1.00	30.0	0.06	1.00	20.4	1.00	1.00	1.0	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	121	849	883	53	1563	1.00	542	653	553	372	0	553
V/C Ratio(X)	0.78		0.83	0.57	0.82			0.05	0.92	0.02	0.00	
	190	0.83	1054	102	1853		0.52	744	631	415	0.00	0.06
Avail Cap(c_a), veh/h		1014				1.00	610					
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	20.5	20.5	43.1	22.3	0.0	25.1	19.5	28.2	20.1	0.0	19.6
Incr Delay (d2), s/veh	10.3	5.0	4.9	9.3	2.7	0.0	0.8	0.0	17.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	13.0	13.6	0.8	11.8	0.0	4.9	0.4	12.5	0.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	25.5	25.4	52.4	25.0	0.0	25.8	19.6	45.5	20.1	0.0	19.6
LnGrp LOS	D	С	С	D	С		С	В	D	С	A	В
Approach Vol, veh/h		1531			1317	Α		820			41	
Approach Delay, s/veh		27.0			25.6			37.7			19.8	
Approach LOS		С			С			D			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	47.1		35.6	10.5	43.7		35.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	50.9		35.5	9.5	46.5		35.5				
Max Q Clear Time (q c+l1), s	3.5	32.7		3.6	6.6	30.4		29.4				
Green Ext Time (p_c), s	0.0	9.9		0.2	0.0	8.6		1.7				
Intersection Summary												
HCM 6th Ctrl Delay												
HCIVI OUI CUI DEIAY			28.8									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 18 Central Coast Transportation Consulting

Beechwood SP

9: River Road & Creston Road

Cumulative Plus 911 Unit Project PM

$\nearrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\uparrow$ $\uparrow$ $\uparrow$	,
Lane Group EBL EBT WBL WBT NBL NBT NBR SBL SE	BT
Lane Group Flow (vph) 508 1361 105 979 311 255 74 148 82	327
v/c Ratio 0.84 0.89 0.74 0.81 0.79 0.34 0.17 0.75 0.94	4dr
Control Delay 59.8 36.3 82.7 40.3 66.0 40.8 0.8 73.8 44	4.9
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0
Total Delay 59.8 36.3 82.7 40.3 66.0 40.8 0.8 73.8 44	4.9
Queue Length 50th (ft) 197 468 81 353 122 89 0 112 23	226
Queue Length 95th (ft) #273 575 #171 437 #189 129 1 #207 #34	345
Internal Link Dist (ft) 353 673 608 53	523
Turn Bay Length (ft) 295 235 140 130 225	
Base Capacity (vph) 653 1633 148 1278 410 790 459 217 94	940
Starvation Cap Reductn 0 0 0 0 0 0 0	0
Spillback Cap Reductn 0 0 0 0 0 0 0	0
Storage Cap Reductn 0 0 0 0 0 0 0	0
Reduced v/c Ratio 0.78 0.83 0.71 0.77 0.76 0.32 0.16 0.68 0.8	.88

## Intersection Summary

Sth percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Cumulative Plus 911 Unit Project PM HCM 6th Signalized Intersection Summary

Lane Configurations Traffic Volume (veh/h) Future Volume (veh/h) Initial O (Ob), veh Ped-Bike Adj(A_pbT) Parking Bus, Adj Work Zone On Approach Adj Sat Flow, veh/h/ln 1	483 483 0	<b>EBT ↑1</b> 878 878	EBR	WBL	WBT	WBR	NIDI	NDT	1100			
Traffic Volume (veh/h) Future Volume (veh/h) Initial Q (Ob), veh Ped-Bike Adj(A_pbT) Parking Bus, Adj Work Zone On Approach Adj Sat Flow, veh/h/ln 1	483 483 0	878				NOK	NBL	NBT	NBR	SBL	SBT	SBR
Future Volume (veh/h) Initial O (Ob), veh Ped-Bike Adj(A_pbT) Parking Bus, Adj Work Zone On Approach Adj Sat Flow, veh/h/ln 1	483 0			ሻ	<b>↑</b> ↑		14.54	<b>^</b>	7	7	ħβ	
Initial Q (Qb), veh Ped-Bike Adj(A_pbT) Parking Bus, Adj Work Zone On Approach Adj Sat Flow, veh/h/ln 1	0	070	415	100	777	153	295	242	70	141	286	500
Ped-Bike Adj(A_pbT) Parking Bus, Adj Work Zone On Approach Adj Sat Flow, veh/h/ln 1	-		415	100	777	153	295	242	70	141	286	500
Parking Bus, Adj Work Zone On Approach Adj Sat Flow, veh/h/ln 1		0	0	0	0	0	0	0	0	0	0	0
Work Zone On Approach Adj Sat Flow, veh/h/ln 1	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Adj Sat Flow, veh/h/ln 1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		No			No			No			No	
Adi Flour Data yah/h	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
	508	924	0	105	818	161	311	255	74	148	301	0
	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
	630	1634		135	1042	205	408	500	223	186	451	
	0.18	0.46	0.00	0.08	0.35	0.35	0.12	0.14	0.14	0.10	0.13	0.00
	3483	3676	0	1795	2976	586	3483	3582	1598	1795	3676	0
Grp Volume(v), veh/h	508	924	0	105	492	487	311	255	74	148	301	0
	1742	1791	0	1795	1791	1770	1742	1791	1598	1795	1791	0
Q Serve(g_s), s	11.2	15.1	0.0	4.6	19.7	19.7	6.9	5.3	3.3	6.4	6.4	0.0
Cycle Q Clear(g_c), s	11.2	15.1	0.0	4.6	19.7	19.7	6.9	5.3	3.3	6.4	6.4	0.0
Prop In Lane	1.00		0.00	1.00		0.33	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	630	1634		135	627	620	408	500	223	186	451	
	0.81	0.57		0.78	0.79	0.79	0.76	0.51	0.33	0.80	0.67	
Avail Cap(c_a), veh/h	939	2402		214	932	921	589	1127	503	313	1145	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.3	15.9	0.0	36.2	23.2	23.2	34.1	31.8	31.0	34.9	33.3	0.0
Incr Delay (d2), s/veh	3.2	0.3	0.0	9.3	2.7	2.7	3.5	0.8	0.9	7.6	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	5.8	0.0	2.3	8.1	8.0	3.0	2.2	1.3	3.0	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	16.2	0.0	45.5	25.9	25.9	37.7	32.6	31.8	42.5	35.0	0.0
LnGrp LOS	С	В		D	С	С	D	С	С	D	С	
Approach Vol, veh/h		1432	Α		1084			640			449	А
Approach Delay, s/veh		22.7			27.8			35.0			37.4	
Approach LOS		С			С			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	40.9	13.8	14.6	18.9	32.4	12.8	15.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	53.5	13.5	25.5	21.5	41.5	13.9	25.1				
Max Q Clear Time (q c+l1), s	6.6	17.1	8.9	8.4	13.2	21.7	8.4	7.3				
Green Ext Time (p_c), s	0.1	8.0	0.5	1.5	1.3	6.3	0.2	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			28.3									
HCM 6th LOS			C									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report Page 21 Central Coast Transportation Consulting

Beechwood SP

Cumulative Plus 911 Unit Project PM

## 10: Creston Road & Golden Hill Road

	•	$\rightarrow$	-	-	4
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	92	586	1259	647	91
v/c Ratio	0.58	0.28	0.80	0.73	0.19
Control Delay	59.0	11.3	23.1	37.4	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	11.3	23.1	37.4	8.9
Queue Length 50th (ft)	47	67	224	154	0
Queue Length 95th (ft)	#168	193	#573	#368	45
Internal Link Dist (ft)		1151	2310	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	159	2359	1809	983	519
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.25	0.70	0.66	0.18
Intersection Summary					

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

## Beechwood SP 10: Creston Road & Golden Hill Road

## Cumulative Plus 911 Unit Project PM HCM Signalized Intersection Capacity Analysis

	<i>•</i>	$\rightarrow$	<b>—</b>	*	-	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	*	<b>^</b>	<b>↑</b> 1>		75	7		
Traffic Volume (vph)	89	568	616	605	628	88		
uture Volume (vph)	89	568	616	605	628	88		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
otal Lost time (s)	4.5	4.5	4.5		4.5	4.5		
ane Util. Factor	1.00	0.95	0.95		0.97	1.00		
rpb, ped/bikes	1.00	1.00	0.99		1.00	1.00		
lpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		
rt	1.00	1.00	0.93		1.00	0.85		
It Protected	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1787	3574	3282		3467	1599		
It Permitted	0.95	1.00	1.00		0.95	1.00		
Satd. Flow (perm)	1787	3574	3282		3467	1599		
eak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97		
ldj. Flow (vph)	92	586	635	624	647	91		
RTOR Reduction (vph)	0	0	133	0	0	68		
ane Group Flow (vph)	92	586	1126	0	647	23		
Confl. Peds. (#/hr)				4				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%		
urn Type	Prot	NA	NA		Perm	Perm		
Protected Phases	5	2	6					
Permitted Phases					4	4		
ctuated Green, G (s)	7.8	50.9	38.6		22.5	22.5		
Effective Green, g (s)	7.8	50.9	38.6		22.5	22.5		
Actuated g/C Ratio	0.09	0.56	0.43		0.25	0.25		
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5		
/ehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
ane Grp Cap (vph)	153	2003	1395		859	396		
/s Ratio Prot	c0.05	0.16	c0.34					
v/s Ratio Perm					c0.19	0.01		
//c Ratio	0.60	0.29	0.81		0.75	0.06		
Jniform Delay, d1	40.0	10.5	22.8		31.6	26.1		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
ncremental Delay, d2	6.5	0.1	3.5		3.8	0.1		
Delay (s)	46.5	10.6	26.4		35.4	26.1		
evel of Service	D	В	С		D	С		
Approach Delay (s)		15.4	26.4		34.2			
pproach LOS		В	С		С			
ntersection Summary								
HCM 2000 Control Delay			25.8	Н	CM 2000	Level of Service	,	С
HCM 2000 Volume to Cap	acity ratio		0.72					
Actuated Cycle Length (s)			90.8	S	um of lost	time (s)		18.0
Intersection Capacity Utiliz	ation		70.8%	IC	CU Level of	of Service		С
Analysis Period (min)			15					
- C-14111 C								

c Critical Lane Group

Central Coast Transportation Consulting
Synchro 10 Report
Page 23

## Beechwood SP

11: Creston Road & Niblick Road/Sherwood Road

Cumulative Plus 911 Unit Project PM

	•	<b>→</b>	*	1	+	4	1	†	1	Į.	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	208	833	331	159	571	486	221	472	423	544	146	
v/c Ratio	0.71	0.79	0.53	0.66	0.59	0.64	0.73	0.65	0.71	0.73	0.36	
Control Delay	58.0	40.6	14.3	59.5	37.3	8.5	57.7	41.6	49.3	45.8	17.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.0	40.6	14.3	59.5	37.3	8.5	57.7	41.6	49.3	45.8	17.5	
Queue Length 50th (ft)	144	281	56	110	183	10	152	156	150	192	28	
Queue Length 95th (ft)	236	391	156	191	266	112	248	223	214	268	90	
Internal Link Dist (ft)		1092			186			1440		2310		
Turn Bay Length (ft)	150		150	170		170	230		245		100	
Base Capacity (vph)	382	1262	700	311	1125	808	399	944	758	942	485	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.54	0.66	0.47	0.51	0.51	0.60	0.55	0.50	0.56	0.58	0.30	
Intersection Summary												

Beechwood SP

12: Creston Road & Stoney Creek Road

	۶	<b>→</b>	•	•	<b>←</b>	*	1	<b>†</b>	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	<b>^</b>	7	ሻ	<b>^</b>	7	7	<b>↑</b> ↑		ሻሻ	<b>^</b>	7
Traffic Volume (veh/h)	200	800	318	153	548	467	212	375	78	406	522	140
Future Volume (veh/h)	200	800	318	153	548	467	212	375	78	406	522	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	208	833	331	159	571	486	221	391	81	423	544	146
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	1273	559	194	1170	511	260	566	116	520	703	312
Arrive On Green	0.14	0.36	0.36	0.11	0.33	0.33	0.15	0.19	0.19	0.15	0.20	0.20
Sat Flow, veh/h	1781	3554	1561	1781	3554	1554	1781	2927	600	3456	3554	1575
Grp Volume(v), veh/h	208	833	331	159	571	486	221	236	236	423	544	146
Grp Sat Flow(s), veh/h/ln	1781	1777	1561	1781	1777	1554	1781	1777	1750	1728	1777	1575
Q Serve(g_s), s	10.8	18.7	16.4	8.3	12.2	29.1	11.5	11.7	12.0	11.3	13.8	7.8
Cycle Q Clear(g_c), s	10.8	18.7	16.4	8.3	12.2	29.1	11.5	11.7	12.0	11.3	13.8	7.8
Prop In Lane	1.00	4070	1.00	1.00	4470	1.00	1.00	0.40	0.34	1.00	700	1.00
Lane Grp Cap(c), veh/h	246	1273	559	194	1170	511	260	343	338	520	703	312
V/C Ratio(X)	0.85	0.65	0.59	0.82	0.49	0.95	0.85	0.69	0.70	0.81	0.77	0.47
Avail Cap(c_a), veh/h	402	1325	582	327	1176	514	421	504	496	799	989	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00 25.5	1.00	1.00 39.6	1.00 35.7	1.00 35.8	1.00	1.00	1.00
Uniform Delay (d), s/veh Incr Delay (d2), s/veh	40.0 8.6	25.6 1.1	24.9 1.5	41.5 8.2	0.3	31.2 27.6	39.6 8.9	35.7 2.4	35.8	39.1 3.8	36.2 2.5	33.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	7.6	6.0	4.0	5.0	14.1	5.6	5.2	5.2	4.9	6.1	3.0
Unsig. Movement Delay, s/veh		7.0	0.0	4.0	5.0	14.1	0.0	5.2	5.2	4.9	0.1	3.0
LnGrp Delay(d),s/veh	48.7	26.7	26.4	49.7	25.8	58.8	48.6	38.2	38.4	42.9	38.7	34.8
LnGrp LOS	46.7 D	20.7 C	20.4 C	49.7 D	23.6 C	30.0 E	40.0 D	30.2 D	30.4 D	42.9 D	36.7 D	34.0 C
Approach Vol, veh/h	D	1372	C	U	1216		U	693	U	D	1113	
Approach Delay, s/veh		30.0			42.1			41.6			39.8	
Approach LOS		30.0 C			42.1 D			41.0 D			39.8 D	
		C			U						U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	22.9	14.9	38.6	18.4	23.3	17.6	35.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	22.0	27.0	17.5	35.5	22.5	26.5	21.5	31.5				
Max Q Clear Time (g_c+I1), s	13.3	14.0	10.3	20.7	13.5	15.8	12.8	31.1				
Green Ext Time (p_c), s	1.0	2.2	0.2	5.9	0.4	3.0	0.4	0.3				
Intersection Summary	_											
HCM 6th Ctrl Delay			37.6									
HCM 6th LOS			D									

Intersection	_		_									_	
nt Delay, s/veh	19.6												
Vovement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	LDL	4	LDIT	******	4	WEIN	*	î,	TIDIT.	ሻ	<b>A</b>	7	
Fraffic Vol, veh/h	135	10	16	10	10	42	24	426	10	53	568	166	
Future Vol. veh/h	135	10	16	10	10	42	24	426	10	53	568	166	
Conflicting Peds, #/hr	4	0	0	0	0	42	5	0	0	0	0	5	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	Slup	Stop -	None	Stup	Siup	None	1166	1166	None	1166	1166	None	
Storage Length			NUITE -		-	NULLE	30		NOIIC	70		60	
/eh in Median Storage		0		_	0		30	0	_	70	0	00	
Grade, %	5, π =	0			0			0			0		
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99	
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	
		10	16	10	10	42	24		10	54			
Nvmt Flow	136	10	10	10	10	42	24	430	10	54	574	168	
	Minor2			Vinor1			Major1		١	Major2			
Conflicting Flow All	1200	1175	579	1262	1338	439	747	0	0	440	0	0	
Stage 1	687	687	-	483	483	-	-	-	-	-	-	-	
Stage 2	513	488	-	779	855	-	-	-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51		-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51		-	-	-	-		-	
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209		-	
Pot Cap-1 Maneuver	163	192	517	147	154	620	866	-	-	1125		-	
Stage 1	439	449	-	567	554		-	-	-	-		-	
Stage 2	546	552	-	390	376		-	-	-	-		-	
Platoon blocked. %												-	
Mov Cap-1 Maneuver	~ 134	177	515	128	142	618	862	-		1125		-	
Mov Cap-2 Maneuver	~ 134	177	-	128	142		-	-		-		-	
Stage 1	425	425	-	551	538		-	-	-	-		-	
Stage 2	483	537		351	356								
Stage 2	100	557		301	550								
				WD			ND			0.0			
Approach	EB			WB			NB			SB			
HCM Control Delay, s				21.1			0.5			0.6			
HCM LOS	F			С									
Minor Lane/Major Mvn	nt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR				
Capacity (veh/h)		862	-	-	147	286	1125	-	-				
HCM Lane V/C Ratio		0.028		-	1.106	0.219	0.048	-	-				
HCM Control Delay (s)		9.3			166.4	21.1	8.4	-	-				
HCM Lane LOS		Α			F	С	Α		-				
HCM 95th %tile Q(veh	)	0.1	-	-	8.8	0.8	0.1	-	-				
Motos													
Notes -: Volume exceeds ca	.,		elay exc	1.0	00		putation	N I S	С .	* 4"			n platoon

Beechwood SP

Intersection	
Intersection Delay, s/veh	32.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		44			4				ર્ન	7		<b>€17</b> 265
Traffic Vol, veh/h	10	10	16	173	10	178	0	14	271	268	300	265
Future Vol, veh/h	10	10	16	173	10	178	0	14	271	268	300	265
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	1	1
Mvmt Flow	11	11	17	186	11	191	0	15	291	288	323	285
Number of Lanes	0	1	0	0	1	0	0	0	1	1	0	2
Approach	EB			WB				NB			SB	
Opposing Approach	WB			EB				SB			NB	
Opposing Lanes	1			1				2			2	
Conflicting Approach Left	SB			NB				EB			WB	
Conflicting Lanes Left	2			2				1			1	
Conflicting Approach Right	NB			SB				WB			EB	
Conflicting Lanes Right	2			2				1			1	
HCM Control Delay	12.3			26.8				19.2			49	
HCM LOS	В			D				С			E	

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	
Vol Left, %	5%	0%	28%	48%	69%	0%	
Vol Thru, %	95%	0%	28%	3%	31%	87%	
Vol Right, %	0%	100%	44%	49%	0%	13%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	285	268	36	361	433	153	
LT Vol	14	0	10	173	300	0	
Through Vol	271	0	10	10	133	133	
RT Vol	0	268	16	178	0	20	
Lane Flow Rate	306	288	39	388	465	164	
Geometry Grp	7	7	2	2	7	7	
Degree of Util (X)	0.626	0.529	0.09	0.738	0.971	0.322	
Departure Headway (Hd)	7.355	6.609	8.358	6.844	7.515	7.065	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	490	545	427	528	484	508	
Service Time	5.112	4.366	6.443	4.885	5.27	4.819	
HCM Lane V/C Ratio	0.624	0.528	0.091	0.735	0.961	0.323	
HCM Control Delay	21.7	16.6	12.3	26.8	61.6	13.2	
HCM Lane LOS	С	С	В	D	F	В	
HCM 95th-tile Q	4.2	3.1	0.3	6.2	12.3	1.4	

act Configurations raffic Vol, veh/h 20 uture Vol, veh/h 20 veak Hour Factor 0.93 leavy Vehicles, % 1 fvmt Flow 22		
Intersection Delay, s/veh Intersection LOS  Inte		
Intersection LOS  Intersection		
flovement SBR  apt fonfigurations raffic Vol, veh/h 20 uture Vol, veh/h 20 reak Hour Factor 0.93 reavy Vehicles, % 1 flow 22 uturber of Lanes 0 approach approach approach approach conflicting Approach Left conflicting Lanes Left conflicting Lanes Right		
act Configurations raffic Vol, veh/h 20 uture Vol, veh/h 20 veak Hour Factor 6.93 leavy Vehicles, % 1 f/vmt Flow 22 lumber of Lanes 0 vpproach 1 pposing Approach 2 pposing Lanes 2 conflicting Approach Left 2 conflicting Approach Right 2 conflicting Lanes Left 1 conflicting Lanes Right 1 conflicting Lanes Lanes Lanes Right 1 conflicting Lanes	Intersection LOS	
act Configurations raffic Vol, veh/h 20 uture Vol, veh/h 20 veak Hour Factor 6.93 leavy Vehicles, % 1 f/vmt Flow 22 lumber of Lanes 0 vpproach 1 pposing Approach 2 pposing Lanes 2 conflicting Approach Left 2 conflicting Approach Right 2 conflicting Lanes Left 1 conflicting Lanes Right 1 conflicting Lanes Lanes Lanes Right 1 conflicting Lanes		
act Configurations raffic Vol, veh/h 20 uture Vol, veh/h 20 veak Hour Factor 6.93 leavy Vehicles, % 1 f/vmt Flow 22 lumber of Lanes 0 vpproach 1 pposing Approach 2 pposing Lanes 2 conflicting Approach Left 2 conflicting Approach Right 2 conflicting Lanes Left 1 conflicting Lanes Right 1 conflicting Lanes Lanes Lanes Right 1 conflicting Lanes	Movement	SBR
raffic Vol, veh/h 20 uture Vol, veh/h 20 veak Hour Factor 0.93 leavy Vehicles, % 1 fvmt Flow 22 lumber of Lanes 0 pposing Approach pposing Lanes conflicting Approach Left conflicting Approach Right conflicting Lanes Left conflicting Lanes Right licting Lanes Right		
uture Vol, veh/h  20  reak Hour Factor 0.93  leavy Vehicles, % 1  fwmt Flow 22  lumber of Lanes 0  upproach  upproach  upposing Approach  upposing Lanes  conflicting Approach Right  conflicting Lanes Right		20
Peak Hour Factor 0.93 leavy Vehicles, % 1 form Flow 22 lumber of Lanes 0 pproach pposing Approach pposing Lanes conflicting Approach Left conflicting Lanes Left conflicting Lanes Right lcM Control Delay		20
leavy Vehicles, % 1  Aymt Flow 22  Jumber of Lanes 0  Approach  Deposing Approach  Deposing Lanes  Conflicting Approach Left  Conflicting Approach Right  Conflicting Lanes Right  Conflicting Lanes Right  CM Control Delay	Peak Hour Factor	0.93
Avmf Flow 22 Jumber of Lanes 0  pporach  pposing Approach  poposing Lanes  conflicting Approach Left  conflicting Lanes Left  conflicting Approach Right  conflicting Lanes Right  ICM Control Delay		
pproach  Opposing Approach  Opposing Lanes  Conflicting Approach Left  Conflicting Lanes Left  Conflicting Approach Right  Conflicting Lanes Right  Conflicting Lanes Right  Conflicting Lanes Right  Conflicting Lanes Right	Mymt Flow	22
Opposing Approach Opposing Lanes Conflicting Approach Left Conflicting Lanes Left Conflicting Approach Right Conflicting Danes Right ICM Control Delay	Number of Lanes	0
Opposing Approach Opposing Lanes Conflicting Approach Left Conflicting Lanes Left Conflicting Approach Right Conflicting Danes Right ICM Control Delay		
Opposing Lanes Conflicting Approach Left Conflicting Lanes Left Conflicting Approach Right Conflicting Lanes Right ICM Control Delay		
Conflicting Approach Left Conflicting Lanes Left Conflicting Approach Right Conflicting Lanes Right ICM Control Delay	Opposing Approach	
Conflicting Lanes Left Conflicting Approach Right Conflicting Lanes Right ICM Control Delay		
Conflicting Approach Right Conflicting Lanes Right ICM Control Delay		
Conflicting Lanes Right  ICM Control Delay		
ICM Control Delay		nt
ICM LOS		
	HCM LOS	

18.2

Int Delay, s/veh

## 15: US 101 SB Ramp & Pine Street & Riverside Avenue

	•	<b>→</b>	$\rightarrow$	•	<b>—</b>	4	$\blacktriangleleft$	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					4	7					<b>1</b>	
Traffic Volume (veh/h)	0	0	0	0	315	20	0	0	0	0	400	53
Future Volume (Veh/h)	0	0	0	0	315	20	0	0	0	0	400	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	342	22	0	0	0	0	435	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						1						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	635	464	464	464	493	0	493			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	635	464	464	464	493	0	493			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	29	98	100			100		
cM capacity (veh/h)	161	497	600	510	478	1088	1076			1630		
Direction, Lane #	WB 1	SB 1										
Volume Total	364	493										
Volume Left	0	0										
Volume Right	22	58										
cSH	499	1700										
Volume to Capacity	0.73	0.29										
Queue Length 95th (ft)	150	0										
Control Delay (s)	29.3	0.0										
Lane LOS	D											
Approach Delay (s)	29.3	0.0										
Approach LOS	D											
Intersection Summary												
Average Delay			12.5									
Intersection Capacity Utiliza	ation		47.5%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

WOVCHICH	LDL	LDIK	TVDL	TVDT	JDT	JUIN		È	
Lane Configurations	ň	7	ň	44	<b>^</b>	7			
Traffic Vol, veh/h	328	253	150	225	210	243			
Future Vol, veh/h	328	253	150	225	210	243			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	145	105	-	-	0			
Veh in Median Storage	e, # 0			0	0	-			
Grade, %	0			0	0				
Peak Hour Factor	97	97	97	97	97	97			
Heavy Vehicles, %	1	1	1	1	1	1			
Mvmt Flow	338	261	155	232	216	251			
	500		,00			_01			
	Minor2		Major1		Major2				
Conflicting Flow All	642	216	467	0	-	0			
Stage 1	216	-				-			
Stage 2	426	-	-	-	-	-			
Critical Hdwy	6.615	6.215	4.115	-	-	-			
Critical Hdwy Stg 1	5.415	-	-	-	-	-			
Critical Hdwy Stg 2	5.815	-		-		-			
Follow-up Hdwy	3.5095	3.3095	2.2095	-	-	-			
Pot Cap-1 Maneuver	424	826	1099			-			
Stage 1	822	-				-			
Stage 2	630					-			
Platoon blocked, %						-			
Mov Cap-1 Maneuver	364	826	1099			-			
Mov Cap-2 Maneuver		-				-			
Stage 1	706								
Stage 2	630					-			
Approach	EB		NB		SB				
HCM Control Delay, s			3.5		0				
HCM LOS	Ε								
Minor Lane/Major Mvr	mt	NBL	NDT	EBLn1	EDIna	SBT	SBR		
	III					201	SDK		
Capacity (veh/h)		1099	-	364	826	-	-		
HCM Lane V/C Ratio	,	0.141		0.929		-	-		
HCM Control Delay (s	5)	8.8	-	65.2	11.4	-	-		
HCM Lane LOS		Α	-	F	В	-	-		
HCM 95th %tile Q(veh	1)	0.5		9.8	1.4	-	-		

•	-	1	-	*	1	<b>†</b>	1	1	↓	
EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
75	482	770	278	539	141	424	1192	793	461	
0.27	0.88	0.73	0.49	0.53	0.70	0.82	0.90	0.90	0.46	
58.2	74.9	50.6	45.6	8.7	81.4	73.7	33.6	67.1	41.2	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
58.2	74.9	50.6	45.6	8.7	81.4	73.7	33.6	67.1	41.2	
65	233	351	225	114	135	212	317	388	177	
118	#325	429	319	203	207	275	431	#496	241	
	521		1372			611			680	
115		515		115	165		290	305		
290	578	1075	583	1042	256	576	1338	924	1034	
0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	
0.26	0.83	0.72	0.48	0.52	0.55	0.74	0.89	0.86	0.45	
	75 0.27 58.2 0.0 58.2 65 118 115 290 0	75 482 0.27 0.88 58.2 74.9 0.0 0.0 58.2 74.9 65 233 118 #325 521 115 290 578 0 0 0 0	75 482 770 0.27 0.88 0.73 58.2 74.9 50.6 0.0 0.0 0.0 58.2 74.9 50.6 65 233 351 118 #325 429 521 115 515 290 578 1075 0 0 0 0 0 0 0	75 482 770 278 0.27 0.88 0.73 0.49 58.2 74.9 50.6 45.6 0.0 0.0 0.0 0.0 58.2 74.9 50.6 45.6 65 233 351 225 118 #325 429 319 521 1372 115 515 290 578 1075 583 0 0 0 0 0 0 0 0	75         482         770         278         539           0.27         0.88         0.73         0.49         0.53           58.2         74.9         50.6         45.6         8.7           0.0         0.0         0.0         0.0         0.0           58.2         74.9         50.6         45.6         8.7           65         233         351         225         114           118         #325         429         319         203           521         1372         115         15         115           290         578         1075         583         1042           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0	75         482         770         278         539         141           0.27         0.88         0.73         0.49         0.53         0.70           58.2         74.9         50.6         45.6         8.7         81.4           0.0         0.0         0.0         0.0         0.0         0.0           58.2         74.9         50.6         45.6         8.7         81.4           65         233         351         225         114         135           118         #325         429         319         203         207           157         521         1372         115         165           290         578         1075         583         1042         256           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0	75         482         770         278         539         141         424           0.27         0.88         0.73         0.49         0.53         0.70         0.82           58.2         74.9         50.6         45.6         8.7         81.4         73.7           0.0         0.0         0.0         0.0         0.0         0.0         0.0           58.2         74.9         50.6         45.6         8.7         81.4         73.7           65         233         351         225         114         135         212           118         #325         429         319         203         207         275           15         521         1372         611         611         611           115         515         115         165         611           290         578         1075         583         1042         256         576           0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0	75         482         770         278         539         141         424         1192           0.27         0.88         0.73         0.49         0.53         0.70         0.82         0.90           58.2         74.9         50.6         45.6         8.7         81.4         73.7         33.6           0.0         0.0         0.0         0.0         0.0         0.0         0.0           58.2         74.9         50.6         45.6         8.7         81.4         73.7         33.6           65         233         351         225         114         135         212         317           118         #325         429         319         203         207         275         431           15         521         1372         1372         611         611         138         290         578         1075         583         1042         256         576         1338           0         0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0         0	75         482         770         278         539         141         424         1192         793           0.27         0.88         0.73         0.49         0.53         0.70         0.82         0.90         0.90           58.2         74.9         50.6         45.6         8.7         81.4         73.7         33.6         67.1           0.0	75         482         770         278         539         141         424         1192         793         461           0.27         0.88         0.73         0.49         0.53         0.70         0.82         0.90         0.90         0.46           58.2         74.9         50.6         45.6         8.7         81.4         73.7         33.6         67.1         41.2           0.0         0

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Synchro 10 Report Page 37 Central Coast Transportation Consulting

Beechwood SP

Cumulative Plus 911 Unit Project PM ad HCM 6th Signalized Intersection Summary

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

	ၨ	<b>→</b>	$\rightarrow$	1	<b>←</b>	•	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	7	<b>∱</b> }		777	<b></b>	7	ሻ	<b>^</b>	77	1,1	<b>†</b> 1>	
Traffic Volume (veh/h)	73	355	113	747	270	523	137	411	1156	769	325	12
Future Volume (veh/h)	73	355	113	747	270	523	137	411	1156	769	325	12
nitial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.0
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	188
Adj Flow Rate, veh/h	75	366	116	770	278	539	141	424	1192	793	335	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.9
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	
Cap, veh/h	279	416	130	1002	542	847	166	589	1271	861	797	29
Arrive On Green	0.16	0.16	0.16	0.29	0.29	0.29	0.09	0.16	0.16	0.25	0.31	0.3
Sat Flow, veh/h	1795	2676	835	3483	1885	1573	1795	3582	2812	3483	2560	94
Grp Volume(v), veh/h	75	243	239	770	278	539	141	424	1192	793	233	22
Grp Sat Flow(s), veh/h/ln	1795	1791	1720	1742	1885	1573	1795	1791	1406	1742	1791	171
2 Serve(q s), s	5.2	18.7	19.2	28.5	17.4	34.2	10.9	15.8	23.2	31.3	14.5	14.
Cycle Q Clear(q c), s	5.2	18.7	19.2	28.5	17.4	34.2	10.9	15.8	23.2	31.3	14.5	14.
Prop In Lane	1.00	10.7	0.49	1.00	17.4	1.00	1.00	10.0	1.00	1.00	14.0	0.5
ane Grp Cap(c), veh/h	279	279	268	1002	542	847	166	589	1271	861	557	53
V/C Ratio(X)	0.27	0.87	0.89	0.77	0.51	0.64	0.85	0.72	0.94	0.92	0.42	0.4
Avail Cap(c a), veh/h	298	297	285	1101	596	892	262	589	1271	945	557	53
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Uniform Delay (d), s/veh	52.5	58.2	58.4	46.0	42.0	23.2	63.1	55.9	27.5	51.8	38.5	38.
Incr Delay (d2), s/veh	0.5	22.7	26.8	3.1	0.8	1.4	14.0	4.3	13.1	13.3	0.5	0.
nitial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
%ile BackOfQ(50%),veh/ln	2.4	10.3	10.4	12.6	8.1	12.5	5.5	7.4	23.5	15.3	6.5	6.
Unsig. Movement Delay, s/veh		10.5	10.4	12.0	0.1	12.3	5.5	7.4	23.3	13.3	0.5	U.
LnGrp Delay(d),s/veh	53.0	80.9	85.2	49.0	42.7	24.6	77.0	60.1	40.6	65.1	39.0	39.
LnGrp LOS	33.0 D	60.9 F	65.2 F	49.0 D	42.7 D	24.0 C	77.0 E	60.1 E	40.0 D	00.1 F	39.0 D	
	U	557	Г	D	1587	U		1757	U	E	1254	
Approach Vol, veh/h												
Approach Delay, s/veh		79.0			39.6			48.3			55.5	
Approach LOS		Е			D			D			Е	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.6	29.0		26.5	18.8	49.7		46.0				
Change Period (Y+Rc), s	* 4.7	5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gmax), s	* 38	23.2		23.4	20.6	* 41		44.6				
Max Q Clear Time (q_c+l1), s	33.3	25.2		21.2	12.9	16.9		36.2				
Green Ext Time (p_c), s	1.5	0.0		0.7	0.2	2.9		4.4				
Intersection Summary												
HCM 6th Ctrl Delay			50.7									
HCM 6th LOS			D									
Notes								_				
Moles												

Notes
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Synchro 10 Report Page 39 Central Coast Transportation Consulting

	•	<b>→</b>	*	€	<b>—</b>	1	†	/	<b>↓</b>
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	281	1168	683	140	1040	444	384	217	558
v/c Ratio	0.75	0.87	0.77	0.75	0.79	0.82	0.52	0.81	0.78
Control Delay	63.0	41.1	16.8	75.0	36.6	60.5	39.4	70.1	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	41.1	16.8	75.0	36.6	60.5	39.4	70.1	49.0
Queue Length 50th (ft)	107	424	150	104	356	168	124	158	198
Queue Length 95th (ft)	#170	#552	332	#208	460	#252	174	#283	262
Internal Link Dist (ft)		1510			1609		962		896
Turn Bay Length (ft)	140			80		150		110	
Base Capacity (vph)	394	1407	906	200	1377	574	851	299	854
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.83	0.75	0.70	0.76	0.77	0.45	0.73	0.65
Intersection Summary									
# 95th percentile volume	exceeds ca	pacity, qu	eue may	be longer					
Queue shown is maximu	ım after two	cycles.							

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>^</b>	7	Ţ	<b>†</b> î>		77	<b>†</b> 1>		7	<b>†</b> 1>	
Traffic Volume (veh/h)	270	1121	656	134	837	161	426	276	92	208	406	130
Future Volume (veh/h)	270	1121	656	134	837	161	426	276	92	208	406	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	281	1168	683	140	872	168	444	288	96	217	423	135
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	350	1388	619	170	1143	220	519	545	178	250	523	165
Arrive On Green	0.10	0.39	0.39	0.09	0.38	0.38	0.15	0.21	0.21	0.14	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	2994	577	3483	2654	866	1795	2674	845
Grp Volume(v), veh/h	281	1168	683	140	521	519	444	192	192	217	282	276
Grp Sat Flow(s), veh/h/ln	1742	1791	1598	1795	1791	1780	1742	1791	1729	1795	1791	1728
Q Serve(g_s), s	8.2	30.9	24.8	8.0	26.4	26.4	12.9	10.0	10.3	12.3	15.6	15.9
Cycle Q Clear(g_c), s	8.2	30.9	24.8	8.0	26.4	26.4	12.9	10.0	10.3	12.3	15.6	15.9
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.50	1.00		0.49
Lane Grp Cap(c), veh/h	350	1388	619	170	684	680	519	368	355	250	350	338
V/C Ratio(X)	0.80	0.84	1.10	0.82	0.76	0.76	0.85	0.52	0.54	0.87	0.80	0.82
Avail Cap(c_a), veh/h	425	1514	675	216	753	749	619	461	445	322	464	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	29.0	12.1	46.3	28.1	28.1	43.2	36.8	37.0	43.8	40.0	40.1
Incr Delay (d2), s/veh	9.0	4.2	67.8	18.0	4.2	4.2	9.9	1.2	1.3	17.6	7.5	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	13.2	19.3	4.3	11.5	11.4	6.1	4.4	4.4	6.5	7.4	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	33.2	79.9	64.3	32.3	32.3	53.1	38.0	38.2	61.4	47.4	48.6
LnGrp LOS	D	С	F	Е	С	С	D	D	D	Ε	D	D
Approach Vol, veh/h		2132			1180			828			775	
Approach Delay, s/veh		51.0			36.1			46.1			51.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	44.8	20.0	24.9	15.0	44.3	19.0	25.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	44.0	18.5	27.0	12.7	43.8	18.7	26.8				
Max Q Clear Time (q_c+l1), s	10.0	32.9	14.9	17.9	10.2	28.4	14.3	12.3				
Green Ext Time (p_c), s	0.1	7.5	0.6	2.2	0.2	5.8	0.2	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			46.7									
LICM (+b LOC			D									

HCM 6th LOS D

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Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
		EBK	NBL			SBK
Lane Configurations	Y	10	10	4	<b>\$</b>	105
Traffic Vol, veh/h	57	10	10	569	883	105
Future Vol, veh/h	57	10	10	569	883	105
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	10	10	593	920	109
Major/Minor	Minor2		Major1	. A	Major2	
Conflicting Flow All	1589	976	1030	0	viajui 2	0
				U	-	U
Stage 1	976	-	-	-	-	-
Stage 2	613		-	-	-	-
Critical Hdwy	6.42	6.22	4.12		-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy		3.318		-	-	-
Pot Cap-1 Maneuver	119	305	674		-	-
Stage 1	365	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	305	673			
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	357					
Stage 2	540					
Olugo 2	0.0					
			ND		0.0	
Approach	EB		NB		SB	
HCM Control Delay, s			0.2		0	
HCM LOS	F					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		673	-	128	301	00.1
HCM Lane V/C Ratio		0.015		0.545	- 1	
	1	10.4	0	62.6	-	-
HCM Control Delay (s)	)					-
HCM Lane LOS	. \	В	A	F	-	
HCM 95th %tile Q(veh	1)	0	-	2.6	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EDL.	EDR	INDL	ND I	3B1	SDR
Traffic Vol, veh/h	<b>4</b> 0	16	24	529	793	54
	40		24	529	793	54
Future Vol, veh/h Conflicting Peds, #/hr	40	16	0	529	193	0
			Free		Free	Free
Sign Control	Stop	Stop	Free	Free		
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-		0	0	
Grade, %	0	-		0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	43	17	26	575	862	59
Major/Minor	Minor2		Major1	N	/lajor2	
Conflicting Flow All	1519	892	921	0	najorz -	0
Stage 1	892	- 072	721	-		-
Stage 2	627					
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.23	4.13			
Critical Hdwy Stg 2	5.43					
Follow-up Hdwy	3.527		2 227		- 1	
	130	3.327	737		-	
Pot Cap-1 Maneuver			131		-	
Stage 1	399	-	-		-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %	10-			-	-	-
Mov Cap-1 Maneuver	123	339	737	-	-	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	378	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	18.9		0.4		0	
HCM LOS	10.7 C		0.4		0	
I ICIVI EUS	C					
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		737	-	319	-	-
HCM Lane V/C Ratio		0.035		0.191	-	
HCM Control Delay (s	)	10.1	0	18.9	-	
HCM Lane LOS		В	A	С		
HCM 95th %tile Q(veh	1)	0.1	-	0.7		
7011 70110 (401	,	0.1		0.7		

ntersection				
ntersection Delay, s/veh	9.3			
ntersection LOS	A			
pproach	WB	NB	SB	
ntry Lanes	1	1	1	
onflicting Circle Lanes	1	1	1	
dj Approach Flow, veh/h	513	142	875	
emand Flow Rate, veh/h	518	143	884	
ehicles Circulating, veh/h	110	767	11	
ehicles Exiting, veh/h	800	128	617	
ed Vol Crossing Leg, #/h	0	0	1	
ed Cap Adj	1.000	1.000	1.000	
pproach Delay, s/veh	7.2	8.6	10.7	
pproach LOS	Α	А	В	
ane	Left	Left	Left	
esignated Moves	LR	TR	LT	
ssumed Moves	LR	TR	LT	
T Channelized				
ane Util	1.000	1.000	1.000	
ollow-Up Headway, s	2.609	2.609	2.609	
ritical Headway, s	4.976	4.976	4.976	
ntry Flow, veh/h	518	143	884	
ap Entry Lane, veh/h	1233	631	1364	
ntry HV Adj Factor	0.990	0.992	0.990	
low Entry, veh/h	513	142	875	
ap Entry, veh/h	1222	626	1350	
//C Ratio	0.420	0.227	0.648	
ontrol Delay, s/veh	7.2	8.6	10.7	
OS	A	A	В	
5th %tile Queue, veh	2	1	5	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EBL	EDI	WB1	WDR	SBL	SDR
			462	10		10
Traffic Vol, veh/h	10	718		10	10	10
Future Vol, veh/h	10	718	462	10	10	10
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	2,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	11	780	502	11	11	11
	Major1		Major2		Minor2	
Conflicting Flow All	527	0	-	0	1324	522
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	802	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-		-	5.41	-
Follow-up Hdwy	2.209	-		-	3.509	3.309
Pot Cap-1 Maneuver	1045	-		-	173	557
Stage 1					597	-
Stage 2					443	
Platoon blocked, %	-				443	-
	1001		-		1/7	FFO
Mov Cap-1 Maneuver	1031		-	-	167	550
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	583	-
Stage 2	-	-	-	-	437	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		20.4	
	0.1		U		20.4 C	
HCM LOS					C	
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1031	-			256
HCM Lane V/C Ratio		0.011				
HCM Control Delay (s)	١	8.5				20.4
HCM Lane LOS		6.5 A	- 1		- 1	20.4 C
	١					0.3
HCM 95th %tile Q(veh	)	0	-		-	0.3

HCM 95th %tile Q(veh)

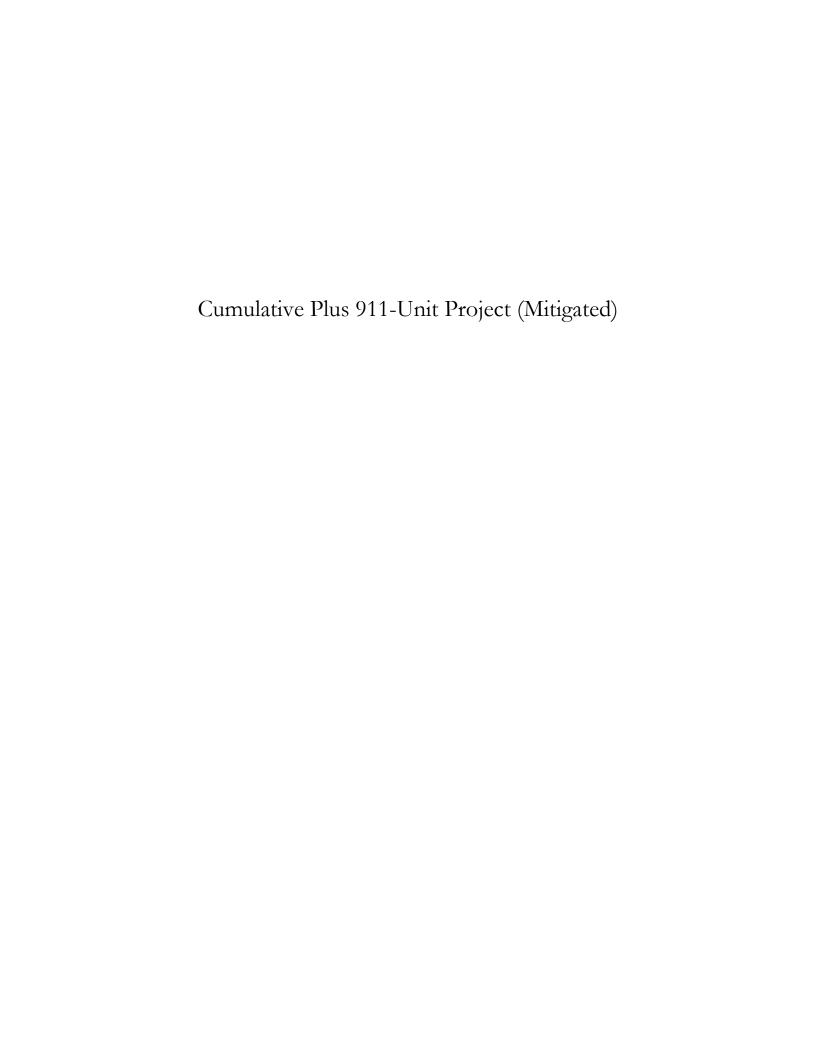
Intersection												
Intersection Int Delay, s/veh	2.3											
ini Delay, Siveri												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ»		7	Þ			4			4	
Traffic Vol, veh/h	40	678	10	10	432	29	10	0	10	33	0	30
Future Vol, veh/h	40	678	10	10	432	29	10	0	10	33	0	30
Conflicting Peds, #/hr	12	0	0	0	0	12	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized		-	None	-	-	None		-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage	e,# -	0	-	-	0	-		0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	42	714	11	11	455	31	11	0	11	35	0	32
Major/Minor I	Major1			Major2			Vinor1		- 1	Minor2		
Conflicting Flow All	498	0	0	725	0	0	1313	1324	720	1314	1314	483
Stage 1	490	-	U	123	-	-	804	804	720	505	505	403
Stage 2							509	520		809	809	
Critical Hdwy	4.13			4.13			7.13	6.53	6.23	7.13	6.53	6.23
	4.13			4.13			6.13	5.53	0.23	6.13	5.53	0.23
Critical Hdwy Stg 1 Critical Hdwy Stg 2							6.13	5.53		6.13	5.53	
Follow-up Hdwy	2.227	- 1		2.227	- 1		3.527	4.027	3.327	3.527	4.027	3.327
	1061			873					426	134	157	582
Pot Cap-1 Maneuver	1001			8/3	-		135	155		548		382
Stage 1 Stage 2				-	-	-	375 545	394 530		373	539 392	
Platoon blocked. %			-				045	530		3/3	392	-
	1040			072		-	122	1.45	127	124	1.47	E75
Mov Cap-1 Maneuver	1049	-		873	-	-	122	145	426	124	147	575
Mov Cap-2 Maneuver	-		-	-		-	122	145		124	147	-
Stage 1	-	-	-		-		360	378		520	526	-
Stage 2	-	_		-	-	-	509	517		349	376	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			26.3			32.1		
HCM LOS							D			D		
Minor Lane/Major Mvm	nt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		190	1049	-		873	-		198			
HCM Lane V/C Ratio		0.111	0.04			0.012			0.335			
HCM Control Delay (s)		26.3	8.6			9.2			32.1			
HCM Lane LOS		D	A			Α.			D			
LICM 0Eth 0/tilo O(voh	`	0.4	0.1			^			1 /			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ		Դ		Y	
Traffic Vol, veh/h	10	712	460	10	10	10
Future Vol, veh/h	10	712	460	10	10	10
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage	2,# -	0	0		0	
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	11	774	500	11	11	11
Major/Minor I	Major1		Major2		Minor2	
	520	0	viajui z -	0	1311	515
Conflicting Flow All		0		0		
Stage 1			-		515 796	
Stage 2 Critical Hdwy	4.11	-	-		6.41	6.21
			- 1		5.41	0.21
Critical Hdwy Stg 1 Critical Hdwy Stg 2	-	-	-		5.41	
	2.209				3.509	
Follow-up Hdwy	1051			-	176	
Pot Cap-1 Maneuver	1051	-	-			562
Stage 1 Stage 2					602 446	
Platoon blocked, %	-				440	
	1040		-	-	171	557
Mov Cap-1 Maneuver Mov Cap-2 Maneuver	1042		- 1		171 171	557
	-	-			590	
Stage 1						
Stage 2			-	-	442	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		20	
HCM LOS					С	
Minor Long/Major Mum		EBL	EBT	WBT	WDD	SBLn1
Minor Lane/Major Mvm	IL			WDI	WBR	
Capacity (veh/h)		1042				262
HCM Cantral Dalay (a)		0.01	-	-		
HCM Control Delay (s)		8.5	-	-	-	20
HCM Lane LOS	١	A	-	-	-	C
HCM 95th %tile Q(veh)	)	0	-	-	-	0.3

HCM 95th %tile Q(veh)

Interception						
Intersection	2.5					
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	<b></b>	1>		W	
Traffic Vol, veh/h	175	547	380	33	28	90
Future Vol. veh/h	175	547	380	33	28	90
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None			-	None
Storage Length	100	-		-	0	-
Veh in Median Storage	2.# -	0	0	-	0	-
Grade. %	-	0	0		0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mymt Flow	190	595	413	36	30	98
IVIVIIIL I IOW	170	373	413	30	30	70
	Major1		/lajor2	1	Vinor2	
Conflicting Flow All	451	0	-	0	1408	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	975	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1115	-		-	154	625
Stage 1	-	-		-	656	-
Stage 2		-		-	367	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	1113	-		-	127	624
Mov Cap-2 Maneuver	- 1113				127	02-1
Stage 1					543	
Stage 2					366	
Staye 2					300	
Approach	EB		WB		SB	
HCM Control Delay, s	2.2		0		23.2	
HCM LOS					С	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SRI n1
	iit.	1113	LDI	WDI	WDI	324
Capacity (veh/h) HCM Lane V/C Ratio		0.171				0.396
	١			-		23.2
HCM Control Delay (s)	)	8.9	-	-	-	
HCM Lane LOS		A	-	-	-	C

Intersection					
Intersection Delay, s/veh	5.2				
Intersection LOS	A				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	1	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	441	225	52	129	
Demand Flow Rate, veh/h	446	227	52	130	
Vehicles Circulating, veh/h	34	113	402	263	
Vehicles Exiting, veh/h	359	341	78	77	
Ped Vol Crossing Leg, #/h	0	0	0	1	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	5.8	4.5	4.5	4.5	
Approach LOS	A	А	A	A	
Lane	Left	Left	Left	Left	
Declarated Masses					
Designated Moves	LTR	LTR	LTR	LTR	
	LTR LTR	LTR LTR	LTR LTR	LTR LTR	
Assumed Moves					
Assumed Moves RT Channelized					
Assumed Moves RT Channelized Lane Util	LTR	LTR	LTR	LTR	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s	LTR 1.000	LTR 1.000	LTR 1.000	LTR 1.000	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR 1.000 2.609	LTR 1.000 2.609	LTR 1.000 2.609	LTR 1.000 2.609	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h	LTR 1.000 2.609 4.976	LTR 1.000 2.609 4.976	LTR 1.000 2.609 4.976	LTR 1.000 2.609 4.976	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h	1.000 2.609 4.976 446	1.000 2.609 4.976 227	1.000 2.609 4.976 52	1.000 2.609 4.976 130	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor	1.000 2.609 4.976 446 1333	LTR  1.000 2.609 4.976 227 1230	1.000 2.609 4.976 52 916	LTR  1.000 2.609 4.976 130 1055	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	1.000 2.609 4.976 446 1333 0.988 441 1317	LTR  1.000 2.609 4.976 227 1230 0.991 225 1218	LTR  1.000 2.609 4.976 52 916 0.999 52 915	LTR  1.000 2.609 4.976 130 1055 0.992 129 1046	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h	LTR  1.000 2.609 4.976 446 1333 0.988 441 1317 0.335	LTR  1.000 2.609 4.976 227 1230 0.991 225 1218 0.185	LTR  1.000 2.609 4.976 52 916 0.999 52 915 0.057	LTR  1.000 2.609 4.976 130 1055 0.992 129	
Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh	1.000 2.609 4.976 446 1333 0.988 441 1317	LTR  1.000 2.609 4.976 227 1230 0.991 225 1218	LTR  1.000 2.609 4.976 52 916 0.999 52 915	LTR  1.000 2.609 4.976 130 1055 0.992 129 1046	
Designated Moves Assumed Moves RT Channelized Lane Util Follow-Up Headway, s Critical Headway, s Entry Flow, veh/h Cap Entry Lane, veh/h Entry HV Adj Factor Flow Entry, veh/h Cap Entry, veh/h V/C Ratio Control Delay, s/veh LOS	LTR  1.000 2.609 4.976 446 1333 0.988 441 1317 0.335	LTR  1.000 2.609 4.976 227 1230 0.991 225 1218 0.185	LTR  1.000 2.609 4.976 52 916 0.999 52 915 0.057	LTR  1.000 2.609 4.976 130 1055 0.992 129 1046 0.123	



	•	-	*	•	-	•	1	1	-	¥	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	435	1158	387	443	1176	326	472	665	255	253	304	
v/c Ratio	0.88	0.97	0.50	0.90	0.99	0.45	0.92	0.88	0.73	0.82	0.49	
Control Delay	84.6	69.0	5.6	86.6	72.2	8.1	88.2	71.4	81.3	82.2	23.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.6	69.0	5.6	86.6	72.2	8.1	88.2	71.4	81.3	82.2	23.0	
Queue Length 50th (ft)	231	~638	0	236	~681	24	254	349	135	255	134	
Queue Length 95th (ft)	#329	#839	79	#340	#860	109	#374	435	189	361	225	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	527	1191	778	527	1191	718	527	844	405	385	637	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.83	0.97	0.50	0.84	0.99	0.45	0.90	0.79	0.63	0.66	0.48	

## Intersection Summary

Queue shown is maximum after two cycles.

	۶	$\rightarrow$	•	•	-	*	1	†	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	<b>^</b>	7	ሻሻ	<b>^</b>	7	ሻሻ	<b>↑</b> ↑		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	400	1065	356	408	1082	300	434	519	93	235	233	280
Future Volume (veh/h)	400	1065	356	408	1082	300	434	519	93	235	233	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	435	1158	387	443	1176	326	472	564	101	255	253	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	476	1163	519	481	1236	551	508	717	128	299	333	500
Arrive On Green	0.15	0.35	0.35	0.15	0.37	0.37	0.16	0.26	0.26	0.09	0.19	0.19
Sat Flow, veh/h	3209	3300	1472	3209	3300	1472	3209	2792	498	3209	1737	1472
Grp Volume(v), veh/h	435	1158	387	443	1176	326	472	333	332	255	253	304
Grp Sat Flow(s),veh/h/ln	1605	1650	1472	1605	1650	1472	1605	1650	1640	1605	1737	1472
Q Serve(q s), s	21.6	56.6	24.2	22.0	56.0	28.8	23.5	30.3	30.6	12.7	22.3	27.8
Cycle Q Clear(g c), s	21.6	56.6	24.2	22.0	56.0	28.8	23.5	30.3	30.6	12.7	22.3	27.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	476	1163	519	481	1236	551	508	424	421	299	333	500
V/C Ratio(X)	0.91	1.00	0.75	0.92	0.95	0.59	0.93	0.79	0.79	0.85	0.76	0.61
Avail Cap(c a), veh/h	516	1163	519	516	1236	551	516	424	421	397	376	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		52.2	19.3	67.8	49.2	40.6	67.2	55.9	56.0	72.2	61.8	44.4
Incr Delay (d2), s/veh	19.9	25.2	5.8	20.5	15.5	1.7	23.3	9.4	9.7	12.9	7.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.	/ln 9.9	26.4	9.0	10.2	24.7	10.6	11.2	13.6	13.7	5.7	10.5	10.3
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	87.7	77.4	25.1	88.3	64.7	42.3	90.5	65.3	65.8	85.1	69.6	46.1
LnGrp LOS	F	Е	С	F	Е	D	F	Е	Е	F	Е	D
Approach Vol, veh/h		1980			1945			1137			812	
Approach Delay, s/veh		69.5			66.3			75.9			65.7	
Approach LOS		E			E			E			E	
• •												
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s31.5	64.3	29.6	36.3	28.0	67.8	19.1	46.8				
Change Period (Y+Rc), s		* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gma	ax21,6s0	* 57	26.0	35.0	26.0	57.0	20.0	41.0				
Max Q Clear Time (g_c+	l12),4s0	58.6	25.5	29.8	23.6	58.0	14.7	32.6				
Green Ext Time (p_c), s	0.2	0.0	0.1	1.2	0.4	0.0	0.4	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			69.1									
HCM 6th LOS			Е									

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

	•	-	•	<b>—</b>	•	1	<b>†</b>		-	ţ	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	11	432	388	504	767	11	22	166	349	351	43	
v/c Ratio	0.12	0.44	0.85	0.48	0.52	0.12	0.23	0.31	0.78	0.77	0.08	
Control Delay	48.6	33.1	37.8	7.3	2.4	48.5	51.5	6.2	47.3	46.5	0.3	
Queue Delay	0.0	0.0	1.5	0.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.6	33.1	39.3	7.7	3.4	48.5	51.5	6.2	47.3	46.5	0.3	
Queue Length 50th (ft)	7	134	209	56	8	7	14	13	201	202	0	
Queue Length 95th (ft)	25	175	#383	169	0	25	39	34	#364	#362	0	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	91	1029	492	1042	1479	92	97	566	466	473	543	
Starvation Cap Reductn	0	0	27	185	427	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.42	0.83	0.59	0.73	0.12	0.23	0.29	0.75	0.74	0.08	
Intersection Summary												

# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

	۶	-	•	•	<b>—</b>	*	1	1	-	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b> 1>		ሻ	<b>*</b>	7	ሻ	<b></b>	7	ሻ	ની	7
Traffic Volume (veh/h)	10	365	32	357	464	706	10	20	153	553	91	40
Future Volume (veh/h)	10	365	32	357	464	706	10	20	153	553	91	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	ı	No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	397	35	388	504	767	11	22	166	672	0	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	529	46	688	998	1190	88	92	690	774	0	340
Arrive On Green	0.01	0.16	0.16	0.13	0.18	0.18	0.05	0.05	0.05	0.22	0.00	0.22
Sat Flow, veh/h	1767	3271	287	1767	1856	1572	1767	1856	1563	3534	0	1555
Grp Volume(v), veh/h	11	213	219	388	504	767	11	22	166	672	0	43
Grp Sat Flow(s),veh/h/ln	1767	1763	1795	1767	1856	1572	1767	1856	1563	1767	0	1555
Q Serve(q s), s	0.6	11.5	11.7	20.6	24.5	25.1	0.6	1.1	0.0	18.3	0.0	2.2
Cycle Q Clear(g c), s	0.6	11.5	11.7	20.6	24.5	25.1	0.6	1.1	0.0	18.3	0.0	2.2
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	23	285	290	688	998	1190	88	92	690	774	0	340
V/C Ratio(X)	0.47	0.75	0.75	0.56	0.50	0.64	0.12	0.24	0.24	0.87	0.00	0.13
Avail Cap(c a), veh/h	88	405	413	688	998	1190	88	93	691	937	0	412
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		40.0	40.0	35.6	29.1	10.7	45.4	45.7	17.6	37.7	0.0	31.4
Incr Delay (d2), s/veh	14.2	16.3	16.6	0.7	0.3	0.8	0.6	1.3	0.2	7.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	In 0.4	6.3	6.5	9.9	12.2	20.3	0.3	0.6	2.3	8.5	0.0	0.8
Unsig. Movement Delay,				,,,								
LnGrp Delay(d),s/veh	63.1	56.3	56.6	36.3	29.4	11.5	46.1	47.0	17.7	45.2	0.0	31.5
LnGrp LOS	Е	Е	Е	D	С	В	D	D	В	D	Α	С
Approach Vol, veh/h		443			1659			199			715	
Approach Delay, s/veh		56.6			22.7			22.5			44.4	
Approach LOS		E			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		20.7		26.4	5.8	58.3		9.5				
Change Period (Y+Rc),		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		23.0		26.5	5.0	4.5		5.0				
Max Q Clear Time (g c+		13.7		20.3	2.6	27.1		3.1				
Green Ext Time (g_c+	0.6	1.8		1.6	0.0	6.6		0.1				
0 = 7	0.0	1.0		1.0	0.0	0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			С									

User approved volume balancing among the lanes for turning movement.

Cumulative Plus 911 Unit Project AM MITIGATED

Queues

8: Paso Robles Street & 13th Street

	•	-	1	-	•	1	1	1	-	ţ	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	76	1088	57	1414	433	235	22	272	11	11	
v/c Ratio	0.54	0.54	0.27	0.68	0.42	0.80	0.06	0.53	0.04	0.02	
Control Delay	51.0	9.3	34.3	11.3	4.2	56.8	29.3	10.4	28.9	0.1	
Queue Delay	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.0	9.4	34.3	11.4	4.2	56.8	29.3	10.4	28.9	0.1	
Queue Length 50th (ft)	45	244	28	222	36	140	11	19	6	0	
Queue Length 95th (ft)	m71	282	m36	m282	m42	220	30	87	20	0	
Internal Link Dist (ft)		307		269			836			575	
Turn Bay Length (ft)	120		220		145	130		110	95		
Base Capacity (vph)	152	2124	227	2072	1026	352	470	574	349	539	
Starvation Cap Reductn	0	222	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	65	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.57	0.25	0.70	0.42	0.67	0.05	0.47	0.03	0.02	
Intersection Summary											

m Volume for 95th percentile queue is metered by upstream signal.

Beechwood SP 8: Paso Robles Street & 13th Street Cumulative Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	<b>←</b>	*	1	†	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		ሻ	<b>^</b>	7	ሻ	<b>↑</b>	7	ሻ	ĵ.	
Traffic Volume (veh/h)	70	950	51	52	1301	398	216	20	250	10	0	10
Future Volume (veh/h)	70	950	51	52	1301	398	216	20	250	10	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	1033	55	57	1414	0	235	22	272	11	0	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	97	1266	67	518	2151		342	371	314	277	0	314
Arrive On Green	0.06	0.37	0.37	0.29	0.61	0.00	0.20	0.20	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1767	3403	181	1767	3526	1572	1392	1856	1572	1077	0	1572
Grp Volume(v), veh/h	76	535	553	57	1414	0	235	22	272	11	0	11
Grp Sat Flow(s),veh/h/ln	1767	1763	1821	1767	1763	1572	1392	1856	1572	1077	0	1572
Q Serve(g_s), s	4.2	27.4	27.4	2.4	26.1	0.0	16.4	1.0	16.7	0.8	0.0	0.6
Cycle Q Clear(g_c), s	4.2	27.4	27.4	2.4	26.1	0.0	16.9	1.0	16.7	1.8	0.0	0.6
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	656	678	518	2151		342	371	314	277	0	314
V/C Ratio(X)	0.78	0.82	0.82	0.11	0.66		0.69	0.06	0.87	0.04	0.00	0.04
Avail Cap(c_a), veh/h	150	918	949	518	2151		419	473	401	336	0	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.6	28.3	28.3	25.8	12.7	0.0	39.1	32.4	38.7	33.1	0.0	32.2
Incr Delay (d2), s/veh	10.9	9.0	8.7	0.1	1.6	0.0	3.5	0.1	14.7	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	ln 2.1	12.8	13.2	1.0	9.8	0.0	5.8	0.4	7.6	0.2	0.0	0.2
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	57.6	37.3	37.0	25.9	14.3	0.0	42.5	32.5	53.4	33.2	0.0	32.3
LnGrp LOS	Е	D	D	С	В		D	С	D	С	Α	С
Approach Vol, veh/h		1164			1471	Α		529			22	
Approach Delay, s/veh		38.5			14.7			47.7			32.7	
Approach LOS		D			В			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		41.7		24.5	10.0	65.5		24.5				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		52.1		25.5	8.5	52.5		25.5				
Max Q Clear Time (g c+		29.4		3.8	6.2	28.1		18.9				
Green Ext Time (p c), s	0.0	7.8		0.0	0.0	12.3		1.1				
0 = 7	0.5			0.0	0.0							
Intersection Summary			20.0									
HCM 6th Ctrl Delay			29.0									
HCM 6th LOS			С									

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

	۶	<b>→</b>	•	<b>←</b>	4	<b>†</b>	1	-	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	342	972	65	1204	417	203	54	174	209	489	
v/c Ratio	0.91	0.64	0.58	0.93	0.96	0.25	0.11	0.89	0.53	0.94	
Control Delay	58.1	9.0	66.2	43.8	78.5	31.9	0.5	85.9	39.9	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.1	9.0	66.2	43.8	78.5	31.9	0.5	85.9	39.9	47.3	
Queue Length 50th (ft)	102	26	41	384	138	54	0	111	117	166	
Queue Length 95th (ft)	#195	73	#98	#534	#232	86	0	#235	189	#361	
Internal Link Dist (ft)		353		673		608			523		
Turn Bay Length (ft)	295		235		140		130	225			
Base Capacity (vph)	377	1520	115	1295	435	863	510	196	424	543	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.91	0.64	0.57	0.93	0.96	0.24	0.11	0.89	0.49	0.90	

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Beechwood SP 9: River Road/Union Road & Creston Road

Cumulative Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	-	4	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	<b>↑</b> ↑		ሻ	<b>↑</b> î>		77	<b>^</b>	7	ሻ	<b>^</b>	7
Traffic Volume (veh/h)	315	591	304	60	917	190	384	187	50	160	192	450
Future Volume (veh/h)	315	591	304	60	917	190	384	187	50	160	192	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	642	0	65	997	207	417	203	54	174	209	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	694	1815		84	1043	216	439	538	240	198	253	
Arrive On Green	0.20	0.51	0.00	0.05	0.36	0.36	0.13	0.15	0.15	0.11	0.14	0.00
Sat Flow, veh/h	3456	3647	0	1781	2923	606	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	342	642	0	65	605	599	417	203	54	174	209	0
Grp Sat Flow(s), veh/h/ln	1728	1777	0	1781	1777	1752	1728	1777	1585	1781	1870	1585
Q Serve(q s), s	8.8	10.8	0.0	3.6	33.2	33.4	12.0	5.1	3.0	9.6	10.9	0.0
Cycle Q Clear(g c), s	8.8	10.8	0.0	3.6	33.2	33.4	12.0	5.1	3.0	9.6	10.9	0.0
Prop In Lane	1.00		0.00	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	694	1815		84	634	625	439	538	240	198	253	
V/C Ratio(X)	0.49	0.35		0.78	0.95	0.96	0.95	0.38	0.23	0.88	0.83	
Avail Cap(c a), veh/h	694	1815		116	636	627	439	867	387	198	426	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		14.6	0.0	47.1	31.4	31.4	43.3	38.2	37.3	43.8	42.1	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.0	19.6	26.1	27.0	30.5	0.4	0.5	33.5	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		4.3	0.0	2.0	18.1	18.1	6.8	2.2	1.2	5.9	5.3	0.0
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	36.0	15.2	0.0	66.8	57.5	58.4	73.9	38.6	37.7	77.3	48.8	0.0
LnGrp LOS	D	В		Е	Е	Е	Е	D	D	Е	D	
Approach Vol, veh/h		984	Α		1269			674			383	А
Approach Delay, s/veh		22.4			58.4			60.4			61.7	
Approach LOS		C			E			E			E	
Approach 200		U										
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		55.6	17.2	18.0	24.6	40.2	15.6	19.6				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma	ax),6s5	40.0	12.7	22.8	10.7	35.8	11.1	24.4				
Max Q Clear Time (g_c+	11)5s6	12.8	14.0	12.9	10.8	35.4	11.6	7.1				
Green Ext Time (p_c), s	0.0	4.8	0.0	0.7	0.0	0.3	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			48.5									
HCM 6th LOS			D									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Synchro 10 Report

Page 8

	-	<b>←</b>	1	<b>†</b>	-	<b>↓</b>	1	
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	210	146	38	569	38	442	110	
v/c Ratio	0.57	0.29	0.20	0.66	0.20	0.51	0.14	
Control Delay	21.1	7.5	27.7	18.4	27.7	14.4	4.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.1	7.5	27.7	18.4	27.7	14.4	4.4	
Queue Length 50th (ft)	41	6	10	95	10	67	1	
Queue Length 95th (ft)	113	44	40	#361	40	226	29	
Internal Link Dist (ft)	560	1033		1337		2227		
Turn Bay Length (ft)			30		70		60	
Base Capacity (vph)	782	973	189	934	189	936	822	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.15	0.20	0.61	0.20	0.47	0.13	

Queue shown is maximum after two cycles.

Beechwood SP 12: Creston Road & Stoney Creek Road Cumulative Plus 911 Unit Project AM MITIGATED HCM 6th Signalized Intersection Summary

	•	<b>→</b>	•	•	<b>←</b>	*	1	†	~	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	1>		ሻ	<b>↑</b>	7
Traffic Volume (veh/h)	141	10	42	10	20	104	35	513	10	35	407	101
Future Volume (veh/h)	141	10	42	10	20	104	35	513	10	35	407	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	4000	4000	No			No	4000	4000	No	4000
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	11	46	11	22	113	38	558	11	38	442	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	29	66	109	63	253	77	713	14	77	729	613
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.04	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	1039	146	332	56	313	1263	1781	1828	36	1781	1870	1573
Grp Volume(v), veh/h	210	0	0	146	0	0	38	0	569	38	442	110
Grp Sat Flow(s),veh/h/ln		0	0	1632	0	0	1781	0	1864	1781	1870	1573
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.8	0.0	10.6	0.8	7.5	1.8
Cycle Q Clear(g_c), s	4.6	0.0	0.0	3.1	0.0	0.0	0.8	0.0	10.6	0.8	7.5	1.8
Prop In Lane	0.73	0	0.22	0.08	0	0.77	1.00	^	0.02 727	1.00	729	1.00
Lane Grp Cap(c), veh/h V/C Ratio(X)	461 0.46	0.00	0.00	424 0.34	0.00	0.00	0.49	0.00	0.78	77 0.49	0.61	0.18
Avail Cap(c a), veh/h	1105	0.00	0.00	1196	0.00	0.00	225	0.00	1108	225	1112	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.00	0.00	13.9	0.00	0.00	18.5	0.00	10.6	18.5	9.6	7.9
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.5	0.0	0.0	4.8	0.0	2.1	4.8	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		0.0	0.0	1.0	0.0	0.0	0.4	0.0	3.4	0.4	2.3	0.4
Unsig. Movement Delay,		0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.4	0.4	2.0	0.4
LnGrp Delay(d),s/veh	15.1	0.0	0.0	14.4	0.0	0.0	23.3	0.0	12.7	23.3	10.4	8.0
LnGrp LOS	В	Α	Α	В	Α	Α	С	Α	В	С	В	Α
Approach Vol, veh/h		210			146			607			590	
Approach Delay, s/veh		15.1			14.4			13.3			10.8	
Approach LOS		В			В			В			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		20.4		12.4	6.7	20.4		12.4				
Change Period (Y+Rc),		5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gma		23.5		27.0	5.0	23.5		27.0				
Max Q Clear Time (g c+		12.6		6.6	2.8	9.5		5.1				
Green Ext Time (p_c), s		2.7		1.2	0.0	2.6		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			В									

HCM 6th LOS

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Beechwood SP Cumulative Plus 911 Unit Project AM MITIGATED

13: Creston Road & Alamo Creek Terrace/Meadowlark Road Queues

	$\rightarrow$	-	•	1	<b>†</b>	-	-	↓	
Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	46	320	317	16	272	164	284	227	
v/c Ratio	0.30	0.69	0.35	0.12	0.65	0.18	0.68	0.13	
Control Delay	38.6	36.8	2.5	45.7	38.0	1.8	38.7	13.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.6	36.8	2.5	45.7	38.0	1.8	38.7	13.5	
Queue Length 50th (ft)	16	148	0	8	129	0	134	30	
Queue Length 95th (ft)	58	276	36	32	241	20	256	68	
Internal Link Dist (ft)	284	314			712			1337	
Turn Bay Length (ft)				150			250		
Base Capacity (vph)	153	723	1057	130	661	1123	628	2234	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.44	0.30	0.12	0.41	0.15	0.45	0.10	
Intersection Summary									

Beechwood SP Cumulative Plus 911 Unit Project AM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark Road CM 6th Signalized Intersection Summary

	۶	$\rightarrow$	*	1	-	*	1	1	1	-	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		44			ર્ન	7	ሻ	<b></b>	7	ሻ	<b>↑</b> 1>	
Traffic Volume (veh/h)	20	10	12	284	10	292	15	250	151	261	199	10
Future Volume (veh/h)	20	10	12	284	10	292	15	250	151	261	199	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	C
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.95	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	11	13	309	11	317	16	272	164	284	216	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	17	20	475	17	719	34	373	748	343	1281	65
Arrive On Green	0.04	0.04	0.04	0.28	0.28	0.28	0.02	0.20	0.20	0.19	0.37	0.37
Sat Flow, veh/h	796	398	470	1723	61	1502	1781	1870	1557	1781	3440	174
Grp Volume(v), veh/h	46	0	0	320	0	317	16	272	164	284	111	116
Grp Sat Flow(s), veh/h/ln	1664	0	0	1784	0	1502	1781	1870	1557	1781	1777	1837
Q Serve(g_s), s	1.8	0.0	0.0	10.4	0.0	9.3	0.6	9.0	4.1	10.1	2.7	2.8
Cycle Q Clear(g_c), s	1.8	0.0	0.0	10.4	0.0	9.3	0.6	9.0	4.1	10.1	2.7	2.8
Prop In Lane	0.48		0.28	0.97		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	72	0	0	492	0	719	34	373	748	343	662	684
V/C Ratio(X)	0.64	0.00	0.00	0.65	0.00	0.44	0.47	0.73	0.22	0.83	0.17	0.17
Avail Cap(c_a), veh/h	139	0	0	747	0	933	136	683	1006	651	1163	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	0.0	21.0	0.0	11.8	31.9	24.6	10.1	25.5	13.8	13.8
Incr Delay (d2), s/veh	9.1	0.0	0.0	1.5	0.0	0.4	9.5	2.7	0.1	5.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh.		0.0	0.0	4.3	0.0	2.9	0.3	3.8	2.1	4.4	1.0	1.1
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	40.0	0.0	0.0	22.4	0.0	12.2	41.4	27.4	10.3	30.6	13.9	13.9
LnGrp LOS	D	Α	Α	С	Α	В	D	С	В	С	В	Е
Approach Vol, veh/h		46			637			452			511	
Approach Delay, s/veh		40.0			17.3			21.7			23.2	
Approach LOS		D			В			С			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s17.6	18.1		7.3	6.3	29.5		22.6				
Change Period (Y+Rc), s	s 5.0	5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gma	ax2,4s0	24.0		5.5	5.0	43.0		27.5				
Max Q Clear Time (g_c+	111)2s1	11.0		3.8	2.6	4.8		12.4				
Green Ext Time (p_c), s	0.6	1.6		0.0	0.0	1.3		3.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			С									

Intersection has too many lanes per leg.
HCM All-Way analysis is limited to two lanes per leg. Channelized right turn lanes are not counted.

Intersection						
Intersection Delay, s/v	eh 19.8					
Intersection LOS	С					
Movement	EBL	EBR	NBL	NBT	SBT	SE

WOVOITION	LDL	LDIT	INDL	1101	ODI	ODIT
Lane Configurations	7	7	ሻ	<b>^</b>	<b>↑</b>	7
Traffic Vol, veh/h	196	135	221	208	122	399
Future Vol, veh/h	196	135	221	208	122	399
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	213	147	240	226	133	434
Number of Lanes	1	1	1	2	1	1
Approach	EB		NB		SB	
Opposing Approach			SB		NB	
Opposing Lanes	0		2		3	
Conflicting Approach Let	ft SB		EB			
Conflicting Lanes Left	2		2		0	
Conflicting Approach Rig	ght NB				EB	
Conflicting Lanes Right	3		0		2	
HCM Control Delay	16.2		15.4		25.7	
HCM LOS	С		С		D	

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	SBLn1	SBLn2	
Vol Left, %	100%	0%	0%	100%	0%	0%	0%	
Vol Thru, %	0%	100%	100%	0%	0%	100%	0%	
Vol Right, %	0%	0%	0%	0%	100%	0%	100%	
Sign Control	Stop							
Traffic Vol by Lane	221	104	104	196	135	122	399	
LT Vol	221	0	0	196	0	0	0	
Through Vol	0	104	104	0	0	122	0	
RT Vol	0	0	0	0	135	0	399	
Lane Flow Rate	240	113	113	213	147	133	434	
Geometry Grp	8	8	8	8	8	8	8	
Degree of Util (X)	0.531	0.234	0.178	0.489	0.287	0.268	0.79	
Departure Headway (Hd)	7.965	7.454	5.662	8.262	7.043	7.277	6.56	
Convergence, Y/N	Yes							
Сар	454	482	633	437	511	495	551	
Service Time	5.711	5.199	3.407	6.01	4.79	5.017	4.3	
HCM Lane V/C Ratio	0.529	0.234	0.179	0.487	0.288	0.269	0.788	
HCM Control Delay	19.4	12.5	9.6	18.7	12.6	12.7	29.7	
HCM Lane LOS	С	В	Α	С	В	В	D	
HCM 95th-tile Q	3	0.9	0.6	2.6	1.2	1.1	7.4	

# Beechwood SP Cumulative Plus 911 Unit Project AM MITIGATED 15: US 101 SB Ramp & Pine Street & Riverside Aventien Unsignalized Intersection Capacity Analysis

	۶	<b>→</b>	•	•	<b>←</b>	*	4	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ની	7					f <sub>a</sub>	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	3	192	10	0	0	0	0	386	20
Future Volume (vph)	0	0	0	3	192	10	0	0	0	0	386	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	3	209	11	0	0	0	0	420	22
Direction, Lane #	WB 1	WB 2	SB 1									
Volume Total (vph)	212	11	442									
Volume Left (vph)	3	0	0									
Volume Right (vph)	0	11	22									
Hadj (s)	0.04	-0.57	0.00									
Departure Headway (s)	5.0	3.2	4.5									
Degree Utilization, x	0.29	0.01	0.55									
Capacity (veh/h)	671	1121	785									
Control Delay (s)	10.1	6.2	12.8									
Approach Delay (s)	9.9		12.8									
Approach LOS	Α		В									
Intersection Summary												
Delay			11.8									
Level of Service			В									
Intersection Capacity Ut	tilization		38.5%	16	CU Leve	el of Ser	vice		Α			
Analysis Period (min)			15									

Cumulative Plus 911 Unit Project AM MITIGATED side Avenue HCM 6th AWSC Beechwood SP 15: US 101 SB Ramp & Pine Street & Riverside Avenue

Intersection	
Intersection Delay, s/veh 12.	4
Intersection LOS	3

Movement	FRL	FRI	FBK	WBL	WBI	WBK	NBL	NRI	NBK	SBL	SBT	SBR
Lane Configurations					ર્ન	7					î»	
Traffic Vol, veh/h	0	0	0	3	192	10	0	0	0	0	386	20
Future Vol, veh/h	0	0	0	3	192	10	0	0	0	0	386	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	209	11	0	0	0	0	420	22
Number of Lanes	0	0	0	0	1	1	0	0	0	0	1	0
Approach				WB							SB	
Opposing Approach												
Opposing Lanes				0							0	
Conflicting Approach Le	ft										WB	
Conflicting Lanes Left				0							2	
Conflicting Approach Rig	ght			SB								
Conflicting Lanes Right				1							0	
HCM Control Delay				10.9							13.1	
HCM LOS				В							В	

Lane	WBLn1V	NBLn2	SBLn1
Vol Left, %	2%	0%	0%
Vol Thru, %	98%	0%	95%
Vol Right, %	0%	100%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	195	10	406
LT Vol	3	0	0
Through Vol	192	0	386
RT Vol	0	10	20
Lane Flow Rate	212	11	441
Geometry Grp	7	7	2
Degree of Util (X)	0.329	0.015	0.555
Departure Headway (Hd)	5.58	4.865	4.531
Convergence, Y/N	Yes	Yes	Yes
Cap	642	731	794
Service Time	3.339	2.624	2.562
HCM Lane V/C Ratio	0.33	0.015	0.555
HCM Control Delay	11.1	7.7	13.1
HCM Lane LOS	В	Α	В
HCM 95th-tile Q	1.4	0	3.5

Beechwood SP Cumulative Plus 911 Unit Project AM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road Queues

	•	-	1	•	•	1	1		-	†	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	25	372	1217	439	585	126	315	613	429	329	
v/c Ratio	0.11	0.79	0.82	0.55	0.53	0.67	0.70	0.38	0.76	0.50	
Control Delay	58.1	64.0	41.0	33.4	5.1	78.8	67.6	7.6	66.0	48.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.1	64.0	41.0	33.4	5.1	78.8	67.6	7.6	66.0	48.0	
Queue Length 50th (ft)	21	155	520	308	55	117	153	71	201	129	
Queue Length 95th (ft)	53	221	647	438	140	189	207	94	270	185	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	252	525	1582	858	1140	244	578	1692	639	741	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.71	0.77	0.51	0.51	0.52	0.54	0.36	0.67	0.44	
Intersection Summary											

Beechwood SP Cumulative Plus 911 Unit Project AM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road HCM 6th Signalized Intersection Summary

	۶	-	•	•	<b>—</b>	*	1	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>↑</b> ↑		ሻሻ	<b>*</b>	7	ሻ	<b>^</b>	77	ሻሻ	<b>↑</b> 1>	
Traffic Volume (veh/h)	23	223	120	1120	404	538	116	290	564	395	210	93
Future Volume (veh/h)	23	223	120	1120	404	538	116	290	564	395	210	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	C
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	242	130	1217	439	585	126	315	613	429	228	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	294	152	1435	777	878	152	540	1582	499	490	210
Arrive On Green	0.13	0.13	0.13	0.42	0.42	0.42	0.09	0.15	0.15	0.14	0.20	0.20
Sat Flow, veh/h	1781	2262	1174	3456	1870	1564	1781	3554	2790	3456	2420	1037
Grp Volume(v), veh/h	25	188	184	1217	439	585	126	315	613	429	165	164
Grp Sat Flow(s), veh/h/ln	1781	1777	1659	1728	1870	1564	1781	1777	1395	1728	1777	1681
Q Serve(q s), s	1.6	13.3	14.0	41.1	23.2	34.0	9.0	10.7	15.7	15.7	10.6	11.1
Cycle Q Clear(g c), s	1.6	13.3	14.0	41.1	23.2	34.0	9.0	10.7	15.7	15.7	10.6	11.1
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	231	231	215	1435	777	878	152	540	1582	499	360	340
V/C Ratio(X)	0.11	0.82	0.85	0.85	0.57	0.67	0.83	0.58	0.39	0.86	0.46	0.48
Avail Cap(c a), veh/h	268	267	249	1675	906	987	259	611	1638	677	395	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	54.7	55.0	34.1	28.9	20.0	58.1	51.0	15.5	54.0	45.3	45.5
Incr Delay (d2), s/veh	0.2	15.7	21.6	3.8	0.6	1.5	10.8	1.1	0.2	8.3	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/	/In 0.7	7.0	7.2	17.3	10.3	12.0	4.4	4.7	9.9	7.4	4.8	4.8
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	49.8	70.4	76.6	37.9	29.5	21.5	69.0	52.1	15.7	62.3	46.2	46.6
LnGrp LOS	D	Е	Е	D	С	С	Е	D	В	Е	D	D
Approach Vol, veh/h		397			2241			1054			758	
Approach Delay, s/veh		72.0			32.0			32.9			55.4	
Approach LOS		E			С			С			Е	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		25.4		21.4	16.8	31.9		59.0				
Change Period (Y+Rc),		5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gma		22.2		19.4	18.8	* 29		62.6				
		17.7				13.1						
Max Q Clear Time (g_c+		17.7		16.0	11.0	13.1		43.1				
Green Ext Time (p_c), s	1.0	1.9		8.0	0.2	1.7		10.6				
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									

Notes
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

	ᄼ	-	$\rightarrow$	•	-	*	4	<b>†</b>	-	<b>↓</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	120	826	299	136	1215	303	682	394	310	509	
v/c Ratio	0.73	0.73	0.42	0.82	0.94	0.42	0.85	0.56	0.82	0.75	
Control Delay	76.6	37.7	5.5	84.3	48.7	8.4	50.1	39.7	57.9	40.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.6	37.7	5.5	84.3	48.7	8.4	50.1	39.7	57.9	40.4	
Queue Length 50th (ft)	42	264	0	93	422	27	224	122	200	143	
Queue Length 95th (ft)	#98	376	64	#221	#647	103	#322	176	#335	203	
Internal Link Dist (ft)		1510			1609			962		896	
Turn Bay Length (ft)	140			80			150		110		
Base Capacity (vph)	164	1126	707	166	1288	717	886	904	458	933	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.73	0.42	0.82	0.94	0.42	0.77	0.44	0.68	0.55	
Intersection Summary											
# 95th percentile volume exceeds capacity, queue may be longer.											
Queue shown is maxi	mum a	fter two	cycles.								

	•	$\rightarrow$	7	1	-	•	1	1	1	-	Į.	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	<b>^</b>	7	ች	<b>^</b>	7	ሻሻ	<b>†</b> 1>		ች	<b>†</b> 1>	
Traffic Volume (veh/h)	110	760	275	125	1118	279	627	308	54	285	269	200
Future Volume (veh/h)	110	760	275	125	1118	279	627	308	54	285	269	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	826	299	136	1215	303	682	335	59	310	292	217
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	1136	507	165	1293	572	770	662	115	346	376	271
Arrive On Green	0.05	0.32	0.32	0.09	0.36	0.36	0.22	0.22	0.22	0.19	0.19	0.19
Sat Flow, veh/h	3456	3554	1585	1781	3554	1572	3456	3022	526	1781	1969	1422
Grp Volume(v), veh/h	120	826	299	136	1215	303	682	195	199	310	263	246
Grp Sat Flow(s), veh/h/ln	1728	1777	1585	1781	1777	1572	1728	1777	1771	1781	1777	1614
Q Serve(g_s), s	3.5	21.3	8.9	7.8	34.2	15.7	19.7	10.0	10.2	17.5	14.5	15.1
Cycle Q Clear(g_c), s	3.5	21.3	8.9	7.8	34.2	15.7	19.7	10.0	10.2	17.5	14.5	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.88
Lane Grp Cap(c), veh/h	167	1136	507	165	1293	572	770	390	388	346	339	308
V/C Ratio(X)	0.72	0.73	0.59	0.83	0.94	0.53	0.89	0.50	0.51	0.90	0.77	0.80
Avail Cap(c_a), veh/h	167	1142	509	169	1307	578	896	464	463	465	468	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	31.2	8.7	46.1	31.8	25.9	38.9	35.4	35.5	40.6	39.7	39.9
Incr Delay (d2), s/veh	13.8	2.3	1.8	26.8	13.1	0.9	9.5	1.0	1.0	15.8	5.4	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	/ln 1.8	9.1	2.9	4.6	16.1	5.7	9.1	4.3	4.4	8.9	6.6	6.4
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	62.2	33.5	10.5	72.8	44.9	26.8	48.4	36.4	36.5	56.4	45.1	47.3
LnGrp LOS	Е	С	В	Е	D	С	D	D	D	Е	D	D
Approach Vol, veh/h		1245			1654			1076			819	
Approach Delay, s/veh		30.8			43.8			44.0			50.0	
Approach LOS		С			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s14.1	37.5	27.5	24.2	9.5	42.1	24.6	27.2				
Change Period (Y+Rc),		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		33.2	26.8	27.2	5.0	38.0	27.0	27.0				
Max Q Clear Time (q c+		23.3	21.7	17.1	5.5	36.2	19.5	12.2				
Green Ext Time (p_c), s		4.5	1.3	2.1	0.0	1.4	0.6	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			41.5									
HCM 6th LOS			D									

	•	<b>→</b>	•	•	<b>—</b>	•	1	1	-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	392	1073	374	405	1134	216	378	507	271	357	320	
v/c Ratio	1.00	0.92	0.50	0.82	0.89	0.31	0.79	0.60	0.73	0.91	0.49	
Control Delay	111.8	61.8	6.4	78.3	54.9	4.9	76.6	52.3	78.9	86.5	25.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	111.8	61.8	6.4	78.3	54.9	4.9	76.6	52.3	78.9	86.5	25.3	
Queue Length 50th (ft)	~233	560	8	215	570	0	200	238	143	371	154	
Queue Length 95th (ft)	#357	#714	89	282	683	55	263	311	199	#587	263	
Internal Link Dist (ft)		1323			2509			853		451		
Turn Bay Length (ft)	225		485	125		390	160		140			
Base Capacity (vph)	392	1280	789	566	1460	766	566	902	435	413	648	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.00	0.84	0.47	0.72	0.78	0.28	0.67	0.56	0.62	0.86	0.49	

### Intersection Summary

Queue shown is maximum after two cycles.

	۶	<b>→</b>	*	•	<b>←</b>	•	1	†	1	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,6	<b>^</b>	7	77	<b>^</b>	7	77	<b>↑</b> 1>		ሻሻ	<b>↑</b>	7
Traffic Volume (veh/h)	380	1041	363	393	1100	210	367	376	115	263	346	310
Future Volume (veh/h)	380	1041	363	393	1100	210	367	376	115	263	346	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	392	1073	374	405	1134	216	378	388	119	271	357	320
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	408	1201	535	454	1325	590	435	648	196	322	390	518
Arrive On Green	0.12	0.35	0.35	0.14	0.39	0.39	0.13	0.25	0.25	0.10	0.22	0.22
Sat Flow, veh/h	3319	3413	1521	3319	3413	1521	3319	2579	781	3319	1796	1522
Grp Volume(v), veh/h	392	1073	374	405	1134	216	378	255	252	271	357	320
Grp Sat Flow(s),veh/h/ln		1706	1521	1659	1706	1521	1659	1706	1653	1659	1796	1522
Q Serve(g_s), s	17.2	43.5	21.0	17.6	44.6	14.8	16.4	19.3	19.7	11.8	28.4	25.7
Cycle Q Clear(g_c), s	17.2	43.5	21.0	17.6	44.6	14.8	16.4	19.3	19.7	11.8	28.4	25.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	408	1201	535	454	1325	590	435	429	415	322	390	518
V/C Ratio(X)	0.96	0.89	0.70	0.89	0.86	0.37	0.87	0.60	0.61	0.84	0.91	0.62
Avail Cap(c_a), veh/h	408	1328	592	589	1514	675	589	478	463	453	429	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		44.9	18.8	62.2	41.1	32.0	62.4	48.3	48.4	65.0	56.0	40.4
Incr Delay (d2), s/veh	34.5	7.6	3.2	11.4	4.6	0.4	10.3	1.7	1.9	9.6	22.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		18.8	7.7	7.9	18.6	5.5	7.4	8.3	8.3	5.4	15.2	9.8
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	98.4	52.5	22.0	73.5	45.6	32.3	72.7	49.9	50.3	74.6	78.8	42.3
LnGrp LOS	F	D	С	E	D	С	E	D	D	E	E	D
Approach Vol, veh/h		1839			1755			885			948	
Approach Delay, s/veh		56.1			50.4			59.8			65.3	
Approach LOS		Е			D			Е			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s27.3	58.8	23.2	37.1	22.0	64.2	18.2	42.1				
Change Period (Y+Rc),	s 7.3	* 7.3	4.0	5.3	4.0	7.3	4.0	5.3				
Max Green Setting (Gma	ax21,6s0	* 57	26.0	35.0	18.0	65.0	20.0	41.0				
Max Q Clear Time (g_c+		45.5	18.4	30.4	19.2	46.6	13.8	21.7				
Green Ext Time (p_c), s	0.4	6.0	8.0	1.4	0.0	7.7	0.5	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			56.5									
HCM 6th LOS			Е									

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

	۶	<b>→</b>	•	<b>←</b>	*	1	<b>†</b>	1	-	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	21	550	309	510	763	7	54	319	387	396	117	
v/c Ratio	0.18	0.55	0.84	0.56	0.57	0.07	0.49	0.70	0.78	0.79	0.21	
Control Delay	48.0	34.4	41.6	16.3	4.1	46.4	61.6	28.0	44.9	45.2	2.4	
Queue Delay	0.0	0.2	0.0	0.7	0.1	0.0	0.0	2.3	1.6	1.7	0.0	
Total Delay	48.0	34.6	41.6	17.0	4.3	46.4	61.6	30.2	46.5	46.9	2.4	
Queue Length 50th (ft)	13	171	161	89	15	4	34	80	226	231	0	
Queue Length 95th (ft)	38	220	#307	175	137	19	#83	177	#383	#391	18	
Internal Link Dist (ft)		346		307			744			674		
Turn Bay Length (ft)	65		125			140		165	150		185	
Base Capacity (vph)	116	1033	404	935	1338	104	110	485	515	523	587	
Starvation Cap Reductn	0	0	0	165	81	0	0	0	0	0	0	
Spillback Cap Reductn	0	85	0	0	0	0	0	74	40	40	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.18	0.58	0.76	0.66	0.61	0.07	0.49	0.78	0.81	0.82	0.20	
Intersection Summary												

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	۶	<b>→</b>	•	•	<b>←</b>	*	1	†	~	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ↑		ሻ	<b>•</b>	7	ሻ	<b>↑</b>	7	ሻ	ની	7
Traffic Volume (veh/h)	20	485	32	290	479	717	7	51	300	638	98	110
Future Volume (veh/h)	20	485	32	290	479	717	7	51	300	638	98	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	4005	4005	No	4005	4005	No	1005	4005	No	1005
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	516	34	309	510	763	7	54	319	753	0	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	94	1	1	1	1
Cap, veh/h	235	645	42	607 0.34	748	1006	90		620	870 0.24	0.00	386 0.24
Arrive On Green	0.13 1795	0.19	0.19		0.40	0.40	0.05	0.05	0.05			1591
Sat Flow, veh/h		3409		1795	1885	1559	1795	1885	1598	3591	0	
Grp Volume(v), veh/h	21	271	279	309	510	763	7	54	319	753	0	117
Grp Sat Flow(s),veh/h/ln		1791	1842	1795	1885	1559	1795	1885	1598	1795	0	1591
Q Serve(g_s), s	1.0	14.4	14.5	13.8	22.4	34.6	0.4	2.8	0.0	20.1	0.0	6.0
Cycle Q Clear(g_c), s	1.0	14.4	14.5	13.8	22.4	34.6	0.4	2.8	0.0	20.1	0.0	6.0
Prop In Lane	1.00	000	0.12	1.00	740	1.00	1.00	0.4	1.00	1.00	^	1.00
Lane Grp Cap(c), veh/h	235	339	349	607	748	1006	90	94	620	870	0	386
V/C Ratio(X)	0.09	0.80	0.80	0.51	0.68	0.76	0.08	0.57	0.51	0.87	0.00	0.30
Avail Cap(c_a), veh/h	235	439	451	607	792	1042	99	104	628	1059	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65 26.4	0.65 24.9	0.65 12.8	1.00 45.3	1.00	1.00	1.00	0.00	31.0
Uniform Delay (d), s/veh	0.2	17.6	17.5	0.5	1.5	2.1	0.4	6.2	0.7	6.5	0.0	0.4
Incr Delay (d2), s/veh Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
%ile BackOfQ(50%),veh		8.0	8.2	5.9	10.0	19.6	0.0	1.5	5.6	9.3	0.0	2.3
Unsig. Movement Delay.		0.0	0.2	5.9	10.0	19.0	0.2	1.5	5.0	9.3	0.0	2.3
LnGrp Delay(d),s/veh	38.4	56.3	56.2	26.9	26.4	14.8	45.7	52.6	24.1	42.9	0.0	31.4
LnGrp LOS	36.4 D	50.5 E	50.2 E	20.9 C	20.4 C	14.0 B	45.7 D	52.0 D	24.1 C	42.9 D	Ο.0	31.4 C
Approach Vol, veh/h	U	571			1582	D.	U	380	U	U	870	
Approach Delay, s/veh		55.6			20.9			28.5			41.3	
Approach LOS		55.0 E			20.9 C			20.5 C			41.3 D	
		_									D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		23.4		28.7	17.6	44.2		9.5				
Change Period (Y+Rc),		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma		24.5		29.5	5.0	42.0		5.5				
Max Q Clear Time (g_c+		16.5		22.1	3.0	36.6		4.8				
Green Ext Time (p_c), s	0.5	2.2		2.1	0.0	3.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			С									

Notes

User approved volume balancing among the lanes for turning movement.

8: Paso	Robies	Street	α	ısın	Stre	e
			۶	_	<b>→</b>	,

	-	•	•	_	7	ı		-	+	
EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
94	1437	30	1287	374	280	32	508	9	32	
0.64	0.72	0.31	0.70	0.41	0.69	0.06	0.91	0.02	0.05	
57.2	18.9	47.8	19.3	7.4	40.3	23.8	45.7	23.1	0.2	
0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
57.2	19.6	47.8	19.4	7.4	40.3	23.8	45.7	23.1	0.2	
62	336	17	221	33	149	14	227	4	0	
m92	478	m22	292	m75	241	35	#408	15	0	
	307		269			836			575	
120		220		145	130		110	95		
155	1990	96	1827	920	452	615	611	452	663	
0	238	0	0	0	0	0	0	0	0	
0	0	0	23	0	0	0	0	0	1	
0	0	0	0	0	0	0	0	0	0	
0.61	0.82	0.31	0.71	0.41	0.62	0.05	0.83	0.02	0.05	
	94 0.64 57.2 0.0 57.2 62 m92 120 155 0	94 1437 0.64 0.72 57.2 18.9 0.0 0.7 57.2 19.6 62 336 m92 478 307 120 155 1990 0 238 0 0 0 0	94 1437 30 0.64 0.72 0.31 57.2 18.9 47.8 0.0 0.7 0.0 57.2 19.6 47.8 62 336 17 m92 478 m22 307 120 220 155 1990 96 0 238 0 0 0 0	94         1437         30         1287           0.64         0.72         0.31         0.70           57.2         18.9         47.8         19.3           62         336         17         221           m92         478         m22         292           120         220         269           155         1990         96         1827           0         238         0         0           0         0         0         23           0         0         0         0           0         0         0         0	94         1437         30         1287         374           0.64         0.72         0.31         0.70         0.41           57.2         18.9         47.8         19.3         7.4           0.0         0.7         0.0         0.0         0.0           57.2         19.6         47.8         19.4         7.4           62         336         17         221         33           m92         478         m22         292         m75           307         269         145           155         1990         96         1827         920           0         238         0         0         0           0         0         0         23         0           0         0         0         0         0	94         1437         30         1287         374         280           0.64         0.72         0.31         0.70         0.41         0.69           57.2         18.9         47.8         19.3         7.4         40.3           0.0         0.7         0.0         0.0         0.0         0.0           57.2         19.6         47.8         19.4         7.4         40.3           62         336         17         221         33         149           m92         478         m22         292         m75         241           307         269         281         145         130           155         1990         96         1827         920         452           0         238         0         0         0         0           0         0         0         23         0         0           0         0         0         0         0         0	94         1437         30         1287         374         280         32           0.64         0.72         0.31         0.70         0.41         0.69         0.06           57.2         18.9         47.8         19.3         7.4         40.3         23.8           0.0         0.7         0.0         0.0         0.0         0.0         0.0           57.2         19.6         47.8         19.4         7.4         40.3         23.8           62         336         17         221         33         149         14           m92         478         m22         292         m75         241         35           120         269         836         18         145         130           155         1990         96         1827         920         452         615           0         238         0         0         0         0         0         0           0         0         0         23         0         0         0         0           0         0         0         0         0         0         0         0	94         1437         30         1287         374         280         32         508           0.64         0.72         0.31         0.70         0.41         0.69         0.06         0.91           57.2         18.9         47.8         19.3         7.4         40.3         23.8         45.7           0.0         0.7         0.0         0.0         0.0         0.0         0.0           57.2         19.6         47.8         19.4         7.4         40.3         23.8         45.7           62         336         17         221         33         149         14         227           m92         478         m22         292         m75         241         35         #408           120         220         145         130         110           155         1990         96         1827         920         452         615         611           0         238         0         0         0         0         0         0           0         0         0         0         0         0         0         0	94         1437         30         1287         374         280         32         508         9           0.64         0.72         0.31         0.70         0.41         0.69         0.06         0.91         0.02           57.2         18.9         47.8         19.3         7.4         40.3         23.8         45.7         23.1           0.0         0.7         0.0         0.0         0.0         0.0         0.0         0.0           57.2         19.6         47.8         19.4         7.4         40.3         23.8         45.7         23.1           62         336         17         221         33         149         14         227         4           m92         478         m22         292         m75         241         35         #408         15           120         220         145         130         110         95           155         1990         96         1827         920         452         615         611         452           0         238         0         0         0         0         0         0         0           0         0	94         1437         30         1287         374         280         32         508         9         32           0.64         0.72         0.31         0.70         0.41         0.69         0.06         0.91         0.02         0.05           57.2         18.9         47.8         19.3         7.4         40.3         23.8         45.7         23.1         0.2           57.2         19.6         47.8         19.4         7.4         40.3         23.8         45.7         23.1         0.2           62         336         17         221         33         149         14         227         4         0           m92         478         m22         292         m75         241         35         #408         15         0           120         220         145         130         110         95           155         1990         96         1827         920         452         615         611         452         663           0         238         0         0         0         0         0         0         0         0           0         0         0

Queue shown is maximum after two cycles.

Beechwood SP 8: Paso Robles Street & 13th Street Cumulative Plus 911 Unit Project PM MITIGATED HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	*	4	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b> 1>		ሻ	44	7	ሻ	<b>^</b>	7	ሻ	1>	
Traffic Volume (veh/h)	87	1296	40	28	1197	348	260	30	472	8	0	30
Future Volume (veh/h)	87	1296	40	28	1197	348	260	30	472	8	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	l	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	94	1394	43	30	1287	0	280	32	508	9	0	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	119	1559	48	176	1690		507	616	522	347	0	522
Arrive On Green	0.09	0.59	0.59	0.10	0.47	0.00	0.33	0.33	0.33	0.33	0.00	0.33
Sat Flow, veh/h	1795	3544	109	1795	3582	1598	1388	1885	1598	872	0	1598
Grp Volume(v), veh/h	94	704	733	30	1287	0	280	32	508	9	0	32
Grp Sat Flow(s), veh/h/ln	1795	1791	1862	1795	1791	1598	1388	1885	1598	872	0	1598
Q Serve(g_s), s	5.1	34.1	34.3	1.5	29.6	0.0	17.4	1.2	31.4	0.7	0.0	1.4
Cycle Q Clear(g_c), s	5.1	34.1	34.3	1.5	29.6	0.0	18.7	1.2	31.4	1.9	0.0	1.4
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	788	819	176	1690		507	616	522	347	0	522
V/C Ratio(X)	0.79	0.89	0.90	0.17	0.76		0.55	0.05	0.97	0.03	0.00	0.06
Avail Cap(c_a), veh/h	154	872	907	176	1690		507	616	522	347	0	522
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	18.7	18.7	41.4	21.8	0.0	29.5	23.0	33.2	23.7	0.0	23.1
Incr Delay (d2), s/veh	13.4	10.9	10.7	0.5	3.3	0.0	1.3	0.0	32.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		13.7	14.3	0.7	12.6	0.0	5.8	0.5	16.3	0.1	0.0	0.5
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	58.4	29.6	29.5	41.8	25.1	0.0	30.8	23.1	65.5	23.7	0.0	23.2
LnGrp LOS	Е	С	С	D	С		С	С	Е	С	Α	С
Approach Vol, veh/h		1531			1317	Α		820			41	
Approach Delay, s/veh		31.3			25.5			52.0			23.3	
Approach LOS		С			С			D			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		48.5		37.2	11.1	51.7		37.2				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	x),5s1	48.7		32.7	8.6	45.2		32.7				
Max Q Clear Time (g_c+		36.3		3.9	7.1	31.6		33.4				
Green Ext Time (p_c), s	0.0	7.7		0.2	0.0	7.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			С									

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

m Volume for 95th percentile queue is metered by upstream signal

	•	-	•	-	1	<b>†</b>		-	<b>↓</b>	4	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group Flow (vph)	508	1361	105	979	311	255	74	148	301	526	
v/c Ratio	0.87	0.89	0.78	0.81	0.86	0.34	0.16	0.86	0.78	0.88	
Control Delay	60.1	31.0	81.7	36.3	68.5	34.0	0.7	86.0	51.7	29.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.1	31.0	81.7	36.3	68.5	34.0	0.7	86.0	51.7	29.8	
Queue Length 50th (ft)	173	324	67	297	102	71	0	95	178	112	
Queue Length 95th (ft) n	n#258	#553	#157	#386	#179	106	0	#208	269	#297	
Internal Link Dist (ft)		353		673		608			523		
Turn Bay Length (ft)	295		235		140		130	225			
Base Capacity (vph)	584	1523	135	1205	360	857	508	172	440	634	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.87	0.89	0.78	0.81	0.86	0.30	0.15	0.86	0.68	0.83	

### Intersection Summary

Queue shown is maximum after two cycles.

	۶	-	$\rightarrow$	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	<b>↑</b> ↑		7	<b>↑</b> ↑		ሻሻ	<b>^</b>	7	*	<b>*</b>	7
Traffic Volume (veh/h)	483	878	415	100	777	153	295	242	70	141	286	500
Future Volume (veh/h)	483	878	415	100	777	153	295	242	70	141	286	500
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	ı	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	508	924	0	105	818	161	311	255	74	148	301	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	554	1132		395	1121	221	352	678	302	171	345	
Arrive On Green	0.16	0.32	0.00	0.22	0.38	0.38	0.10	0.19	0.19	0.09	0.18	0.00
Sat Flow, veh/h	3483	3676	0	1795	2976	586	3483	3582	1598	1795	1885	1598
Grp Volume(v), veh/h	508	924	0	105	492	487	311	255	74	148	301	0
Grp Sat Flow(s), veh/h/ln	1742	1791	0	1795	1791	1770	1742	1791	1598	1795	1885	1598
Q Serve(g_s), s	14.4	23.8	0.0	4.8	23.6	23.6	8.8	6.2	2.4	8.1	15.5	0.0
Cycle Q Clear(g_c), s	14.4	23.8	0.0	4.8	23.6	23.6	8.8	6.2	2.4	8.1	15.5	0.0
Prop In Lane	1.00		0.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	554	1132		395	675	667	352	678	302	171	345	
V/C Ratio(X)	0.92	0.82		0.27	0.73	0.73	0.88	0.38	0.24	0.87	0.87	
Avail Cap(c_a), veh/h	554	1469		395	675	667	352	860	383	171	441	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	31.5	0.0	32.3	26.8	26.8	44.4	35.4	13.2	44.6	39.7	0.0
Incr Delay (d2), s/veh	20.3	6.5	0.0	0.4	6.8	6.9	22.3	0.3	0.4	34.7	14.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		11.1	0.0	2.1	10.9	10.8	4.8	2.7	1.5	5.1	8.2	0.0
Unsig. Movement Delay,	s/veh											
LnGrp Delay(d),s/veh	61.7	38.1	0.0	32.7	33.6	33.7	66.7	35.7	13.6	79.3	53.9	0.0
LnGrp LOS	Е	D		С	С	С	E	D	В	E	D	
Approach Vol, veh/h		1432	Α		1084			640			449	Α
Approach Delay, s/veh		46.4			33.5			48.2			62.3	
Approach LOS		D			С			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),	s26.5	36.1	14.6	22.8	20.4	42.2	14.0	23.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		41.0	10.1	23.4	15.9	32.6	9.5	24.0				
Max Q Clear Time (g_c+	11)6£8	25.8	10.8	17.5	16.4	25.6	10.1	8.2				
Green Ext Time (p_c), s	0.0	5.8	0.0	0.7	0.0	3.4	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			44.9									
HCM 6th LOS			D									

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

m Volume for 95th percentile queue is metered by upstream signal

Cumulative Plus 911 Unit Project PM MITIGATED Queues

12: Creston Road & Stoney Creek Road

Lane Group         EBT         WBT         NBL         NBT         SBL         SBT         SBR           Lane Group Flow (vph)         162         62         24         440         54         574         168           v/c Ratio         0.53         0.16         0.10         0.40         0.24         0.69         0.22           Control Delay         25.8         10.3         25.8         12.5         28.1         19.9         4.0           Queue Delay         25.8         10.3         25.8         12.5         28.1         19.9         4.0           Queue Length 50th (ft)         48         6         8         102         17         147         3           Queue Length 95th (ft)         101         31         28         209         51         #347         36           Internal Link Dist (ft)         560         1033         1337         2227         2227           Turn Bay Length (ft)         497         623         666         1344         240         993         891           Starvation Cap Reductn         0         0         0         0         0         0         0           Spillback Cap Reductn         0 <t< th=""><th></th><th><math>\rightarrow</math></th><th>←</th><th>1</th><th><b>†</b></th><th>-</th><th>Į.</th><th>4</th><th></th></t<>		$\rightarrow$	←	1	<b>†</b>	-	Į.	4	
V/c Ratio         0.53         0.16         0.10         0.40         0.24         0.69         0.22           Control Delay         25.8         10.3         25.8         12.5         28.1         19.9         4.0           Queue Delay         0.0         0.0         0.0         0.0         0.0         0.0         0.0           Total Delay         25.8         10.3         25.8         12.5         28.1         19.9         4.0           Queue Length 50th (ft)         48         6         8         10.2         17         147         3           Queue Length 95th (ft)         101         31         28         209         5         #347         36           Internal Link Dist (ft)         560         1033         1337         2227           Turn Bay Length (ft)         30         70         60           Base Capacity (vph)         497         623         666         1344         240         993         891           Starvation Cap Reductn         0         0         0         0         0         0         0           Spillback Cap Reductn         0         0         0         0         0         0         0	Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR	
Control Delay         25.8         10.3         25.8         12.5         28.1         19.9         4.0           Queue Delay         0.0 <td>Lane Group Flow (vph)</td> <td>162</td> <td>62</td> <td>24</td> <td>440</td> <td>54</td> <td>574</td> <td>168</td> <td></td>	Lane Group Flow (vph)	162	62	24	440	54	574	168	
Queue Delay         0.0 <th< td=""><td>v/c Ratio</td><td>0.53</td><td>0.16</td><td>0.10</td><td>0.40</td><td>0.24</td><td>0.69</td><td>0.22</td><td></td></th<>	v/c Ratio	0.53	0.16	0.10	0.40	0.24	0.69	0.22	
Total Delay 25.8 10.3 25.8 12.5 28.1 19.9 4.0 Queue Length 50th (ft) 48 6 8 102 17 147 3 Queue Length 95th (ft) 101 31 28 209 51 #347 36 Internal Link Dist (ft) 560 1033 1337 2227 Turn Bay Length (ft) 560 1033 70 60 Base Capacity (vph) 497 623 666 1344 240 993 891 Starvation Cap Reductn 0 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 0 0	Control Delay	25.8	10.3	25.8	12.5	28.1	19.9	4.0	
Queue Length 50th (ft)         48         6         8         102         17         147         3           Queue Length 95th (ft)         101         31         28         209         51         #347         36           Internal Link Dist (ft)         560         1033         1337         2227           Turn Bay Length (ft)         30         70         60           Base Capacity (vph)         497         623         666         1344         240         993         891           Starvation Cap Reductn         0         0         0         0         0         0           Spillback Cap Reductn         0         0         0         0         0         0           Storage Cap Reductn         0         0         0         0         0         0	Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Queue Length 95th (ft)         101         31         28         209         51         #347         36           Internal Link Dist (ft)         560         1033         1337         2227	Total Delay	25.8	10.3	25.8	12.5	28.1	19.9	4.0	
Internal Link Dist (ft)   560   1033   1337   2227	Queue Length 50th (ft)	48	6	8	102	17	147	3	
Turn Bay Length (ft) 30 70 60 Base Capacity (vph) 497 623 666 1344 240 993 891 Starvation Cap Reductn 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0	Queue Length 95th (ft)	101	31	28	209	51	#347	36	
Base Capacity (vph)         497         623         666         1344         240         993         891           Starvation Cap Reductn         0         0         0         0         0         0           Spillback Cap Reductn         0         0         0         0         0         0           Storage Cap Reductn         0         0         0         0         0         0	Internal Link Dist (ft)	560	1033		1337		2227		
Starvation Cap Reductn         0         0         0         0         0         0           Spillback Cap Reductn         0         0         0         0         0         0           Storage Cap Reductn         0         0         0         0         0         0	Turn Bay Length (ft)			30		70		60	
Spillback Cap Reductn         0         0         0         0         0         0           Storage Cap Reductn         0         0         0         0         0         0	Base Capacity (vph)	497	623	666	1344	240	993	891	
Storage Cap Reductn 0 0 0 0 0 0	Starvation Cap Reductn	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	
Reduced v/c Ratio 0.33 0.10 0.04 0.33 0.23 0.58 0.19		0		0				0	
	Reduced v/c Ratio	0.33	0.10	0.04	0.33	0.23	0.58	0.19	

Queue shown is maximum after two cycles.

Beechwood SP 12: Creston Road & Stoney Creek Road Cumulative Plus 911 Unit Project PM MITIGATED HCM 6th Signalized Intersection Summary

	•	<b>→</b>	•	•	<b>—</b>	*	4	†	~	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	₽		ሻ	<b>↑</b>	7
Traffic Volume (veh/h)	135	10	16	10	10	42	24	426	10	53	568	166
Future Volume (veh/h)	135	10	16	10	10	42	24	426	10	53	568	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	4005	1005	No	1005	4005	No	1005	1005	No	4005
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	136 0.99	10 0.99	16 0.99	10 0.99	10 0.99	42 0.99	0.99	430 0.99	10 0.99	54 0.99	574 0.99	168 0.99
Peak Hour Factor Percent Heavy Veh, %	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99		
Cap, veh/h	354	21	24	121	66	183	214	843	20	100	1 747	1 629
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.12	0.46	0.46	0.06	0.40	0.40
Sat Flow, veh/h	1204	129	146	131	405	1124	1795	1835	43	1795	1885	1588
Grp Volume(v), veh/h	162	0	0	62	0	0	24	0	440	54	574	168
Grp Sat Flow(s), veh/h/ln		0	0	1660	0	0	1795	0	1877	1795	1885	1588
Q Serve(q s), s	2.8	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.9	1.2	11.1	3.0
Cycle Q Clear(q c), s	4.2	0.0	0.0	1.4	0.0	0.0	0.5	0.0	6.9	1.2	11.1	3.0
Prop In Lane	0.84	0.0	0.10	0.16	0.0	0.68	1.00	0.0	0.02	1.00	11.1	1.00
Lane Grp Cap(c), veh/h	399	0	0.10	370	0	0.00	214	0	863	100	747	629
V/C Ratio(X)	0.41	0.00	0.00	0.17	0.00	0.00	0.11	0.00	0.51	0.54	0.77	0.27
Avail Cap(c a), veh/h	771	0.00	0.00	793	0.00	0.00	771	0.00	1656	278	1146	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	15.3	0.0	0.0	16.5	0.0	8.0	19.3	11.0	8.6
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.5	4.5	1.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	/ln 1.3	0.0	0.0	0.5	0.0	0.0	0.2	0.0	1.9	0.6	3.6	0.8
Unsig. Movement Delay	, s/veh											
LnGrp Delay(d),s/veh	17.0	0.0	0.0	15.5	0.0	0.0	16.7	0.0	8.5	23.8	12.7	8.8
LnGrp LOS	В	Α	Α	В	Α	Α	В	Α	Α	С	В	Α
Approach Vol, veh/h		162			62			464			796	
Approach Delay, s/veh		17.0			15.5			8.9			12.6	
Approach LOS		В			В			Α			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),	s 6.8	23.8		11.3	9.5	21.1		11.3				
Change Period (Y+Rc),	s 4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gma	ax),6s5	37.0		18.0	18.0	25.5		18.0				
Max Q Clear Time (g_c+	·I1)3s2	8.9		6.2	2.5	13.1		3.4				
Green Ext Time (p_c), s	0.0	2.8		0.6	0.0	3.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			В									

HCM 6th LOS

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Beechwood SP Cumulative Plus 911 Unit Project PM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark Road

	$\rightarrow$	-	•	1	1		-	ţ	
Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	39	197	191	15	291	288	323	307	
v/c Ratio	0.30	0.58	0.25	0.13	0.48	0.29	0.76	0.14	
Control Delay	34.9	38.1	2.6	44.5	29.1	1.8	42.0	9.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.9	38.1	2.6	44.5	29.1	1.8	42.0	9.3	
Queue Length 50th (ft)	11	96	0	8	129	0	158	33	
Queue Length 95th (ft)	47	170	30	30	248	27	278	83	
Internal Link Dist (ft)	284	314			712			1337	
Turn Bay Length (ft)				150			250		
Base Capacity (vph)	128	629	896	116	606	1216	580	2137	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.31	0.21	0.13	0.48	0.24	0.56	0.14	
Intersection Summary									

Beechwood SP Cumulative Plus 911 Unit Project PM MITIGATED 13: Creston Road & Alamo Creek Terrace/Meadowlark RoadCM 6th Signalized Intersection Summary

	۶	<b>→</b>	•	•	+	*	4	<b>†</b>	1	1	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4	7	ሻ	<b>1</b>	7	ሻ	<b>†</b> 1>	
Traffic Volume (veh/h)	10	10	16	173	10	178	14	271	268	300	265	20
Future Volume (veh/h)	10	10	16	173	10	178	14	271	268	300	265	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	11	11	17	186	11	191	15	291	288	323	285	22
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	18	18	27	266	16	578	32	683	826	372	1855	142
Arrive On Green	0.04	0.04	0.04	0.16	0.16	0.16	0.02	0.36	0.36	0.21	0.55	0.55
Sat Flow, veh/h	483	483	747	1700	101	1582	1795	1885	1591	1795	3364	258
Grp Volume(v), veh/h	39	0	0	197	0	191	15	291	288	323	151	156
Grp Sat Flow(s),veh/h/ln		0	0	1800	0	1582	1795	1885	1591	1795	1791	1831
Q Serve(g_s), s	1.8	0.0	0.0	8.3	0.0	7.0	0.7	9.3	8.5	13.9	3.3	3.3
Cycle Q Clear(g_c), s	1.8	0.0	0.0	8.3	0.0	7.0	0.7	9.3	8.5	13.9	3.3	3.3
Prop In Lane	0.28		0.44	0.94		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	62	0	0	281	0	578	32	683	826	372	988	1010
V/C Ratio(X)	0.63	0.00	0.00	0.70	0.00	0.33	0.47	0.43	0.35	0.87	0.15	0.15
Avail Cap(c_a), veh/h	107	0	0	609	0	866	113	683	826	563	988	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		0.0	0.0	31.9	0.0	18.4	38.8	19.2	11.3	30.6	8.8	8.8
Incr Delay (d2), s/veh	10.0	0.0	0.0	3.1	0.0	0.3	10.4	1.9	1.2	9.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0 2.5	0.0	4.0	0.0	0.0	0.0 1.2	0.0
%ile BackOfQ(50%),veh/ Unsig. Movement Delay,		0.0	0.0	3.8	0.0	2.5	0.4	4.0	4.0	6.6	1.2	1.3
LnGrp Delay(d),s/veh	47.9	0.0	0.0	35.0	0.0	18.7	49.3	21.1	12.5	39.8	9.1	9.1
LnGrp LOS	47.9 D	Ο.0	Ο.0	33.0 D	Ο.0	10.7 B	49.3 D	Z1.1	12.5 B	39.0 D	9.1 A	9. I
Approach Vol, veh/h	U	39	A	U	388	В	U	594	В	D	630	
Approach Delay, s/veh		47.9			27.0			17.6			24.8	
Approach LOS		47.9 D			27.0 C			17.0 B			24.0 C	
											C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		33.9		7.4	6.4	49.0		17.0				
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gma		24.0		5.0	5.0	44.0		27.0				
Max Q Clear Time (g_c+		11.3		3.8	2.7	5.3		10.3				
Green Ext Time (p_c), s	0.7	2.1		0.0	0.0	1.8		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									

HCM 6th LOS С

Intersection has too many lanes per leg.	
HCM All-Way analysis is limited to two lanes per leg.	
Channelized right turn lanes are not counted.	

Intersection									į
Intersection Delay, s/veh	18.6								
Intersection LOS	С								
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	*	7	ħ	<b>*</b>	<u> </u>	7			
Traffic Vol, veh/h	328	253	150	225	210	243			
Future Vol. veh/h	328	253	150	225	210	243			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97			
Heavy Vehicles, %	1	1	1	1	1	1			
Mymt Flow	338	261	155	232	216	251			
Number of Lanes	1	1	1	2	1	1			
Approach	EB		NB		SB				
Opposing Approach			SB		NB				
Opposing Lanes	0		2		3				
Conflicting Approach Left			EB						
Conflicting Lanes Left	2		2		0				
Conflicting Approach Rigi			^		EB				
Conflicting Lanes Right	3		0		16.7				
HCM Control Delay HCM LOS	23.4 C		13.4 B		16.7				
HCW LOS	C		D		C				
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	SBLn1	SBLn2	
Vol Left, %		100%	0%	0%	100%	0%	0%	0%	
Vol Thru, %		0%	100%	100%	0%	0%	100%	0%	
Vol Right, %		0%	0%	0%	0%	100%	0%	100%	
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane		150	113	113	328	253	210	243	
LT Vol		150	0	0	328	0	0	0	
Through Vol		0	113	113	0	0	210	0	
RT Vol		0	0	0	0	253	0	243	
Lane Flow Rate		155	116	116	338	261	216	251	
Geometry Grp		8	8	8	8	8	8	8	
Degree of Util (X)		0.361	0.254	0.197	0.737	0.48	0.465	0.488	
Departure Headway (Hd)		8.404	7.89		7.846	6.632	7.74	7.018	
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Сар		428	456	586	460	543	465	514	
Service Time		6.149	5.635	3.87		4.372		4.761	
HCM Lane V/C Ratio		0.362	0.254			0.481	0.465	0.488	
HCM Control Delay		15.8	13.3	10.4	29.6	15.4	17.1	16.3	
HCM Lane LOS		С	В	В	D	С	С	С	
HCM 95th-tile Q		1.6	1	0.7	6	2.6	2.4	2.6	

# Beechwood SP Cumulative Plus 911 Unit Project PM MITIGATED 15: US 101 SB Ramp & Pine Street & Riverside Aventien Unsignalized Intersection Capacity Analysis

	•	-	•	1	-	*	4	<b>†</b>	-	-	¥	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ની	7					f)	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	315	20	0	0	0	0	400	53
Future Volume (vph)	0	0	0	0	315	20	0	0	0	0	400	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	342	22	0	0	0	0	435	58
Direction, Lane #	WB 1	WB 2	SB 1									
Volume Total (vph)	342	22	493									
Volume Left (vph)	0	0	0									
Volume Right (vph)	0	22	58									
Hadj (s)	0.02	-0.58	-0.05									
Departure Headway (s)	5.2	3.2	4.8									
Degree Utilization, x	0.49	0.02	0.66									
Capacity (veh/h)	658	1121	723									
Control Delay (s)	13.1	6.3	16.4									
Approach Delay (s)	12.7		16.4									
Approach LOS	В		С									
Intersection Summary												
Delay			14.8									
Level of Service			В									
Intersection Capacity Ut	tilization		47.5%	- 10	CU Leve	el of Ser	vice		Α			
Analysis Period (min)			15									

Beechwood SP Cumulative Plus 911 Unit Project PM MITIGATED 15: US 101 SB Ramp & Pine Street & Riverside Avenue HCM 6th AWSC

Intersection			
Intersection Delay, s/ve	h 16.3		
Intersection LOS	С		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					ની	7					î,	
Traffic Vol, veh/h	0	0	0	0	315	20	0	0	0	0	400	53
Future Vol, veh/h	0	0	0	0	315	20	0	0	0	0	400	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	0	0	0	342	22	0	0	0	0	435	58
Number of Lanes	0	0	0	0	1	1	0	0	0	0	1	0
Approach					WB						SB	
Opposing Approach												
Opposing Lanes					0						0	
Conflicting Approach Let	t										WB	
Conflicting Lanes Left					0						2	
Conflicting Approach Rig	ht				SB							
Conflicting Lanes Right					1						0	
HCM Control Delay					15.1						17.2	
HCM LOS					С						С	

Lane	WBLn1V	NBLn2	SBLn1	1
Vol Left, %	0%	0%	0%	5
Vol Thru, %	100%	0%	88%	0
Vol Right, %	0%	100%	12%	b
Sign Control	Stop	Stop	Stop	)
Traffic Vol by Lane	315	20	453	3
LT Vol	0	0	0	)
Through Vol	315	0	400	)
RT Vol	0	20	53	3
Lane Flow Rate	342	22	492	2
Geometry Grp	7	7	2	2
Degree of Util (X)	0.555	0.031	0.666	6
Departure Headway (Hd)	5.833	5.125	4.867	7
Convergence, Y/N	Yes	Yes	Yes	S
Сар	623	703	734	1
Service Time	3.533	2.825	2.95	5
HCM Lane V/C Ratio	0.549	0.031	0.67	7
HCM Control Delay	15.6	8	17.2	2
HCM Lane LOS	С	Α	С	)
HCM 95th-tile Q	3.4	0.1	5.1	1

Beechwood SP

Cumulative Plus 911 Unit Project PM MITIGATED

16: US 101 Ramps/Spring Street & 1st Street/Niblick Road

Queues

	•	$\rightarrow$	1	-	•	1	Ť		-	¥	
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	75	482	770	278	539	141	424	1192	793	461	
v/c Ratio	0.25	0.78	0.94	0.62	0.58	0.62	0.75	0.99	1.03	0.51	
Control Delay	37.6	45.7	57.4	41.1	8.5	52.7	48.0	40.4	78.9	30.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.6	45.7	57.4	41.1	8.5	52.7	48.0	40.4	78.9	30.5	
Queue Length 50th (ft)	41	143	251	161	68	86	135	190	~287	117	
Queue Length 95th (ft)	83	200	#372	250	161	146	188	#369	#405	172	
Internal Link Dist (ft)		521		1372			611			680	
Turn Bay Length (ft)	115		515		115	165		290	305		
Base Capacity (vph)	329	663	821	445	924	281	625	1205	770	910	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.73	0.94	0.62	0.58	0.50	0.68	0.99	1.03	0.51	

### Intersection Summary

Queue shown is maximum after two cycles.

Beechwood SP Cumulative Plus 911 Unit Project PM MITIGATED 16: US 101 Ramps/Spring Street & 1st Street/Niblick Road HCM 6th Signalized Intersection Summary

	۶	<b>→</b>	*	•	<b>←</b>	•	4	†	1	/	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ř	<b>↑</b> ↑		77	<b>^</b>	7	7	<b>^</b>	77	77	<b>↑</b> ↑	
Traffic Volume (veh/h)	73	355	113	747	270	523	137	411	1156	769	325	122
Future Volume (veh/h)	73	355	113	747	270	523	137	411	1156	769	325	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	75	366	116	770	278	539	141	424	1192	793	335	126
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	295	439	137	816	441	719	174	620	1145	766	730	270
Arrive On Green	0.16	0.16	0.16	0.23	0.23	0.23	0.10	0.17	0.17	0.22	0.29	0.29
Sat Flow, veh/h	1795	2676	835	3483	1885	1571	1795	3582	2812	3483	2560	946
Grp Volume(v), veh/h	75	243	239	770	278	539	141	424	1192	793	233	228
Grp Sat Flow(s),veh/h/ln	1795	1791	1720	1742	1885	1571	1795	1791	1406	1742	1791	1715
Q Serve(g s), s	3.6	12.9	13.2	21.3	13.0	23.0	7.6	10.9	17.0	21.6	10.5	10.8
Cycle Q Clear(g c), s	3.6	12.9	13.2	21.3	13.0	23.0	7.6	10.9	17.0	21.6	10.5	10.8
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	295	294	282	816	441	719	174	620	1145	766	511	489
V/C Ratio(X)	0.25	0.83	0.85	0.94	0.63	0.75	0.81	0.68	1.04	1.04	0.46	0.47
Avail Cap(c a), veh/h	327	326	313	816	441	719	280	620	1145	766	511	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		39.7	39.8	37.0	33.8	22.3	43.5	38.1	22.3	38.3	28.8	29.0
Incr Delay (d2), s/veh	0.5	14.8	17.6	19.2	2.9	4.4	9.0	3.1	37.8	41.9	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/		6.9	7.0	10.9	6.1	10.4	3.7	4.8	19.6	13.5	4.5	4.5
Unsig. Movement Delay,		0.0	7.0	10.0	0.1	10.4	0.1	4.0	10.0	10.0	4.0	4.0
LnGrp Delay(d),s/veh	36.3	54.5	57.4	56.2	36.6	26.6	52.5	41.2	60.1	80.2	29.5	29.7
LnGrp LOS	D	D	E	E	D	C	D	D	F	F	C	C
Approach Vol, veh/h		557			1587			1757	<u>'</u>		1254	
Approach Delay, s/veh		53.3			42.7			55.0			61.6	
Approach LOS		55.5 D			42.7 D			55.0 D			01.0 E	
Approach LOS		_						U				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),		22.8		20.7	15.3	33.8		28.4				
Change Period (Y+Rc), s		5.8		4.6	5.8	* 5.8		5.4				
Max Green Setting (Gma	x*j, 262	17.0		17.9	15.3	* 23		23.0				
Max Q Clear Time (g_c+	l12)3s6	19.0		15.2	9.6	12.8		25.0				
Green Ext Time (p_c), s	0.0	0.0		0.9	0.1	2.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			52.6									
HCM 6th LOS			D D									
Notes												

<sup>\*</sup> HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Central Coast Transportation Consulting

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

	•	$\rightarrow$	*	•	•	•	1	Ť	-	†	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	281	1168	683	140	872	168	444	384	195	580	
v/c Ratio	0.91	1.09	0.86	1.06	0.85	0.29	0.86	0.36	0.73	0.76	
Control Delay	85.3	92.1	25.4	145.6	48.1	6.2	65.0	30.4	60.4	37.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	85.3	92.1	25.4	145.6	48.1	6.2	65.0	30.4	60.4	37.3	
Queue Length 50th (ft)	108	~513	183	~114	321	0	167	104	152	182	
Queue Length 95th (ft)	#189	#648	#425	#244	#408	51	#246	162	226	242	
Internal Link Dist (ft)		1510			1609			962		896	
Turn Bay Length (ft)	140			80			150		110		
Base Capacity (vph)	308	1076	792	132	1023	571	529	1064	383	767	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.91	1.09	0.86	1.06	0.85	0.29	0.84	0.36	0.51	0.76	

## Intersection Summary

Queue shown is maximum after two cycles.

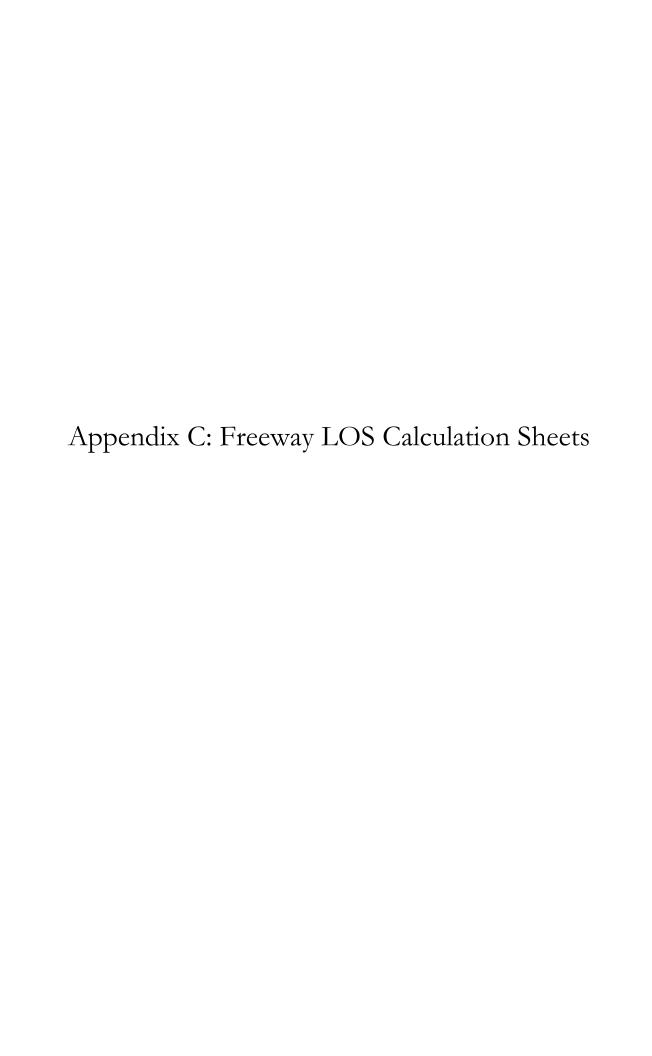
	۶	-	•	•	<b>←</b>	*	1	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	<b>^</b>	7	ሻ	<b>^</b>	7	77	<b>↑</b> ↑		ሻ	सीक	
Traffic Volume (veh/h)	270	1121	656	134	837	161	426	276	92	208	406	130
Future Volume (veh/h)	270	1121	656	134	837	161	426	276	92	208	406	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1	No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	281	1168	683	140	872	168	444	288	96	217	423	135
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	352	1291	576	163	1254	558	529	564	184	259	562	177
Arrive On Green	0.10	0.36	0.36	0.09	0.35	0.35	0.15	0.21	0.21	0.14	0.20	0.20
Sat Flow, veh/h	3483	3582	1598	1795	3582	1595	3483	2654	866	1795	2744	866
Grp Volume(v), veh/h	281	1168	683	140	872	168	444	192	192	217	289	269
Grp Sat Flow(s), veh/h/ln	1742	1791	1598	1795	1791	1595	1742	1791	1729	1795	1885	1725
Q Serve(q s), s	7.4	29.0	20.7	7.2	19.6	7.2	11.6	8.9	9.2	11.0	13.5	13.8
Cycle Q Clear(g c), s	7.4	29.0	20.7	7.2	19.6	7.2	11.6	8.9	9.2	11.0	13.5	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.50
Lane Grp Cap(c), veh/h	352	1291	576	163	1254	558	529	381	368	259	386	353
V/C Ratio(X)	0.80	0.90	1.19	0.86	0.70	0.30	0.84	0.51	0.52	0.84	0.75	0.76
Avail Cap(c a), veh/h	379	1318	588	163	1254	558	650	516	498	517	734	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		28.4	11.2	42.0	26.2	22.1	38.6	32.6	32.7	39.1	35.0	35.1
Incr Delay (d2), s/veh	10.8	9.0	100.2	34.3	1.7	0.3	8.0	1.0	1.1	7.1	2.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh		13.1	22.2	4.6	8.1	2.6	5.4	3.8	3.8	5.2	6.2	5.9
Unsig. Movement Delay,												
LnGrp Delay(d),s/veh	52.0	37.4	111.5	76.4	27.9	22.4	46.7	33.6	33.8	46.2	37.9	38.5
LnGrp LOS	D	D	F	Е	С	С	D	С	С	D	D	D
Approach Vol, veh/h		2132			1180			828			775	
Approach Delay, s/veh		63.1			32.8			40.7			40.4	
Approach LOS		E			C			D			D	
											D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),		38.3	18.7	23.7	14.0	37.3	18.0	24.4				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gma		34.5	17.5	36.5	10.2	32.8	27.0	27.0				
Max Q Clear Time (g_c+		31.0	13.6	15.8	9.4	21.6	13.0	11.2				
Green Ext Time (p_c), s	0.0	2.8	0.6	3.1	0.1	4.7	0.5	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			48.5									
HCM 6th LOS			D									

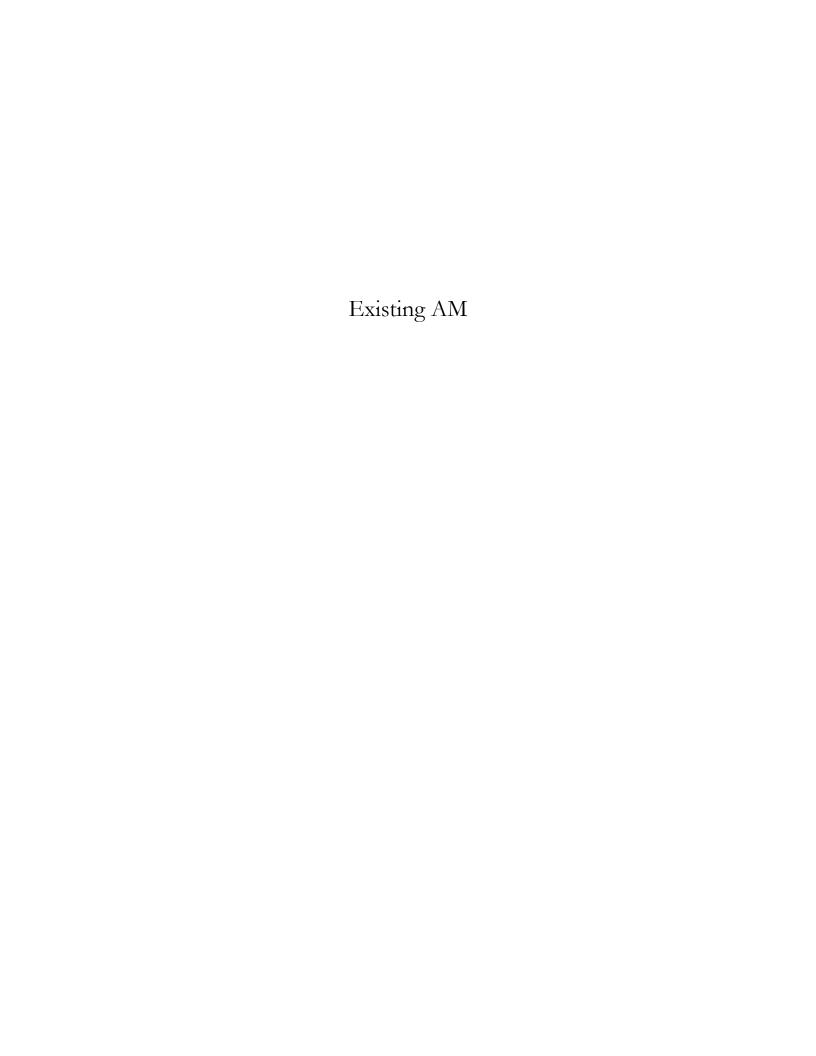
User approved volume balancing among the lanes for turning movement.

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.





	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
-	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
	X AM US	101 Off Ramp @ SR 46\	· · · · · · · · · · · · · · · · · · ·		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1940	146	
Peak Hour Factor (PHF)			0.90	0.83	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.926	0.943	
Flow Rate (vi), pc/h			2328	187	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.10	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area (I	OR), pc/mi/ln	22.2
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.468
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 and	d 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2328	Ramp Junction Speed (S), mi/h		55.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		21.2
Level of Service (LOS)		С			

498	
23.8	
0.353	
-	
57.9	
-	
57.9	
22.9	
rate	

HCS7 Freeway Merge Report

EX AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1794

0.90

8.00

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

427

0.91

6.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Total Trucks, %

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

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		reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX AM US 101 Mainline no	orth of SR 46W - NB (#3)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	2221	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926
Peak Hour Factor (PHF)	0.90	Flow Rate (v <sub>P</sub> ), pc/h/ln	1332
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.1
Right-Side Lateral Clearance Adj. (fr.LC)	0.0	Density (D), pc/mi/ln	19.9
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	С
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

		HCS7 Freeway	Diverge Report			
Project Information						
Analyst Co	СТС		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description EX	X AM US	101 Off Ramp @ Spring	- NB (#4)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			2221	756		
Peak Hour Factor (PHF)			0.90	0.84		
Total Trucks, %			8.00	2.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (few	/)		0.862	0.980		
Flow Rate (v <sub>i</sub> ), pc/h			2863	918		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.65	0.49		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	Dr), pc/mi/ln	27.1	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.534	
Downstream Equilibrium Distance (La	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (Ldow	vn), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	53.4	
Prop. Freeway Vehicles in Lane 1 and	1 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2863	Ramp Junction Speed (S), mi/h		53.4	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		26.8	
Level of Service (LOS)		С				

Level of Service (LOS)

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4 - EX AM US 101 Off Ramp at Spring - NB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information	_				
	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description EX	X AM US	101 Off Ramp @ Paso			
Geometric Data			( )		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo)	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				<u>'</u>	
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950 0.950		
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1465	323	
Peak Hour Factor (PHF)			0.90	0.94	
Total Trucks, %			8.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	v)		0.926	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			1758	347	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.40	0.18	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (I	Dr), pc/mi/ln	16.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.483
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Ldow	vn), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1758	Ramp Junction Speed (S), mi/h		54.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		16.1
Level of Service (LOS)		В			

Flow Rate (vi), pc/h				
		1370	545	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.43	0.29	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	17.7
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.321
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	58.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1370	Ramp Junction Speed (S), mi/h		58.6
Flow Entering Ramp-Infl. Area (VR12), pc/h	1915	Average Density (D), pc/mi/ln		16.3
Level of Service (LOS)	В			

HCS7 Freeway Merge Report

EX AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1142

0.90

8.00

0.926

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

394

0.73

1.00

0.990

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (fHV)

Total Trucks, %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

HCS7 Basic Freeway Report								
Project Information								
Analyst	ССТС	Date						
Agency		Analysis Year	2018					
Jurisdiction		Time Period Analyzed	AM					
Project Description	EX AM US 101 Mainline sou	th of SR 46E - NB (#7)						
Geometric Data								
Number of Lanes (N), In	2	Terrain Type	Level					
Segment Length (L), ft	-	Percent Grade, %	-					
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-					
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33					
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3					
Right-Side Lateral Clearance, ft	10							
Adjustment Factors								
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950					
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939					
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000					
Demand and Capacity								
Demand Volume (V), veh/h	1536	Heavy Vehicle Adjustment Factor (fHV)	0.926					
Peak Hour Factor (PHF)	0.90	Flow Rate (v <sub>P</sub> ), pc/h/ln	922					
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377					
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232					
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41					
Passenger Car Equivalent (E <sub>T</sub> )	2.000							
Speed and Density								
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7					
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.6					
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В					
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7							

red. HCS7100 Freeways Version 7.4 7 - EX AM US 101 mainline south of SR 46E - NB.xuf

Project Information						
<u> </u>	TC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description EX	AM US 1	01 Off Ramp @	SR 46E - NB (#8)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ngth (L <sub>D</sub> )	, ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balan	ıced	Mix
Weather Type			Non-Severe Weather	Non-	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	)	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	,	
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			·			
Demand Volume (Vi), veh/h			1536	890		
Peak Hour Factor (PHF)			0.90	0.85		
Total Trucks, %			8.00	5.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fhv)	)		0.926	0.952	!	
Flow Rate (v <sub>i</sub> ), pc/h			1843	1100		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.42	0.59		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influen	ce Area (DR), pc/r	ni/ln	18.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)			0.550
Downstream Equilibrium Distance (Le	q), ft	-	Flow Outer Lanes (VOA),	pc/h/ln		-
Distance to Downstream Ramp (Loow	N), ft	-	Off-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/l	า	53.0
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	eed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1843	Ramp Junction Speed (S	S), mi/h		53.0
Flow Entering Ramp-Infl. Area (VR12), p	oc/h	-	Average Density (D), pc,	/mi/ln		17.4

HCS7100 Freeways Version 7.4 8 - EX AM US 101 Off Ramp at SR 46E - NB.xuf

		HCS7 Freeway	Merge Report		
Project Information	_				
	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description	EX AM US	101 On Ramp @ SR 46E	<u> </u>	1	
Geometric Data			. ,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			646	260	
Peak Hour Factor (PHF)			0.78	0.78	
Total Trucks, %			18.00	18.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	fhv)		0.847	0.847	
Flow Rate (vi), pc/h			978	394	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.31	0.21	
Speed and Density					
Upstream Equilibrium Distance (Led	2), ft	-	Density in Ramp Influence Area (	(DR), pc/mi/ln	13.5
Distance to Upstream Ramp (Lup), f	ft	-	Speed Index (Ms)		0.309
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (V12), pc/h		978	Ramp Junction Speed (S), mi/h		58.9
Flow Entering Ramp-Infl. Area (vR12	), pc/h	1372	Average Density (D), pc/mi/ln		11.6
Level of Service (LOS)		В			

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HCS7100 Freeways Version 7.4 9 - EX AM US 101 On Ramp at SR 46E - NB.xuf

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	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX AM US 101 Mainline nor	th of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	906	Heavy Vehicle Adjustment Factor (fHV)	0.847
Peak Hour Factor (PHF)	0.78	Flow Rate (v <sub>P</sub> ), pc/h/ln	686
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	10.1
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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d. HCS7100 Freeways Version 7.4 10 - EX AM US 101 mainline north of SR 46E - NB.xuf Generated: 1/14/2019 6:06:49 PM

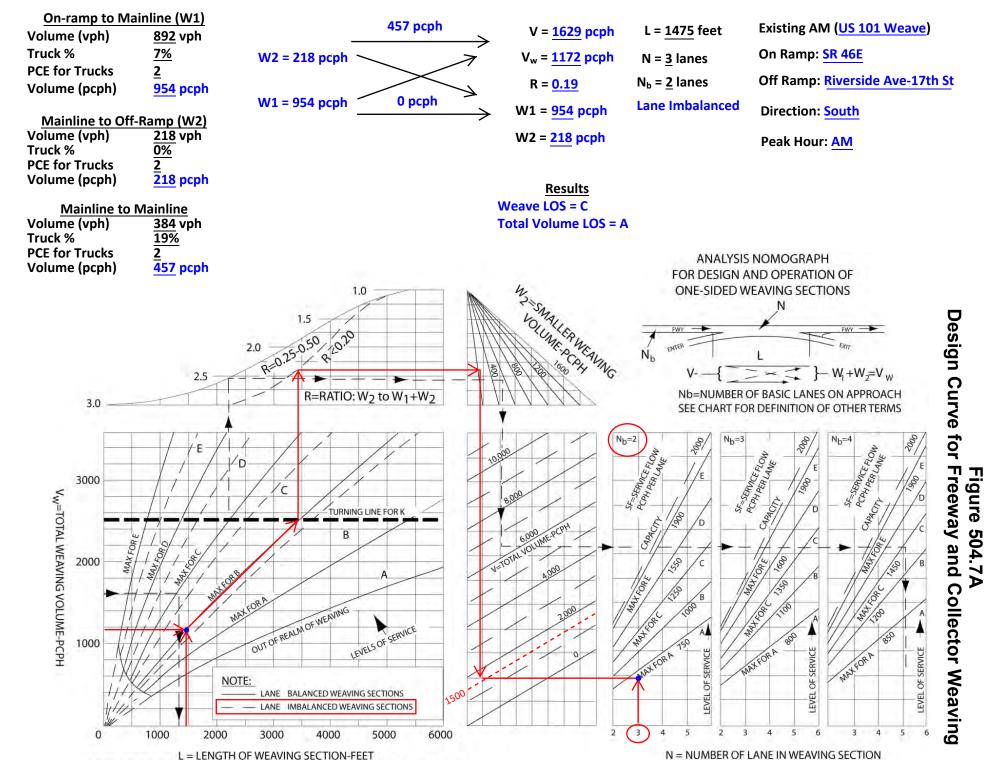
HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	AM		
Project Description EX AM US 101 Mainline north of SR 46E - SB (#11)					
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	850	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.840		
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>P</sub> ), pc/h/ln	544		
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	8.1		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				
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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst Co	СТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description EX	K AM US	101 Off Ramp @ SR 46	E - SB (#12)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			850	248	
Peak Hour Factor (PHF)			0.93	0.95	
Total Trucks, %			19.00	19.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.840	0.840	
Flow Rate (vi), pc/h			1088	311	
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.25	0.17		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (I	OR), pc/mi/ln	12.2
Distance to Upstream Ramp (Lur), ft		-	Speed Index (Ds)		0.479
Downstream Equilibrium Distance (La	eq), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1088	Ramp Junction Speed (S), mi/h		54.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		9.9
Level of Service (LOS)		В			

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L = LENGTH OF WEAVING SECTION-FEET
LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	AM			
Project Description EX AM US 101 Mainline south of SR 46E - SB (#15)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1276	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>P</sub> ), pc/h/ln	741			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.1			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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Analyst CC	TC		Date			
Agency			Analysis Year	2018	2018	
lurisdiction		Time Period Analyzed	AM			
Project Description EX AM US 101 On Ramp @ Riversi						
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ngth (L <sub>A</sub> ),	ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balanced	Balanced Mix	
Weather Type			Non-Severe Weather	Non-Sev	ere Weather	
Incident Type		No Incident	-	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1276	298		
Peak Hour Factor (PHF)			0.93	0.94	0.94	
Total Trucks, %			8.00	2.00	2.00	
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv)	)		0.926	0.980	0.980	
Flow Rate (vi), pc/h			1482	323	323	
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0.17	0.17	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	Density in Ramp Influence Area (DR), pc/mi/ln		
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.325	
Downstream Equilibrium Distance (LE	q), ft	-	Flow Outer Lanes (VOA), p	oc/h/ln	-	
Distance to Downstream Ramp (Loow	N), ft	-	On-Ramp Influence Area	Speed (SR), mi/h	58.5	
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1482	Ramp Junction Speed (S	), mi/h	58.5	
Flow Entering Ramp-Infl. Area (VR12), p	oc/h	1805	Average Density (D), pc/	mi/ln	15.4	
Level of Service (LOS)		В				

		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description	EX AM US	101 Off Ramp @ Riversi	de/Pine - SB (#17)	<u> </u>	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balan	ced Mix
Weather Type			Non-Severe Weather	Non-	Severe Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1574	93	
Peak Hour Factor (PHF)			0.93	0.82	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	fhv)		0.926	0.952	
Flow Rate (vi), pc/h			1828	119	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0.06	
Speed and Density					
Upstream Equilibrium Distance (Leo	2), ft	-	Density in Ramp Influer	nce Area (DR), pc/n	ni/ln 18.3
Distance to Upstream Ramp (Lup), f	ft	-	Speed Index (Ds)		0.462
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-
Distance to Downstream Ramp (Lo	own), ft	-	Off-Ramp Influence Are	ea Speed (SR), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	peed (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1828	Ramp Junction Speed (	S), mi/h	55.2
Flow Entering Ramp-Infl. Area (VR12	), pc/h	-	Average Density (D), po	/mi/ln	16.6
Level of Service (LOS)		В			

Demand Volume (Vi), veh/h	1830	1190		
Peak Hour Factor (PHF)	Peak Hour Factor (PHF)			
Total Trucks, %	8.00	2.00		
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.926	0.980	
Flow Rate (vi), pc/h		2125	1334	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)	0.78	0.71		
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	23.6
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.357
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), I	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2125	Ramp Junction Speed (S), mi/h		57.8
Flow Entering Ramp-Infl. Area (VR12), pc/h	3459	Average Density (D), pc/mi/ln		29.9
Level of Service (LOS)	С			
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HCS7 Freeway Merge Report

EX AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

1330

Right

0.950

0.939

1.000

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

Weather Type

Incident Type

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**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** 

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX AM US 101 Mainline nor	th of SR 46W - SB (#19)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	3020	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>p</sub> ), pc/h/ln	1754
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	61.5
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	28.5
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9		

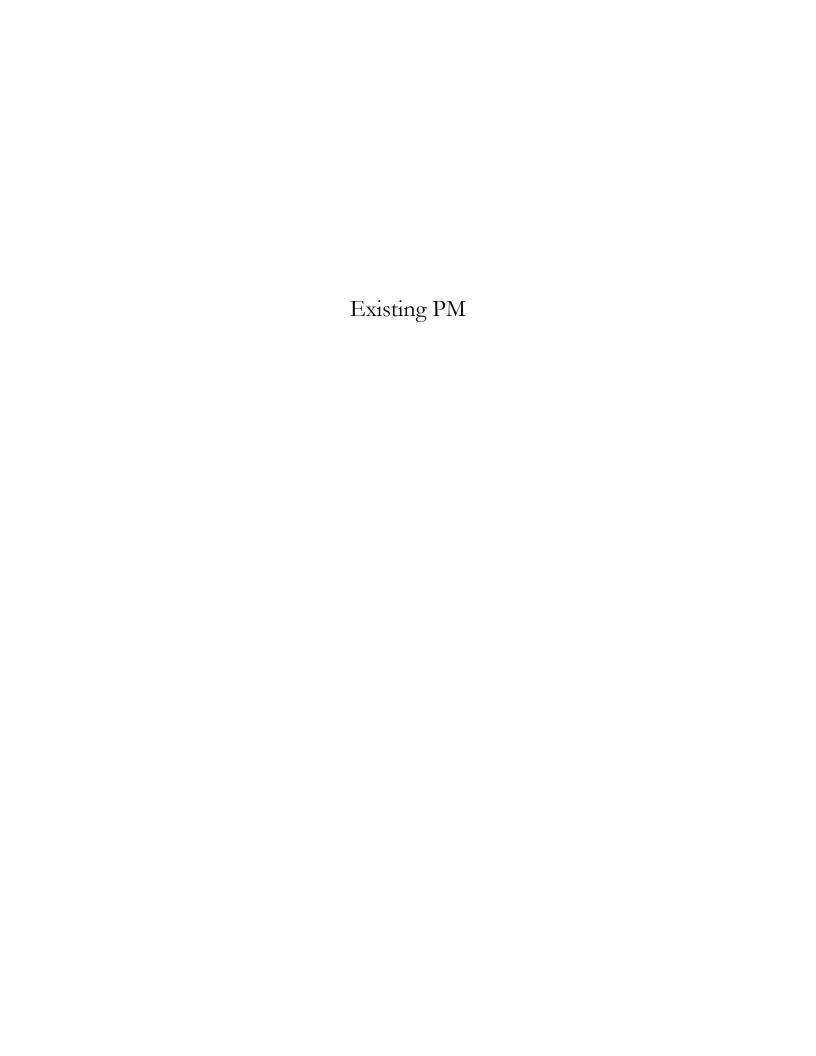
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Project Information					
Analyst	CTC	Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	AM		
Project Description EX	@ SR 46W - SB (#20)	· ·			
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo), ft	1500	210		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors		·			
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CA	F)	0.939	0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity		·	·		
Demand Volume (Vi), veh/h		3020	510		
Peak Hour Factor (PHF)		0.93	0.89	0.89	
Total Trucks, %		8.00	6.00	6.00	
Single-Unit Trucks (SUT), %		-	-	-	
Tractor-Trailers (TT), %		-	-	-	
Heavy Vehicle Adjustment Factor (few	)	0.926	0.943	0.943	
Flow Rate (vi), pc/h		3507	608		
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		0.79	0.32	0.32	
Speed and Density			<u> </u>		
Upstream Equilibrium Distance (LEQ),	ft -	Density in Ramp Influence	e Area (D <sub>R</sub> ), pc/mi/lr	32.5	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.506	
Downstream Equilibrium Distance (Le	:Q), ft -	Flow Outer Lanes (voa), p	oc/h/ln	-	
Distance to Downstream Ramp (LDOW	n), ft -	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (V12), pc/h	3507	Ramp Junction Speed (S)	, mi/h	54.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h -	Average Density (D), pc/i	mi/ln	32.4	
Level of Service (LOS)	D				

		LICCZ F	Mana Danast		
		HCS/ Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description	EX AM US	101 On Ramp @ SR 46V	V - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (C	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2510	92	
Peak Hour Factor (PHF)			0.93	0.88	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	нv)		0.926	0.943	
Flow Rate (vi), pc/h			2915	111	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.69	0.06	
Speed and Density					
Upstream Equilibrium Distance (LEG	), ft	-	Density in Ramp Influence Area (I	Dr), pc/mi/ln	27.1
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ms)		0.380
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	57.2
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2915	Ramp Junction Speed (S), mi/h		57.2
Flow Entering Ramp-Infl. Area (VR12	), pc/h	3026	Average Density (D), pc/mi/ln		26.5
Level of Service (LOS)		С			

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
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Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2640	114	
Peak Hour Factor (PHF)			0.98	0.73	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fin	v)		0.962	0.990	
Flow Rate (vi), pc/h			2800	158	
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)			0.63	0.08	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area (I	DR), pc/mi/ln	26.2
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.466
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and	d 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2800	Ramp Junction Speed (S), mi/h		55.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		25.4
Level of Service (LOS)		С			

Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	30.4
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.428
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		56.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2679	Ramp Junction Speed (S), mi/h		56.0
Flow Entering Ramp-Infl. Area (VR12), pc/h	3508	Average Density (D), pc/mi/ln		31.3
Level of Service (LOS)	D			
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HCS7 Freeway Merge Report

EX PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2526

0.98

4.00

0.962

2679

Non-Severe Weather

Time Period Analyzed

2018

Ramp

1

35.0

345

Right

0.950

0.939

1.000

755

0.92

1.00

0.990 829

Balanced Mix

Non-Severe Weather

PM

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

HCS7100 Freeways Version 7.4 Generated: 1/14/2019 6:12:11 PM

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date	6/14/2018			
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	PM			
Project Description	EX PM US 101 Mainline nor	th of SR 46W - NB (#3)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	3281	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1740			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	62.2			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	28.0			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

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3 - EX PM US 101 mainline north of SR 46W - NB.xuf

Project Information						
-	CTC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
	( PM US 10	01 Off Ramp @ S				
Geometric Data			p9 (* ·)			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (LD),	ft	1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Balanced Mix	
Weather Type			Non-Severe Weather	Non-Seve	ere Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			'	'		
Demand Volume (Vi), veh/h		3281	1337	1337		
Peak Hour Factor (PHF)		0.98	0.98	0.98		
Total Trucks, %			4.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (few	)		0.926	0.990		
Flow Rate (vi), pc/h			3616	1378		
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.82	0.73	0.73	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influer	ice Area (DR), pc/mi/lr	33.6	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.575	
Downstream Equilibrium Distance (Le	q), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-	
Distance to Downstream Ramp (Loow	n), ft	-	Off-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/h	52.4	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		3616	Ramp Junction Speed (S	5), mi/h	52.4	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc	/mi/ln	34.5	
Level of Service (LOS)		D				

HCS7100 Freeways Version 7.4 4 - EX PM US 101 Off Ramp at Spring - NB.xuf

Project Information					
Analyst CCTC		Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	PM		
Project Description EX P	M US 101 Off Ramp @	Paso Robles - NB (#5)			
Geometric Data	·				
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Leng	th (LD), ft	1500	270		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors		· .	, i		
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-	-	
Final Speed Adjustment Factor (SAF)	0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity			·		
Demand Volume (Vi), veh/h		1944	561		
Peak Hour Factor (PHF)		0.98	0.95		
Total Trucks, %		4.00	1.00	1.00	
Single-Unit Trucks (SUT), %		-	-	-	
Tractor-Trailers (TT), %		-	-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.962	0.990		
Flow Rate (vi), pc/h		2062	596		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.47	0.32	0.32	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influenc	e Area (DR), pc/mi/ln	19.6	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.505	
Downstream Equilibrium Distance (LEQ),	ft -	Flow Outer Lanes (VOA), p	c/h/ln	-	
Distance to Downstream Ramp (LDOWN),	ft -	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.1	
Prop. Freeway Vehicles in Lane 1 and 2	PFD) 1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2062	Ramp Junction Speed (S)	, mi/h	54.1	
Flow Entering Ramp-Infl. Area (VR12), pc/	'h -	Average Density (D), pc/mi/ln 19.1		19.1	

3 3 1,1					
Terrain Type	Level	Level			
Percent Grade, %	-	-	-		
Segment Type / Ramp Side	Freeway	Right			
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		1383	326		
Peak Hour Factor (PHF)		0.98	0.96		
Total Trucks, %		4.00	1.00	1.00	
Single-Unit Trucks (SUT), %	-	-			
Tractor-Trailers (TT), %	-	-			
Heavy Vehicle Adjustment Factor (fнv)		0.962	0.990		
Flow Rate (vi), pc/h		1467	343		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.41	0.18		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln 17.0		17.0	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.318	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	58.7	
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h 1467		Ramp Junction Speed (S), mi/h 58.7		58.7	
Flow Entering Ramp-Infl. Area (VR12), pc/h 1810		Average Density (D), pc/mi/ln		15.4	
Level of Service (LOS)	В				

HCS7 Freeway Merge Report

EX PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Time Period Analyzed

2018 PM

Ramp

1

35.0

400

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

	ncs/ basic r	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX PM US 101 Mainline so	uth of SR 46E - NB (#7)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1709	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.962
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	906
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.4
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

Project Information  Analyst CC	TC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
	PM US 1	01 Off Ramp @ :	SR 46E - NB (#8)	1		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1	<u> </u>	
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ngth (L <sub>D</sub> )	ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Sev	ere Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h		1709	947	947		
Peak Hour Factor (PHF)			0.98	0.96	0.96	
Total Trucks, %			4.00	3.00	3.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fhv)	)		0.962	0.971		
Flow Rate (vi), pc/h			1813	1016		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.41	0.54	0.54	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	nce Area (DR), pc/mi/lr	17.8	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.543	
Downstream Equilibrium Distance (LE	q), ft	-	Flow Outer Lanes (VOA)	, pc/h/ln	-	
Distance to Downstream Ramp (Loowing	N), ft	-	Off-Ramp Influence Ar	ea Speed (S <sub>R</sub> ), mi/h	53.2	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway S	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1813	Ramp Junction Speed	(S), mi/h	53.2	
Flow Entering Ramp-Infl. Area (VR12), p	oc/h	-	Average Density (D), p	c/mi/ln	17.0	

8 - EX PM US 101 Off Ramp at SR 46E - NB.xuf

		HCS7 Freeway	Merge Report			
Project Information						
Analyst	ССТС		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
Project Description	EX PM US	101 On Ramp @ SR 46E	- NB (#9)	1		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration	Length (La)	, ft	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h			762	249		
Peak Hour Factor (PHF)			0.86	0.86		
Total Trucks, %			12.00	12.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (	fhv)		0.893	0.893		
Flow Rate (vi), pc/h			992	324		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)		0.30	0.17			
Speed and Density						
Upstream Equilibrium Distance (LE	q), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	13.1	
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.309	
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-	
Distance to Downstream Ramp (Lo	oown), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h -		-	
Flow in Lanes 1 and 2 (v12), pc/h		992	Ramp Junction Speed (S), mi/h		58.9	
Flow Entering Ramp-Infl. Area (VR1	2), pc/h	1316	Average Density (D), pc/mi/ln		11.2	
Level of Service (LOS)		В				

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HCS7100 Freeways Version 7.4 9 - EX PM US 101 On Ramp at SR 46E - NB.xuf

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	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX PM US 101 Mainline nor	th of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1011	Heavy Vehicle Adjustment Factor (fHV)	0.893
Peak Hour Factor (PHF)	0.86	Flow Rate (v <sub>P</sub> ), pc/h/ln	658
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.7
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	Α
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

Adjusted Free-Flow Speed (FF3adj), mlyn b7.7

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10 - EX PM US 101 mainline north of SR 46E - NB.xuf

	HCS7 Basic Fr	reeway Report					
Project Information							
Analyst	сстс	Date					
Agency		Analysis Year	2018				
Jurisdiction		Time Period Analyzed	PM				
Project Description	EX PM US 101 Mainline nor	th of SR 46E - SB (#11)					
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	1361	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826				
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>p</sub> ), pc/h/ln	896				
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40				
Passenger Car Equivalent (ET)	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.4				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В				
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9						
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11 - EX PM US 101 mainline north of SR 46E - SB.xuf

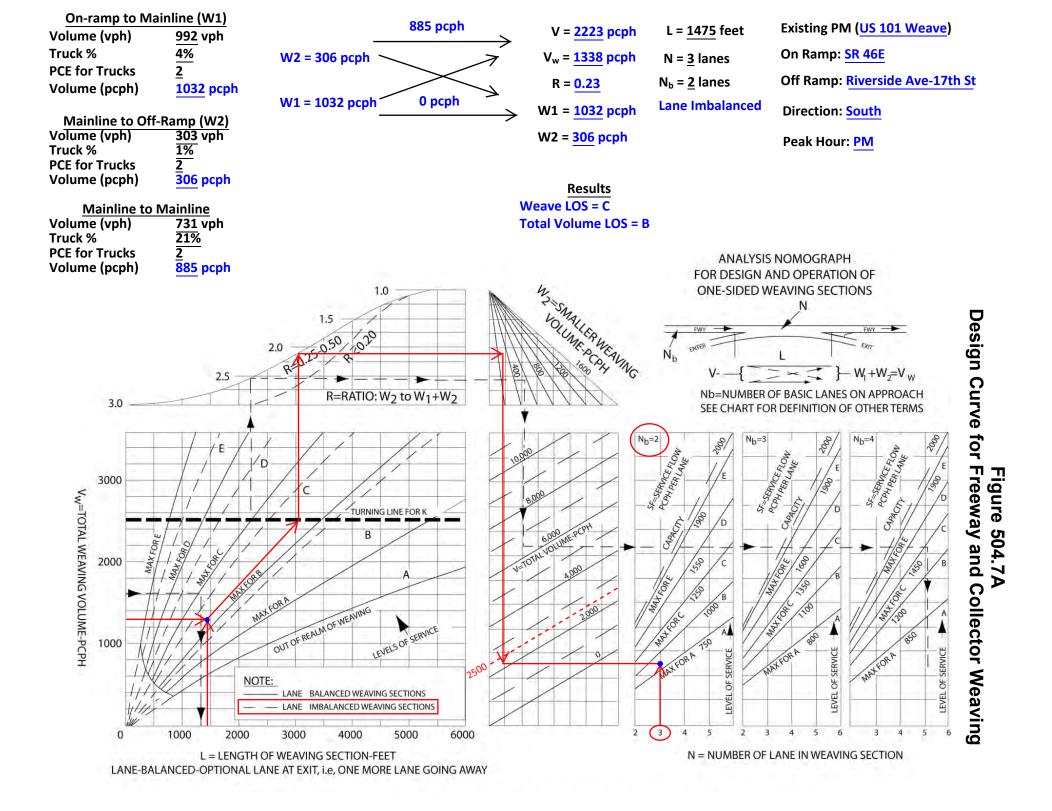
		1C57 Treeway	Diverge Report		
Project Information					
Analyst C	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description E.	X PM US	101 Off Ramp @ SR 46	E - SB (#12)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1361	327	
Peak Hour Factor (PHF)			0.92	0.94	
Total Trucks, %			21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.826	0.826	
Flow Rate (vi), pc/h			1791	421	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)		0.41	0.22		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	18.3
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.489
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	, mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1791	Ramp Junction Speed (S), mi/h		54.5
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		16.4
Level of Service (LOS)		В			

Level of Service (LOS) B
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HCS7 1000 Freeways Version 7.4

12 - EX PM US 101 Off Ramp at SR 46E - SB.xuf

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	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX PM US 101 Mainline sou	th of SR 46E - SB (#15)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1723	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>p</sub> ), pc/h/ln	993
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.8
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

ed. HCS7100 Freeways Version 7.4 15 - EX PM US 101 mainline south of SR 46E - SB.xuf

Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year	:	2018	
Jurisdiction			Time Period Analyzed		PM	
Project Description EX	PM US 1	01 On Ramp @ Riv	verside-17th - SB (#16)			
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Acceleration Le	ngth (La),	ft	1500		300	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced I	Mix
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CA	.F)		0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1723		205	
Peak Hour Factor (PHF)			0.92		0.85	
Total Trucks, %			6.00		1.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fev	)		0.943		0.990	
Flow Rate (vi), pc/h			1986		244	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.51		0.13	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	ence Area (Dr	), pc/mi/ln	20.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.337	
Downstream Equilibrium Distance (La	Q), ft	-	Flow Outer Lanes (VOA)	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loow	n), ft	-	On-Ramp Influence Ar	ea Speed (SR	), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway S	Speed (So), m	i/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1986	Ramp Junction Speed	(S), mi/h		58.2
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2230	Average Density (D), p	c/mi/ln		19.2
Level of Service (LOS)	i	С				

HCS7 Freeway Merge Report

16 - EX PM US 101 On Ramp at Riverside-17th - SB.xuf

	ŀ	HCS7 Freeway	Diverge Report		
Project Information	_				
	CTC		Date	T	
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description EX	X PM US	101 Off Ramp @ Rivers			
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1928	126	
Peak Hour Factor (PHF)			0.92	0.77	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fhv	/)		0.943	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2222	165	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.50	0.09	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	21.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.466
Downstream Equilibrium Distance (La	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2222	Ramp Junction Speed (S), mi/h		55.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		20.2
Level of Service (LOS)		С			

C: L II ': T L (CLT) O/				
Single-Unit Trucks (SUT), %	-	-		
Tractor-Trailers (TT), %	-	-		
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.943	0.990	
Flow Rate (vi), pc/h		2481	1003	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.79	0.53	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		23.9
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.360
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		57.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	ni/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2481	Ramp Junction Speed (S), mi/h		57.7
Flow Entering Ramp-Infl. Area (VR12), pc/h	3484	Average Density (D), pc/mi/ln		30.2
Level of Service (LOS)	С			
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EX PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2152

0.92

6.00

Non-Severe Weather

Time Period Analyzed

2018

PM

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

894

0.90

1.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic Fr	reeway Report					
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year	2018				
Jurisdiction		Time Period Analyzed	PM				
Project Description	EX PM US 101 Mainline nor	th of SR 46W - SB (#19)					
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	3046	Heavy Vehicle Adjustment Factor (fHV)	0.943				
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>P</sub> ), pc/h/ln	1756				
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79				
Passenger Car Equivalent (E <sub>T</sub> )	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	61.5				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	28.6				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D				
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9						

ed. HCS7 TMM Freeways Version 7.4 19 - EX PM US 101 mainline north of SR 46W - SB.xuf

Project Information						
	СТС		Date			
Agency			Analysis Year		2018	
Jurisdiction			Time Period Analyzed		PM	
	C PM US	101 Off Ramn @ 9	SR 46W - SB (#20)			
Geometric Data	(1 W 05	TOT OIL RUIND @ S	35 (#20)			
Geometric Butu			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Le	enath (Lo	) ft	1500		210	
Terrain Type	9 ()	,,	Level		Level	
Percent Grade, %					-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors			Treemay		- ingin	
Driver Population			Balanced Mix		Balanced 1	Mix
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CA	(F)		0.939		0.939	
Demand Adjustment Factor (DAF)	<u> </u>		1.000		1.000	
Demand and Capacity				<u> </u>		
Demand Volume (Vi), veh/h			3046		523	
Peak Hour Factor (PHF)			0.92		0.90	
Total Trucks, %			6.00		3.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (few	/)		0.943		0.971	
Flow Rate (vi), pc/h			3511		598	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.80		0.32	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	nce Area (Di	), pc/mi/ln	32.6
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)			0.505
Downstream Equilibrium Distance (La	EQ), ft	-	Flow Outer Lanes (VOA),	pc/h/ln		-
Distance to Downstream Ramp (Loow	/N), ft	-	Off-Ramp Influence Are	ea Speed (Si	ı), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and	1 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway S	peed (So), m	ii/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3511	Ramp Junction Speed (	S), mi/h		54.1
Flow Entering Ramp-Infl. Area (VR12),	nc/h	-	Average Density (D), po	/mi/ln		32.4

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HCS7 1000 Freeways Version 7.4 20 - EX PM US 101 Off Ramp at SR 46W - SB.xuf

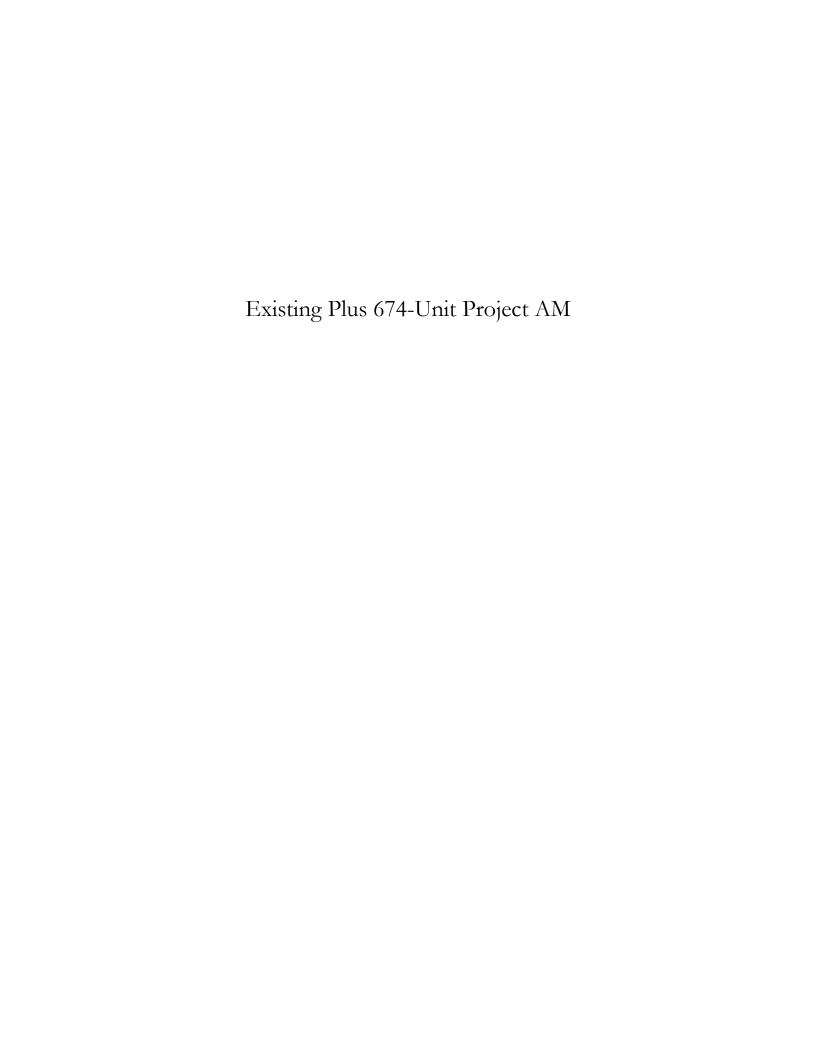
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		HCS7 Freeway	Merge Report		
<b>Project Information</b>					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description	EX PM US	101 On Ramp @ SR 46V	V - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population		Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2523	146	
Peak Hour Factor (PHF)			0.92	0.83	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.943	0.971	
Flow Rate (vi), pc/h			2908	181	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.70	0.10	
Speed and Density			<u>'</u>		
Upstream Equilibrium Distance (LEG	), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	27.6
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ms)		0.386
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2908	Ramp Junction Speed (S), mi/h		57.0
Flow Entering Ramp-Infl. Area (VR12	), pc/h	3089	Average Density (D), pc/mi/ln		27.1
Level of Service (LOS)		С			

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HCS7 WM Freeways Version 7.4
21 - EX PM US 101 On Ramp at SR 46W - SB.xuf

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description E	X+674 AN	/I US 101 Off Ramp @ SI	R 46W - NB (#1)	<u> </u>	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration I	Length (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF	:)		0.950	0.950	
Final Capacity Adjustment Factor (C	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity				'	
Demand Volume (Vi), veh/h			1968	146	
Peak Hour Factor (PHF)			0.90	0.83	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.926	0.943	
Flow Rate (vi), pc/h			2361	187	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.10	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	), ft	-	Density in Ramp Influen	ce Area (DR), pc/mi/ln	22.4
Distance to Upstream Ramp (Lup), ft	t	-	Speed Index (Ds)		0.468
Downstream Equilibrium Distance (I	LEQ), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-
Distance to Downstream Ramp (LDO	wn), ft	-	Off-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 an	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2361	Ramp Junction Speed (S), mi/h 55.0		55.0
1 71 1					
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	-	Average Density (D), pc,	/mi/ln	21.5

			I .				
			Single-Unit Trucks (SUT), %		-	-	
			Tractor-Trailers (TT), %	-	-		
43			Heavy Vehicle Adjustment Factor (fHV)		0.926	0.943	
7			Flow Rate (vi), pc/h		2186	507	
78			Capacity (c), pc/h		4413	1878	
0			Volume-to-Capacity Ratio (v/c)		0.61	0.27	
			Speed and Density				
:/mi/ln	22.4		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		24.2
	0.468		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.356
	-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
i/h	55.0		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		57.8
	-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	ni/h	-
	55.0		Flow in Lanes 1 and 2 (v12), pc/h	2186	Ramp Junction Speed (S), mi/h		57.8
	21.5		Flow Entering Ramp-Infl. Area (VR12), pc/h	2693	Average Density (D), pc/mi/ln		23.3
			Level of Service (LOS)	С			
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EX+674 AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1822

0.90

8.00

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

435

0.91

6.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic F	reeway Report					
Project Information							
Analyst	сстс	Date					
Agency		Analysis Year	2018				
Jurisdiction		Time Period Analyzed	AM				
Project Description	EX+674 AM US 101 Mainlir	ne north of SR 46W - NB (#3)					
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	2257	Heavy Vehicle Adjustment Factor (fhv)	0.926				
Peak Hour Factor (PHF)	0.90	Flow Rate (v <sub>p</sub> ), pc/h/ln	1354				
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61				
Passenger Car Equivalent (E <sub>T</sub> )	2.000						
Speed and Density							
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.0				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	20.2				
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	С				
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7						

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3 - EX+674 AM US 101 mainline north of SR 46W - NB.xuf

	ŀ	HCS7 Freeway	Diverge Report		
Project Information	_				
Analyst	СТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description Ex	X+674 AN	1 US 101 Off Ramp @ 5	ipring - NB (#4)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	), ft	1500	195	
Terrain Type			Rolling	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2257	792	
Peak Hour Factor (PHF)			0.90	0.84	
Total Trucks, %			8.00	2.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.862	0.980	
Flow Rate (vi), pc/h			2909	962	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.66	0.51	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	27.5
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.538
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	53.3
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So)	), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2909	Ramp Junction Speed (S), mi/h		53.3
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		27.3
Level of Service (LOS)		С			

Level of Service (LOS)

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4 - EX+674 AM US 101 Off Ramp at Spring - NB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information	_				
Analyst Co	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description EX	X+674 AN	И US 101 Off Ramp @ Р	aso Robles - NB (#5)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1465	323	
Peak Hour Factor (PHF)			0.90	0.94	
Total Trucks, %			8.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.926	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			1758	347	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.40	0.18	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	Area (D <sub>R</sub> ), pc/mi/ln	16.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.483
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc,	/h/ln	-	
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area S	Speed (SR), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000		Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1758	Ramp Junction Speed (S),	mi/h	54.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/m	i/ln	16.1
Level of Service (LOS)		В			

		l	Specu una Bensity						
i/ln	16.9		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	17.9			
	0.483		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)	0.321			
	-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	-			
	54.7		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.6			
	-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h	-			
	54.7		Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1370	Ramp Junction Speed (S), mi/h	58.6			
	16.1		Flow Entering Ramp-Infl. Area (VR12), pc/h	1932	Average Density (D), pc/mi/ln	16.5			
			Level of Service (LOS)	В					
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	6 - EX+674 AM US 101 On Ramp at Paso Robles - NB.xuf								

EX+674 AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1142

0.90

8.00

0.926

1370

4413

0.44

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

406

0.73

1.00

0.990

562

1878

0.30

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Volume-to-Capacity Ratio (v/c)

Total Trucks, %

Flow Rate (vi), pc/h Capacity (c), pc/h

Speed and Density

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	AM			
Project Description	EX+674 AM US 101 Mainlin	e south of SR 46E - NB (#7)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1548	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.90	Flow Rate (v <sub>P</sub> ), pc/h/ln	928			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7			
Right-Side Lateral Clearance Adj. (fr.Lc)	0.0	Density (D), pc/mi/ln	13.7			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					
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Project Information						
	стс		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description E	X+674 AN	1 US 101 Off Ram	p @ SR 46E - NB (#8)			
Geometric Data			, , , , ,			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balance	d Mix	
Weather Type			Non-Severe Weather	Non-Se	Non-Severe Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)	1		0.950	0.950	0.950	
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939	0.939	
Demand Adjustment Factor (DAF)	<u> </u>		1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1548	890		
Peak Hour Factor (PHF)			0.90	0.85	0.85	
Total Trucks, %			8.00	5.00	5.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fr	v)		0.926	0.952	0.952	
Flow Rate (vi), pc/h			1857	1100		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.42	0.59		
Speed and Density				,		
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influe	nce Area (DR), pc/mi/	In 18.2	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.550	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-	
Distance to Downstream Ramp (LDO)	wn), ft	-	Off-Ramp Influence Are	ea Speed (S <sub>R</sub> ), mi/h	53.0	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway S	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1857	Ramp Junction Speed (	S), mi/h	53.0	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), po	:/mi/ln	17.5	
Level of Service (LOS)		В				

Project Information						
Analyst CC	СТС		Date			
Agency			Analysis Year	2018		
urisdiction			Time Period Analyzed	AM		
Project Description EX	C+674 AM	US 101 On Ram	p @ SR 46E - NB (#9)	·		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La), f	t	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balance	d Mix	
Weather Type			Non-Severe Weather	Non-Se	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	λF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			658	260	260	
Peak Hour Factor (PHF)			0.78	0.78	0.78	
Total Trucks, %			18.00	18.00	18.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (few	·)		0.847	0.847		
Flow Rate (v <sub>i</sub> ), pc/h			996	394		
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.31	0.21	0.21	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	nce Area (DR), pc/mi/	In 13.7	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.310	
Downstream Equilibrium Distance (Le	eq), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft	-	On-Ramp Influence Are	ea Speed (S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway S	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h 996		Ramp Junction Speed (	Ramp Junction Speed (S), mi/h			
Flow Entering Ramp-Infl. Area (vR12),	pc/h	1390	Average Density (D), po	:/mi/ln	11.8	
Level of Service (LOS)		В				

	HCS7 Basic Fr	eeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX+674 AM US 101 Mainlin	e north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	918	Heavy Vehicle Adjustment Factor (fHV)	0.847
Peak Hour Factor (PHF)	0.78	Flow Rate (v <sub>P</sub> ), pc/h/ln	695
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (E⊤)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	10.3
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	Α
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7		

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10 - EX+674 AM US 101 mainline north of SR 46E - NB.xuf

	HCS7 Basic Fi	reeway Report				
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	AM			
Project Description	EX+674 AM US 101 Mainlin	e north of SR 46E - SB (#11)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	856	Heavy Vehicle Adjustment Factor (fHV)	0.840			
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>P</sub> ), pc/h/ln	548			
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	8.2			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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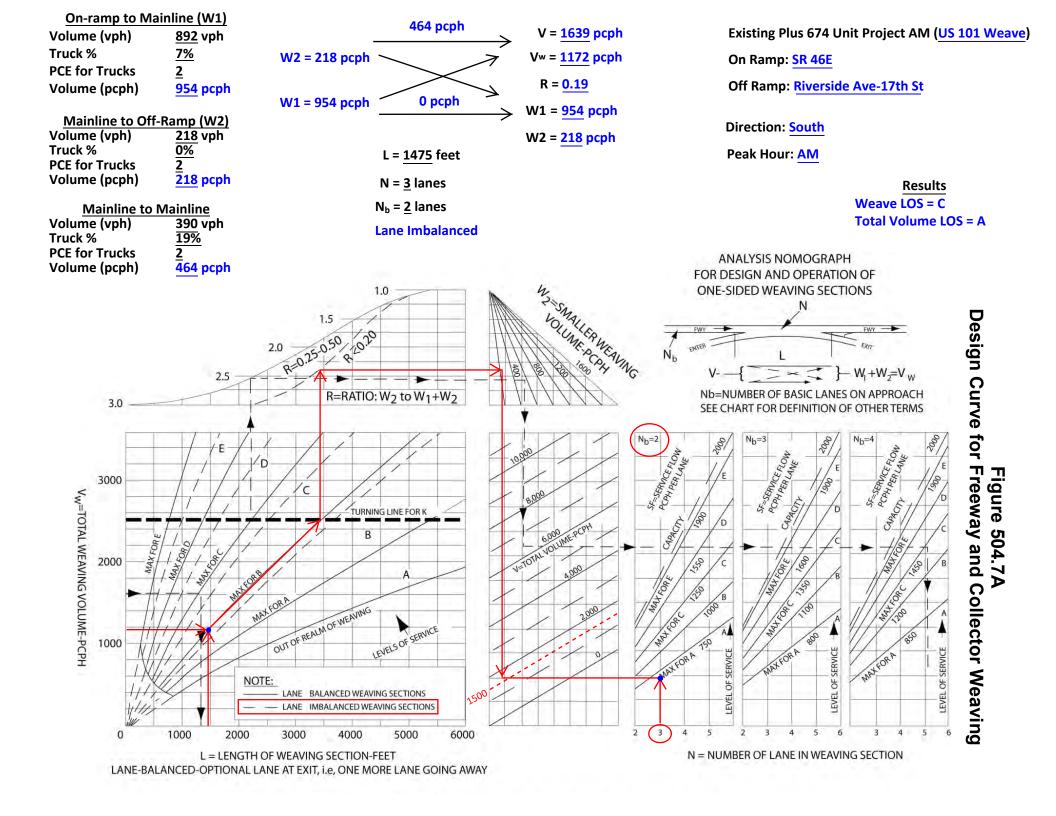
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		HCS7 Freeway	Diverge Report			
Project Information						
Analyst	СТС		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description E	X+674 AN	1 US 101 Off Ramp @	SR 46E - SB (#12)	_		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)	)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			<u>'</u>			
Demand Volume (Vi), veh/h			856	248		
Peak Hour Factor (PHF)			0.93	0.95		
Total Trucks, %			19.00	19.00		
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fi	v)		0.840	0.840		
Flow Rate (vi), pc/h			1096	311		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.25	0.17		
Speed and Density						
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Are	a (D <sub>R</sub> ), pc/mi/ln	12.3	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.479	
Downstream Equilibrium Distance (L	Downstream Equilibrium Distance (LEQ), ft		Flow Outer Lanes (VOA), pc/h/li	n	-	
Distance to Downstream Ramp (Look	wn), ft	-	Off-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	54.8	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S	Outer Lanes Freeway Speed (So), mi/h		
Flow in Lanes 1 and 2 (v12), pc/h		1096	Ramp Junction Speed (S), mi/h	า	54.8	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		10.0	
Level of Service (LOS)		В				

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12 - EX+674 AM US 101 Off Ramp at SR 46E - SB.xuf

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	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX+674 AM US 101 Mainlin	e south of SR 46E - SB (#15)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1282	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>p</sub> ), pc/h/ln	744
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

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15 - EX+674 AM US 101 mainline south of SR 46E - SB.xuf

		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description	EX+674 AN	И US 101 On Ramp @ R	iverside-17th - SB (#16)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (LA)	, ft	1500	300	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity			·		
Demand Volume (Vi), veh/h			1282	298	
Peak Hour Factor (PHF)			0.93	0.94	
Total Trucks, %			8.00	2.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	hv)		0.926	0.980	
Flow Rate (v <sub>i</sub> ), pc/h			1489	323	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0.17	
Speed and Density					
Upstream Equilibrium Distance (Leo	ı), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	17.7
Distance to Upstream Ramp (Lup),	t	-	Speed Index (Ms)		0.325
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft -		On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.5	
Prop. Freeway Vehicles in Lane 1 a	nd 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (V12), pc/h		1489	Ramp Junction Speed (S), mi/h		58.5
Flow Entering Ramp-Infl. Area (VR12	), pc/h	1812	Average Density (D), pc/mi/ln		15.5
Level of Service (LOS)		В			

Level of Service (LOS)

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HCS7100 Freeways Version 7.4

13 - EX+674 AM US 101 On Ramp at Riverside-17th - SB.xuf

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	l	HCS7 Freeway	Diverge Report			
Project Information						
Analyst	CCTC		Date	T		
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description	EX+674 AN	И US 101 Off Ramp @ R	iverside/Pine - SB (#17)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	190		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF	=)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1580	99		
Peak Hour Factor (PHF)			0.93	0.82	0.82	
Total Trucks, %			8.00	5.00		
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (f	нv)		0.926	0.952		
Flow Rate (vi), pc/h			1835	127		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.42	0.07		
Speed and Density						
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	18.3	
Distance to Upstream Ramp (Lup), fi	t	-	Speed Index (Ds)		0.463	
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln		-		
Distance to Downstream Ramp (LDOWN), ft -		Off-Ramp Influence Area Speed	I (S <sub>R</sub> ), mi/h	55.2		
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000		Outer Lanes Freeway Speed (So	), mi/h	-		
Flow in Lanes 1 and 2 (v12), pc/h		1835	Ramp Junction Speed (S), mi/h		55.2	
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	-	Average Density (D), pc/mi/ln		16.6	
Level of Service (LOS)		В				

Tractor-Trailers (TT), %	-	-		
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926	0.980		
Flow Rate (vi), pc/h		2125	1408	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.80	0.75	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	24.1
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.366
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		57.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), I	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2125	Ramp Junction Speed (S), mi/h		57.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	3533	Average Density (D), pc/mi/ln		30.7
Level of Service (LOS)	С			
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EX+674 AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1830

0.93

8.00

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

1330

Right

0.950

0.939

1.000

1256

0.91

2.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

Weather Type

Incident Type

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), %

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic F	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX+674 AM US 101 Mainlir	ne north of SR 46W - SB (#19)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	3086	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>p</sub> ), pc/h/ln	1792
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	60.8
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9		

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19 - EX+674 AM US 101 mainline north of SR 46W - SB.xuf

Project Information						
Analyst Co	CTC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description EX	(+674 AM US	101 Off Ram	p @ SR 46W - SB (#20)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> ), ft		1500	210		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			<u> </u>	,		
Driver Population			Balanced Mix	Balance	d Mix	
Weather Type			Non-Severe Weather	Non-Se	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CA	ıF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity			<u> </u>			
Demand Volume (Vi), veh/h			3086	526	526	
Peak Hour Factor (PHF)			0.93	0.89	0.89	
Total Trucks, %			8.00	6.00	6.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (few	r)		0.926	0.943		
Flow Rate (vi), pc/h			3583	627		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.81	0.33	0.33	
Speed and Density			·			
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influ	ence Area (DR), pc/mi/	'In 33.2	
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)		0.508	
Downstream Equilibrium Distance (Le	:Q), ft -		Flow Outer Lanes (vo	), pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft -		Off-Ramp Influence Area Sp		54.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.0	000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v12), pc/h	35	i83	Ramp Junction Speed (S), mi/h		54.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h -		Average Density (D), p	oc/mi/ln	33.1	
Level of Service (LOS)	D					

		HCS7 Freeway	Merge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description E	X+674 AN	1 US 101 On Ramp @ S	R 46W - SB (#21)	<u> </u>	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2560	92	
Peak Hour Factor (PHF)			0.93	0.88	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	⊣v)		0.926	0.943	
Flow Rate (vi), pc/h			2973	111	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.70	0.06	
Speed and Density					
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	27.6
Distance to Upstream Ramp (Lup), ft	ance to Upstream Ramp (Lup), ft -		Speed Index (Ms)		0.385
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/l	n	-	
Distance to Downstream Ramp (Loo	Distance to Downstream Ramp (LDOWN), ft -		On-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	57.1
Prop. Freeway Vehicles in Lane 1 an	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (S	So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2973	Ramp Junction Speed (S), mi/	h	57.1
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	3084	Average Density (D), pc/mi/ln		27.0
Level of Service (LOS)		С			

Level of Service (LUS)

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21 - EX+674 AM US 101 On Ramp at SR 46W - SB.xuf

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		HCS7 Freeway	Diverge Report		
Project Information	_				
	CCTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description	EX+674 PN	1 US 101 Off Ramp @ SI	R 46W - NB (#1)		
Geometric Data			, ,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	235	
Terrain Type	-		Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				,	
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity				·	
Demand Volume (Vi), veh/h			2698	114	
Peak Hour Factor (PHF)			0.98	0.73	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	fhv)		0.962	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2862	158	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.65	0.08	
Speed and Density					
Upstream Equilibrium Distance (Leo	2), ft	-	Density in Ramp Influence	Area (DR), pc/mi/ln	26.8
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ds)		0.466
Downstream Equilibrium Distance	Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (voa), pc/	h/ln	-
Distance to Downstream Ramp (Lo	own), ft	-	Off-Ramp Influence Area Sp	peed (S <sub>R</sub> ), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2862	Ramp Junction Speed (S), n	ni/h	55.1
Flow Entering Ramp-Infl. Area (vR12	), pc/h	-	Average Density (D), pc/mi,	/In	26.0
Level of Service (LOS)		С			

Driver Population	Balanced Mix Balanced M		Mix	
Weather Type	Non-Severe Weather	Non-Severe Weather		
Incident Type	No Incident	No Incident -		
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		2584	773	
Peak Hour Factor (PHF)		0.98	0.92	
Total Trucks, %		4.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fhv)		0.962	0.990	
Flow Rate (vi), pc/h		2741	849	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.81	0.45	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (I	DR), pc/mi/ln	31.0
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.439
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	55.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h 2741		Ramp Junction Speed (S), mi/h		55.7
Flow Entering Ramp-Infl. Area (VR12), pc/h	3590	Average Density (D), pc/mi/ln		32.2
Level of Service (LOS)	D			
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EX+674 PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Time Period Analyzed

2018

PM

Ramp

1

35.0

345

Right

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** 

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

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Project Information			
<u> </u>	CCTC	Dete	I
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX+674 PM US 101 Mainli	ne north of SR 46W - NB (#3)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	3357	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.962
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	1780
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	61.5
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	28.9
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

		HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	СТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description E	X+674 PN	1 US 101 Off Ramp @ 5	Spring - NB (#4)	1	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	195	
Terrain Type			Rolling	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3357	1413	
Peak Hour Factor (PHF)			0.98	0.98	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.926	0.990	
Flow Rate (vi), pc/h			3699	1456	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.84	0.78	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	34.3
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.582
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Look	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	52.2
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3699	Ramp Junction Speed (S), mi/h		52.2
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		35.4
Level of Service (LOS)		D			

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4 - EX+674 PM US 101 Off Ramp at Spring - NB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information	_				
Analyst Co	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description EX	X+674 PN	1 US 101 Off Ramp @ Pa	aso Robles - NB (#5)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo)	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1944	561	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.962	0.990	
Flow Rate (vi), pc/h			2062	596	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.47	0.32	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	Area (DR), pc/mi/ln	19.6
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.505
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/	h/ln	-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area S	peed (S <sub>R</sub> ), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and	1 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed	d (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2062	Ramp Junction Speed (S), n	ni/h	54.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi,	/ln	19.1
Level of Service (LOS)		В			

Flow Rate (vi), pc/h	1467	352		
Capacity (c), pc/h	4413	1878		
Volume-to-Capacity Ratio (v/c)		0.41	0.19	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (E	DR), pc/mi/ln	17.1
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.318
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM) 1.000		Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	1467	Ramp Junction Speed (S), mi/h		58.7
Flow Entering Ramp-Infl. Area (VR12), pc/h	1819	Average Density (D), pc/mi/ln		15.5
Level of Service (LOS)	В			
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EX+674 PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1383

0.98

4.00

0.962

Non-Severe Weather

Time Period Analyzed

2018

Ramp

1

35.0

400

Level

Right

0.950

0.939

1.000

335

0.96

1.00

0.990

Balanced Mix

Non-Severe Weather

PM

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Total Trucks, %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic F	reeway Report			
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	PM		
Project Description	EX+674 PM US 101 Mainlin	e south of SR 46E - NB (#7)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1718	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.962		
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	911		
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.5		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7				

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7 - EX+674 PM US 101 mainline south of SR 46E - NB.xuf

		HCS7 Freeway	Diverge Report		
Project Information	_				
Analyst	СТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description Ex	X+674 PN	1 US 101 Off Ramp @ S	R 46E - NB (#8)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (LD)	, ft	1500	225	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	ere Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			1718	947	
Peak Hour Factor (PHF)			0.98	0.96	
Total Trucks, %			4.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fin	v)		0.962	0.971	
Flow Rate (vi), pc/h			1822	1016	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0.54	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	17.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.543
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOW	wn), ft	-	Off-Ramp Influence Area Speed	I (S <sub>R</sub> ), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So	), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1822	Ramp Junction Speed (S), mi/h		53.2
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		17.1
Level of Service (LOS)		В			

Level of Service (LOS)

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8 - EX+674 PM US 101 Off Ramp at SR 46E - NB.xuf

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Project Information						
-	СТС		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
	(+674 PM U	S 101 On Ram	p @ SR 46E - NB (#9)			
Geometric Data			, , , , , , , , , , , , , , , , , , , ,			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La), ft		1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balance	ed Mix	
Weather Type			Non-Severe Weather	Non-Se	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	λF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			'	· ·		
Demand Volume (Vi), veh/h			771	249	249	
Peak Hour Factor (PHF)			0.86	0.86	0.86	
Total Trucks, %			12.00	12.00	12.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv	·)		0.893	0.893		
Flow Rate (vi), pc/h			1004	324		
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.30	0.17	0.17	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influe	ence Area (D <sub>R</sub> ), pc/mi,	/ln 13.2	
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ms)		0.309	
Downstream Equilibrium Distance (La	eq), ft -		Flow Outer Lanes (voa)	), pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft -		On-Ramp Influence Ar	rea Speed (S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FM</sub> ) 1	.000	Outer Lanes Freeway S	Speed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1	004	Ramp Junction Speed	(S), mi/h	58.9	
Flow Entering Ramp-Infl. Area (VR12),	pc/h 1	328	Average Density (D), p	c/mi/ln	11.3	
Level of Service (LOS)	В	3				

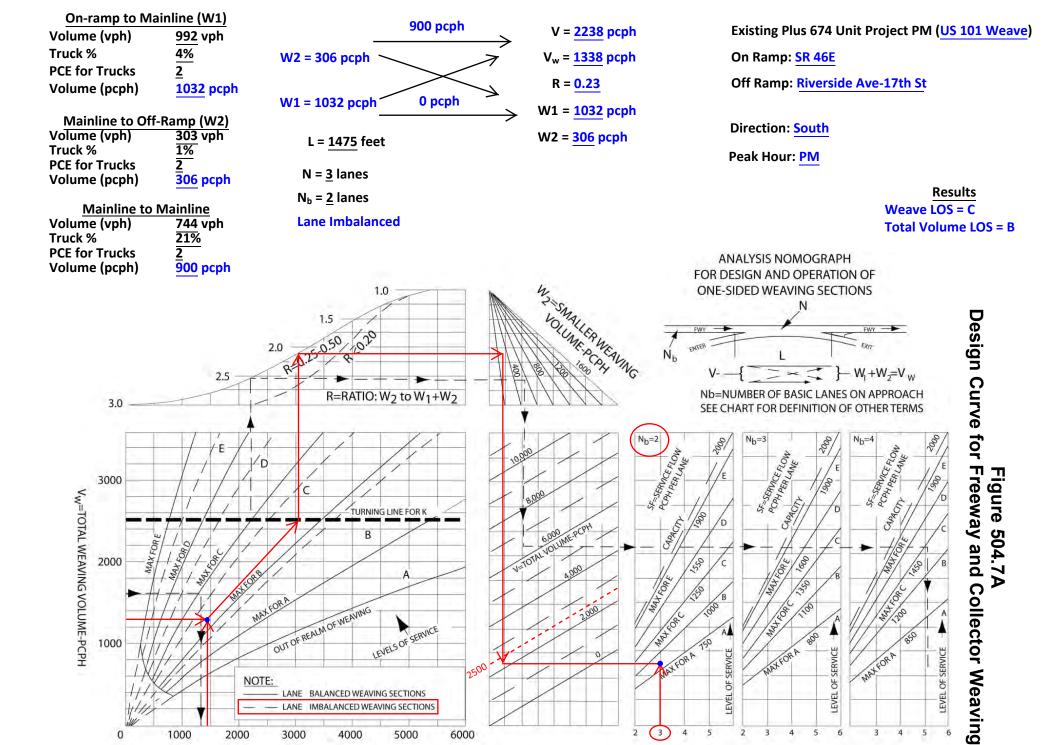
	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX+674 PM US 101 Mainlin	e north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1020	Heavy Vehicle Adjustment Factor (fHV)	0.893
Peak Hour Factor (PHF)	0.86	Flow Rate (v <sub>p</sub> ), pc/h/ln	664
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.8
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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	HCS7 Basic Freeway Report						
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year	2018				
Jurisdiction		Time Period Analyzed	PM				
Project Description EX+674 PM US 101 Mainline north of SR 46E - SB (#11)							
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	1374	Heavy Vehicle Adjustment Factor (fHV)	0.826				
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>P</sub> ), pc/h/ln	904				
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41				
Passenger Car Equivalent (ET)	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.5				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В				
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9						
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Project Information						
-	CTC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
Project Description EX	(+674 PM US 10	1 Off Ramp (	@ SR 46E - SB (#12)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo), ft		1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			<u>'</u>			
Driver Population			Balanced Mix	Balanced	d Mix	
Weather Type			Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	ιF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			<u>'</u>			
Demand Volume (Vi), veh/h			1374	327	327	
Peak Hour Factor (PHF)			0.92	0.94	0.94	
Total Trucks, %			21.00	21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (few	r)		0.826	0.826	0.826	
Flow Rate (vi), pc/h			1808	421	421	
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0.22	0.22	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influence	e Area (DR), pc/mi/l	n 18.4	
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)		0.489	
Downstream Equilibrium Distance (Le	:q), ft -		Flow Outer Lanes (VOA), po	c/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft -		Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.5	
Prop. Freeway Vehicles in Lane 1 and	2 (PFD) 1.000	)	Outer Lanes Freeway Spe	ed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	1808		Ramp Junction Speed (S),	Ramp Junction Speed (S), mi/h		
Flow Entering Ramp-Infl. Area (VR12),	pc/h -		Average Density (D), pc/n	ni/ln	16.6	
Level of Service (LOS)	В					



N = NUMBER OF LANE IN WEAVING SECTION

L = LENGTH OF WEAVING SECTION-FEET
LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

HCS7 Basic Freeway Report					
Project Information					
Analyst	сстс	Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	PM		
Project Description	EX+674 PM US 101 Mainlin	e south of SR 46E - SB (#15)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1736	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>P</sub> ), pc/h/ln	1000		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.9		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				
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15 - EX+674 PM US 101 mainline south of SR 46E - SB.xuf

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Droinet Information						
Project Information			ls.			
.,	CTC		Date	2010		
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
, ,	(+674 PN	US 101 On Ramp (	@ Riverside-17th - SB (#16)			
Geometric Data			1 -			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h		_	70.0	35.0		
Segment Length (L) / Acceleration Le	ngth (LA),	ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balance		
Weather Type			Non-Severe Weather		evere Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1736	205		
Peak Hour Factor (PHF)			0.92	0.85		
Total Trucks, %			6.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fhv	)		0.943	0.990		
Flow Rate (vi), pc/h			2001	244		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.51	0.13		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	nce Area (DR), pc/mi,	/ln 21.1	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.338	
Downstream Equilibrium Distance (LE	q), ft	-	Flow Outer Lanes (VOA)	, pc/h/ln	-	
Distance to Downstream Ramp (Loow	'N), ft	-	On-Ramp Influence Ar	ea Speed (S <sub>R</sub> ), mi/h	58.2	
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway S	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2001	Ramp Junction Speed	(S), mi/h	58.2	
Flow Entering Ramp-Infl. Area (VR12), p	pc/h	2245	Average Density (D), p	c/mi/ln	19.3	
Level of Service (LOS)		С				

	H	CS7 Freew	ay Diverge Repo	rt		
Project Information						
Analyst	СТС		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM		
Project Description EX	(+674 PM L	JS 101 Off Ramp	@ Riverside/Pine - SB (#17)	·		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> ), f	t	1500	190		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	d Mix	
Weather Type			Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1941	139		
Peak Hour Factor (PHF)			0.92	0.77		
Total Trucks, %			6.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fhv	·)		0.943	0.990		
Flow Rate (vi), pc/h			2237	182		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.51	0.10		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influ	uence Area (DR), pc/mi/l	n 21.8	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.468	
Downstream Equilibrium Distance (Le	eQ), ft	-	Flow Outer Lanes (vo	A), pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence	Area Speed (S <sub>R</sub> ), mi/h	55.0	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway	Speed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2237	Ramp Junction Spee	d (S), mi/h	55.0	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D),	pc/mi/ln	20.3	
Level of Service (LOS)		C C				

Capacity (c), pc/h	4413	1878					
Volume-to-Capacity Ratio (v/c)	Volume-to-Capacity Ratio (v/c)						
Speed and Density	Speed and Density						
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	24.4			
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.368			
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-			
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		57.5			
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-			
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2481	Ramp Junction Speed (S), mi/h		57.5			
Flow Entering Ramp-Infl. Area (VR12), pc/h	3544	Average Density (D), pc/mi/ln		30.8			
Level of Service (LOS)	С						
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EX+674 PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2152

0.92

6.00

0.943

2481

Non-Severe Weather

Time Period Analyzed

2018

PM

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

947

0.90

1.00

0.990

1063

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic Fi	reeway Report					
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year	2018				
Jurisdiction		Time Period Analyzed	PM				
Project Description EX+674 PM US 101 Mainline north of SR 46W - SB (#19)							
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	3099	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943				
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>P</sub> ), pc/h/ln	1786				
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80				
Passenger Car Equivalent (E <sub>T</sub> )	2.000						
Speed and Density							
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	60.9				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	29.3				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D				
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9						
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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst CC	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description EX	(+674 PN	1 US 101 Off Ramp @ S	IR 46W - SB (#20)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	210	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3099	3099 535	
Peak Hour Factor (PHF)			0.92	0.90	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fhv	·)		0.943	0.971	
Flow Rate (vi), pc/h			3572	612	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.81	0.33	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	33.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.506
Downstream Equilibrium Distance (LE	Q), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence Area Speed	I (S <sub>R</sub> ), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So	), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3572	Ramp Junction Speed (S), mi/h		54.1
Flow Entering Ramp-Infl. Area (VR12), p	pc/h	-	Average Density (D), pc/mi/ln		33.0
Level of Service (LOS)		D			

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20 - EX+674 PM US 101 Off Ramp at SR 46W - SB.xuf

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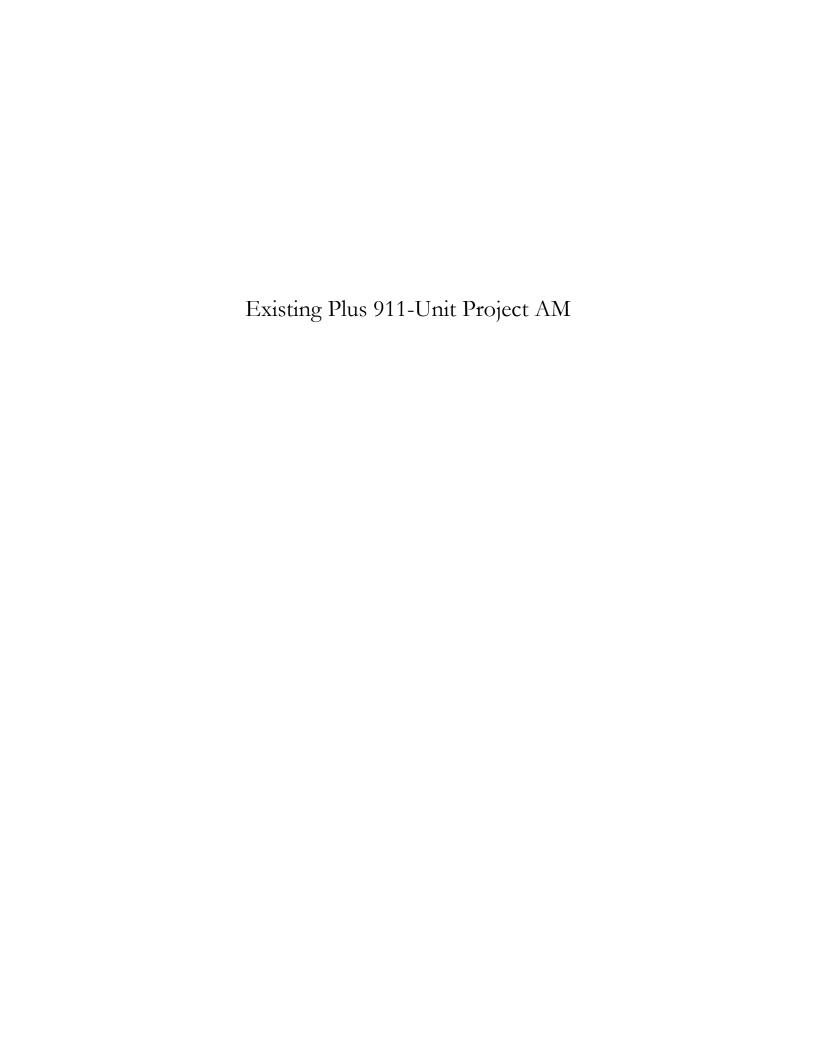
		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description	EX+674 PN	1 US 101 On Ramp @ SI	R 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration I	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF	=)		0.950	0.950	
Final Capacity Adjustment Factor (C	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity			<u>'</u>		
Demand Volume (Vi), veh/h			2564	146	
Peak Hour Factor (PHF)			0.92	0.83	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.943	0.971	
Flow Rate (vi), pc/h			2955	181	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.71	0.10	
Speed and Density			<u>'</u>		
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	27.9
Distance to Upstream Ramp (Lup), fi	t	-	Speed Index (Ms)		0.390
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loo	own), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 an	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2955	Ramp Junction Speed (S), mi/h		56.9
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	3136	Average Density (D), pc/mi/ln		27.6
Level of Service (LOS)		С			

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Level of Service (LOS)

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21 - EX+674 PM US 101 On Ramp at SR 46W - SB.xuf



	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
•	CTC		Date	T	
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
	X+911 AN	/I US 101 Off Ramp @ 5	,	1	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	235	
Terrain Type		*	Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)	)		0.950	0.950	
Final Capacity Adjustment Factor (Ca	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1972	146	
Peak Hour Factor (PHF)			0.90	0.83	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fr	ıv)		0.926	0.943	
Flow Rate (vi), pc/h			2366	187	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.54	0.10	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	22.5
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.468
Downstream Equilibrium Distance (L	Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (voA), pc/h/ln		-
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-
Flow in Lanes 1 and 2 (V12), pc/h		2366	Ramp Junction Speed (S), mi/h		55.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		21.5
Level of Service (LOS)		С			

	0.939 1.000 437 0.91 6.00 - - 0.943 509 1878 0.27		
	437 0.91 6.00 - - 0.943 509 1878		
	0.91 6.00 - - 0.943 509 1878		
	0.91 6.00 - - 0.943 509 1878		
	6.00 - - 0.943 509 1878		
	- - 0.943 509 1878		
	0.943 509 1878		
	0.943 509 1878		
	509 1878		
	1878		
	1 1		
	0.27		
		0.27	
Ramp Influence Area (	DR), pc/mi/ln	24.2	
ex (Ms)		0.356	
Lanes (voa), pc/h/ln		-	
On-Ramp Influence Area Speed (SR), mi/h		57.8	
Outer Lanes Freeway Speed (So), mi/h		-	
Ramp Junction Speed (S), mi/h		57.8	
Average Density (D), pc/mi/ln		23.4	
-		Density (D), pc/mi/ln Gener	

EX+911 AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

Non-Severe Weather

Time Period Analyzed

2018 AM

Ramp

35.0

345

Right

0.950

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

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Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report  Project Information						
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	AM			
Project Description	EX+911 AM US 101 Mainlir	ne north of SR 46W - NB (#3)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	2263	Heavy Vehicle Adjustment Factor (fhv)	0.926			
Peak Hour Factor (PHF)	0.90	Flow Rate (v <sub>p</sub> ), pc/h/ln	1358			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.0			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	20.3			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	С			
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7					

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Project Information					
nalyst		Date			
gency		Analysis Year	2018		
urisdiction		Time Period Analyzed	AM		
roject Description EX+911 A	M US 101 Off Ram	np @ Spring - NB (#4)			
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0	35.0	
Segment Length (L) / Deceleration Length (L	D), ft	1500	195		
Terrain Type		Rolling	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population	river Population		Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	ere Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)	0.950	0.950			
Final Capacity Adjustment Factor (CAF)	0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (V <sub>i</sub> ), veh/h		2263	798		
Peak Hour Factor (PHF)		0.90	0.84	0.84	
Total Trucks, %		8.00	2.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fhv)		0.862	0.980		
Flow Rate (vi), pc/h		2917	969		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.66	0.52		
peed and Density	_				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	27.6	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.539	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), po	:/h/ln	-	
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area	Speed (SR), mi/h	53.3	
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Spec	ed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	2917	Ramp Junction Speed (S),	mi/h	53.3	
Flow Entering Ramp-Infl. Area (VR12), pc/h	-	Average Density (D), pc/m	ni/ln	27.4	

HCS7 Freeway Diverge Report						
Project Information						
-	CCTC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description	FX+911 AN	и US 101 Off Ramp @ P	<u> </u>			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration	Lenath (Lo	), ft	1500	270		
Terrain Type		,, -	Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			,			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SA	F)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)	emand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1465	323		
Peak Hour Factor (PHF)			0.90	0.94		
Total Trucks, %	Total Trucks, %		8.00	1.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (	fhv)		0.926	0.990		
Flow Rate (v <sub>i</sub> ), pc/h			1758	347		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.40	0.18		
Speed and Density						
Upstream Equilibrium Distance (Leo	2), ft	-	Density in Ramp Influence	Area (DR), pc/mi/ln	16.9	
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ds)		0.483	
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/l	h/ln	-	
Distance to Downstream Ramp (Lo	own), ft	-	Off-Ramp Influence Area Sp	peed (SR), mi/h	54.7	
Prop. Freeway Vehicles in Lane 1 a	nd 2 (PFD)	1.000	Outer Lanes Freeway Speed	d (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1758	Ramp Junction Speed (S), n	ni/h	54.7	
Flow Entering Ramp-Infl. Area (vR12	), pc/h	-	Average Density (D), pc/mi/	/In	16.1	
Level of Service (LOS)		В				

			Speed and Density			
n	16.9		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	17.9
	0.483		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)	0.321
	-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	-
	54.7		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.6
	-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h	-
	54.7		Flow in Lanes 1 and 2 (v12), pc/h	1370	Ramp Junction Speed (S), mi/h	58.6
	16.1		Flow Entering Ramp-Infl. Area (VR12), pc/h	1936	Average Density (D), pc/mi/ln	16.5
			Level of Service (LOS)	В		
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EX+911 AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1142

0.90

8.00

0.926

1370

4413

0.44

Non-Severe Weather

Time Period Analyzed

2018 AM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

409

0.73

1.00

0.990 566

1878

0.30

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Volume-to-Capacity Ratio (v/c)

Total Trucks, %

Flow Rate (vi), pc/h

Capacity (c), pc/h

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (La), ft

	HCS7 Basic F	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX+911 AM US 101 Mainlir	e south of SR 46E - NB (#7)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1551	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926
Peak Hour Factor (PHF)	0.90	Flow Rate (v <sub>p</sub> ), pc/h/ln	930
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7		

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7 - EX+911 AM US 101 mainline south of SR 46E - NB.xuf

	H	HCS7 Freeway	Diverge Report		
Project Information					
	CTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description EX	(+911 AM	I US 101 Off Ramp @ S	R 46E - NB (#8)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> ),	, ft	1500	225	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				<u> </u>	
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			1551	890	
Peak Hour Factor (PHF)			0.90	0.85	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fhv	')		0.926	0.952	
Flow Rate (vi), pc/h			1861	1100	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.42	0.59	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Ar	ea (DR), pc/mi/ln	18.2
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.550
Downstream Equilibrium Distance (LE	Q), ft	-	Flow Outer Lanes (voa), pc/h/	'In	-
Distance to Downstream Ramp (Loow	/N), ft	-	Off-Ramp Influence Area Spe	eed (S <sub>R</sub> ), mi/h	53.0
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (	(So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1861	Ramp Junction Speed (S), mi	/h	53.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/lr	ı	17.6
Level of Service (LOS)		В			

Level of Service (LOS)

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8 - EX+911 AM US 101 Off Ramp at SR 46E - NB.xuf

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Project Information						
Analyst	СТС		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description EX	(+911 AM I	US 101 On Ramı	o @ SR 46E - NB (#9)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0	35.0	
Segment Length (L) / Acceleration Le	ength (La), f	t	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balance	d Mix	
Weather Type			Non-Severe Weather	Non-Sev	vere Weather	
Incident Type	ncident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h		661	260			
Peak Hour Factor (PHF)			0.78	0.78	0.78	
Total Trucks, %			18.00	18.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fHV	·)		0.847	0.847		
Flow Rate (vi), pc/h			1001	394		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.32	0.21		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influer	nce Area (DR), pc/mi/l		
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.310	
Downstream Equilibrium Distance (Le	EQ), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft	-	On-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 and	2 (PFM)	1.000	Outer Lanes Freeway Sp	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1001	Ramp Junction Speed (S	S), mi/h	58.9	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	1395	Average Density (D), pc	/mi/ln	11.8	
Level of Service (LOS)		В				

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	AM
Project Description	EX+911 AM US 101 Mainlin	e north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	921	Heavy Vehicle Adjustment Factor (fHV)	0.847
Peak Hour Factor (PHF)	0.78	Flow Rate (v <sub>P</sub> ), pc/h/ln	697
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	10.3
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	AM			
Project Description EX+911 AM US 101 Mainline north of SR 46E - SB (#11)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	857	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.840			
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>P</sub> ), pc/h/ln	548			
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25			
Passenger Car Equivalent (E⊤)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	8.2			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

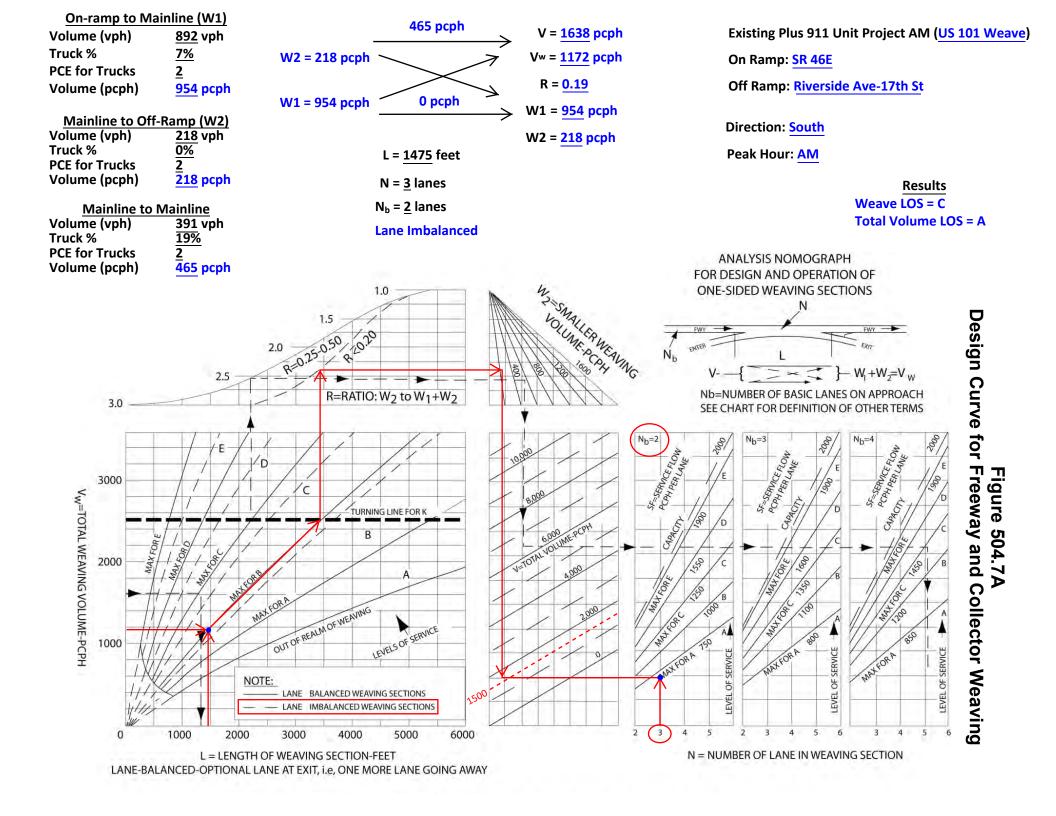
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	ŀ	HCS7 Freeway	Diverge Report		
Project Information		,			
	стс		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
	X+911 AN	1 US 101 Off Ramp @ S			
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo)	), ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity			·		
Demand Volume (Vi), veh/h			857	248	
Peak Hour Factor (PHF)			0.93	0.95	
Total Trucks, %			19.00	19.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fr	v)		0.840	0.840	
Flow Rate (vi), pc/h			1097	311	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.25	0.17	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence A	rea (DR), pc/mi/ln	12.3
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.479
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h	/ln	-
Distance to Downstream Ramp (Look	wn), ft	-	Off-Ramp Influence Area Sp	eed (S <sub>R</sub> ), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed	(So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1097	Ramp Junction Speed (S), mi	i/h	54.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/l	n	10.0
Level of Service (LOS)		В			

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12 - EX+911 AM US 101 Off Ramp at SR 46E - SB.xuf

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HCS7 Basic Freeway Report						
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	AM			
Project Description EX+911 AM US 101 Mainline south of SR 46E - SB (#15)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1283	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.93	Flow Rate (v <sub>P</sub> ), pc/h/ln	745			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.Lc)	0.0	Density (D), pc/mi/ln	11.1			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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15 - EX+911 AM US 101 mainline south of SR 46E - SB.xuf

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But at the country	_					
Project Information						
Analyst CC	TC		Date			
Agency			Analysis Year		2018	
Jurisdiction			Time Period Analyzed		AM	
Project Description EX	+911 AN	1 US 101 On Ramp	@ Riverside-17th - SB (#16)			
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Acceleration Le	ngth (LA)	, ft	1500		300	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced Mix	
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CAF)			0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity			<u> </u>	'		
Demand Volume (Vi), veh/h			1283		298	
Peak Hour Factor (PHF)			0.93		0.94	
Total Trucks, %			8.00		2.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fev	)		0.926		0.980	
Flow Rate (vi), pc/h			1490		323	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.41		0.17	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	ence Area (D	R), pc/mi/ln	17.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)			0.325
Downstream Equilibrium Distance (Le	q), ft	-	Flow Outer Lanes (voa)	, pc/h/ln		-
Distance to Downstream Ramp (Loow	N), ft	-	On-Ramp Influence Ar	ea Speed (S	R), mi/h	58.5
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway S	Speed (So), n	ni/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1490	Ramp Junction Speed	·		58.5
Flow Entering Ramp-Infl. Area (VR12),	oc/h	1813	Average Density (D), p			15.5
Level of Service (LOS)		В	, , , , , ,			

16 - EX+911 AM US 101 On Ramp at Riverside-17th - SB.xuf

HCS7 Freeway Diverge Report					
Project Information	_				
-	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description	EX+911 AN	/I US 101 Off Ramp @ R	iverside/Pine - SB (#17)		
Geometric Data			. , ,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				<u> </u>	
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity				·	
Demand Volume (Vi), veh/h			1581	100	
Peak Hour Factor (PHF)			0.93	0.82	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.926	0.952	
Flow Rate (vi), pc/h			1836	128	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.42	0.07	
Speed and Density					
Upstream Equilibrium Distance (Lec	), ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	18.3
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ds)		0.463
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), po	:/h/ln	-
Distance to Downstream Ramp (Lo	own), ft	-	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Spe	ed (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1836	Ramp Junction Speed (S),	mi/h	55.2
Flow Entering Ramp-Infl. Area (VR12	), pc/h	-	Average Density (D), pc/n	ni/ln	16.6
Level of Service (LOS)		В			

Demand Volume (V <sub>i</sub> ), veh/h		1830	1276	
Peak Hour Factor (PHF)	0.93	0.91		
Total Trucks, %		8.00	2.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.926	0.980	
Flow Rate (vi), pc/h		2125	1431	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.81	0.76	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	24.3
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.369
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	57.5
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So), I	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2125	Ramp Junction Speed (S), mi/h		57.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	3556	Average Density (D), pc/mi/ln		30.9
	С			

EX+911 AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

Non-Severe Weather

Time Period Analyzed

2018

AM

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

Weather Type

Incident Type

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**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

Agency Jurisdiction Project Description  EX  Geometric Data  Number of Lanes (N), In 2  Segment Length (L), ft Measured or Base Free-Flow Speed B  Base Free-Flow Speed (BFFS), mi/h 7  Lane Width, ft 1	2 - Base	Date Analysis Year Time Period Analyzed e north of SR 46W - SB (#19)  Terrain Type Percent Grade, %	2018 AM
Agency Jurisdiction Project Description  EX  Geometric Data  Number of Lanes (N), In 2  Segment Length (L), ft Measured or Base Free-Flow Speed B  Base Free-Flow Speed (BFFS), mi/h 7  Lane Width, ft 1	X+911 AM US 101 Mainline 2 - Base	Analysis Year Time Period Analyzed e north of SR 46W - SB (#19) Terrain Type	AM
Jurisdiction Project Description  EX  Geometric Data  Number of Lanes (N), In 2 Segment Length (L), ft - Measured or Base Free-Flow Speed Base Free-Flow Speed (BFFS), mi/h 7 Lane Width, ft 1	2 - Base	Time Period Analyzed e north of SR 46W - SB (#19)  Terrain Type	AM
Project Description EX  Geometric Data  Number of Lanes (N), In 2 Segment Length (L), ft - Measured or Base Free-Flow Speed Base Free-Flow Speed (BFFS), mi/h 7 Lane Width, ft 1	2 - Base	e north of SR 46W - SB (#19)  Terrain Type	
Geometric Data  Number of Lanes (N), In 2  Segment Length (L), ft -  Measured or Base Free-Flow Speed Base Free-Flow Speed (BFFS), mi/h 7  Lane Width, ft 1	2 - Base	Terrain Type	Level
Number of Lanes (N), In 2 Segment Length (L), ft - Measured or Base Free-Flow Speed B Base Free-Flow Speed (BFFS), mi/h 7 Lane Width, ft 1	- Base	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	Level
Segment Length (L), ft -  Measured or Base Free-Flow Speed Base Free-Flow Speed (BFFS), mi/h 7  Lane Width, ft 1	- Base	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	Level
Measured or Base Free-Flow Speed B Base Free-Flow Speed (BFFS), mi/h 7 Lane Width, ft 1		Percent Grade %	1
Base Free-Flow Speed (BFFS), mi/h 7 Lane Width, ft 1		reicent Graue, 70	-
Lane Width, ft 1	75.4	Grade Length, mi	-
	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Pight-Side Lateral Clearance ft 1	12	Free-Flow Speed (FFS), mi/h	70.4
Night-Side Lateral Clearance, it	10		
Adjustment Factors			
Driver Population B	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type N	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type N	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h 3	3106	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF) 0	0.93	Flow Rate (v <sub>p</sub> ), pc/h/ln	1804
Total Trucks, % 8	8.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E <sub>T</sub> ) 2	2.000		
Speed and Density			
Lane Width Adjustment (fLw) 0	0.0	Average Speed (S), mi/h	60.6
Right-Side Lateral Clearance Adj. (fr.c) 0	0.0	Density (D), pc/mi/ln	29.8
Total Ramp Density Adjustment 5	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h 6			

erved. HCS711M Freeways Version 7.4 19 - EX+911 AM US 101 mainline north of SR 46W - SB.xuf

Project Information						
Analyst	CTC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	AM		
Project Description EX	(+911 AN	I US 101 Off Ram	p @ SR 46W - SB (#20)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo)	, ft	1500	210		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	l Mix	
Weather Type			Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h		3106	530	530		
Peak Hour Factor (PHF)			0.93	0.89	0.89	
Total Trucks, %			8.00	6.00	6.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv	)		0.926	0.943	0.943	
Flow Rate (vi), pc/h			3607	632	632	
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.82	0.34	0.34	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	ce Area (DR), pc/mi/lr	n 33.4	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.508	
Downstream Equilibrium Distance (LE	q), ft	-	Flow Outer Lanes (voa), p	oc/h/ln	-	
Distance to Downstream Ramp (Loow	ν), ft	-	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		3607	Ramp Junction Speed (S	), mi/h	54.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/	mi/ln	33.3	
Level of Service (LOS)		D				

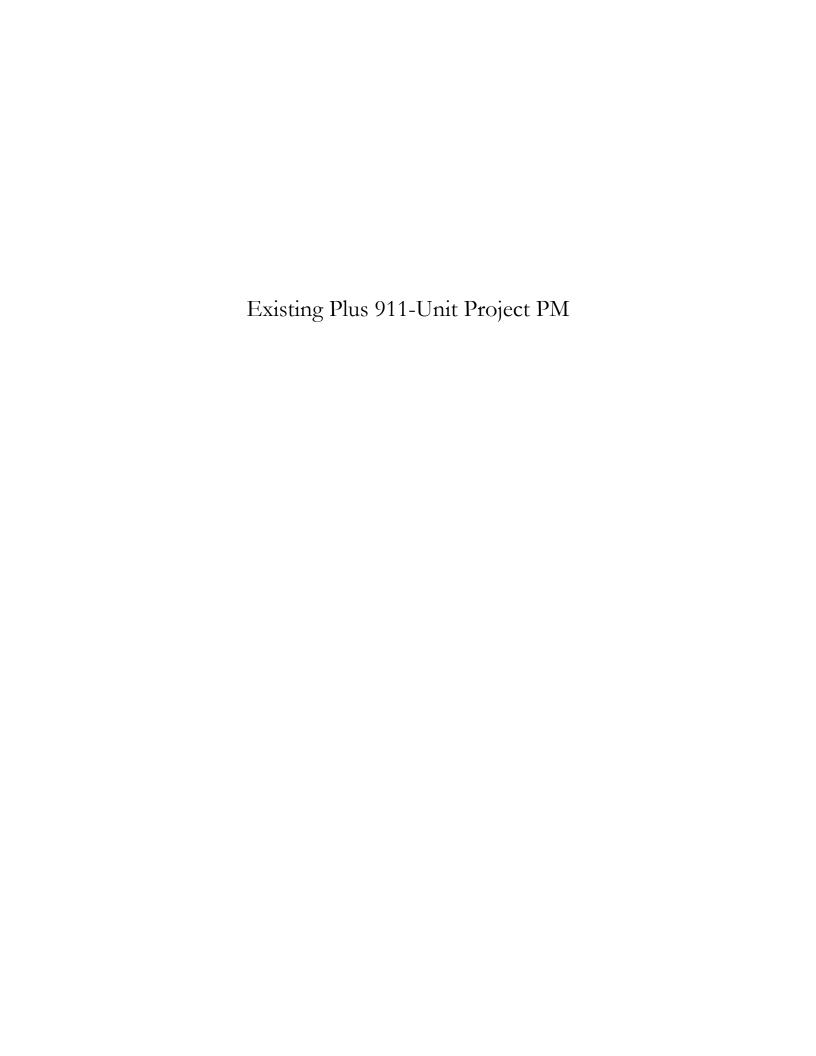
		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	AM	
Project Description E	X+911 AN	I US 101 On Ramp @ S	R 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced I	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			2576	92	
Peak Hour Factor (PHF)			0.93	0.88	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	iv)		0.926	0.943	
Flow Rate (vi), pc/h			2991	111	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.70	0.06	
Speed and Density			<u>'</u>		
Upstream Equilibrium Distance (LEQ)	), ft	-	Density in Ramp Influence Area (	Dr), pc/mi/ln	27.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.387
Downstream Equilibrium Distance (I	LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDO	wn), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2991	Ramp Junction Speed (S), mi/h		57.0
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	3102	Average Density (D), pc/mi/ln		27.2
Level of Service (LOS)		С			

Level of Service (LOS)

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21 - EX+911 AM US 101 On Ramp at \$\text{SR}\$ 46W - SB.xuf

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description	EX+911 PN	1 US 101 Off Ramp @ S	R 46W - NB (#1)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (LD)	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				·	
Driver Population			Balanced Mix	Balanced N	Mix
Weather Type		Non-Severe Weather	Non-Sever	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			2714	114	
Peak Hour Factor (PHF)			0.98	0.73	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.962	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2879	158	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.65	0.08	
Speed and Density					
Upstream Equilibrium Distance (Leo	a), ft	-	Density in Ramp Influence Ar	ea (DR), pc/mi/ln	26.9
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ds)		0.466
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/	'In	-
Distance to Downstream Ramp (LD	own), ft	-	Off-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (PFD)	1.000	Outer Lanes Freeway Speed (	So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2879	Ramp Junction Speed (S), mi	/h	55.1
Flow Entering Ramp-Infl. Area (vR12	), pc/h	-	Average Density (D), pc/mi/lr	1	26.1
Level of Service (LOS)		С			

		Freeway	Ramp	
Number of Lanes (N)		2	1	
Free-Flow Speed (FFS), mi/h		70.0	35.0	
Segment Length (L) / Acceleration Length (LA)	, ft	1500	345	
Terrain Type	Level	Level		
Percent Grade, %	-	-		
Segment Type / Ramp Side	Freeway	Right		
Adjustment Factors				
Driver Population		Balanced Mix	Balanced	Mix
Weather Type		Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)	1.000	1.000		
Demand and Capacity				
Demand Volume (Vi), veh/h		2600	778	
Peak Hour Factor (PHF)		0.98	0.92	
Total Trucks, %		4.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.962	0.990	
Flow Rate (vi), pc/h		2758	854	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.82	0.45	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (I	DR), pc/mi/ln	31.2
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.443
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2758	Ramp Junction Speed (S), mi/h		55.6
Flow Entering Ramp-Infl. Area (VR12), pc/h	3612	Average Density (D), pc/mi/ln		32.5
Level of Service (LOS)	D			

EX+911 PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Time Period Analyzed

2018 PM

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

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HCS7 Basic Freeway Report						
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	PM			
Project Description EX+911 PM US 101 Mainline north of SR 46W - NB (#3)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	3378	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1792			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	61.2			
Right-Side Lateral Clearance Adj. (fr.Lc)	0.0	Density (D), pc/mi/ln	29.3			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					
Convright © 2019 University of Florida All Rights R	occurred LICCTEM Erroru	vavs Version 7.4	Generated: 1/8/2019 3:23:23 PM			

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3 - EX+911 PM US 101 mainline north of SR 46W - NB.xuf

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**Project Information** 

Analyst	CCTC		Date			
Agency			Analysis Year	2018		
Jurisdiction			Time Period Analyzed	PM	PM	
Project Description	EX+911 PN	/I US 101 Off Ramp @	Spring - NB (#4)			
Geometric Data	<u>'</u>					
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Decelerat	ion Length (Lo	), ft	1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	ere Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor	(SAF)		0.950	0.950	0.950	
Final Capacity Adjustment Factor	or (CAF)		0.939	0.939	0.939	
Demand Adjustment Factor (DA	AF)		1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			3378	1434		
Peak Hour Factor (PHF)			0.98	0.98		
Total Trucks, %			4.00	1.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Fact	or (f <sub>HV</sub> )		0.926	0.990	0.990	
Flow Rate (vi), pc/h			3722	1478		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.84	0.79	0.79	
Speed and Density						
Upstream Equilibrium Distance	(LEQ), ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	34.5	
Distance to Upstream Ramp (Lu	JP), ft	-	Speed Index (Ds)		0.584	
Downstream Equilibrium Distar	nce (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/l	n	-	
Distance to Downstream Ramp	(LDOWN), ft	-	Off-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	52.2	
Prop. Freeway Vehicles in Lane	1 and 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (	So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/l	h	3722	Ramp Junction Speed (S), mi/	h	52.2	
Flow Entering Ramp-Infl. Area (	(vr12), pc/h	-	Average Density (D), pc/mi/ln		35.7	
Level of Service (LOS)		D				

	ŀ	HCS7 Freeway	Diverge Report		
Project Information	_				
-	CTC		Date	Τ	
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description EX	X+911 PN	1 US 101 Off Ramp @ F	· · · · · · · · · · · · · · · · · · ·		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1944	561	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.962	0.990	
Flow Rate (vi), pc/h			2062	596	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.47	0.32	
Speed and Density					
Upstream Equilibrium Distance (Leq),	ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	19.6
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.505
Downstream Equilibrium Distance (Le	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Ldow	vn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2062	Ramp Junction Speed (S), mi/h		54.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		19.1
Level of Service (LOS)		В			

		Capacity (c), pc/h	4413	1878				
		Volume-to-Capacity Ratio (v/c)		0.41	0.19			
		Speed and Density						
19.6		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	17.1		
0.505		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms) 0.319		0.319		
-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		Flow Outer Lanes (vo <sub>A</sub> ), pc/h/ln -		-
54.1		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h 58		58.7		
-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h -		-		
54.1		Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1467	Ramp Junction Speed (S), mi/h 58.7		58.7		
19.1		Flow Entering Ramp-Infl. Area (VR12), pc/h	1823	Average Density (D), pc/mi/ln 15		15.5		
		Level of Service (LOS)	В					
erated: 1/9/2019 5:19:06 PM	'				Ger	nerated: 1/8/2019 3:35:39 PM		
	0.505 - 54.1 - 54.1 19.1	0.505 - 54.1 - 54.1	Volume-to-Capacity Ratio (v/c)  Speed and Density  19.6  Upstream Equilibrium Distance (Leo), ft  Distance to Upstream Ramp (Lup), ft  Downstream Equilibrium Distance (Leo), ft  54.1  Distance to Downstream Ramp (Lown), ft  Prop. Freeway Vehicles in Lane 1 and 2 (Prм)  Flow in Lanes 1 and 2 (vr2), pc/h  Flow Entering Ramp-Infl. Area (vx12), pc/h  Level of Service (LOS)  Copyright © 2019 University of Florida. All Rights Reserve	Volume-to-Capacity Ratio (v/c)  Speed and Density  19.6  Upstream Equilibrium Distance (LEQ), ft  - Distance to Upstream Ramp (LUP), ft  - Downstream Equilibrium Distance (LEQ), ft  - Distance to Downstream Ramp (LDOWN), ft  - Prop. Freeway Vehicles in Lane 1 and 2 (PFM) 1.000  Flow in Lanes 1 and 2 (V12), pc/h 1467  Flow Entering Ramp-Infl. Area (VR12), pc/h 1823  Level of Service (LOS) B  Copyright © 2019 University of Florida. All Rights Reserved. HCS7 TMB Freew	Volume-to-Capacity Ratio (v/c)  Speed and Density  19.6  Upstream Equilibrium Distance (LEQ), ft - Density in Ramp Influence Area (D. Speed Index (Ms))  Downstream Equilibrium Distance (LEQ), ft - Speed Index (Ms)  Downstream Equilibrium Distance (LEQ), ft - Flow Outer Lanes (vox), pc/h/ln  54.1  Distance to Downstream Ramp (LDOWN), ft - On-Ramp Influence Area Speed (So), refereway Vehicles in Lane 1 and 2 (PFM) 1.000  Outer Lanes Freeway Speed (So), refere in Lanes 1 and 2 (vr2), pc/h 1467  Ramp Junction Speed (S), mi/h  Flow Entering Ramp-Infl. Area (vr2), pc/h 1823  Average Density (D), pc/mi/ln  Level of Service (LOS)  B	Volume-to-Capacity Ratio (v/c)  Speed and Density  19.6  Upstream Equilibrium Distance (LEQ), ft - Density in Ramp Influence Area (DR), pc/mi/ln  5.055  Distance to Upstream Ramp (LUP), ft - Speed Index (Ms)  Downstream Equilibrium Distance (LEQ), ft - Flow Outer Lanes (voA), pc/h/ln  54.1  Distance to Downstream Ramp (LDOWN), ft - On-Ramp Influence Area Speed (SR), mi/h  Prop. Freeway Vehicles in Lane 1 and 2 (PFM) 1.000 Outer Lanes Freeway Speed (SO), mi/h  Flow in Lanes 1 and 2 (vr2), pc/h 1467 Ramp Junction Speed (S), mi/h  Flow Entering Ramp-Infl. Area (vR12), pc/h 1823 Average Density (D), pc/mi/ln  Level of Service (LOS)  B  Copyright © 2019 University of Florida. All Rights Reserved. HCS7100 Freeways Version 7.4 Ger		

EX+911 PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1383

0.98

4.00

0.962

1467

Non-Severe Weather

Time Period Analyzed

2018

Ramp

1

35.0

400

Right

0.950

0.939

1.000

338

0.96

1.00

0.990

356

Balanced Mix

Non-Severe Weather

PM

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX+911 PM US 101 Mainlin	e south of SR 46E - NB (#7)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1721	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.962
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	912
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7		

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7 - EX+911 PM US 101 mainline south of SR 46E - NB.xuf

		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description E	X+911 PN	1 US 101 Off Ramp @ S	R 46E - NB (#8)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	225	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (Ca	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1721	947	
Peak Hour Factor (PHF)			0.98	0.96	
Total Trucks, %			4.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	iv)		0.962	0.971	
Flow Rate (vi), pc/h			1825	1016	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0.54	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	17.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds) 0.54		0.543
Downstream Equilibrium Distance (L	LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h 53.2		53.2
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S	So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1825	Ramp Junction Speed (S), mi/	h	53.2
Flow Entering Ramp-Infl. Area (VR12),	, pc/h	-	Average Density (D), pc/mi/ln		17.2
Level of Service (LOS)		В			
	1	I HOGET THE F	14 1 7 4		

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8 - EX+911 PM US 101 Off Ramp at SR 46E - NB.xuf

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		HCS7 Freeway	Merge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description	EX+911 PN	/I US 101 On Ramp @ SF	R 46E - NB (#9)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				'	
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			774 249		
Peak Hour Factor (PHF)			0.86	0.86	
Total Trucks, %			12.00	12.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	f <sub>HV</sub> )		0.893	0.893	
Flow Rate (v <sub>i</sub> ), pc/h			1008	324	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.30	0.17	
Speed and Density					
Upstream Equilibrium Distance (Le	Q), ft	-	Density in Ramp Influence	Area (D <sub>R</sub> ), pc/mi/ln	13.2
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms) 0.		0.309
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Lo	юwn), ft	-	On-Ramp Influence Area S	Speed (SR), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 a	nd 2 (Рғм)	1.000	Outer Lanes Freeway Spee	ed (So), mi/h	-
Flourin Lance 1 and 2 (v-) ne/h		1008	Ramp Junction Speed (S),	mi/h	58.9
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h					
Flow Entering Ramp-Infl. Area (vr.)	2), pc/h	1332	Average Density (D), pc/m	i/ln	11.3

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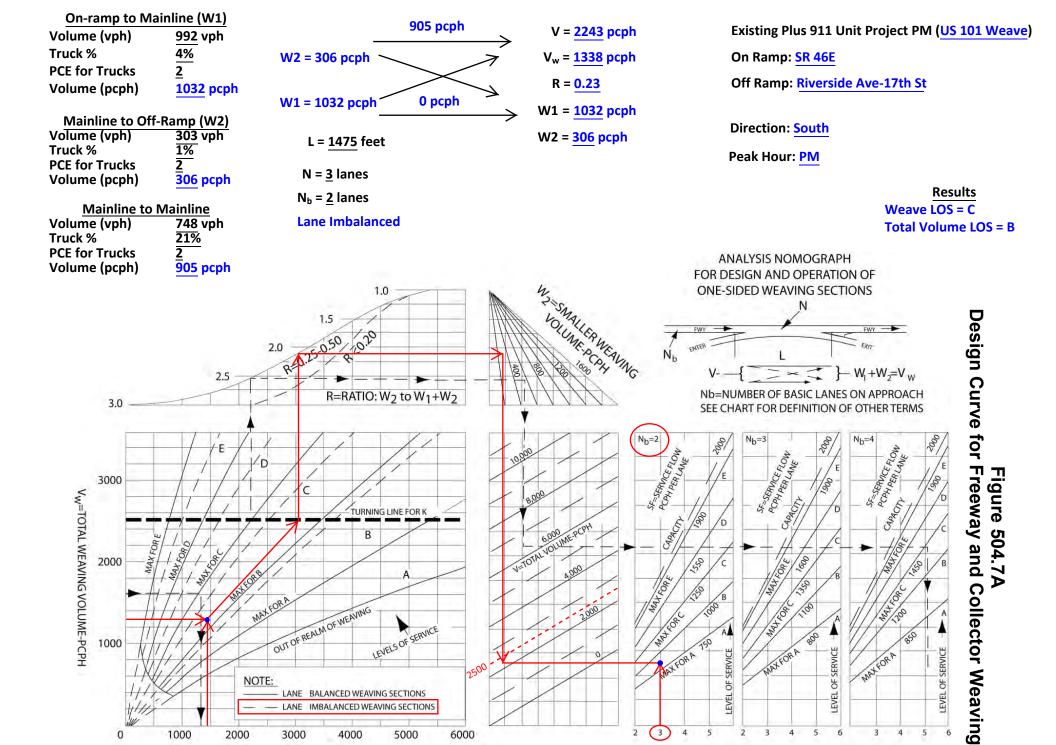
	HCS7 Basic Fr	eeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX+911 PM US 101 Mainlin	e north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1023	Heavy Vehicle Adjustment Factor (fHV)	0.893
Peak Hour Factor (PHF)	0.86	Flow Rate (v <sub>P</sub> ), pc/h/ln	666
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E⊤)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.8
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7		

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	HCS7 Basic Freeway Report					
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year	2018			
Jurisdiction		Time Period Analyzed	PM			
Project Description	EX+911 PM US 101 Mainlin	e north of SR 46E - SB (#11)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1378	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826			
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>P</sub> ), pc/h/ln	906			
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.5			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

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Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year	20	)18	
Jurisdiction			Time Period Analyzed	PI	M	
Project Description EX	(+911 PM US 1	01 Off Ramp	o @ SR 46E - SB (#12)	<u> </u>		
Geometric Data						
			Freeway	R	Ramp	
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	3	5.0	
Segment Length (L) / Deceleration Le	ength (Lo), ft		1500	1	55	
Terrain Type			Level	L	.evel	
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	R	Right	
Adjustment Factors						
Driver Population			Balanced Mix	В	Balanced	Mix
Weather Type			Non-Severe Weather	N	Non-Severe Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0	0.950	
Final Capacity Adjustment Factor (CA	ιF)		0.939	0	).939	
Demand Adjustment Factor (DAF)			1.000	1	.000	
Demand and Capacity			·			
Demand Volume (Vi), veh/h			1378	3	27	
Peak Hour Factor (PHF)			0.92	0	0.94	
Total Trucks, %			21.00	2	21.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv	·)		0.826	0	0.826	
Flow Rate (vi), pc/h			1813	4	421	
Capacity (c), pc/h			4413	1	1878	
Volume-to-Capacity Ratio (v/c)			0.41	0	0.22	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influ	ience Area (D <sub>R</sub> ),	pc/mi/ln	18.4
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)			0.489
Downstream Equilibrium Distance (La	:Q), ft -		Flow Outer Lanes (vo	a), pc/h/ln		-
Distance to Downstream Ramp (Loow	/N), ft -		Off-Ramp Influence A	Area Speed (S <sub>R</sub> ),	mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and	2 (PFD) 1.00	00	Outer Lanes Freeway	Speed (So), mi/	h	-
Flow in Lanes 1 and 2 (v12), pc/h	181	3	Ramp Junction Speed	d (S), mi/h		54.5
Flow Entering Ramp-Infl. Area (VR12),	pc/h -		Average Density (D),	pc/mi/ln		16.6
Level of Service (LOS)	В					



N = NUMBER OF LANE IN WEAVING SECTION

L = LENGTH OF WEAVING SECTION-FEET
LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX+911 PM US 101 Mainlin	e south of SR 46E - SB (#15)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1740	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>p</sub> ), pc/h/ln	1003
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	15.0
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

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15 - EX+911 PM US 101 mainline south of SR 46E - SB.xuf

Analyst	TC	Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	PM		
	+911 PM HS 101 On Ra	amp @ Riverside-17th - SB (#16)	11111		
Geometric Data	.+3111101031010110	imp @ Riverside-17th - 3b (#10)			
Geometric Data		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Acceleration Le	nath (La) ft	1500	300		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors		1	ə.n		
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather		ere Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CA	F)	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		1740	205		
Peak Hour Factor (PHF)		0.92	0.85		
Total Trucks, %		6.00	1.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fhv	)	0.943	0.990	0.990	
Flow Rate (vi), pc/h		2006	244		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.51	0.13		
Speed and Density		· ·	<u> </u>		
Upstream Equilibrium Distance (LEQ),	ft -	Density in Ramp Influe	ence Area (D <sub>R</sub> ), pc/mi/lr	21.1	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.338	
Downstream Equilibrium Distance (LE	Q), ft -	Flow Outer Lanes (voa)	, pc/h/ln	-	
Distance to Downstream Ramp (Loow	n), ft -	On-Ramp Influence Ar	rea Speed (SR), mi/h	58.2	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FM</sub> ) 1.000	Outer Lanes Freeway S	Speed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	2006	Ramp Junction Speed	(S), mi/h	58.2	
Flow Entering Ramp-Infl. Area (vR12), p	oc/h 2250	Average Density (D), p	c/mi/ln	19.3	
Level of Service (LOS)	С				

HCS7 Freeway Merge Report

	H	HCS7 Freew	ay Diverge Re	port		
Project Information						
	CTC		Date			
Agency			Analysis Year		2018	
Jurisdiction			Time Period Anal	vzed	PM	
Project Description EX	(+911 PN	1 US 101 Off Ramp	@ Riverside/Pine - SB (	(#17)	I	
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Le	ngth (Lo	, ft	1500		190	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced I	Mix
Weather Type			Non-Severe Wea	ather	Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CAI	F)		0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1945	1945 143		
Peak Hour Factor (PHF)			0.92		0.77	
Total Trucks, %			6.00		1.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fhv)	)		0.943		0.990	
Flow Rate (vi), pc/h			2242		188	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.51		0.10	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp	Influence Area (E	DR), pc/mi/ln	21.8
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds	Speed Index (Ds)		0.468
Downstream Equilibrium Distance (Le	q), ft	-	Flow Outer Lane	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Lbown	ν), ft	-	Off-Ramp Influe	Off-Ramp Influence Area Speed (SR), mi/h		55.0
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Fre	eway Speed (So), ı	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2242	Ramp Junction S	Speed (S), mi/h		55.0
Flow Entering Ramp-Infl. Area (vR12), p	oc/h	-	Average Density	(D), pc/mi/ln		20.4
Level of Service (LOS)		С				

3			Capacity (c), pc/h		4413	1878			
			Volume-to-Capacity Ratio (v/c)		0.81	0.57			
			Speed and Density						
mi/ln	21.8		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	24.5		
	0.468		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms) 0.3		0.370		
	-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		Flow Outer Lanes (VOA), pc/h/ln -		-
'h	55.0		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		57.4		
	-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	mi/h	-		
	55.0		Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2481	Ramp Junction Speed (S), mi/h		57.4		
	20.4		Flow Entering Ramp-Infl. Area (VR12), pc/h	3558	Average Density (D), pc/mi/ln		31.0		
			Level of Service (LOS)	С					
Ger	erated: 1/9/2019 5:29:17 PM	'	Copyright © 2019 University of Florida. All Rights Reserve		vays Version 7.4 On Ramp at Spring - SB.xuf	Ger	nerated: 1/9/2019 5:23:24 PM		

EX+911 PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2152

0.92

6.00

0.943

2481

Non-Severe Weather

Time Period Analyzed

2018

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

960

0.90

1.00

0.990

1077

Balanced Mix

Non-Severe Weather

PM

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Total Trucks, %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	2018
Jurisdiction		Time Period Analyzed	PM
Project Description	EX+911 PM US 101 Mainlin	e north of SR 46W - SB (#19)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	3112	Heavy Vehicle Adjustment Factor (fHV)	0.943
Peak Hour Factor (PHF)	0.92	Flow Rate (v <sub>P</sub> ), pc/h/ln	1794
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	60.8
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		
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rved. HCS710M Freeways Version 7.4 19 - EX+911 PM US 101 mainline north of SR 46W - SB.xuf

Project Information					
Analyst Co	CTC	Date			
Agency		Analysis Year	2018		
Jurisdiction		Time Period Analyzed	PM		
Project Description EX	(+911 PM US 101 O	ff Ramp @ SR 46W - SB (#20)	'		
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo), ft	1500	210		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors		·			
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CA	F)	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		3112	538		
Peak Hour Factor (PHF)		0.92	0.90		
Total Trucks, %		6.00	3.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (few	)	0.943	0.971		
Flow Rate (vi), pc/h		3587	616		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.81	0.33	0.33	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft -	Density in Ramp Influen	ce Area (DR), pc/mi/lr	n 33.2	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.507	
Downstream Equilibrium Distance (La	:q), ft -	Flow Outer Lanes (VOA), p	oc/h/ln	-	
Distance to Downstream Ramp (LDOW	n), ft -	Off-Ramp Influence Area	a Speed (S <sub>R</sub> ), mi/h	54.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	3587	Ramp Junction Speed (S	), mi/h	54.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h -	Average Density (D), pc/	mi/ln	33.2	
Level of Service (LOS)	D				

		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year	2018	
Jurisdiction			Time Period Analyzed	PM	
Project Description E	EX+911 PN	1 US 101 On Ramp @ SI	R 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration I	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF	=)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2574	146	
Peak Hour Factor (PHF)			0.92	0.83	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	HV)		0.943	0.971	
Flow Rate (vi), pc/h			2967	181	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.71	0.10	
Speed and Density			<u>'</u>		
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Area (I	Dr), pc/mi/ln	28.0
Distance to Upstream Ramp (Lup), fl	t	-	Speed Index (Ms)		0.391
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 an	d 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2967	Ramp Junction Speed (S), mi/h		56.9
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	3148	Average Density (D), pc/mi/ln		27.7
Level of Service (LOS)		С			

Level of Service (LOS)

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21 - EX+911 PM US 101 On Ramp at \$R 46W - \$B.xuf

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	H	HCS7 Fre	eway Di	iverge Report			
Project Information							
Analyst CC	TC		Da	ate			
Agency			Ar	nalysis Year			
Jurisdiction			Tir	me Period Analyzed		AM	
Project Description NT	AM US 1	101 Off Ramp	@ SR 46W -	NB (#1)			
Geometric Data							
			F	reeway		Ramp	
Number of Lanes (N)			2			1	
Free-Flow Speed (FFS), mi/h			7	0.0		35.0	
Segment Length (L) / Deceleration Le	ngth (LD),	ft	1	500		235	
Terrain Type			L	evel		Level	
Percent Grade, %			-			-	
Segment Type / Ramp Side			F	reeway		Right	
Adjustment Factors							
Driver Population			В	Salanced Mix		Balanced N	Лix
Weather Type			١	lon-Severe Weather		Non-Severe Weather	
Incident Type			١	lo Incident		-	
Final Speed Adjustment Factor (SAF)			0	.950		0.950	
Final Capacity Adjustment Factor (CAI	F)		0	.939		0.939	
Demand Adjustment Factor (DAF)			1	.000	0 1.000		
Demand and Capacity							
Demand Volume (Vi), veh/h			2	2311 250			
Peak Hour Factor (PHF)			0	1.94		0.94	
Total Trucks, %			8	.00		6.00	
Single-Unit Trucks (SUT), %			-			-	
Tractor-Trailers (TT), %			-			-	
Heavy Vehicle Adjustment Factor (fHV)	)		0	.926		0.943	
Flow Rate (vi), pc/h			2	655		282	
Capacity (c), pc/h			4	413		1878	
Volume-to-Capacity Ratio (v/c)			0	1.60		0.15	
Speed and Density							
Upstream Equilibrium Distance (LEQ), f	ft	-	С	Density in Ramp Influe	nce Area (Dr	), pc/mi/ln	25.0
Distance to Upstream Ramp (Lup), ft		-	S	Speed Index (Ds)			0.477
Downstream Equilibrium Distance (Le	Q), ft	-	F	Flow Outer Lanes (VOA), pc/h/ln			-
Distance to Downstream Ramp (LDOWN	N), ft	-	C	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h 54.8		54.8	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	(	Outer Lanes Freeway S	peed (So), m	i/h	-
Flow in Lanes 1 and 2 (V12), pc/h		2655	F	Ramp Junction Speed (	S), mi/h		54.8
Flow Entering Ramp-Infl. Area (VR12), p	oc/h	-	A	Average Density (D), po	:/mi/ln		24.2
Level of Service (LOS)		С					

E. 10 14 E. 15 1 (C.E.					
Final Speed Adjustment Factor (SAF)	0.950 0.950				
Final Capacity Adjustment Factor (CAF)		0.939 0.939			
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2061	467		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	6.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.926	0.943		
Flow Rate (vi), pc/h		2368	527	527	
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		0.66	0.28	0.28	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/lr		25.7	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.369	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	57.5	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2368	Ramp Junction Speed (S), mi/h		57.5	
Flow Entering Ramp-Infl. Area (VR12), pc/h 2895		Average Density (D), pc/mi/ln		25.2	
Level of Service (LOS)	С				

NT AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

345

Right

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT AM US 101 Mainline no	rth of SR 46W - NB (#3)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	2528	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1452
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.2
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	С
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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Project Information					
Analyst CCTC		Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description NT AM	I US 101 Off Ramp @	9 Spring - NB (#4)	I		
Geometric Data		· -			
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Length	ı (Lɒ), ft	1500	195		
Terrain Type		Rolling	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced I	Mix	
Weather Type		Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2528	2528 882		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	2.00	2.00	
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fHV)		0.862	0.980		
Flow Rate (vi), pc/h		3120	957		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.71	0.51		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		29.3	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)	Speed Index (Ds)		
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), po	Flow Outer Lanes (VOA), pc/h/ln		
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area	Off-Ramp Influence Area Speed (SR), mi/h 53.3		
Prop. Freeway Vehicles in Lane 1 and 2 (P	FD) 1.000	Outer Lanes Freeway Spe	ed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	3120	Ramp Junction Speed (S),	mi/h	53.3	
Flow Entering Ramp-Infl. Area (VR12), pc/h	-	Average Density (D), pc/mi/ln 29.3		29.3	

4 - NT AM US 101 Off Ramp at Spring - NB.xuf

Project Information				
Analyst CCTC		Date		
Agency		Analysis Year		
urisdiction		Time Period Analyzed	AM	
Project Description NT AM US	101 Off Ramp @	Paso Robles - NB (#5)		
Geometric Data	<u> </u>			
		Freeway	Ramp	
Number of Lanes (N)		2	1	
Free-Flow Speed (FFS), mi/h		70.0	35.0	
Segment Length (L) / Deceleration Length (Li	o), ft	1500	270	
Terrain Type		Level	Level	
Percent Grade, %		-	-	
Segment Type / Ramp Side		Freeway	Right	
Adjustment Factors				
Driver Population		Balanced Mix	Balanced	Mix
Weather Type		Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		1646	1646 342	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		8.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.926	0.990	
Flow Rate (v <sub>i</sub> ), pc/h		1891	368	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.43	0.20	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influen	ice Area (DR), pc/mi/ln	18.1
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.485
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA),	Flow Outer Lanes (VOA), pc/h/ln	
Distance to Downstream Ramp (LDOWN), ft	e to Downstream Ramp (LDOWN), ft - Off-Ramp Influence Area Speed (SR), mi/		a Speed (S <sub>R</sub> ), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Sp	peed (So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	1891	Ramp Junction Speed (S	5), mi/h	54.6
Flow Entering Ramp-Infl. Area (VR12), pc/h	-	Average Density (D), pc,	/mi/ln	17.3

Free-Flow Speed (FFS), mi/h		70.0 35.0		
Segment Length (L) / Acceleration Length (LA)	, ft	1500	400	
Terrain Type	Level Level			
Percent Grade, %		-	-	
Segment Type / Ramp Side		Freeway	Right	
Adjustment Factors				
Driver Population		Balanced Mix	Balanced	Mix
Weather Type		Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		1304	406	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		8.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.926	0.990	
Flow Rate (vi), pc/h		1498	436	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.44	0.23	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (I	DR), pc/mi/ln	17.9
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.321
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	58.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1498	Ramp Junction Speed (S), mi/h		58.6
Flow Entering Ramp-Infl. Area (VR12), pc/h	1934	Average Density (D), pc/mi/ln		16.5
Level of Service (LOS)	В			

NT AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

Time Period Analyzed

AM

Ramp

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

Number of Lanes (N)

	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT AM US 101 Mainline so	uth of SR 46E - NB (#7)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1710	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	982
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.5
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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Project Information						
Analyst	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	А	М	
Project Description N1	T AM US 1	01 Off Ramp @ SF	R 46E - NB (#8)			
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Le	ength (Lo),	ft	1500		225	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced	Mix
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CA	F)		0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1710		1017	
Peak Hour Factor (PHF)			0.94		0.94	
Total Trucks, %			8.00		5.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-			
Heavy Vehicle Adjustment Factor (fhv)	)		0.926		0.952	
Flow Rate (vi), pc/h			1965		1136	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.45		0.60	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influ	ence Area (D <sub>R</sub> )	pc/mi/ln	19.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)			0.554
Downstream Equilibrium Distance (LE	q), ft	-	Flow Outer Lanes (vo	), pc/h/ln		-
Distance to Downstream Ramp (Loow	n), ft	-	Off-Ramp Influence A	rea Speed (S <sub>R</sub> )	mi/h	52.9
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway	Speed (So), mi,	/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1965	Ramp Junction Speed	(S), mi/h		52.9
Flow Entering Ramp-Infl. Area (VR12), p	pc/h	-	Average Density (D),	oc/mi/ln		18.6
Level of Service (LOS)		В				

		HCS7 Freeway	Merge Report		
Project Information					
	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	NT AM US	101 On Ramp @ SR 46	E - NB (#9)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF	)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			693	311	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			18.00	18.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	ıv)		0.847	0.847	
Flow Rate (vi), pc/h			870	391	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.29	0.21	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	12.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.308
Downstream Equilibrium Distance (I	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft -		On-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	59.0	
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h		870	Ramp Junction Speed (S), mi/h		59.0
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	1261	Average Density (D), pc/mi/ln		10.7
Level of Service (LOS)		В			

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	HC37 basic r	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT AM US 101 Mainline no	orth of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1004	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	630
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.3
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7		

Adjusted Free-Flow Speed (FFSadj), mi/h 67.7
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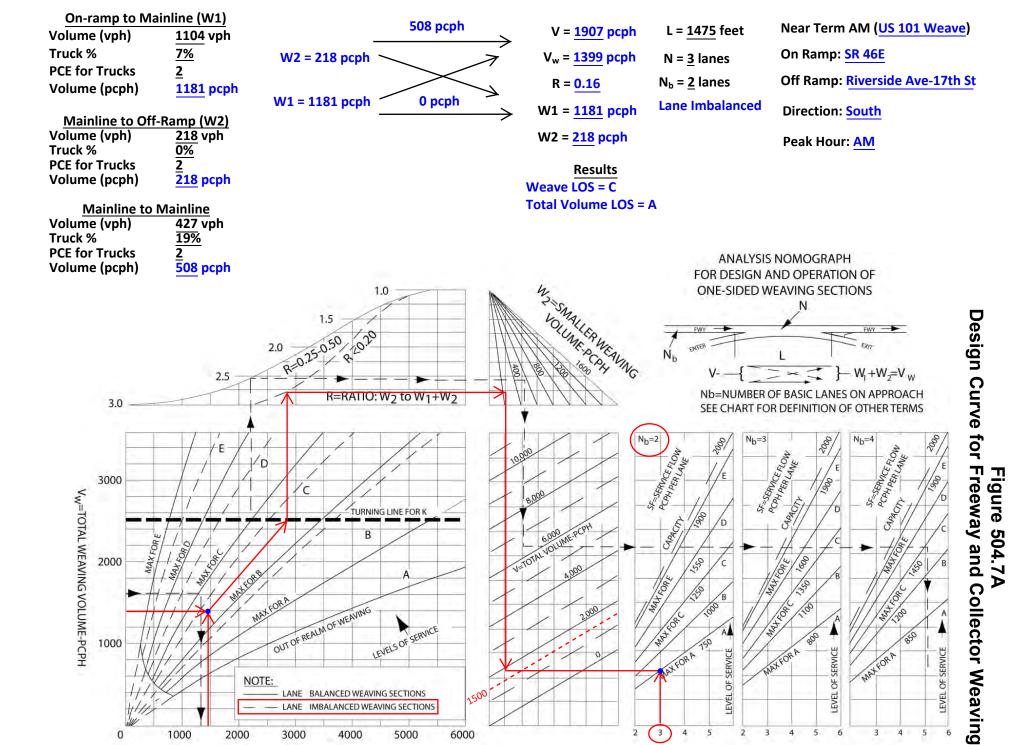
HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	NT AM US 101 Mainline no	rth of SR 46E - SB (#11)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	929	Heavy Vehicle Adjustment Factor (fHV)	0.840			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	588			
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	8.8			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	IT AM US	101 Off Ramp @ SR 4	6E - SB (#12)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (LD)	, ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	ere Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			929	284	
Peak Hour Factor (PHF)			0.94	0.95	
Total Trucks, %			19.00	19.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fHV	v)		0.840	0.840	
Flow Rate (v <sub>i</sub> ), pc/h			1177	356	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.27	0.19	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	13.0
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.483
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So), mi/h -		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1177	Ramp Junction Speed (S), mi/h		54.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		10.8
Level of Service (LOS)		В			

Level of Service (LOS) B
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L = LENGTH OF WEAVING SECTION-FEET LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

3000

NOTE:

2000

OUT OF REALM OF WEAVING

LANE BALANCED WEAVING SECTIONS LANE IMBALANCED WEAVING SECTIONS

4000

LEVELS OF SERVICE

5000

6000

2000

1000

1000

N = NUMBER OF LANE IN WEAVING SECTION

LEVEL OF SERVICE

3

OF SERVICE

HCS7 Basic Freeway Report							
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year					
Jurisdiction		Time Period Analyzed	AM				
Project Description NT AM US 101 Mainline south of SR 46E - SB (#15)							
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	1531	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926				
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	880				
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40				
Passenger Car Equivalent (ET)	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.2				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В				
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9						
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		HCS7 Freeway	/ Merge Report			
Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description N	T AM US	101 On Ramp @ Rivers	iide-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Severe Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1531	298		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			8.00	2.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (few	/)		0.926	0.980		
Flow Rate (vi), pc/h			1759	323		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.47	0.17		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	DR), pc/mi/ln	19.8	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.332	
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOW	vn), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	58.4	
Prop. Freeway Vehicles in Lane 1 and	1 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1759	Ramp Junction Speed (S), mi/h		58.4	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2082	Average Density (D), pc/mi/ln		17.8	
evel of Service (LOS) B						

Level of Service (LOS)

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16 - NT AM US 101 On Ramp at Riverside-17th - SB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	IT AM US	101 Off Ramp @ Rivers	ide/Pine - SB (#17)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (LD)	, ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)	)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1829	120	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.926	0.952	
Flow Rate (v <sub>i</sub> ), pc/h			2101	134	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.48	0.07	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	20.6
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.463
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), po	:/h/ln	-
Distance to Downstream Ramp (LDOV	wn), ft	-	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Spe	ed (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2101	Ramp Junction Speed (S),	mi/h	55.2
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/n	ni/In	19.0
Level of Service (LOS)		С			

Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.88	0.78	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	26.7
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)	Speed Index (Ms)	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed	On-Ramp Influence Area Speed (SR), mi/h	
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FM</sub> ) 1.000		Outer Lanes Freeway Speed (So	Outer Lanes Freeway Speed (So), mi/h	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2400	Ramp Junction Speed (S), mi/h		56.2
Flow Entering Ramp-Infl. Area (VR12), pc/h	3864	Average Density (D), pc/mi/ln	Average Density (D), pc/mi/ln	
Level of Service (LOS)	С			
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NT AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2089

0.94

8.00

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

1349

0.94

2.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	NT AM US 101 Mainline no	rth of SR 46W - SB (#19)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	3438	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1975			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	56.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	34.8			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D			
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9					

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	HCS7 Freeway Diverge Report					
Project Information						
Analyst	стс		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description	IT AM US	101 Off Ramp @ SR 46	W - SB (#20)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	210		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity			·			
Demand Volume (Vi), veh/h			3438	651		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	6.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	v)		0.926	0.943		
Flow Rate (vi), pc/h			3950	734		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.90	0.39		
Speed and Density			·			
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area	D <sub>R</sub> ), pc/mi/ln	36.3	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.517	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	53.8	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v12), pc/h		3950	Ramp Junction Speed (S), mi/h		53.8	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		36.7	
Level of Service (LOS)		E				

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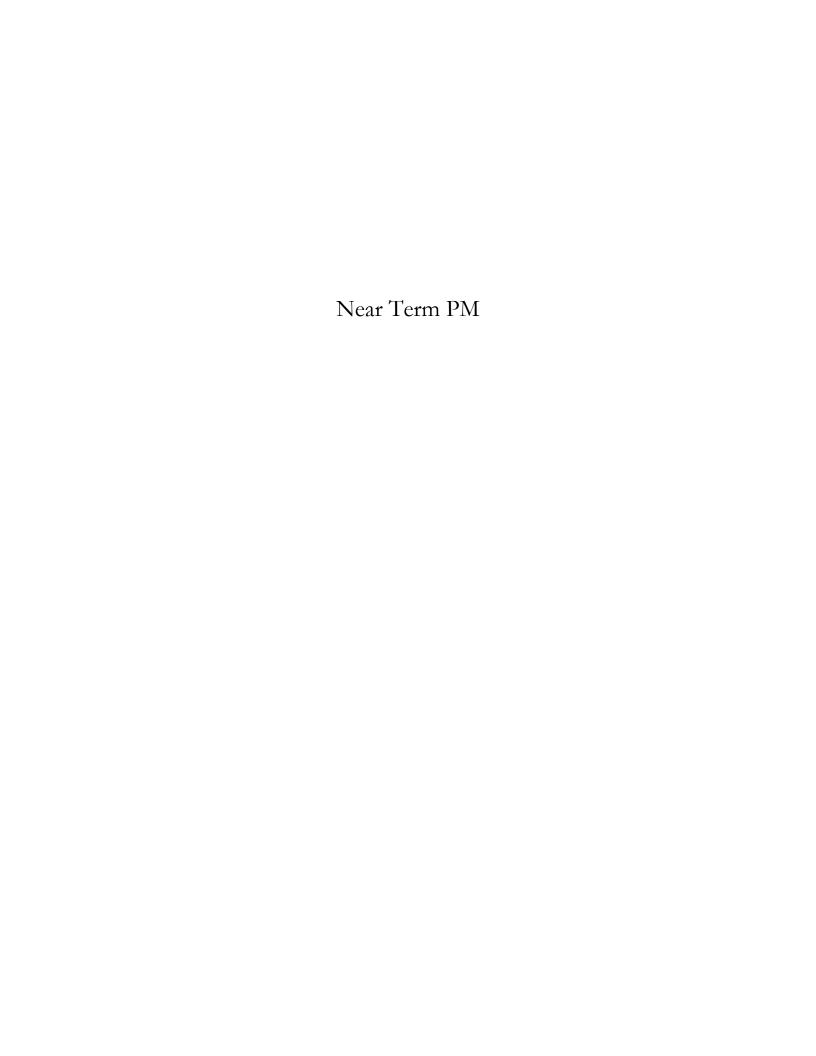
		HCS7 F <u>reeway</u>	Merge Report		
Project Information		,			
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	NT AM US	101 On Ramp @ SR 46\	· · · · · · · · · · · · · · · · · · ·		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type	-		Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u> </u>		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	AF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2787	139	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor	(f <sub>HV</sub> )		0.926	0.943	
Flow Rate (vi), pc/h			3202	157	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.76	0.08	
Speed and Density					
Upstream Equilibrium Distance (Li	EQ), ft	-	Density in Ramp Influence Area (I	D <sub>R</sub> ), pc/mi/ln	29.7
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.412
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (L	DOWN), ft	-	On-Ramp Influence Area Speed (	SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 a	and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (V12), pc/h		3202	Ramp Junction Speed (S), mi/h		56.4
Flow Entering Ramp-Infl. Area (va	12), pc/h	3359	Average Density (D), pc/mi/ln		29.8
Level of Service (LOS) D					

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21 - NT AM US 101 On Ramp at SR 46W - SB.xuf

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HCS7 Freeway Diverge Report					
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	NT PM US	101 Off Ramp @ SR 46\	N - NB (#1)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration I	Length (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF	)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3073	232	
Peak Hour Factor (PHF)			0.98	0.94	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	ıv)		0.962	0.990	
Flow Rate (vi), pc/h			3260	249	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.74	0.13	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	), ft	-	Density in Ramp Influence A	rea (DR), pc/mi/ln	30.2
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.474
Downstream Equilibrium Distance (I	Leq), ft	-	Flow Outer Lanes (VOA), pc/h	/ln	-
Distance to Downstream Ramp (LDO	wn), ft	-	Off-Ramp Influence Area Sp	eed (S <sub>R</sub> ), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h		3260	Ramp Junction Speed (S), m	i/h	54.9
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	-	Average Density (D), pc/mi/l	n	29.7
Level of Service (LOS)		D			

Capacity (c), pc/h		4413	1878	
		-		
Volume-to-Capacity Ratio (v/c)		0.89	0.49	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	33.7
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.499
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		54.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	3013	Ramp Junction Speed (S), mi/h		54.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3941	Average Density (D), pc/mi/ln		36.3
Level of Service (LOS)	D			
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NT PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2841

0.98

4.00

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

864

0.94

1.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

Weather Type

Incident Type

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

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	TICST Busic I	Freeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	NT PM US 101 Mainline n	orth of SR 46W - NB (#3)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	3705	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.962
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1965
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	57.4
Right-Side Lateral Clearance Adj. (fr.LC)	0.0	Density (D), pc/mi/ln	34.2
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/	h 67.7		

Project Information						
	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	T PM US 101 Off	Ramp @ Spring	j - NB (#4)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ngth (Lo), ft		1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type	ident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity			'	,		
Demand Volume (Vi), veh/h			3705	1517		
Peak Hour Factor (PHF)			0.98	0.98		
Total Trucks, %			4.00	1.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fhv	)		0.926	0.990		
Flow Rate (vi), pc/h			4083	1564		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.93	0.83		
Speed and Density			·			
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influen	ce Area (D <sub>R</sub> ), pc/mi/li	n 37.6	
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)		0.592	
Downstream Equilibrium Distance (LE	a), ft -		Flow Outer Lanes (VOA),	pc/h/ln	-	
Distance to Downstream Ramp (Loow	n), ft -		Off-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/h	52.0	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.000		Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	4083		Ramp Junction Speed (S	S), mi/h	52.0	
Flow Entering Ramp-Infl. Area (VR12), p	pc/h -		Average Density (D), pc/	/mi/ln	39.3	
Level of Service (LOS)	E					

4 - NT PM US 101 Off Ramp at Spring - NB.xuf

	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
-	CTC		Date	Τ	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	T PM US	101 Off Ramp @ Paso			
Geometric Data			( )		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u> </u>		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2188	578	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.962	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2321	615	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.33	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	Dr), pc/mi/ln	21.8
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.507
Downstream Equilibrium Distance (Li	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Ldow	vn), ft	-	Off-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2321	Ramp Junction Speed (S), mi/h		54.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		21.5
Level of Service (LOS)		С			

Flow Rate (vi), pc/h		1708	365	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.47	0.19	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	19.0
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.325
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	1708	Ramp Junction Speed (S), mi/h		58.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	2073	Average Density (D), pc/mi/ln		17.7
Level of Service (LOS)	В			
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NT PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1610

0.98

4.00

0.962

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

347

0.96

1.00

0.990

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Total Trucks, %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

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HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT PM US 101 Mainline sou	uth of SR 46E - NB (#7)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1957	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.962		
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1038		
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	15.3		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7				
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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	T PM US	101 Off Ramp @ SR 46	E - NB (#8)		
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	225	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity			<u>'</u>		
Demand Volume (Vi), veh/h			1957	1140	
Peak Hour Factor (PHF)			0.98	0.96	
Total Trucks, %			4.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	r)		0.962	0.971	
Flow Rate (vi), pc/h			2076	1223	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.47	0.65	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (I	Dr), pc/mi/ln	20.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.561
Downstream Equilibrium Distance (Le	:Q), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	52.8
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2076	Ramp Junction Speed (S), mi/h		52.8
Flow Entering Ramp-Infl. Area (vR12),	pc/h	-	Average Density (D), pc/mi/ln		19.7
Level of Service (LOS)		С			

HCS7100 Freeways Version 7.4 8 - NT PM US 101 Off Ramp at SR 46E - NB.xuf

		HCS7 Freeway	Merge Report			
Project Information						
Analyst	ССТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	IT PM US	101 On Ramp @ SR 46E	- NB (#9)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La),	ft	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors				-		
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity				'		
Demand Volume (Vi), veh/h			817	287		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			12.00	12.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fr	ıv)		0.893	0.893		
Flow Rate (vi), pc/h			973	342		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.30	0.18		
Speed and Density				·		
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	13.1	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.309	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), po	c/h/ln	-	
Distance to Downstream Ramp (Look	wn), ft	-	On-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Spe	ed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		973	Ramp Junction Speed (S),	mi/h	58.9	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	1315	Average Density (D), pc/n	ni/ln	11.2	
Level of Service (LOS)		В				

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	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	NT PM US 101 Mainline no	rth of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1104	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.893
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	658
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.7
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

Adjusted Free-Flow Speed (FFSadj), mi/h 67.7
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HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT PM US 101 Mainline no	rth of SR 46E - SB (#11)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1492	Heavy Vehicle Adjustment Factor (fHV)	0.826		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	961		
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.4		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				

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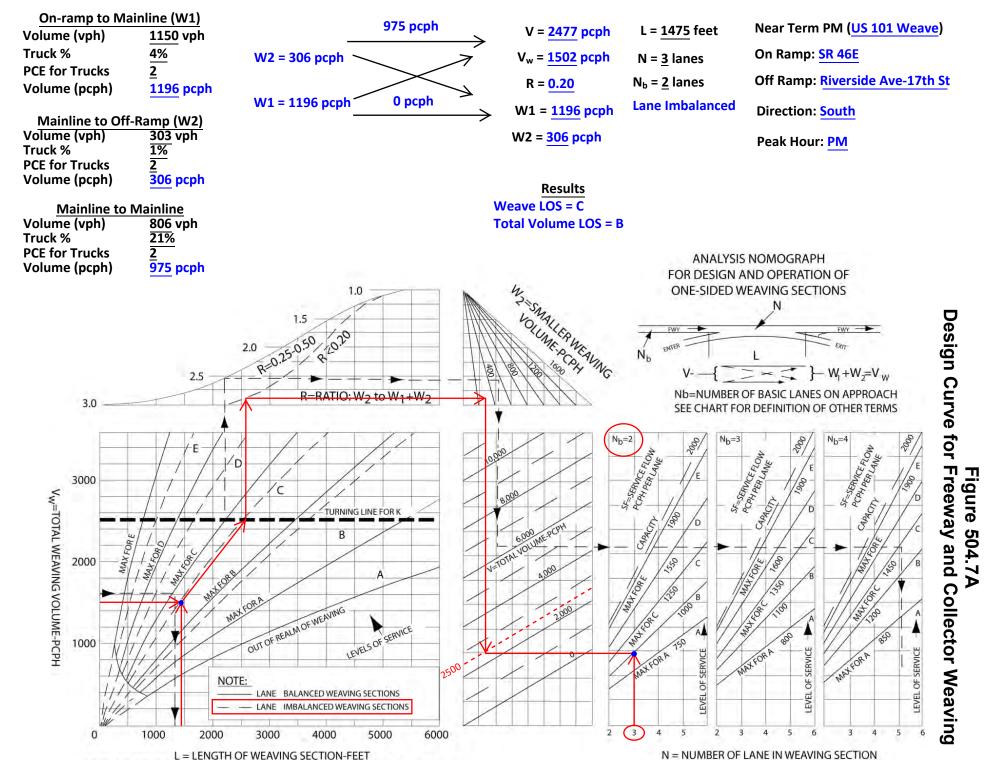
	ŀ	HCS7 Freeway	Diverge Report			
Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	T PM US	101 Off Ramp @ SR 46	E - SB (#12)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors				<u> </u>		
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity			<u> </u>			
Demand Volume (Vi), veh/h			1492	383		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			21.00	21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (few	/)		0.826	0.826		
Flow Rate (vi), pc/h			1922	493		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.44	0.26		
Speed and Density			·			
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	(D <sub>R</sub> ), pc/mi/ln	19.4	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.496	
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln -		-	
Distance to Downstream Ramp (Loov	vn), ft	-	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		54.3	
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So), mi/h -		-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1922	Ramp Junction Speed (S), mi/h		54.3	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		17.7	
Level of Service (LOS)		В				

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12 - NT PM US 101 Off Ramp at SR 46E - SB.xuf

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L = LENGTH OF WEAVING SECTION-FEET
LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

HCS7 Basic Freeway Report  Project Information					
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT PM US 101 Mainline sou	ith of SR 46E - SB (#15)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1956	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1104		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	16.5		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				

red. HCS71MM Freeways Version 7.4 15 - NT PM US 101 mainline south of SR 46E - SB.xuf

		HCS7 Freeway	/ Merge Report			
Project Information						
Analyst C	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	IT PM US	101 On Ramp @ Rivers	ide-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population		Balanced Mix	Balanced	Mix		
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1956	205		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			6.00	1.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fer	v)		0.943	0.990		
Flow Rate (vi), pc/h			2207	220		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.55	0.12		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	22.5	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms) 0		0.345	
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-	
Distance to Downstream Ramp (LDOW	vn), ft	-	On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		58.0	
Prop. Freeway Vehicles in Lane 1 and	1 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2207	Ramp Junction Speed (S), mi/h		58.0	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2427	Average Density (D), pc/mi/ln		20.9	
Level of Service (LOS)		С				

Level of Service (LOS)

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16 - NT PM US 101 On Ramp at Riverside-17th - SB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	T PM US	101 Off Ramp @ Riversi	de/Pine - SB (#17)		
Geometric Data		<u> </u>			
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2161	180	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fin	/)		0.943	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2438	193	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.55	0.10	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Are	ea (Dr), pc/mi/ln	23.5
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.469
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area Speed (SR), mi/h		55.0
Prop. Freeway Vehicles in Lane 1 and	I 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S	So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2438	Ramp Junction Speed (S), mi/	h	55.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		22.2
Level of Service (LOS)		С			

Flow Rate (vi), pc/h	2677	1110		
Capacity (c), pc/h	4413	1878		
Volume-to-Capacity Ratio (v/c)		0.86	0.59	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	26.2
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.405
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		56.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	2677	Ramp Junction Speed (S), mi/h		56.6
Flow Entering Ramp-Infl. Area (v <sub>R12</sub> ), pc/h	3787	Average Density (D), pc/mi/ln		33.5
Level of Service (LOS)	С			
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NT PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2373

0.94

6.00

0.943

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

1033

0.94

1.00

0.990

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (fHV)

Total Trucks, %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report					
Project Information					
Analyst	сстс	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT PM US 101 Mainline nor	th of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3406	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1921		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	58.0		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	33.1		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				
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Project Information					
	TC	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description N1	Γ PM US 101 Off Ramp	© SR 46W - SB (#20)			
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Le	ngth (LD), ft	1500	210		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced I	Mix	
Weather Type		Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity		<u> </u>	,		
Demand Volume (Vi), veh/h		3406	646		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		6.00	3.00	3.00	
Single-Unit Trucks (SUT), %		-	-	-	
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fhv)	)	0.943	0.971		
Flow Rate (vi), pc/h		3842	708		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.87	0.38		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft -	Density in Ramp Influence	Area (DR), pc/mi/ln	35.4	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)	Speed Index (Ds) 0.5		
Downstream Equilibrium Distance (LE	Q), ft -	Flow Outer Lanes (VOA), po	/h/ln	-	
Distance to Downstream Ramp (Loow	n), ft -	Off-Ramp Influence Area	Off-Ramp Influence Area Speed (SR), mi/h 53.9		
Prop. Freeway Vehicles in Lane 1 and	2 (PFD) 1.000	Outer Lanes Freeway Spee	ed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	3842	Ramp Junction Speed (S),	mi/h	53.9	
Flow Entering Ramp-Infl. Area (VR12), p	oc/h -	Average Density (D), pc/m	Average Density (D), pc/mi/ln 35.6		

HCS7 100 Freeways Version 7.4 20 - NT PM US 101 Off Ramp at SR 46W - SB.xuf

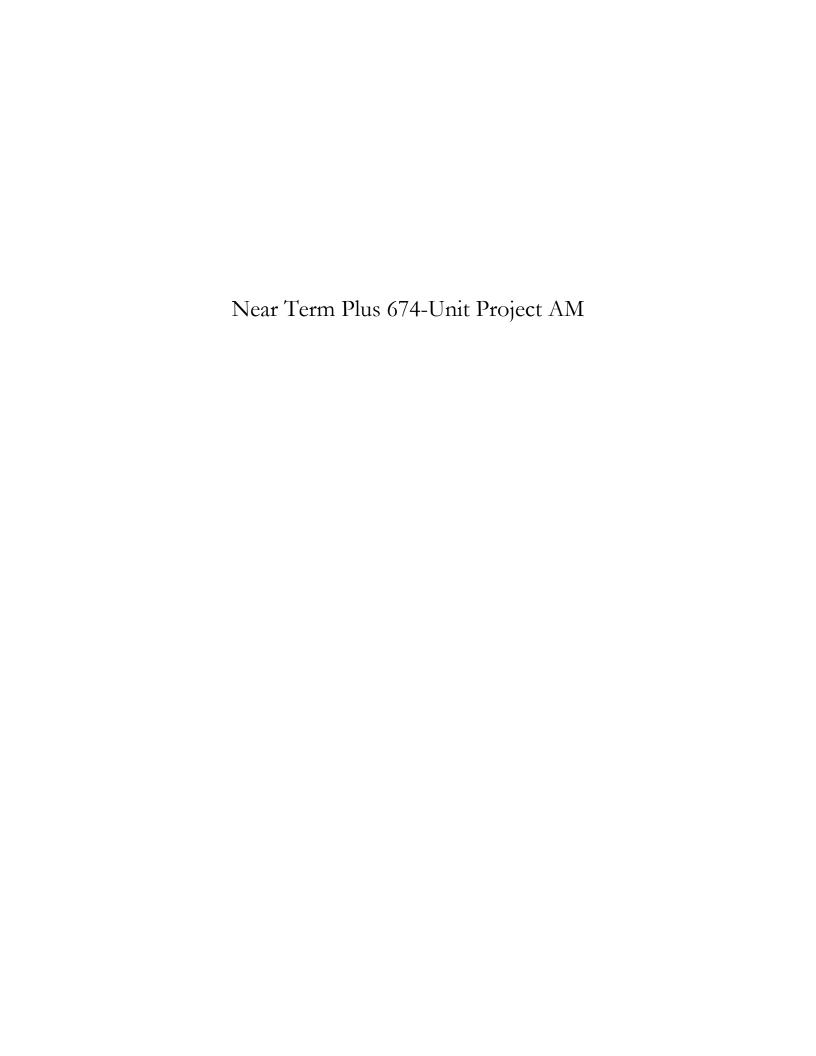
		HCS7 Freeway	Merge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	NT PM US	101 On Ramp @ SR 46V	<u> </u>	<u> </u>	
Geometric Data			· ,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (LA)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity			<u>'</u>		
Demand Volume (Vi), veh/h			2760	211	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	f <sub>HV</sub> )		0.943	0.971	
Flow Rate (v <sub>i</sub> ), pc/h			3114	231	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.76	0.12	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft -		Density in Ramp Influence Area (I	OR), pc/mi/ln	29.6	
Distance to Upstream Ramp (Lup), ft -		Speed Index (Ms)		0.411	
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Lo	oown), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3114	Ramp Junction Speed (S), mi/h 56		56.4
Flow Entering Ramp-Infl. Area (vr1:	2), pc/h	3345	Average Density (D), pc/mi/ln		29.7
Level of Service (LOS) D		D			

Level of Service (LOS)

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21 - NT PM US 101 On Ramp at SR 46W - S8.xuf

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		HCS7 Freeway	Diverge Report		
Project Information	_				
	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	IT+674 AI	M US 101 Off Ramp @ :	<u> </u>		
Geometric Data			· ,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			1		
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2339	250	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.926	0.943	
Flow Rate (v <sub>i</sub> ), pc/h			2687	282	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.61	0.15	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	25.2
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.477
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOV	wn), ft	-	Off-Ramp Influence Area Speed (SR), mi/h		54.8
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So	), mi/h	-
Flow in Lanes 1 and 2 (V12), pc/h		2687	Ramp Junction Speed (S), mi/h		54.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		24.5
Level of Service (LOS)		С			

Demand and Capacity		1		
Demand Volume (Vi), veh/h		2089	475	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		8.00	6.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fhv)		0.926	0.943	
Flow Rate (vi), pc/h		2400	536	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.67	0.29	
Speed and Density		·		
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (I	Dr), pc/mi/ln	26.0
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.372
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2400	Ramp Junction Speed (S), mi/h		57.4
Flow Entering Ramp-Infl. Area (VR12), pc/h	2936	Average Density (D), pc/mi/ln		25.6
Level of Service (LOS)	С			
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NT+674 AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT+674 AM US 101 Mainlir	ne north of SR 46W - NB (#3)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	2564	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1473
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.0
Right-Side Lateral Clearance Adj. (fr.Lc)	0.0	Density (D), pc/mi/ln	22.3
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	С
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

3 - NT+674 AM US 101 mainline north of SR 46W - NB.xuf

HCS7 Freeway		Diverge Report			
Project Information					
-	CCTC		Date	I	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	NT+674 AI	M US 101 Off Ramp @ S	Spring - NB (#4)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	195	
Terrain Type			Rolling	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity			·		
Demand Volume (Vi), veh/h		2564	918		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	2.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fhv)		0.862	0.980		
Flow Rate (vi), pc/h		3164	997		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.72	0.53		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft -		Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	29.7	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.541
Downstream Equilibrium Distance (L	LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	-	
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (V12), pc/h		3164	Ramp Junction Speed (S), mi/h		53.2
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		29.7
Level of Service (LOS)		D			

Level of Service (LOS)

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4 - NT+674 AM US 101 Off Ramp at Spring - NB.xuf

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HCS7 Freeway		Diverge Report			
Project Information					
Analyst Co	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	T+674 AI	M US 101 Off Ramp @ F	Paso Robles - NB (#5)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	ere Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		1646	342		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	1.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fhv)		0.926	0.990		
Flow Rate (vi), pc/h		1891	368		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.43	0.20		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	18.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.485
Downstream Equilibrium Distance (La	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln -		-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and	I 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (	So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1891	Ramp Junction Speed (S), mi/	h	54.6
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		17.3
Level of Service (LOS)		В			

	Capacity (c), pc/h		4413	1878	
	Volume-to-Capacity Ratio (v/c)	Volume-to-Capacity Ratio (v/c)		0.24	
	Speed and Density				
	Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	18.0
	Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.322
	Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
	Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	ir), mi/h	58.6
	Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	ni/h	-
	Flow in Lanes 1 and 2 (v12), pc/h	1498	Ramp Junction Speed (S), mi/h		58.6
	Flow Entering Ramp-Infl. Area (VR12), pc/h	1947	Average Density (D), pc/mi/ln		16.6
	Level of Service (LOS)	В			
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NT+674 AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1304

0.94

8.00

0.926

1498

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

418

0.94

1.00

0.990

449

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

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Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT+674 AM US 101 Mainlir	ne south of SR 46E - NB (#7)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1722	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	989
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.6
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7		

7 - NT+674 AM US 101 mainline south of SR 46E - NB.xuf

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, %

Segment Type / Ramp Side

Weather Type

Incident Type

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (fHV)

Total Trucks, %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Deceleration Length (LD), ft

CCTC

Date

NT+674 AM US 101 Off Ramp @ SR 46E - NB (#8)

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1722

0.94

8.00

0.926

1978

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

225

Right

0.950

0.939

1.000

1017

0.94

5.00

0.952

1136

Balanced Mix

Non-Severe Weather

Capacity (c), pc/h 4413 1878 Volume-to-Capacity Ratio (v/c) 0.45 0.60 **Speed and Density** Upstream Equilibrium Distance (LEQ), ft Density in Ramp Influence Area (DR), pc/mi/ln 19.2 Distance to Upstream Ramp (Lup), ft Speed Index (Ds) 0.554 Downstream Equilibrium Distance (LEQ), ft Flow Outer Lanes (VOA), pc/h/ln Distance to Downstream Ramp (LDOWN), ft Off-Ramp Influence Area Speed (SR), mi/h 52.9 Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000 Outer Lanes Freeway Speed (So), mi/h Flow in Lanes 1 and 2 (v<sub>12</sub>), pc/h 1978 Ramp Junction Speed (S), mi/h 52.9 Flow Entering Ramp-Infl. Area (VR12), pc/h Average Density (D), pc/mi/ln 18.7 Level of Service (LOS) Copyright © 2019 University of Florida. All Rights Reserved. HCS7100 Freeways Version 7.4 Generated: 1/28/2019 6:37:12 PM 8 - NT+674 AM US 101 Off Ramp at SR 46E - NB.xuf

HCS7 Freeway		Merge Report			
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	NT+674 AN	M US 101 On Ramp @ S	R 46E - NB (#9)	·	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Severe Weather		
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		705	311		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		18.00	18.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.847	0.847		
Flow Rate (vi), pc/h		885	391		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.29	0.21		
Speed and Density					
Upstream Equilibrium Distance (Le	q), ft	-	Density in Ramp Influence Area (DR), pc/mi/In		12.8
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms) 0.3		0.308
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln -		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	59.0
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		885	Ramp Junction Speed (S), mi/h		59.0
Flow Entering Ramp-Infl. Area (vR1:	2), pc/h	1276	Average Density (D), pc/mi/ln		10.8
Level of Service (LOS)		В			

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9 - NT+674 AM US 101 On Ramp at SR 46E - NB.xuf

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	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT+674 AM US 101 Mainlir	ne north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1016	Heavy Vehicle Adjustment Factor (fHV)	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	638
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.4
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

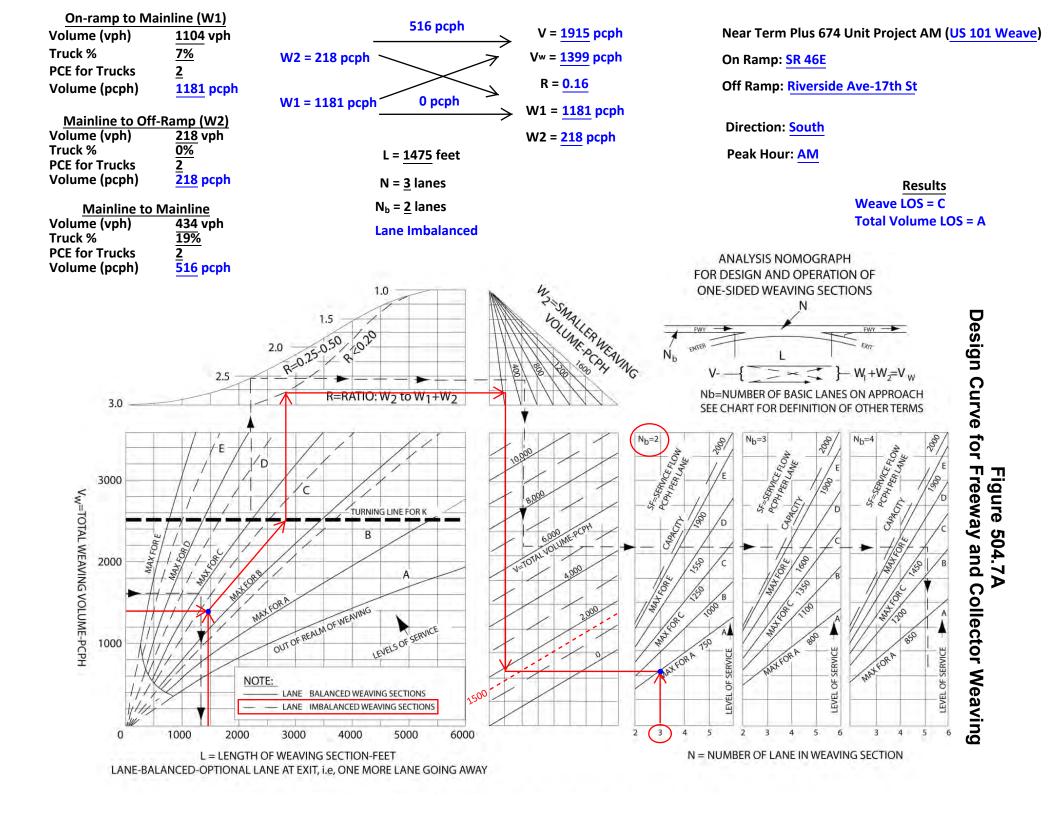
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	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT+674 AM US 101 Mainlir	ne north of SR 46E - SB (#11)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	935	Heavy Vehicle Adjustment Factor (fHV)	0.840
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	592
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	8.8
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		
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Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	Time Period Analyzed AM		
Project Description N	T+674 AN	I US 101 Off Ramp	@ SR 46E - SB (#12)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Length (Lo), ft		1500	155			
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population		Balanced Mix	Balanced	Mix		
Weather Type		Non-Severe Weather	Non-Sev	ere Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h		935	284			
Peak Hour Factor (PHF)			0.94	0.95		
Total Trucks, %			19.00	19.00	19.00	
Single-Unit Trucks (SUT), %		-	-			
Tractor-Trailers (TT), %		-	-			
Heavy Vehicle Adjustment Factor (fhv)		0.840	0.840			
Flow Rate (vi), pc/h		1184	356			
Capacity (c), pc/h		4413	1878			
Volume-to-Capacity Ratio (v/c)		0.27	0.19	0.19		
Speed and Density						
Upstream Equilibrium Distance (LEQ), ft -		Density in Ramp Influe	Density in Ramp Influence Area (DR), pc/mi/ln			
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.483	
Downstream Equilibrium Distance (Le	Q), ft	-	Flow Outer Lanes (VOA)	, pc/h/ln	-	
Distance to Downstream Ramp (Loow	ν), ft	-	Off-Ramp Influence Ar	rea Speed (S <sub>R</sub> ), mi/h	54.7	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway S	speed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		1184	Ramp Junction Speed	(S), mi/h	54.7	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), p	c/mi/ln	10.8	
Level of Service (LOS)		В				

12 - NT+674 AM US 101 Off Ramp at SR 46E - SB.xuf



Project Information  Analyst CCTC Date Agency Analysis Year Analysis Year  Jurisdiction Time Period Analyzed AM  Project Description NT+674 AM US 101 Mainline south of SR 46E - SB (#15)  Geometric Data  Number of Lanes (N), In 2 Terrain Type Level Segment Length (L), ft - Percent Grade, % - Segment Length (L), ft - Percent Grade, % - Segment Length (L), ft - Percent Grade, % - Segment Length (L), ft - Percent Grade, % - Segment Length (RFS), mi/h Total Ramp Density (TRD), ramps/mi 1.67  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h Total Ramp Density (TRD), ramps/mi 1.67  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h Total Ramp Density (TRD), ramps/mi 1.67  Right-Side Lateral Clearance, ft 10 Segment Factor (SAF) Total Ramp Density (TRD), ramps/mi 1.67  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.930  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Demand and Capacity  Demand And Capacity  Demand And Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (fhw) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 883  Total Trucks, % 8.00 Capacity (C, pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (Call), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Er) 2.000 Average Speed (S), mi/h 66.9		HCS7 Basic Fr	reeway Report	
Agency Jurisdiction NT+674 AM US 101 Mainline south of SR 46E - SB (#15)  Geometric Data  Number of Lanes (N), In Segment Length (L), ft - Measured or Base Free-Flow Speed Base Grade Length, mi - Base Free-Flow Speed (BFFS), mi/h Lane Width, ft 12 Free-Flow Speed (FFS), mi/h Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) Non-Severe Weather Incident Type Non-Severe Weather Non-Severe Weather Peak Hour Factor (PHF) Demand and Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (Finv) Peak Hour Factor (PHF) O.94 Flow Rate (vp), pc/h/ln Single-Unit Trucks (SUT), % - Adjusted Adjustment (Fin) Adjustment Factor (CAF) O.926 Speed and Density  Lane Width Adjustment (Fin) O.00 Average Speed (S), mi/h 66.9	Project Information			
Jurisdiction   Time Period Analyzed   AM   Project Description   NT+674 AM US 101 Mainline south of SR 46E - SB (#15)    Geometric Data   Variable   Varia	Analyst	ССТС	Date	
Project Description  NT+674 AM US 101 Mainline south of SR 46E - SB (#15)  Geometric Data  Number of Lanes (N), In  2 Terrain Type Level  Segment Length (L), ft - Percent Grade, % - Measured or Base Free-Flow Speed Base Grade Length, mi - Grade Length, mi - Total Ramp Density (TRD), ramps/mi 1.67  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 70.4  Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) Non-Severe Weather Final Capacity Adjustment Factor (CAF) Non-Severe Weather Poemand And Capacity  Demand And Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (ftw) Demand Volume (V), veh/h Flow Rate (v <sub>P</sub> ), pc/h/ln 883  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Et) 2.000  Speed and Density  Level  Level  Terrain Type Level  Ferrain Type Level  Free-Flow Speed (FFS), mi/h 70.4  Passenger Car Equivalent (Et) 2.000  Average Speed (S), mi/h 66.9	Agency		Analysis Year	
Number of Lanes (N), In   2   Terrain Type   Level	Jurisdiction		Time Period Analyzed	AM
Number of Lanes (N), In 2 Terrain Type Level  Segment Length (L), ft - Percent Grade, % -  Measured or Base Free-Flow Speed Base Grade Length, mi -  Base Free-Flow Speed (BFFS), mi/h 75.4 Total Ramp Density (TRD), ramps/mi 1.67  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 70.4  Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (fHv) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 883  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (cad), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 66.9	Project Description	NT+674 AM US 101 Mainlir	ne south of SR 46E - SB (#15)	
Segment Length (L), ft  Measured or Base Free-Flow Speed  Base  Grade Length, mi  -  Base Free-Flow Speed (BFFS), mi/h  75.4  Total Ramp Density (TRD), ramps/mi  1.67  Lane Width, ft  12  Free-Flow Speed (FFS), mi/h  70.4  Right-Side Lateral Clearance, ft  10  Adjustment Factors  Driver Population  Balanced Mix  Final Speed Adjustment Factor (SAF)  Non-Severe Weather  Final Capacity Adjustment Factor (CAF)  1.000  Demand And Capacity  Demand And Capacity  Demand Volume (V), veh/h  1537  Heavy Vehicle Adjustment Factor (fhv)  0.926  Peak Hour Factor (PHF)  0.94  Flow Rate (vp), pc/h/ln  883  Total Trucks, %  8.00  Capacity (C), pc/h/ln  2369  Single-Unit Trucks (SUT), %  -  Volume-to-Capacity Ratio (v/c)  0.40  Passenger Car Equivalent (Er)  2.000  Speed and Density  Lane Width Adjustment (fiw)  0.0  Average Speed (S), mi/h  66.9	Geometric Data			
Measured or Base Free-Flow Speed Base Grade Length, mi - Base Free-Flow Speed (BFFS), mi/h 75.4 Total Ramp Density (TRD), ramps/mi 1.67 Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 70.4 Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950 Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939 Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (Finv) 0.926 Peak Hour Factor (PHF) 0.94 Flow Rate (v <sub>P</sub> ), pc/h/ln 883 Total Trucks, % 8.00 Capacity (C, pc/h/ln 2369 Single-Unit Trucks (SUT), % - Adjusted Capacity (Cadj), pc/h/ln 2224 Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40 Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 66.9	Number of Lanes (N), In	2	Terrain Type	Level
Base Free-Flow Speed (BFFS), mi/h  Total Ramp Density (TRD), ramps/mi  1.67  Lane Width, ft  12 Free-Flow Speed (FFS), mi/h  70.4  Right-Side Lateral Clearance, ft  10  Adjustment Factors  Driver Population  Balanced Mix  Final Speed Adjustment Factor (SAF)  0.950  Weather Type  Non-Severe Weather  Final Capacity Adjustment Factor (CAF)  1.000  Demand And Capacity  Demand Volume (V), veh/h  1537  Heavy Vehicle Adjustment Factor (fhv)  Demand Volume (V), veh/h  1537  Heavy Vehicle Adjustment Factor (fhv)  0.926  Peak Hour Factor (PHF)  0.94  Flow Rate (v <sub>P</sub> ), pc/h/ln  883  Total Trucks, %  8.00  Capacity (c), pc/h/ln  2369  Single-Unit Trucks (SUT), %  - Adjusted Capacity (cas), pc/h/ln  2224  Tractor-Trailers (TT), %  - Volume-to-Capacity Ratio (v/c)  0.40  Passenger Car Equivalent (Er)  2.000  Speed and Density  Lane Width Adjustment (ftw)  0.0  Average Speed (S), mi/h  66.9	Segment Length (L), ft	-	Percent Grade, %	-
Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 70.4  Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (Fhv) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (v <sub>P</sub> ), pc/h/ln 883  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (Cadj), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 66.9	Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (fHV) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (v <sub>P</sub> ), pc/h/ln 883  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (cag), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Et) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 66.9	Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (fHV) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (v <sub>P</sub> ), pc/h/ln 883  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (cad), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (En) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 66.9	Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Driver Population  Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 1.000  Demand And Capacity  Demand Volume (V), veh/h 1537 Heavy Vehicle Adjustment Factor (fi+V) Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 883 Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (cadj), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Er)  Speed and Density  Lane Width Adjustment (ft-W) 0.950  Average Speed (S), mi/h 66.9	Right-Side Lateral Clearance, ft	10		
Weather Type       Non-Severe Weather       Final Capacity Adjustment Factor (CAF)       0.939         Incident Type       No Incident       Demand Adjustment Factor (DAF)       1.000         Demand Adjustment Factor (DAF)       1.000         Demand Volume (V), veh/h       1537       Heavy Vehicle Adjustment Factor (FHV)       0.926         Peak Hour Factor (PHF)       0.94       Flow Rate (vp.), pc/h/ln       883         Total Trucks, %       8.00       Capacity (c), pc/h/ln       2369         Single-Unit Trucks (SUT), %       -       Adjusted Capacity (cad), pc/h/ln       2224         Tractor-Trailers (TT), %       -       Volume-to-Capacity Ratio (v/c)       0.40         Peed and Density         Lane Width Adjustment (ftw)       0.0       Average Speed (S), mi/h       66.9	Adjustment Factors			
Incident Type  No Incident  Demand Adjustment Factor (DAF)  1.000  Demand and Capacity  Demand Volume (V), veh/h  1537  Heavy Vehicle Adjustment Factor (fiv)  0.926  Peak Hour Factor (PHF)  0.94  Flow Rate (vp), pc/h/ln  883  Total Trucks, %  8.00  Capacity (c), pc/h/ln  2369  Single-Unit Trucks (SUT), %  -  Adjusted Capacity (cadj), pc/h/ln  2224  Tractor-Trailers (TT), %  -  Volume-to-Capacity Ratio (v/c)  0.40  Passenger Car Equivalent (Er)  2.000  Speed and Density  Lane Width Adjustment (fiw)  0.0  Average Speed (S), mi/h  66.9	Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Demand and Capacity           Demand Volume (V), veh/h         1537         Heavy Vehicle Adjustment Factor (fHV)         0.926           Peak Hour Factor (PHF)         0.94         Flow Rate (vp), pc/h/ln         883           Total Trucks, %         8.00         Capacity (c), pc/h/ln         2369           Single-Unit Trucks (SUT), %         -         Adjusted Capacity (cad), pc/h/ln         2224           Tractor-Trailers (TT), %         -         Volume-to-Capacity Ratio (v/c)         0.40           Passenger Car Equivalent (Er)         2.000         Speed and Density           Lane Width Adjustment (fw)         0.0         Average Speed (S), mi/h         66.9	Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Demand Volume (V), veh/h         1537         Heavy Vehicle Adjustment Factor (fHV)         0.926           Peak Hour Factor (PHF)         0.94         Flow Rate (vp), pc/h/ln         883           Total Trucks, %         8.00         Capacity (c), pc/h/ln         2369           Single-Unit Trucks (SUT), %         -         Adjusted Capacity (card), pc/h/ln         2224           Tractor-Trailers (TT), %         -         Volume-to-Capacity Ratio (v/c)         0.40           Passenger Car Equivalent (Er)         2.000         Speed and Density           Lane Width Adjustment (ftw)         0.0         Average Speed (S), mi/h         66.9	Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Peak Hour Factor (PHF)         0.94         Flow Rate (v <sub>p</sub> ), pc/h/ln         883           Total Trucks, %         8.00         Capacity (c), pc/h/ln         2369           Single-Unit Trucks (SUT), %         -         Adjusted Capacity (cadj), pc/h/ln         2224           Tractor-Trailers (TT), %         -         Volume-to-Capacity Ratio (v/c)         0.40           Passenger Car Equivalent (Er)         2.000         Speed and Density           Lane Width Adjustment (ftw)         0.0         Average Speed (S), mi/h         66.9	Demand and Capacity			
Total Trucks, % 8.00 Capacity (c), pc/h/ln 2369  Single-Unit Trucks (SUT), % - Adjusted Capacity (cadj), pc/h/ln 2224  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ft.w) 0.0 Average Speed (S), mi/h 66.9	Demand Volume (V), veh/h	1537	Heavy Vehicle Adjustment Factor (fHV)	0.926
Single-Unit Trucks (SUT), %  - Adjusted Capacity (cad), pc/h/ln 2224  Tractor-Trailers (TT), %  - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ft.w) 0.0 Average Speed (S), mi/h 66.9	Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	883
Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.40  Passenger Car Equivalent (Et) 2.000  Speed and Density  Lane Width Adjustment (ft.w) 0.0 Average Speed (S), mi/h 66.9	Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369
Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (fuw) 0.0 Average Speed (S), mi/h 66.9	Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Speed and Density  Lane Width Adjustment (f.w) 0.0 Average Speed (S), mi/h 66.9	Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Lane Width Adjustment (f.w) 0.0 Average Speed (S), mi/h 66.9	Passenger Car Equivalent (ET)	2.000		
	Speed and Density			
	Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fʀɪc) 0.0 Density (D), pc/mi/ln 13.2	Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment 5.0 Level of Service (LOS) B	Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h 66.9	Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

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Project Information						
Analyst CC	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description N	T+674 AM l	JS 101 On Ramp	@ Riverside-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp	)	
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La), ft		1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side		Freeway	Right	:		
Adjustment Factors			<u> </u>	'		
Driver Population		Balanced Mix	Balan	Balanced Mix		
Weather Type		Non-Severe Weather	Non-	Non-Severe Weather		
Incident Type		No Incident	-	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950	1		
Final Capacity Adjustment Factor (CAF)		0.939	0.939	ı		
Demand Adjustment Factor (DAF)		1.000	1.000	1		
Demand and Capacity				'		
Demand Volume (Vi), veh/h		1537	298	298		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	2.00	2.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.926	0.980	0.980	
Flow Rate (vi), pc/h		1766	323	323		
Capacity (c), pc/h		4413	1878	1878		
Volume-to-Capacity Ratio (v/c)		0.47	0.17	0.17		
Speed and Density			<u> </u>			
Upstream Equilibrium Distance (LEQ), ft		Density in Ramp Influ	ence Area (DR), pc/r	ni/ln 19.8		
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ms)		0.333	
Downstream Equilibrium Distance (Le	EQ), ft -		Flow Outer Lanes (VOA	), pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft -		On-Ramp Influence A	rea Speed (SR), mi/h	58.3	
Prop. Freeway Vehicles in Lane 1 and	12 (Рғм)	.000	Outer Lanes Freeway	Speed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		766	Ramp Junction Speed	(S), mi/h	58.3	
Flow Entering Ramp-Infl. Area (VR12),	pc/h 2	2089	Average Density (D), p	oc/mi/ln	17.9	
Level of Service (LOS)		3				

HCS7 Freeway		Diverge Report			
Project Information					
-	CTC		Date	T	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	T+674 AI	M US 101 Off Ramp @ I	Riverside/Pine - SB (#17)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				<u> </u>	
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		1835	126		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	5.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fнv)		0.926	0.952		
Flow Rate (vi), pc/h		2108	141		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.48	0.08		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		20.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.464
Downstream Equilibrium Distance (Li	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and	I 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2108	Ramp Junction Speed (S), mi/h		55.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		19.1
Level of Service (LOS)		С			

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %		8.00	2.00	
		-	-	
Tractor-Trailers (TT), %				
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fнv)		0.926	0.980	
Flow Rate (vi), pc/h		2400	1536	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.89	0.82	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft -		Density in Ramp Influence Area (DR), pc/mi/ln		27.2
Distance to Upstream Ramp (Lup), ft -		Speed Index (Ms)		0.432
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft -		On-Ramp Influence Area Speed (S	R), mi/h	55.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM) 1.0	000	Outer Lanes Freeway Speed (So), r	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h 24	400	Ramp Junction Speed (S), mi/h		55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h 39	936	Average Density (D), pc/mi/ln		35.2
Level of Service (LOS)				

NT+674 AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2089

0.94

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

1330

Right

0.950

0.939

1.000

1415

0.94

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	NT+674 AM US 101 Mainlir	ne north of SR 46W - SB (#19)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	3504	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	2013			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90			
Passenger Car Equivalent (E⊤)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	55.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	36.1			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

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Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analy:	zed	AM	
Project Description N	T+674 AM	US 101 Off Ram	np @ SR 46W - SB (#20)	<u>'</u>		
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Le	ength (LD), f	t	1500		210	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors			·			
Driver Population			Balanced Mix		Balanced	Mix
Weather Type			Non-Severe Weat	:her	Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CA	AF)		0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			3504		667	
Peak Hour Factor (PHF)			0.94		0.94	
Total Trucks, %			8.00		6.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fev	v)		0.926		0.943	
Flow Rate (vi), pc/h			4026		752	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.91		0.40	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp	Influence Area (D	R), pc/mi/ln	37.0
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)			0.519
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes	(VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influen	ce Area Speed (S	R), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Free	way Speed (So), m	ni/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		4026	Ramp Junction Sp	peed (S), mi/h		53.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density	(D), pc/mi/ln		37.4
Level of Service (LOS)		E				

		11667 5	N D 1		
		HCS/ Freeway	Merge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	NT+674 AI	M US 101 On Ramp @ S	R 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	ıF)		0.950	0.950	
Final Capacity Adjustment Factor (	CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2837	139	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	f <sub>HV</sub> )		0.926	0.943	
Flow Rate (vi), pc/h			3259	157	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.77	0.08	
Speed and Density					
Upstream Equilibrium Distance (LE	q), ft	-	Density in Ramp Influence Area (	(D <sub>R</sub> ), pc/mi/ln	30.1
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.419
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	56.2
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3259	Ramp Junction Speed (S), mi/h		56.2
Flow Entering Ramp-Infl. Area (vR1)	2), pc/h	3416	Average Density (D), pc/mi/ln		30.4
Level of Service (LOS)		D			

Level of Service (LOS)

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21 - NT+674 AM US 101 On Ramp at SR 46W - SB.xuf

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Project Information						
<u> </u>	•		Data			
· ·	-		Date			
Agency			Analysis Year		51.4	
Jurisdiction		000	Time Period Analyzed		PM	
	674 PM US 101	Off Ramp @ S	R 46W - NB (#1)			
Geometric Data			_			
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Length	gth (LD), ft		1500		235	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced I	Mix
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CAF)			0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			3131		232	
Peak Hour Factor (PHF)			0.98		0.94	
Total Trucks, %			4.00		1.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fHV)			0.962		0.990	
Flow Rate (vi), pc/h			3321		249	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.75		0.13	
Speed and Density						
Upstream Equilibrium Distance (LEQ), ft	-		Density in Ramp Influe	ence Area (D	R), pc/mi/ln	30.7
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)			0.474
Downstream Equilibrium Distance (LEQ)	ft -		Flow Outer Lanes (VOA)	, pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft -			Off-Ramp Influence Ar	ea Speed (S	iR), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000			Outer Lanes Freeway Speed (So), mi/h		ni/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	3321		Ramp Junction Speed	(S), mi/h		54.9
	/h -		Average Density (D), pc/mi/ln 30.2			

9			Flow Rate (vi), pc/h	3075	948		
78			Capacity (c), pc/h	4413	1878		
3			Volume-to-Capacity Ratio (v/c)		0.91	0.50	
		[	Speed and Density				
:/mi/ln	30.7		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	34.3
	0.474		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.516
	-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
i/h	54.9		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h 5		53.9
	-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	ni/h	-
	54.9		Flow in Lanes 1 and 2 (v12), pc/h	3075	Ramp Junction Speed (S), mi/h		53.9
	30.2		Flow Entering Ramp-Infl. Area (VR12), pc/h	4023	Average Density (D), pc/mi/ln		37.3
			Level of Service (LOS)	D			
Gene	rated: 1/28/2019 6:28:20 PM	i Co	opyright © 2019 University of Florida. All Rights Reserve		ays Version 7.4 n Ramp at SR 46W - NB.xuf	Gene	erated: 1/28/2019 6:54:23 PM

NT+674 PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2899

0.98 4.00

0.962

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

882

0.94

1.00

0.990

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	NT+674 PM US 101 Mainlin	ne north of SR 46W - NB (#3)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	3781	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	2006			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	56.3			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	35.6			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	E			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

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3 - NT+674 PM US 101 mainline north of SR 46W - NB.xuf

Project Information  Analyst CCT	·C	Date		
Analyst CCT Agency		Analysis Year		
Jurisdiction			PM	
	674 DM HC 101 Off D	Time Period Analyzed  Ramp @ Spring - NB (#4)	PIVI	
Geometric Data	-674 PINI US 101 OII R	Karrip @ Spring - NB (#4)		
Geometric Data		Freeway	Ramp	
Number of Lanes (N)		2	1	
Free-Flow Speed (FFS), mi/h		70.0	35.0	
Segment Length (L) / Deceleration Ler	ath (Lp) ft	1500	195	
Terrain Type	gar ( <i>Eb)</i> , re	Rolling	Level	
Percent Grade, %		-	-	
Segment Type / Ramp Side		Freeway	Right	
Adjustment Factors		Treeway	Mgilt	
Driver Population		Balanced Mix	Balanced	d Mix
Weather Type		Non-Severe Weather		vere Weather
Incident Type		No Incident	-	Tere Wednier
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF		0.939	0.939	
Demand Adjustment Factor (DAF)	<u>'</u>	1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		3781	1593	
Peak Hour Factor (PHF)		0.98	0.98	
Total Trucks, %		4.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fhv)		0.926	0.990	
Flow Rate (vi), pc/h		4166	1642	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.94	0.87	
Speed and Density		,		
Upstream Equilibrium Distance (LEQ), fl	-	Density in Ramp Influence	Area (D <sub>R</sub> ), pc/mi/l	In 38.3
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.599
Downstream Equilibrium Distance (LEQ	), ft -	Flow Outer Lanes (VOA), pc	/h/ln	-
Distance to Downstream Ramp (LDOWN	), ft -	Off-Ramp Influence Area S	Speed (S <sub>R</sub> ), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2	(P <sub>FD</sub> ) 1.000	Outer Lanes Freeway Spee	ed (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	4166	Ramp Junction Speed (S),	mi/h	51.8
Flow Entering Ramp-Infl. Area (vR12), p	c/h -	Average Density (D), pc/m	i/ln	40.2
Level of Service (LOS)	E			

	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	T+674 PN	И US 101 Off Ramp @ P	aso Robles - NB (#5)		
Geometric Data		<u> </u>			
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2188	578	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fin	/)		0.962	0.990	
Flow Rate (vi), pc/h			2321	615	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.33	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Are	a (DR), pc/mi/ln	21.8
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.507
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/li	n	-
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and	1 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S	io), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2321	Ramp Junction Speed (S), mi/h	n	54.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		21.5
Level of Service (LOS)		С			

Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	19.1
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.326
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Ldown), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	1708	Ramp Junction Speed (S), mi/h		58.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	2083	Average Density (D), pc/mi/ln		17.8
Level of Service (LOS)	В			
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NT+674 PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1610

0.98 4.00

0.962

1708

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

356

0.96

1.00

0.990 375

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

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Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	NT+674 PM US 101 Mainlin	ne south of SR 46E - NB (#7)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1966	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1042			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	15.4			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7					

7 - NT+674 PM US 101 mainline south of SR 46E - NB.xuf

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, %

Segment Type / Ramp Side

Weather Type

Incident Type

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (fHV)

Total Trucks, %

Flow Rate (vi), pc/h

Capacity (c), pc/h

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Deceleration Length (LD), ft

CCTC

Date

NT+674 PM US 101 Off Ramp @ SR 46E - NB (#8)

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1966

0.98

4.00

0.962

2085

4413

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

225

Right

0.950

0.939

1.000

1140

0.96

3.00

0.971

1223

1878

Balanced Mix

Non-Severe Weather

Volume-to-Capacity Ratio (v/c) 0.47 0.65 **Speed and Density** Upstream Equilibrium Distance (LEQ), ft Density in Ramp Influence Area (DR), pc/mi/ln 20.2 Distance to Upstream Ramp (Lup), ft Speed Index (Ds) 0.561 Downstream Equilibrium Distance (LEQ), ft Flow Outer Lanes (VOA), pc/h/ln Distance to Downstream Ramp (LDOWN), ft Off-Ramp Influence Area Speed (SR), mi/h 52.8 Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000 Outer Lanes Freeway Speed (So), mi/h Flow in Lanes 1 and 2 (v<sub>12</sub>), pc/h 2085 Ramp Junction Speed (S), mi/h 52.8 Flow Entering Ramp-Infl. Area (VR12), pc/h Average Density (D), pc/mi/ln 19.7 Level of Service (LOS) Copyright © 2019 University of Florida. All Rights Reserved. HCS7100 Freeways Version 7.4 Generated: 1/28/2019 6:38:16 PM 8 - NT+674 PM US 101 Off Ramp at SR 46E - NB.xuf

		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	NT+674 PN	M US 101 On Ramp @ S	R 46E - NB (#9)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (	CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			826	287	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			12.00	12.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	fнv)		0.893	0.893	
Flow Rate (vi), pc/h			984	342	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.30	0.18	
Speed and Density					
Upstream Equilibrium Distance (Le	ر), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	13.2
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.309
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 a	nd 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		984	Ramp Junction Speed (S), mi/h		58.9
Flow Entering Ramp-Infl. Area (VR12	2), pc/h	1326	Average Density (D), pc/mi/ln		11.3
Level of Service (LOS)		В			

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9 - NT+674 PM US 101 On Ramp at SR 46E - NB.xuf

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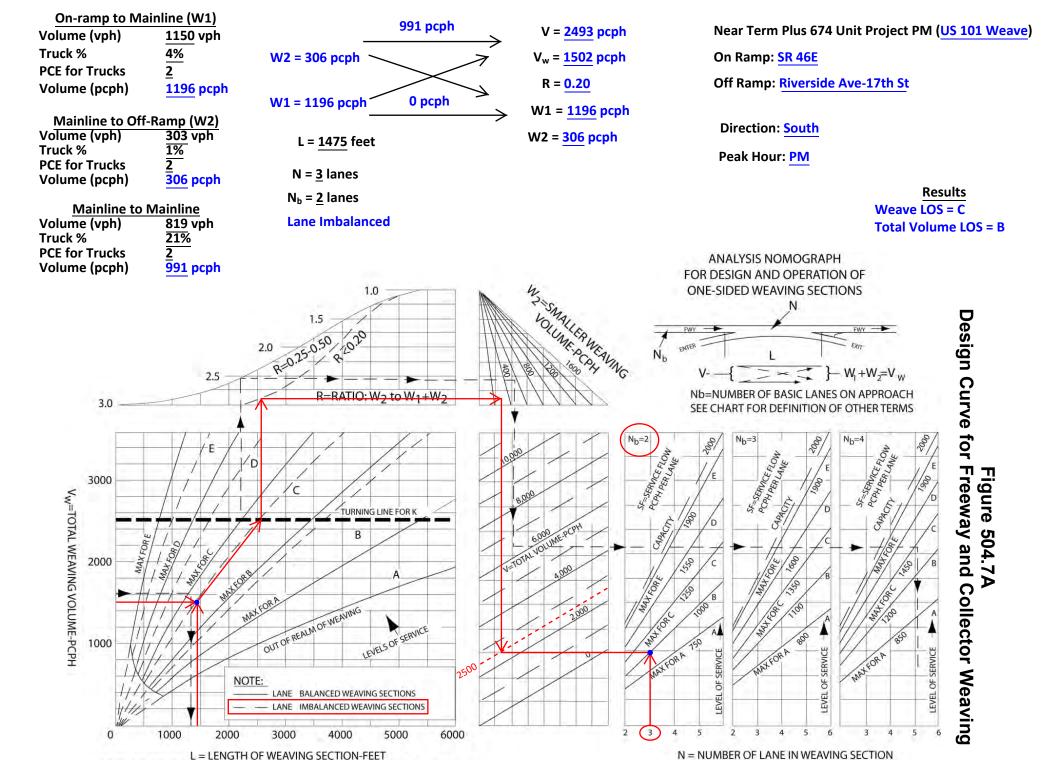
	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	NT+674 PM US 101 Mainlir	ne north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1113	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.893
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	663
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.8
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description NT+674 PM US 101 Mainline north of SR 46E - SB (#11)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1505	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	969			
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44			
Passenger Car Equivalent (E⊤)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.5			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

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Project Information						
Analyst C	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	IT+674 PM	US 101 Off Ram	p @ SR 46E - SB (#12)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> ),	ft	1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	d Mix	
Weather Type			Non-Severe Weather	Non-Sev	vere Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)	1		0.950	0.950		
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			'	'		
Demand Volume (Vi), veh/h			1505	383		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			21.00	21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fee	v)		0.826	0.826	0.826	
Flow Rate (vi), pc/h			1938	493		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.44	0.26	0.26	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influe	Density in Ramp Influence Area (DR), pc/mi/ln		
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.496	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA)	, pc/h/ln	-	
Distance to Downstream Ramp (LDOW	wn), ft	-	Off-Ramp Influence Area Speed (SR), mi/h		54.3	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000 Outer Lanes Freeway Speed (So), mi/h		-		
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1938 Ramp Junction Speed (S), mi/h		54.3			
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), po	c/mi/ln	17.8	
Level of Service (LOS)		В				



L = LENGTH OF WEAVING SECTION-FEET

LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

HCS7 Basic Freeway Report						
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description NT+674 PM US 101 Mainline south of SR 46E - SB (#15)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1969	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1110			
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	16.6			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

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		HCS7 Freeway	/ Merge Report		
Project Information					
Analyst	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	IT+674 PN	/I US 101 On Ramp @	Riverside-17th - SB (#16)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	300	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1969	205	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.943	0.990	
Flow Rate (vi), pc/h			2221	220	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.55	0.12	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	22.6
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.346
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (vo <sub>A</sub> ), pc/h/ln -		-
Distance to Downstream Ramp (LDOV	wn), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So)	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2221	Ramp Junction Speed (S), mi/h		58.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2441	Average Density (D), pc/mi/ln		21.0
Level of Service (LOS)		С			

Level of Service (LOS)

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16 - NT+674 PM US 101 On Ramp at Riverside-17th - SB.xuf

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Project Information					
Analyst CCT	<u> </u>	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
	674 PM US 101 Off Ra	amp @ Riverside/Pine - SB (#17)			
Geometric Data		, ,			
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Length	gth (Lo), ft	1500	190		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type	Non-Severe Weather	Non-Seve	Non-Severe Weather		
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)	0.950	0.950			
Final Capacity Adjustment Factor (CAF)	0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity			·		
Demand Volume (Vi), veh/h		2174	193		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		6.00	1.00	1.00	
Single-Unit Trucks (SUT), %		-	-	-	
Tractor-Trailers (TT), %		-	-	-	
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.943	0.990		
Flow Rate (vi), pc/h		2453	207		
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		0.56	0.11	0.11	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence	ce Area (D <sub>R</sub> ), pc/mi/ln	23.6	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.470	
Downstream Equilibrium Distance (LEQ)	ft -	Flow Outer Lanes (VOA), p	oc/h/ln	-	
Distance to Downstream Ramp (LDOWN)	ft -	Off-Ramp Influence Area	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h 55.0		
Prop. Freeway Vehicles in Lane 1 and 2	(P <sub>FD</sub> ) 1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	2453	Ramp Junction Speed (S)	), mi/h	55.0	
Flow Entering Ramp-Infl. Area (VR12), po	/h -	Average Density (D), pc/i	Average Density (D), pc/mi/ln 22.3		

Final Speed Adjustment Factor (SAF)		0.950 0.950		
Final Capacity Adjustment Factor (CAF)	0.939	0.939	0.939	
Demand Adjustment Factor (DAF)	1.000	1.000		
Demand and Capacity				
Demand Volume (Vi), veh/h		2373	1086	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		6.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.943	0.990	
Flow Rate (vi), pc/h		2677	1167	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.87	0.62	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	26.7
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.415
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	2677	Ramp Junction Speed (S), mi/h		56.3
Flow Entering Ramp-Infl. Area (VR12), pc/h	3844	Average Density (D), pc/mi/ln		34.1
Level of Service (LOS)	С			

NT+674 PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

1330

Right

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT+674 PM US 101 Mainlin	ne north of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3459	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1951		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	57.3		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	34.0		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9				

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	NT+674 PN	И US 101 Off Ramp @ S	SR 46W - SB (#20)	·	
Geometric Data		·			
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	210	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3459	658	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	fhv)		0.943	0.971	
Flow Rate (v <sub>i</sub> ), pc/h			3902	721	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.88	0.38	
Speed and Density					
Upstream Equilibrium Distance (Leo	2), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	35.9
Distance to Upstream Ramp (Lup), f	ft	-	Speed Index (Ds)		0.516
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Lo	own), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	53.9
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3902	Ramp Junction Speed (S), mi/h		53.9
Flow Entering Ramp-Infl. Area (VR12	), pc/h	-	Average Density (D), pc/mi/ln		36.2
Level of Service (LOS)		Е			

Level of Service (LOS)

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20 - NT+674 PM US 101 Off Ramp at SR 46W - SB.xuf

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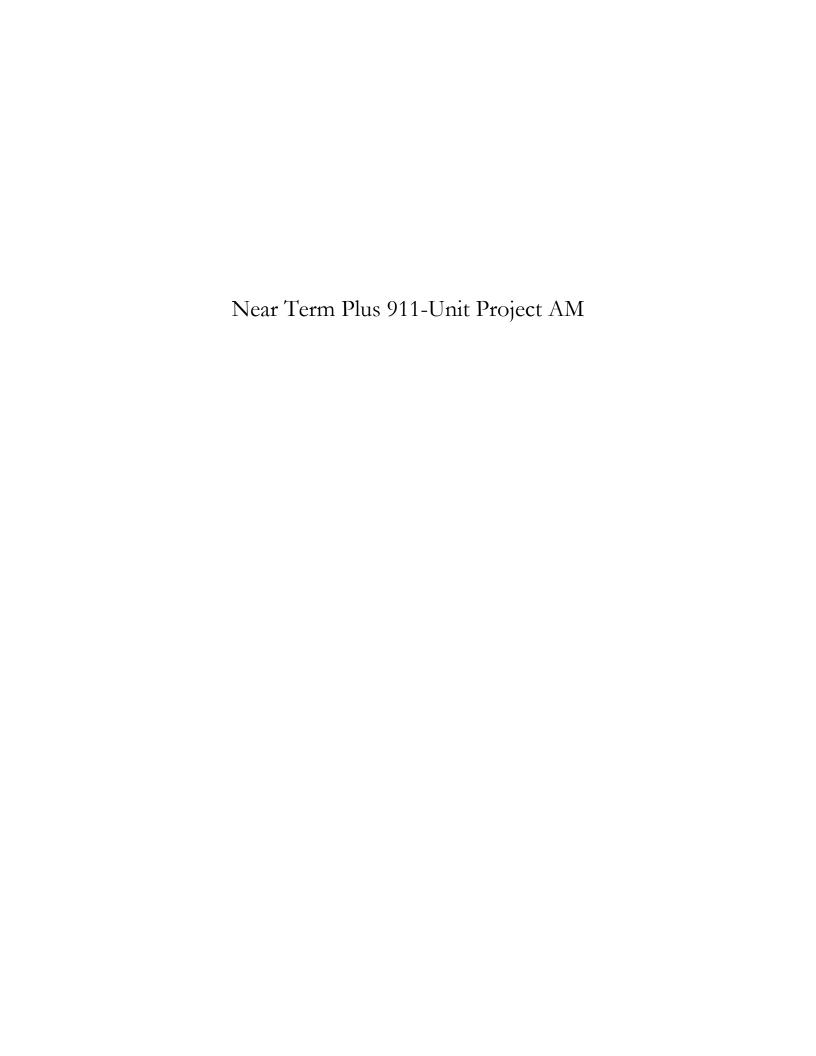
		HCS7 Freeway	Merge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	NT+674 PN	И US 101 On Ramp @ S	R 46W - SB (#21)	•	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2801	211	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	hv)		0.943	0.971	
Flow Rate (vi), pc/h			3160	231	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.77	0.12	
Speed and Density					
Upstream Equilibrium Distance (Leo	a), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	29.9
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ms)		0.416
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed (SR), mi/h		56.3
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3160	Ramp Junction Speed (S), mi/h		56.3
Flow Entering Ramp-Infl. Area (VR12	), pc/h	3391	Average Density (D), pc/mi/ln		30.1
Level of Service (LOS)		D			

Level of Service (LOS)

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21 - NT+674 PM US 101 On Ramp at SR 46W - S8.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst Co	CTC		Date	1	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	T+911 AI	M US 101 Off Ramp @	SR 46W - NB (#1)	1	
Geometric Data		·			
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2343	250	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	v)		0.926	0.943	
Flow Rate (v <sub>i</sub> ), pc/h			2692	282	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.61	0.15	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	DR), pc/mi/ln	25.3
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.477
Downstream Equilibrium Distance (Li	n Equilibrium Distance (LEQ), ft - Flow Out		Flow Outer Lanes (VOA), pc/h/ln	Flow Outer Lanes (voa), pc/h/ln	
Distance to Downstream Ramp (Ldow	vn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and	1 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2692	Ramp Junction Speed (S), mi/h		54.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		24.6
Level of Service (LOS)		С			

Demand Volume (Vi), veh/h	2093	477		
Peak Hour Factor (PHF)	0.94	0.94		
Total Trucks, %	8.00	6.00		
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fhv)		0.926	0.943	
Flow Rate (v <sub>i</sub> ), pc/h		2405	538	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.67	0.29	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	26.1
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.372
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		57.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	2405	Ramp Junction Speed (S), mi/h		57.4
Flow Entering Ramp-Infl. Area (VR12), pc/h	2943	Average Density (D), pc/mi/ln		25.6
Level of Service (LOS)	С			
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NT+911 AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

Non-Severe Weather

Time Period Analyzed

AM

Ramp

35.0

345

Right

0.950

0.939

1.000

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

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Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** 

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description NT+911 AM US 101 Mainline north of SR 46W - NB (#3)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	2570	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1476			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.0			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	22.4			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	С			
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7					

3 - NT+911 AM US 101 mainline north of SR 46W - NB.xuf

**Project Information** CCTC Analyst Date Agency Analysis Year Jurisdiction Time Period Analyzed AM Project Description NT+911 AM US 101 Off Ramp @ Spring - NB (#4) **Geometric Data** Freeway Ramp Number of Lanes (N) 2 1 Free-Flow Speed (FFS), mi/h 70.0 35.0 Segment Length (L) / Deceleration Length (LD), ft 1500 195 Terrain Type Rolling Percent Grade, % Segment Type / Ramp Side Freeway Right **Adjustment Factors** Driver Population Balanced Mix Balanced Mix Weather Type Non-Severe Weather Non-Severe Weather Incident Type No Incident Final Speed Adjustment Factor (SAF) 0.950 0.950 Final Capacity Adjustment Factor (CAF) 0.939 0.939 Demand Adjustment Factor (DAF) 1.000 1.000 **Demand and Capacity** Demand Volume (Vi), veh/h 2570 924 Peak Hour Factor (PHF) 0.94 0.94 Total Trucks, % 8.00 2.00 Single-Unit Trucks (SUT), % Tractor-Trailers (TT), % Heavy Vehicle Adjustment Factor (fHV) 0.862 0.980 Flow Rate (vi), pc/h 3172 1003 Capacity (c), pc/h 4413 1878 Volume-to-Capacity Ratio (v/c) 0.72 0.53 **Speed and Density** Upstream Equilibrium Distance (LEQ), ft Density in Ramp Influence Area (DR), pc/mi/ln 29.8 Distance to Upstream Ramp (Lup), ft Speed Index (Ds) 0.542 Downstream Equilibrium Distance (LEQ), ft Flow Outer Lanes (VOA), pc/h/ln Distance to Downstream Ramp (LDOWN), ft Off-Ramp Influence Area Speed (SR), mi/h 53.2 Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000 Outer Lanes Freeway Speed (So), mi/h Flow in Lanes 1 and 2 (v<sub>12</sub>), pc/h 3172 Ramp Junction Speed (S), mi/h 53.2 Flow Entering Ramp-Infl. Area (VR12), pc/h Average Density (D), pc/mi/ln 29.8 Level of Service (LOS)

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HCS7100 Freeways Version 7.4 4 - NT+911 AM US 101 Off Ramp at Spring - NB.xuf Generated: 1/29/2019 9:31:09 AM

zed AM		
)		
,		
Ramp		
1		
35.0	35.0	
270	270	
Level	Level	
-	-	
Right	Right	
Baland	ed Mix	
	Non-Severe Weather	
-		
0.950	0.950	
0.939	0.939	
1.000	1.000	
342		
0.94	0.94	
1.00	1.00	
-	-	
-	-	
0.990		
368	368	
1878	1878	
0.20	0.20	
·		
Density in Ramp Influence Area (DR), pc/mi/ln		
Speed Index (Ds)		
Flow Outer Lanes (voa), pc/h/ln		
Off-Ramp Influence Area Speed (SR), mi/h 54.6		
way Speed (So), mi/h	-	
oeed (S), mi/h	54.6	
(D), pc/mi/ln	17.3	
peed	(S), mi/h	

Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced Mix		
Weather Type		Non-Severe Weather	Non-Severe Weather		
Incident Type		No Incident	-	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950	0.950	
Final Capacity Adjustment Factor (CAF)	0.939	0.939			
Demand Adjustment Factor (DAF)	1.000	1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		1304	421		
Peak Hour Factor (PHF)		0.94	0.94	0.94	
Total Trucks, %		8.00	1.00	1.00	
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fHV)		0.926	0.990		
Flow Rate (vi), pc/h		1498	452		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.44	0.24		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		18.0	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.322	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.6	
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v12), pc/h	1498	Ramp Junction Speed (S), mi/h		58.6	
Flow Entering Ramp-Infl. Area (VR12), pc/h	1950	Average Density (D), pc/mi/ln		16.6	
Level of Service (LOS)	В				

NT+911 AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Time Period Analyzed

AM

Ramp

1

35.0

400

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

Number of Lanes (N)

Terrain Type

Percent Grade, %

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	Description NT+911 AM US 101 Mainline south of SR 46E - NB (#7)					
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1725	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	991			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.6			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

Prved. HCS7100 Freeways Version 7.4 7 - NT+911 AM US 101 mainline south of SR 46E - NB.xuf **Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

Geometric Data

Number of Lanes (N)

Terrain Type

Percent Grade, %
Segment Type / Ramp Side

Weather Type

Adjustment Factors

Driver Population

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Deceleration Length (LD), ft

C C C C E E C C C C C C C C C C C C C C	No Incident 0.950 0.939 1.000 1725 0.94 8.00 0.926 1982 4413 0.45	- 0.950 0.939 1.000 1017 0.94 5.00 0.952 1136 1878 0.60		
C C 1 1 C C C C C C C C C C C C C C C C	0.939 1.000 1725 0.94 8.00 - - 0.926 1982 4413	0.939 1.000 1017 0.94 5.00 - - 0.952 1136 1878		
1 1 C C 8 8	1.000 1725 0.94 8.00 - - 0.926 1982 4413	1.000  1017 0.94 5.00 0.952 1136 1878		
1 1 C C 8 8	1725 0.94 8.00 - - 0.926 1982 4413	1017 0.94 5.00 - - 0.952 1136 1878		
C 8 8 C C 1 1 4 4 C C	0.94 8.00 - - 0.926 1982 4413	0.94 5.00 - - 0.952 1136 1878		
C 8 8 C C 1 1 4 4 C C	0.94 8.00 - - 0.926 1982 4413	0.94 5.00 - - 0.952 1136 1878		
C C 1 1 4 4 C C	8.00 - - 0.926 1982 4413	5.00 - - 0.952 1136 1878		
 C 1 4	- - 0.926 1982 4413	- - 0.952 1136 1878		
1 4 C	1982 4413	- 0.952 1136 1878		
1 4 C	1982 4413	1136 1878		
1 4 C	1982 4413	1136 1878		
4	4413	1878		
C				
	0.45	0.60		
			0.60	
	Density in Ramp Influence	Area (D <sub>R</sub> ), pc/mi/ln	19.3	
9	Speed Index (Ds)		0.554	
F	Flow Outer Lanes (voa), pc/h/ln		-	
(	Off-Ramp Influence Area Speed (SR), mi/h		52.9	
(	Outer Lanes Freeway Speed (So), mi/h		-	
F	Ramp Junction Speed (S), mi/h		52.9	
-	Average Density (D), pc/mi/ln		18.7	
		Flow Outer Lanes (voA), pc, Off-Ramp Influence Area S Outer Lanes Freeway Spee Ramp Junction Speed (S),	Flow Outer Lanes (vox), pc/h/ln  Off-Ramp Influence Area Speed (Sa), mi/h  Outer Lanes Freeway Speed (So), mi/h  Ramp Junction Speed (S), mi/h  Average Density (D), pc/mi/ln  HCS7 WM Freeways Version 7.4 Gen	

Date

NT+911 AM US 101 Off Ramp @ SR 46E - NB (#8)

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

225

Right

Balanced Mix

Non-Severe Weather

Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description N	T+911 AN	1 US 101 On Ram	Ramp @ SR 46E - NB (#9)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)		2	1			
Free-Flow Speed (FFS), mi/h		70.0	35.0			
Segment Length (L) / Acceleration Le	ength (La),	ft	1500	405	405	
Terrain Type			Level	Level	Level	
Percent Grade, %			-	-	-	
Segment Type / Ramp Side			Freeway	Right	Right	
Adjustment Factors						
Driver Population		Balanced Mix	Balance	d Mix		
Weather Type			Non-Severe Weather	Non-Se	vere Weather	
Incident Type		No Incident	-	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h		708	311	311		
Peak Hour Factor (PHF)		0.94	0.94	0.94		
Total Trucks, %		18.00	18.00	18.00		
Single-Unit Trucks (SUT), %		-	-	-		
Tractor-Trailers (TT), %		-	-			
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.847	0.847	0.847		
Flow Rate (vi), pc/h		889	391	391		
Capacity (c), pc/h		4413	1878	1878		
Volume-to-Capacity Ratio (v/c)	e-to-Capacity Ratio (v/c)		0.29	0.21	0.21	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		In 12.8	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.308	
Downstream Equilibrium Distance (Le	eq), ft	-	Flow Outer Lanes (VOA),	Flow Outer Lanes (VOA), pc/h/ln		
Distance to Downstream Ramp (LDOW	/N), ft	-	On-Ramp Influence Are	On-Ramp Influence Area Speed (SR), mi/h		
Prop. Freeway Vehicles in Lane 1 and	2 (PFM)	1.000	Outer Lanes Freeway S	Outer Lanes Freeway Speed (So), mi/h -		
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		889	Ramp Junction Speed (S), mi/h 59.0		59.0	
Flow Entering Ramp-Infl. Area (vR12),	pc/h	1280	Average Density (D), po	:/mi/ln	10.8	
Level of Service (LOS)		В				

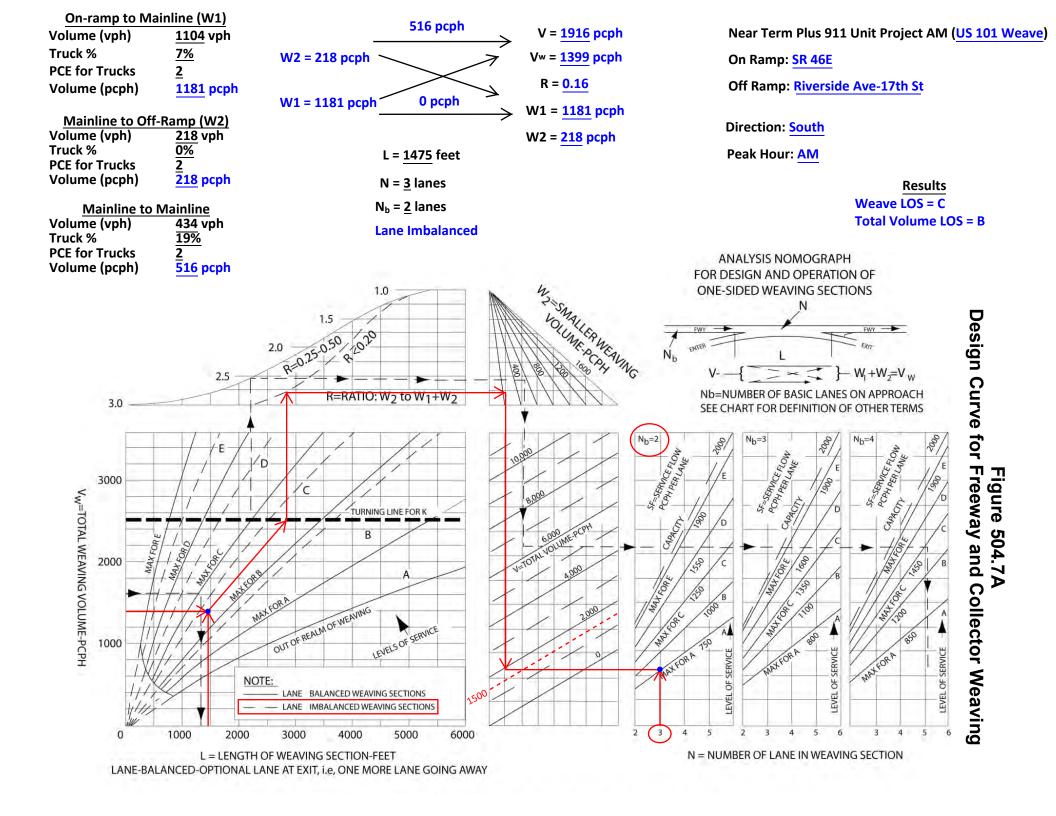
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	NT+911 AM US 101 Mainl		
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1019	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	640
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.5
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		
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HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	NT+911 AM US 101 Mainlir	ne north of SR 46E - SB (#11)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	936	Heavy Vehicle Adjustment Factor (fHV)	0.840		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	592		
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	8.8		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				

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Project Information						
Analyst C	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description N	IT+911 AM	JS 101 Off Ramp	@ SR 46E - SB (#12)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (LD), f	t	1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors				'		
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity			<u> </u>			
Demand Volume (Vi), veh/h			936	284		
Peak Hour Factor (PHF)			0.94	0.95		
Total Trucks, %			19.00	19.00	19.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fet	v)		0.840	0.840		
Flow Rate (vi), pc/h			1185	356		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.27	0.19	0.19	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	, ft		Density in Ramp Influe	ence Area (D <sub>R</sub> ), pc/mi/lr	13.0	
Distance to Upstream Ramp (Lup), ft			Speed Index (Ds)		0.483	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (voa)	), pc/h/ln	-	
Distance to Downstream Ramp (LDOW	wn), ft		Off-Ramp Influence A	rea Speed (S <sub>R</sub> ), mi/h	54.7	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway S	Speed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1185	Ramp Junction Speed	(S), mi/h	54.7	
Flow Entering Ramp-Infl. Area (VR12),	pc/h		Average Density (D), p	oc/mi/ln	10.8	
Level of Service (LOS)		3				



	HCS7 Basic Freeway Report				
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	NT+911 AM US 101 Mainlir	ne south of SR 46E - SB (#15)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1538	Heavy Vehicle Adjustment Factor (fHV)	0.926		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	884		
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40		
Passenger Car Equivalent (E⊤)	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	13.2		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9				
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Project Information						
-	CTC		Date			
Agency			Analysis Year			
urisdiction			Time Period Analyzed		AM	
Project Description N	T+911 AN	/I US 101 On Ramp	@ Riverside-17th - SB (#16)			
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Acceleration Le	ength (L <sub>A</sub> )	ft	1500		300	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced	Mix
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CA	AF)		0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity			·			
Demand Volume (Vi), veh/h			1538		298	
Peak Hour Factor (PHF)			0.94		0.94	
Total Trucks, %			8.00		2.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fhv	/)		0.926		0.980	
Flow Rate (v <sub>i</sub> ), pc/h			1767		323	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.47		0.17	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	nce Area (Dr	), pc/mi/ln	19.8
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)			0.333
Downstream Equilibrium Distance (Le	eq), ft	-	Flow Outer Lanes (VOA)	, pc/h/ln		-
Distance to Downstream Ramp (Ldow	/N), ft	-	On-Ramp Influence Ar	ea Speed (SR	), mi/h	58.3
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway S	peed (So), m	i/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1767	Ramp Junction Speed	(S), mi/h		58.3
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2090	Average Density (D), p	c/mi/ln		17.9
Level of Service (LOS)		В				

		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	NT+911 AI	M US 101 Off Ramp @ R	iverside/Pine - SB (#17)		
Geometric Data		·			
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	F)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			1836	127	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	f <sub>HV</sub> )		0.926	0.952	
Flow Rate (vi), pc/h			2109	142	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.48	0.08	
Speed and Density					
Upstream Equilibrium Distance (LE	q), ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	20.7
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ds)		0.464
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-
Distance to Downstream Ramp (Lo	own), ft	-	Off-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (	So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2109	Ramp Junction Speed (S), mi/	'h	55.1
Flow Entering Ramp-Infl. Area (VR1:	2), pc/h	-	Average Density (D), pc/mi/ln	ı	19.1
Level of Service (LOS)		С			

Geometric Data		I e			
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0	35.0	
Segment Length (L) / Acceleration Length (La)	, ft	1500	1330		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	ere Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h		2089	1435	1435	
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	2.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-	-	
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.926	0.980		
Flow Rate (vi), pc/h		2400	1558		
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		0.90	0.83		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	27.4	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.437	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	55.8	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	2400	Ramp Junction Speed (S), mi/h		55.8	
Flow Entering Ramp-Infl. Area (VR12), pc/h	3958	Average Density (D), pc/mi/ln		35.5	
Level of Service (LOS)	С				

NT+911 AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Time Period Analyzed

AM

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**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	NT+911 AM US 101 Mainlir	ne north of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3524	Heavy Vehicle Adjustment Factor (fHV)	0.926		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	2024		
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	55.4		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	36.5		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description N	IT+911 AI	M US 101 Off Ramp @	SR 46W - SB (#20)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	210	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3524	671	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.926	0.943	
Flow Rate (vi), pc/h			4049	757	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.92	0.40	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	37.2
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.520
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOW	wn), ft	-	Off-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (Sc	), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		4049	Ramp Junction Speed (S), mi/h		53.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		37.6
Level of Service (LOS)		E			

Level of Service (LOS)

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20 - NT+911 AM US 101 Off Ramp at SR 46W - SB.xuf

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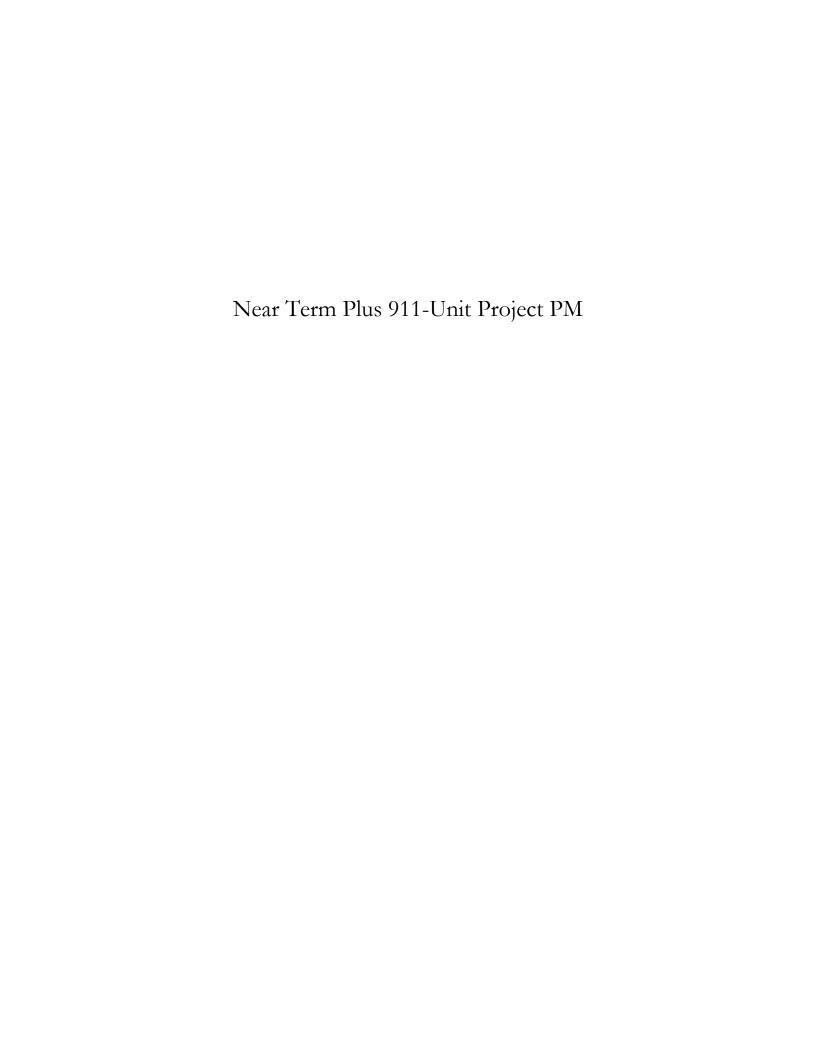
		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	NT+911 AI	M US 101 On Ramp @ S	SR 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2853	139	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor	(f <sub>H</sub> v)		0.926	0.943	
Flow Rate (vi), pc/h			3278	157	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)		0.78	0.08		
Speed and Density					
Upstream Equilibrium Distance (L	EQ), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	30.3
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.421
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (L	DOWN), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	56.2
Prop. Freeway Vehicles in Lane 1	and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3278	Ramp Junction Speed (S), mi/h		56.2
Flow Entering Ramp-Infl. Area (vr	12), pc/h	3435	Average Density (D), pc/mi/ln		30.6
Level of Service (LOS)		D			

Level of Service (LOS)

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21 - NT+911 AM US 101 On Ramp at SR 46W - SB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
•	CTC		Date	T	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	JT+911 PN	M US 101 Off Ramp @ :			
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)	)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3147	232	
Peak Hour Factor (PHF)			0.98	0.94	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.962	0.990	
Flow Rate (vi), pc/h			3338	249	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.76	0.13	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	D <sub>R</sub> ), pc/mi/ln	30.8
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.474
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOW	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3338	Ramp Junction Speed (S), mi/h		54.9
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		30.4
Level of Service (LOS)		D			

Flow Rate (vi), pc/h		3092	953	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.92	0.51	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		34.5
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.521
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		53.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	3092	Ramp Junction Speed (S), mi/h		53.7
Flow Entering Ramp-Infl. Area (VR12), pc/h	4045	Average Density (D), pc/mi/ln		37.7
Level of Service (LOS)	D			
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NT+911 PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2915

0.98

4.00

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

887

0.94

1.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT+911 PM US 101 Mainlir	ne north of SR 46W - NB (#3)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3802	Heavy Vehicle Adjustment Factor (fHV)	0.962		
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	2016		
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90		
Passenger Car Equivalent (E⊤)	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	56.0		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	36.0		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	E		
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7				

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	IT+911 PN	M US 101 Off Ramp @ :	Spring - NB (#4)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	195	
Terrain Type			Rolling	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3802	1614	
Peak Hour Factor (PHF)			0.98	0.98	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.926	0.990	
Flow Rate (vi), pc/h			4190	1664	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.95	0.89	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area (	Dr), pc/mi/ln	38.5
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.601
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft -		Off-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	51.8	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		4190	Ramp Junction Speed (S), mi/h		
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		40.4
Level of Service (LOS)		E			

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4 - NT+911 PM US 101 Off Ramp at Spring - NB.xuf

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	ŀ	HCS7 Freewa	/ Diverge Report		
Project Information	_				
-	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	T+911 PN	M US 101 Off Ramp @	Paso Robles - NB (#5)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo)	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2188	578	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	v)		0.962	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2321	615	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.33	
Speed and Density					
Upstream Equilibrium Distance (Leq),	ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	21.8
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.507
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft -		Off-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	54.1	
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So	), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2321	Ramp Junction Speed (S), mi/h		54.1
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		21.5
Level of Service (LOS)		С			

Heavy Vehicle Adjustment Factor (fHV)		0.962	0.990	
Flow Rate (vi), pc/h	1708	378		
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.47	0.20	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	19.1
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.326
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft -		On-Ramp Influence Area Speed (SR), mi/h		58.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), I	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	1708	Ramp Junction Speed (S), mi/h		58.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	2086	Average Density (D), pc/mi/ln		17.8
Level of Service (LOS)	В			
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NT+911 PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1610

0.98

4.00

Non-Severe Weather

Time Period Analyzed

PM

Ramp

35.0

400

Right

0.950

0.939

1.000

359

0.96

1.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

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Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	NT+911 PM US 101 Mainlin	ne south of SR 46E - NB (#7)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1969	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1044			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	15.4			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

erved. HCS71001 Freeways Version 7.4 7 - NT+911 PM US 101 mainline south of SR 46E - NB.xuf

Project Information						
Analyst	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	T+911 PN	I US 101 Off Ram	p @ SR 46E - NB (#8)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	ıF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1969	1140		
Peak Hour Factor (PHF)			0.98	0.96		
Total Trucks, %			4.00	3.00	3.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv	')		0.962	0.971	0.971	
Flow Rate (vi), pc/h			2089	1223		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.47	0.65	0.65	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	ce Area (DR), pc/mi/lr	20.2	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.561	
Downstream Equilibrium Distance (Le	Q), ft	-	Flow Outer Lanes (voa), p	oc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	52.8	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	es 1 and 2 (v <sub>12</sub> ), pc/h 2089		Ramp Junction Speed (S	), mi/h	52.8	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/	mi/ln	19.8	
Level of Service (LOS)		С				

Project Information						
Analyst	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description NT	T+911 PN	I US 101 On Ram	p @ SR 46E - NB (#9)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ngth (La),	ft	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balance	ed Mix	
Weather Type			Non-Severe Weather	Non-Se	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			829	287		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			12.00	12.00	12.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fHV)	r)		0.893	0.893	0.893	
Flow Rate (vi), pc/h			988	342		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.30	0.18	0.18	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	nce Area (DR), pc/mi,	/ln 13.2	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.309	
Downstream Equilibrium Distance (LE	Q), ft	-	Flow Outer Lanes (VOA)	, pc/h/ln	-	
Distance to Downstream Ramp (Lbow	/N), ft	-	On-Ramp Influence Ar	ea Speed (S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 and	nd 2 (P <sub>FM</sub> ) 1.000		Outer Lanes Freeway S	peed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		988	Ramp Junction Speed	(S), mi/h	58.9	
Flow Entering Ramp-Infl. Area (vR12), p	pc/h	1330	Average Density (D), p	c/mi/ln	11.3	
Level of Service (LOS)		В				

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	NT+911 PM US 101 Mainlir	ne north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1116	Heavy Vehicle Adjustment Factor (fHV)	0.893
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	664
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E⊤)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	9.8
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

Adjusted Free-Flow Speed (FFSadj), mi/h | 67.7

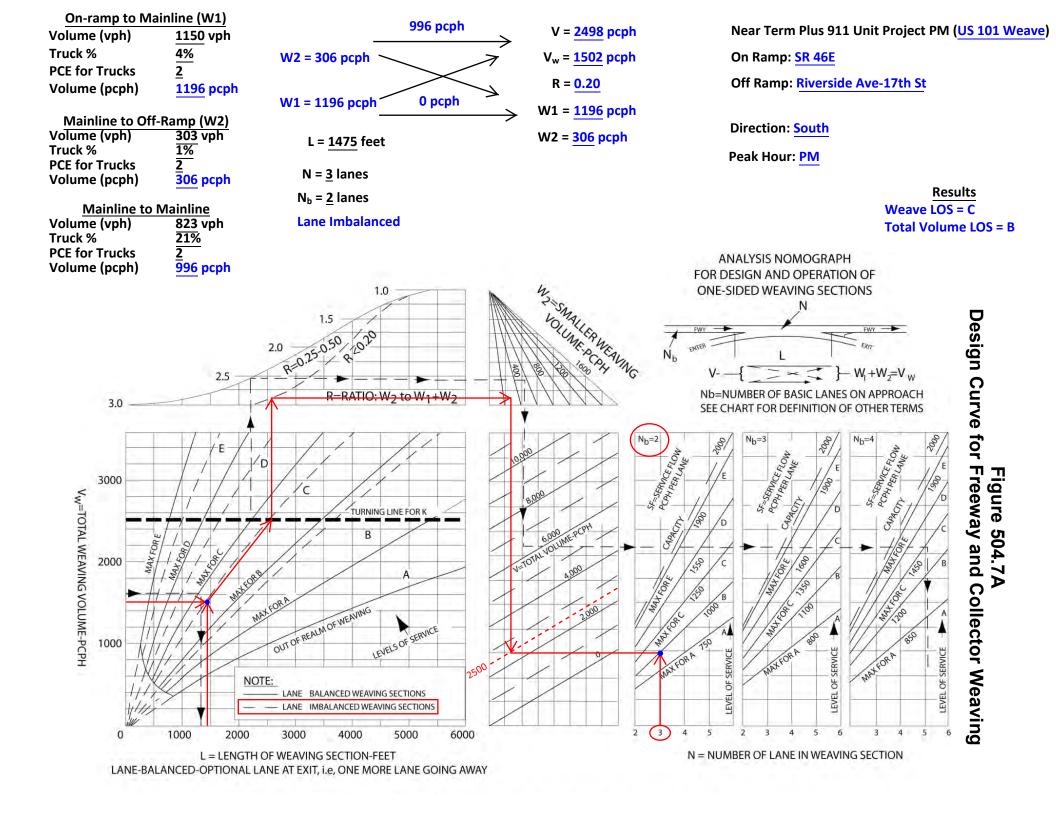
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10 - NT+911 PM US 101 mainline north of SR 46E - NB.xuf Generated: 1/29/2019 10:13:03 AM

HCS7 Basic Freeway Report						
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	NT+911 PM US 101 Mainlir	ne north of SR 46E - SB (#11)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1509	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	972			
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.5			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

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Duningt Information	_		way Diverge Report			
Project Information						
Analyst CC	TC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
· · ·	Γ+911 PM	US 101 Off Rar	np @ SR 46E - SB (#12)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ngth (LD),	ft	1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1509	383		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			21.00	21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv)	)		0.826	0.826	0.826	
Flow Rate (vi), pc/h			1943	493		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.44	0.26		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	ce Area (DR), pc/mi/ln	19.6	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.496	
Downstream Equilibrium Distance (LE	q), ft	-	Flow Outer Lanes (voa), p	oc/h/ln	-	
Distance to Downstream Ramp (Loow	ν), ft	-	Off-Ramp Influence Area	a Speed (S <sub>R</sub> ), mi/h	54.3	
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000		Outer Lanes Freeway Sp	eed (So), mi/h	-		
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1943	Ramp Junction Speed (S	), mi/h	54.3	
Flow Entering Ramp-Infl. Area (VR12), p	pc/h	-	Average Density (D), pc/	mi/ln	17.9	
Level of Service (LOS)		В				



HCS7 Basic Freeway Report							
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year					
Jurisdiction		Time Period Analyzed	PM				
Project Description	NT+911 PM US 101 Mainlir	ne south of SR 46E - SB (#15)					
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	1973	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943				
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1113				
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50				
Passenger Car Equivalent (E <sub>T</sub> )	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	16.6				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В				
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9						

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Project Information						
	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description N	T+911 PN	И US 101 On Ram	p @ Riverside-17th - SB (#16)			
Geometric Data			, - , ,			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ngth (L <sub>A</sub> )	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	l Mix	
Weather Type			Non-Severe Weather	Non-Sev	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			1973	205		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			6.00	1.00		
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv	·)		0.943	0.990		
Flow Rate (vi), pc/h			2226	220		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.55	0.12	0.12	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influer	nce Area (DR), pc/mi/l	n 22.6	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.346	
Downstream Equilibrium Distance (La	Q), ft	-	Flow Outer Lanes (voa),	pc/h/ln	-	
Distance to Downstream Ramp (Loow	/N), ft	-	On-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/h	58.0	
Prop. Freeway Vehicles in Lane 1 and	2 (Рғм)	1.000	Outer Lanes Freeway Sp	Outer Lanes Freeway Speed (So), mi/h		
Flow in Lanes 1 and 2 (v12), pc/h		2226	Ramp Junction Speed (S), mi/h		58.0	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2446	Average Density (D), po	/mi/ln	21.1	
Level of Service (LOS)		С				

	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst Co	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	T+911 PN	И US 101 Off Ramp @ R	tiverside/Pine - SB (#17)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo)	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2178	197	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	v)		0.943	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2457	212	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.56	0.11	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	23.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.470
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/l	n	-	
Distance to Downstream Ramp (LDOWN), ft -		Off-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	55.0	
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000		Outer Lanes Freeway Speed (S	So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2457	Ramp Junction Speed (S), mi/l	h	55.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		22.3
Level of Service (LOS)		С			

Free-Flow Speed (FFS), mi/h	70.0	35.0			
Segment Length (L) / Acceleration Length (LA)	, ft	1500	1330		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population	Balanced Mix	Balanced I	Mix		
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2373	1099		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		6.00	1.00	1.00	
Single-Unit Trucks (SUT), %		-	-	-	
Tractor-Trailers (TT), %		-	-	-	
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.943	0.990		
Flow Rate (vi), pc/h		2677	1181		
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		0.87	0.63	0.63	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (	DR), pc/mi/ln	26.8	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.417	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	56.3	
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2677	Ramp Junction Speed (S), mi/h		56.3	
Flow Entering Ramp-Infl. Area (VR12), pc/h	3858	Average Density (D), pc/mi/ln		34.3	
Level of Service (LOS)	С				

NT+911 PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

Time Period Analyzed

PM

Ramp

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

Number of Lanes (N)

	HCS7 Basic Freeway Report				
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	NT+911 PM US 101 Mainlir	ne north of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3472	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1958		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	57.1		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	34.3		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9				
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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description N	IT+911 PI	/I US 101 Off Ramp @	SR 46W - SB (#20)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	210	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			3472	661	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.943	0.971	
Flow Rate (vi), pc/h			3917	724	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.89	0.39	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	36.0
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.517
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Look	wn), ft	-	Off-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (Sc	), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3917	Ramp Junction Speed (S), mi/h		53.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		36.4
Level of Service (LOS)		E			

Level of Service (LOS)

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20 - NT+911 PM US 101 Off Ramp at SR 46W - SB.xuf

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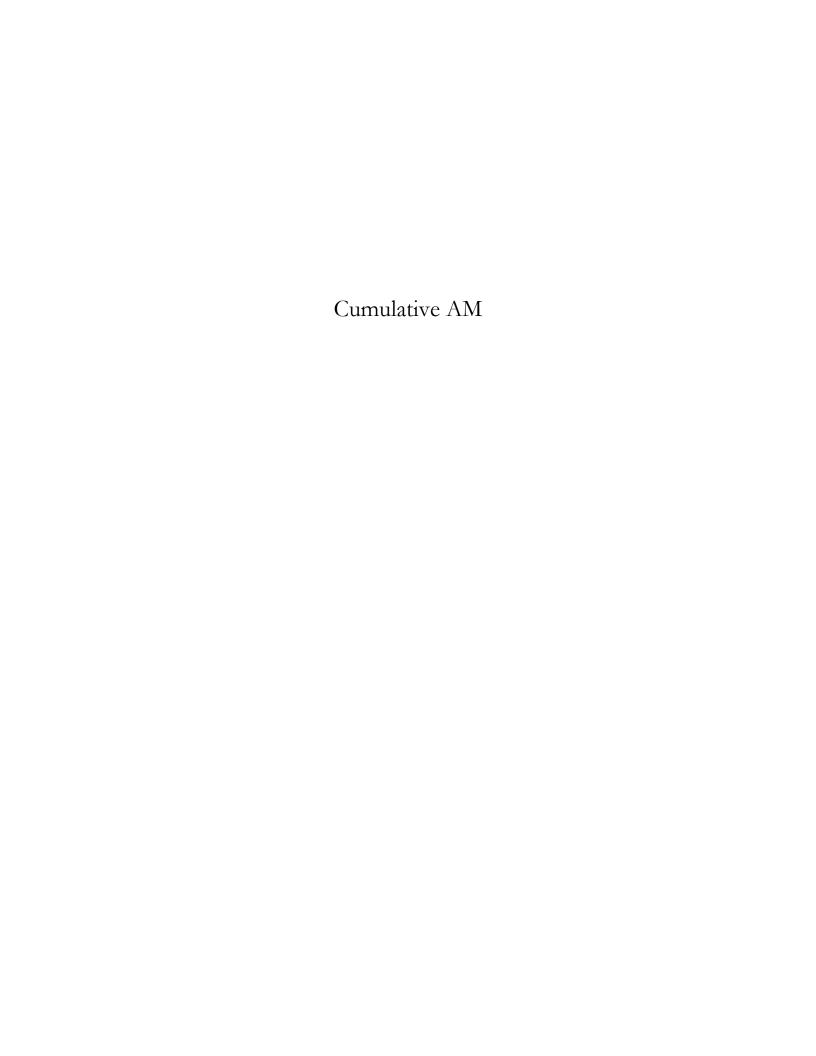
		HCS7 Freeway	Merge Report		
<b>Project Information</b>					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	NT+911 PN	И US 101 On Ramp @ S	R 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2811	211	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	f <sub>HV</sub> )		0.943	0.971	
Flow Rate (vi), pc/h			3171	231	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.77	0.12	
Speed and Density					
Upstream Equilibrium Distance (LE	q), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	30.0
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.417
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 a	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3171	Ramp Junction Speed (S), mi/h		56.3
Flow Entering Ramp-Infl. Area (vR1)	2), pc/h	3402	Average Density (D), pc/mi/ln		30.2
Level of Service (LOS)		D			

Level of Service (LOS)

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21 - NT+911 PM US 101 On Ramp at SR 46W - S8.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description C	M AM US	101 Off Ramp @ SR 4	6W - NB (#1)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (L <sub>D</sub> )	, ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced N	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2608	300	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.926	0.943	
Flow Rate (v <sub>i</sub> ), pc/h			2996	338	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.68	0.18	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (I	DR), pc/mi/ln	27.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.482
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area Speed (SR), mi/h		54.7
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2996	Ramp Junction Speed (S), mi/h		54.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		27.4
Level of Service (LOS)		С			

Adjustment Factors				
Driver Population		Balanced Mix	Balanced	Mix
Weather Type		Non-Severe Weather	Non-Severe Weather	
Incident Type		No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity		·		
Demand Volume (Vi), veh/h		2308	579	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		8.00	6.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.926	0.943	
Flow Rate (vi), pc/h		2652	653	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.75	0.35	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	28.9
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.404
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		56.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2652	Ramp Junction Speed (S), mi/h		56.6
Flow Entering Ramp-Infl. Area (VR12), pc/h	3305	Average Density (D), pc/mi/ln		29.2
Level of Service (LOS)	D			

CM AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Time Period Analyzed

AM

Ramp

1

35.0

345

Right

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, %
Segment Type / Ramp Side

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

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HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	CM AM US 101 Mainline no	rth of SR 46W - NB (#3)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	2887	Heavy Vehicle Adjustment Factor (fHV)	0.926		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1658		
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	63.6		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	26.1		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D		
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7				
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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description Cf	M AM US	101 Off Ramp @ Sprin	g - NB (#4)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	195	
Terrain Type			Rolling	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			•		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			2887	933	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	2.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	r)		0.862	0.980	
Flow Rate (v <sub>i</sub> ), pc/h			3563	1013	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.81	0.54	
Speed and Density			<u> </u>		
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (I	OR), pc/mi/ln	33.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.543
Downstream Equilibrium Distance (Le	:Q), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3563	Ramp Junction Speed (S), mi/h		53.2
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		33.5
Level of Service (LOS)		D			

HCS7100 Freeways Version 7.4 4 - CM AM US 101 Off Ramp at Spring - NB.xuf

		HCS7 Freeway	Diverge Report		
Project Information					
•	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	CM AM US	101 Off Ramp @ Paso			
Geometric Data			· · ·		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Lenath (Lp	), ft	1500	270	
Terrain Type		*	Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				1 3	
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			1954	423	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	·hv)		0.926	0.990	
Flow Rate (vi), pc/h			2245	455	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.51	0.24	
Speed and Density					
Upstream Equilibrium Distance (Leo	a), ft	-	Density in Ramp Influence Area (	DR), pc/mi/ln	21.1
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ds)		0.492
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Lo	Distance to Downstream Ramp (LDOWN), ft -		Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h		2245	Ramp Junction Speed (S), mi/h		54.4
Flow Entering Ramp-Infl. Area (VR12	), pc/h	-	Average Density (D), pc/mi/ln		20.6
Level of Service (LOS)		С			

Final Speed Adjustment Factor (SAF)	0.950 0.950			
Final Capacity Adjustment Factor (CAF)	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		1531	478	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		8.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.926	0.990	
Flow Rate (vi), pc/h		1759	514	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.52	0.27	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	20.5
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.332
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	1759	Ramp Junction Speed (S), mi/h		58.4
Flow Entering Ramp-Infl. Area (VR12), pc/h	2273	Average Density (D), pc/mi/ln		19.5
Level of Service (LOS)	С			

CM AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

400

Right

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

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Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	CM AM US 101 Mainline s	south of SR 46E - NB (#7)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	2009	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1154
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.Lc)	0.0	Density (D), pc/mi/ln	17.0
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/	h 67.7		

	НС	S7 Freeway	Diverge Report		
Project Information					
Analyst CC	TC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description CN	M AM US 101	1 Off Ramp @ SR 46	E - NB (#8)	<u> </u>	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ngth (LD), ft		1500	225	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			2009	1164	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fhv	)		0.926	0.952	
Flow Rate (vi), pc/h			2308	1301	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.52	0.69	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influence Area (DR), pc/mi/ln		22.1
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)		0.568
Downstream Equilibrium Distance (Le	Q), ft -		Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loow	n), ft -		Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and	2 (PFD) 1.	.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	23	308	Ramp Junction Speed (S), mi/h		52.6
Flow Entering Ramp-Infl. Area (VR12),	pc/h -		Average Density (D), pc/mi/ln		21.9
Level of Service (LOS)	С				

HCS71001 Freeways Version 7.4 8 - CM AM US 101 Off Ramp at SR 46E - NB.xuf

		HCS7 Freeway	Merge Report		
Project Information	_				
-	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description (	CM AM US	101 On Ramp @ SR 46			
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			845	356	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			18.00	18.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	HV)		0.847	0.847	
Flow Rate (vi), pc/h			1061	447	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.34	0.24	
Speed and Density					
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Are	ea (Dr), pc/mi/ln	14.6
Distance to Upstream Ramp (Lup), ft	:	-	Speed Index (Ms)		0.312
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/l	n	-
Distance to Downstream Ramp (Loo	wn), ft	-	On-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 an	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (S	So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1061	Ramp Junction Speed (S), mi/	h	58.9
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	1508	Average Density (D), pc/mi/ln		12.8
Level of Service (LOS)		В			

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9 - CM AM US 101 On Ramp at SR 46E - NB.xuf

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Analyse	CCIC	Dute					
Agency		Analysis Year					
Jurisdiction	Time Period Analyzed A		AM				
Project Description	CM AM US 101 Mainline no	M AM US 101 Mainline north of SR 46E - NB (#10)					
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	1201	Heavy Vehicle Adjustment Factor (fHV)	0.847				
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	754				
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34				
Passenger Car Equivalent (Ετ)	2.000						
Speed and Density							
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.1				
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В				
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7						

Date

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ССТС

**Project Information** 

Analyst

	HCS7 Basic Fr	eeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	CM AM US 101 Mainline no	rth of SR 46E - SB (#11)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1120	Heavy Vehicle Adjustment Factor (fHV)	0.840
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	709
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	10.6
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	А
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

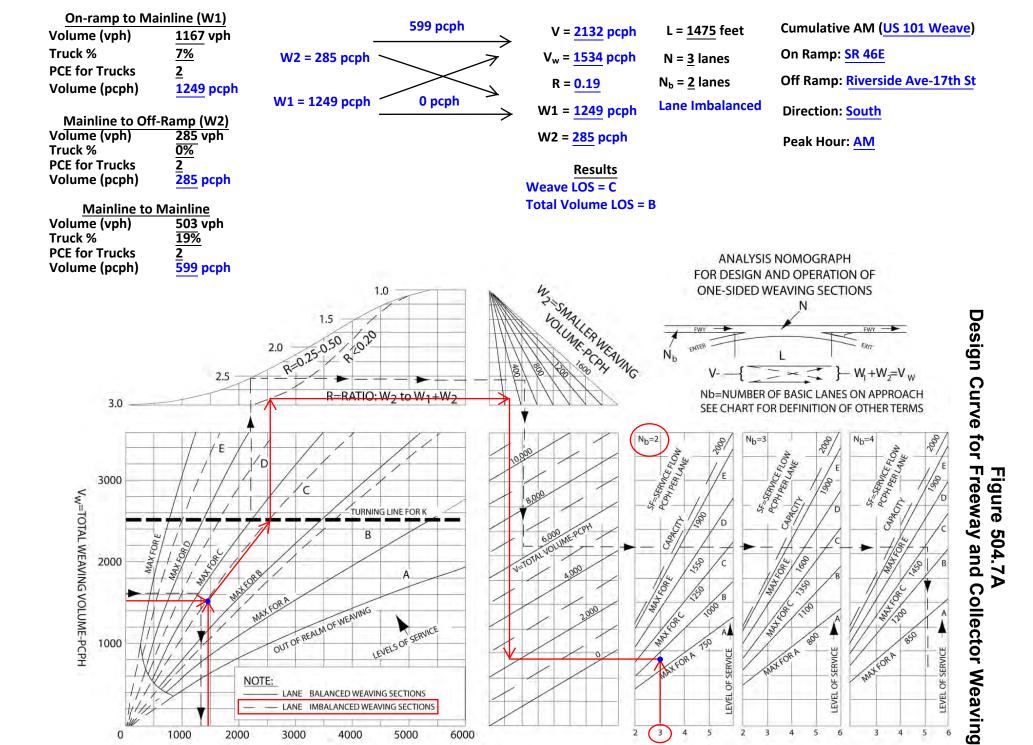
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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description C	M AM US	101 Off Ramp @ SR 46	E - SB (#12)	<u> </u>	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo)	, ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				<u> </u>	
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)	)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity				<u> </u>	
Demand Volume (Vi), veh/h			1120	332	
Peak Hour Factor (PHF)			0.94	0.95	
Total Trucks, %			19.00	19.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	ıv)		0.840	0.840	
Flow Rate (vi), pc/h			1418	416	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)		0.32	0.22		
Speed and Density					
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence	Area (DR), pc/mi/ln	15.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.489
Downstream Equilibrium Distance (L	_EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area S	peed (S <sub>R</sub> ), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed	d (So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1418	Ramp Junction Speed (S), n	ni/h	54.5
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi,	/ln	13.0
Level of Service (LOS)		В			

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OF SERVICE

N = NUMBER OF LANE IN WEAVING SECTION

LEVEL OF SERVICE

3

L = LENGTH OF WEAVING SECTION-FEET LANE-BALANCED-OPTIONAL LANE AT EXIT, i.e, ONE MORE LANE GOING AWAY

3000

NOTE:

2000

1000

1000

OUT OF REALM OF WEAVING

LANE BALANCED WEAVING SECTIONS LANE IMBALANCED WEAVING SECTIONS

4000

LEVELS OF SERVICE

5000

6000

	HCS7 Basic F	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	CM AM US 101 Mainline so	outh of SR 46E - SB (#15)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1670	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	960
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

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15 - CM AM US 101 mainline south of SR 46E - SB.xuf

Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description CN	M AM US	101 On Ramp @ Ri	verside-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ngth (L <sub>A</sub> )	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			'			
Driver Population			Balanced Mix	Balanc	ed Mix	
Weather Type			Non-Severe Weather	Non-S	Non-Severe Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	0.950	
Final Capacity Adjustment Factor (CA	.F)		0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1670	390		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	2.00	2.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv	)		0.926	0.980	0.980	
Flow Rate (vi), pc/h			1919	423	423	
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.23		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	e Area (DR), pc/m	/ln 21.7	•
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.34	12
Downstream Equilibrium Distance (LE	Q), ft	-	Flow Outer Lanes (voa), p	ic/h/ln	-	
Distance to Downstream Ramp (Loow	ν), ft	-	On-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	58.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		1919	Ramp Junction Speed (S	, mi/h	58.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2342	Average Density (D), pc/	mi/ln	20.2	

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16 - CM AM US 101 On Ramp at Riverside-17th - S8.xuf

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst Co	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description C	M AM US	101 Off Ramp @ Rivers	side/Pine - SB (#17)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	ere Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			2060	200	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	/)		0.926	0.952	
Flow Rate (v <sub>i</sub> ), pc/h			2367	223	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.54	0.12	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	ce Area (DR), pc/mi/ln	22.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.471
Downstream Equilibrium Distance (Li	EQ), ft	-	Flow Outer Lanes (VOA), p	oc/h/ln	-
Distance to Downstream Ramp (LDOW	vn), ft	-	Off-Ramp Influence Area	Speed (SR), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 and	I 2 (PFD)	1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2367	Ramp Junction Speed (S)	), mi/h	55.0
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/	mi/ln	21.5
Level of Service (LOS)		С			

Tractor-Trailers (TT), %				
Heavy Vehicle Adjustment Factor (fhv)		0.926	0.980	
Flow Rate (vi), pc/h		2584	1492	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.92	0.79	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (E	Density in Ramp Influence Area (DR), pc/mi/ln	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.462
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		55.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), I	Outer Lanes Freeway Speed (So), mi/h	
Flow in Lanes 1 and 2 (v12), pc/h	2584	Ramp Junction Speed (S), mi/h		55.2
Flow Entering Ramp-Infl. Area (VR12), pc/h	4076	Average Density (D), pc/mi/ln		36.9
Level of Service (LOS)	D			
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CM AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2249

0.94

8.00

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

1330

Level

Right

0.950

0.939

1.000

1374

0.94

2.00

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic Fr	eeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	CM AM US 101 Mainline no	rth of SR 46W - SB (#19)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	3623	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	2081
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	53.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	38.6
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		
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red. HCS7 TIM Freeways Version 7.4 19 - CM AM US 101 mainline north of SR 46W - SB.xuf

Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed		AM	
Project Description CN	M AM US 101 C	Off Ramp @ SR 4	6W - SB (#20)			
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Le	ength (Lo), ft		1500		210	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced	Mix
Weather Type			Non-Severe Weather		Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CA	.F)		0.939		0.939	
Demand Adjustment Factor (DAF)		1.000		1.000		
Demand and Capacity			·			
Demand Volume (Vi), veh/h			3623		706	
Peak Hour Factor (PHF)			0.94		0.94	
Total Trucks, %			8.00		6.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fhv	)		0.926		0.943	
Flow Rate (vi), pc/h			4162		796	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.94		0.42	
Speed and Density			·			
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influ	ence Area (Dr	), pc/mi/ln	38.2
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)			0.523
Downstream Equilibrium Distance (LE	:Q), ft -		Flow Outer Lanes (VOA), pc/h/ln			-
Distance to Downstream Ramp (Loow	· ·		Off-Ramp Influence A	rea Speed (SR	), mi/h	53.7
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.00	0	Outer Lanes Freeway	Speed (So), m	i/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	416	2	Ramp Junction Speed	I (S), mi/h		53.7
Flow Entering Ramp-Infl. Area (VR12), I	pc/h -		Average Density (D),	pc/mi/ln		38.8
Level of Service (LOS)	Е					

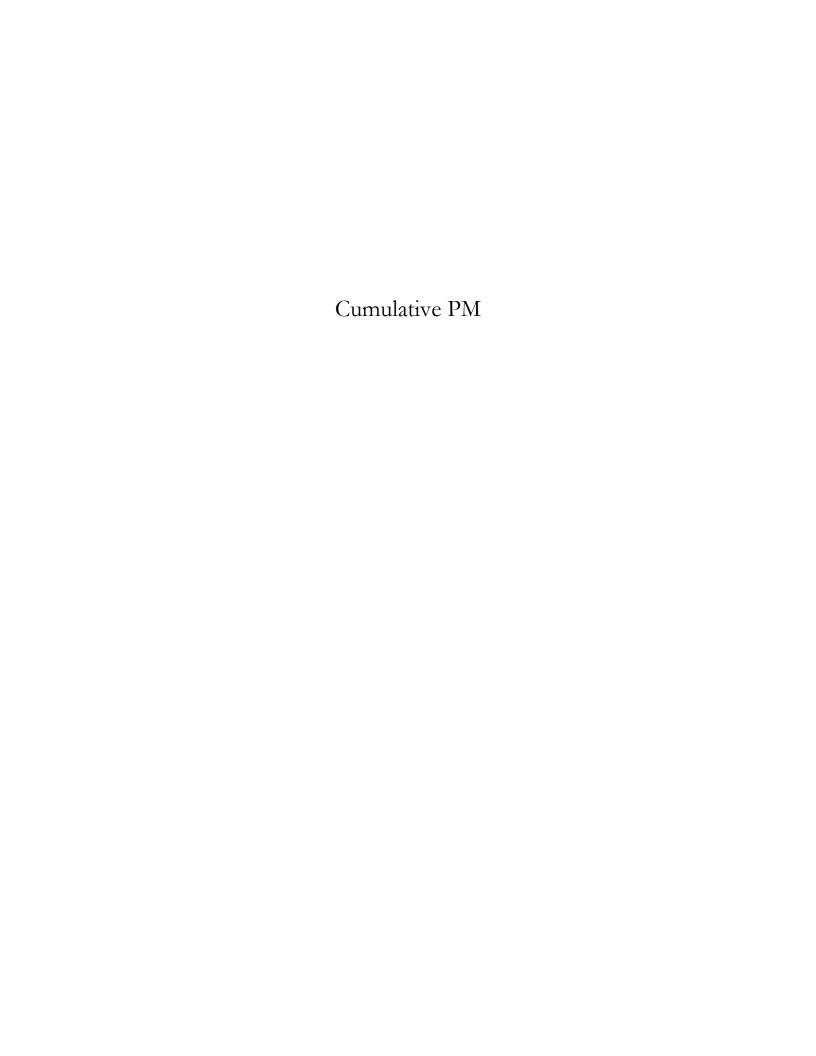
		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date	T	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description (	CM AM US	101 On Ramp @ SR 46	W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration I	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2917	200	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	HV)		0.926	0.943	
Flow Rate (vi), pc/h			3351	226	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)		0.81	0.12		
Speed and Density					
Upstream Equilibrium Distance (Leo	), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	31.4
Distance to Upstream Ramp (Lup), fi	t	-	Speed Index (Ms)		0.440
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	55.7
Prop. Freeway Vehicles in Lane 1 an	id 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So)	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3351	Ramp Junction Speed (S), mi/h		55.7
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	3577	Average Density (D), pc/mi/ln		32.1
Level of Service (LOS)		D			

Level of Service (LUS)

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21 - CM AM US 101 On Ramp at SR 46W - SB.xuf

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	HCS	7 Freeway	Diverge Report		
Project Information					
	TC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description CN	и PM US 101 (	ff Ramp @ SR 46	W - NB (#1)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ngth (LD), ft		1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3406	300	
Peak Hour Factor (PHF)			0.98	0.94	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fhv)	)		0.962	0.990	
Flow Rate (vi), pc/h			3613	322	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.82	0.17	
Speed and Density					
Upstream Equilibrium Distance (LEQ), f	ft -		Density in Ramp Influence Area (DR), pc/mi/In		33.2
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)		0.480
Downstream Equilibrium Distance (Leo	a), ft -		Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Loown	N), ft -		Off-Ramp Influence Area Speed (SR), mi/h 54.7		54.7
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.00	0	Outer Lanes Freeway Speed (So), I	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	361		Ramp Junction Speed (S), mi/h		54.7
Flow Entering Ramp-Infl. Area (VR12), p	oc/h -		Average Density (D), pc/mi/ln		33.0
Level of Service (LOS)	D				

Adjustment Factors	<u> </u>				
Driver Population		Balanced Mix	Palancad	Miss	
		Non-Severe Weather		Balanced Mix	
Weather Type			Non-Seve	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950		0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		3106	1025		
Peak Hour Factor (PHF)		0.98	0.94		
Total Trucks, %		4.00	1.00	1.00	
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fнv)		0.962	0.990		
Flow Rate (vi), pc/h		3295	1101		
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		1.00	0.59	0.59	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln 37.		37.2	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.614	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		51.5	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v12), pc/h	3295	Ramp Junction Speed (S), mi/h		51.5	
Flow Entering Ramp-Infl. Area (VR12), pc/h	4396	Average Density (D), pc/mi/ln		42.7	
Level of Service (LOS)	E				

CM PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Time Period Analyzed

PM

Ramp

1

35.0

345

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

Number of Lanes (N)

Terrain Type

Percent Grade, %

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report  Project Information					
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	CM PM US 101 Mainline no	rth of SR 46W - NB (#3)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	4131	Heavy Vehicle Adjustment Factor (fHV)	0.962		
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	2191		
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	50.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	43.0		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	Е		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7				

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3 - CM PM US 101 mainline north of SR 46W - NB.xuf

Demand Adjustment Factor (DAF) 1.000 1.000 **Demand and Capacity** Demand Volume (Vi), veh/h 4131 1618 Peak Hour Factor (PHF) 0.98 0.98 Total Trucks, % 4.00 1.00 Single-Unit Trucks (SUT), % Tractor-Trailers (TT), % Heavy Vehicle Adjustment Factor (fHV) 0.926 0.990 Flow Rate (vi), pc/h 4552 1668 Capacity (c), pc/h 4413 1878 Volume-to-Capacity Ratio (v/c) 1.03 0.89 Speed and Density Upstream Equilibrium Distance (LEQ), ft Density in Ramp Influence Area (DR), pc/mi/ln -Distance to Upstream Ramp (Lup), ft Speed Index (Ds) Downstream Equilibrium Distance (LEQ), ft Flow Outer Lanes (VOA), pc/h/ln Distance to Downstream Ramp (LDOWN), ft Off-Ramp Influence Area Speed (SR), mi/h Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000 Outer Lanes Freeway Speed (So), mi/h Flow in Lanes 1 and 2 (v<sub>12</sub>), pc/h 4552 Ramp Junction Speed (S), mi/h Flow Entering Ramp-Infl. Area (VR12), pc/h Average Density (D), pc/mi/ln Level of Service (LOS) Copyright © 2019 University of Florida. All Rights Reserved. HCS7100 Freeways Version 7.4 Generated: 2/5/2019 2:10:59 PM 4 - CM PM US 101 Off Ramp at Spring - NB.xuf

Date

CM PM US 101 Off Ramp @ Spring - NB (#4)

Analysis Year

Freeway

2

70.0

1500

Rolling

Freeway

Balanced Mix

No Incident

0.950

0.939

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

195

Level

Right

0.950

0.939

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

Geometric Data

Number of Lanes (N)

Terrain Type

Percent Grade, %

Segment Type / Ramp Side

Weather Type

Incident Type

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Final Capacity Adjustment Factor (CAF)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Deceleration Length (LD), ft

ССТС

HCS7 Freeway Diverge Report								
Project Information								
Analyst C	CTC		Date					
Agency			Analysis Year					
Jurisdiction			Time Period Analyzed	PM				
Project Description C	M PM US	101 Off Ramp @ Paso	Robles - NB (#5)					
Geometric Data								
			Freeway	Ramp				
Number of Lanes (N)			2	1				
Free-Flow Speed (FFS), mi/h			70.0	35.0				
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	270				
Terrain Type			Level	Level				
Percent Grade, %			-	-				
Segment Type / Ramp Side			Freeway	Right				
Adjustment Factors								
Driver Population			Balanced Mix	Balanced	Mix			
Weather Type			Non-Severe Weather	Non-Seve	re Weather			
Incident Type			No Incident	-				
Final Speed Adjustment Factor (SAF)		0.950	0.950					
Final Capacity Adjustment Factor (CAF)		0.939	0.939					
Demand Adjustment Factor (DAF)		1.000	1.000					
Demand and Capacity								
Demand Volume (Vi), veh/h			2513	734				
Peak Hour Factor (PHF)			0.98	0.95				
Total Trucks, %			4.00	1.00				
Single-Unit Trucks (SUT), %			-	-				
Tractor-Trailers (TT), %			-	-				
Heavy Vehicle Adjustment Factor (fr	ıv)		0.962	0.990				
Flow Rate (v <sub>i</sub> ), pc/h			2666	780				
Capacity (c), pc/h			4413	1878				
Volume-to-Capacity Ratio (v/c)		0.60	0.42					
Speed and Density								
Upstream Equilibrium Distance (LEQ), ft -		Density in Ramp Influence Area (DR), pc/mi/ln 24		24.7				
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.522			
Downstream Equilibrium Distance (L	LEQ), ft	-	Flow Outer Lanes (voA), pc/h/ln -		-			
Distance to Downstream Ramp (LDOV	nce to Downstream Ramp (LDOWN), ft - Off		Off-Ramp Influence Area Speed (SR), mi/h		53.7			
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-			
Flow in Lanes 1 and 2 (v12), pc/h		2666	Ramp Junction Speed (S), mi/h		53.7			
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		24.8			
Level of Service (LOS)		С						

Volume-to-Capacity Ratio (v/c)		0.54	0.26	
		0.34	0.20	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	21.3
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.336
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	1887	Ramp Junction Speed (S), mi/h		58.3
Flow Entering Ramp-Infl. Area (VR12), pc/h	2368	Average Density (D), pc/mi/ln		20.3
Level of Service (LOS)	С			
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	6 - CM PM US 101 On Rar	np at Paso Robles - NB.xuf		

CM PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1779

0.98

4.00

0.962

1887

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

457

0.96

1.00

0.990

481

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, %

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (f<sub>HV</sub>)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

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HCS7 Basic Freeway Report						
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	CM PM US 101 Mainline so	uth of SR 46E - NB (#7)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	2236	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1186			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.5			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					
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ed. HCS7100 Freeways Version 7.4 7 - CM PM US 101 mainline south of SR 46E - NB.xuf

Duningt Information						
Project Information						
Analyst CC	TC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description CN	1 PM US 101 (	off Ramp @ SR 4	16E - NB (#8)			
Geometric Data						
			Freeway	Ramp	Ramp	
Number of Lanes (N)			2	1	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	35.0	
Segment Length (L) / Deceleration Le	ngth (LD), ft		1500	225	225	
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balan	ced Mix	
Weather Type			Non-Severe Weather	Non-S	Severe Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h		2236	1239	1239		
Peak Hour Factor (PHF)			0.98	0.96	0.96	
Total Trucks, %			4.00	3.00	3.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fhv)			0.962	0.971		
Flow Rate (vi), pc/h			2372	1329		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.54	0.71	0.71	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	t -	- Density in Ramp Influence Area (DR), pc/mi/ln		ni/In 22.6		
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)		0.571	
Downstream Equilibrium Distance (Le	2), ft -		Flow Outer Lanes (VOA), p	oc/h/ln	-	
Distance to Downstream Ramp (Loow	ı), ft -		Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	52.5	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.00	0	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	237	2	Ramp Junction Speed (S	), mi/h	52.5	
Flow Entering Ramp-Infl. Area (VR12), p	oc/h -		Average Density (D), pc/	mi/ln	22.6	
Level of Service (LOS)	С					

HCS7100 Freeways Version 7.4 8 - CM PM US 101 Off Ramp at SR 46E - NB.xuf

HCS7 Freeway Merge Report						
Project Information						
-	CCTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description (	CM PM US	101 On Ramp @ SR 46				
Geometric Data			· ,			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h			997	335		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			12.00	12.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	HV)		0.893	0.893		
Flow Rate (vi), pc/h			1188	399		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)		0.36	0.21	0.21		
Speed and Density						
Upstream Equilibrium Distance (LEQ), ft -		Density in Ramp Influence Area (D <sub>R</sub> ), pc/mi/ln 15.2		15.2		
Distance to Upstream Ramp (Lup), ft	1	-	Speed Index (Ms)		0.313	
Downstream Equilibrium Distance (	LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-	
Distance to Downstream Ramp (Loo	wn), ft	-	On-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	58.8	
Prop. Freeway Vehicles in Lane 1 an	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (S	So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		1188	Ramp Junction Speed (S), mi/	h	58.8	
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	1587	Average Density (D), pc/mi/ln		13.5	
Level of Service (LOS)		В				

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9 - CM PM US 101 On Ramp at SR 46E - NB.xuf

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	HCS7 Basic Fi	reeway Report			
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	CM PM US 101 Mainline no	orth of SR 46E - NB (#10)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1332	Heavy Vehicle Adjustment Factor (fHV)	0.893		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	794		
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.7		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7				

Adjusted Free-Flow Speed (FFSadj), mi/h 67.7
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	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	CM PM US 101 Mainline no	rth of SR 46E - SB (#11)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1796	Heavy Vehicle Adjustment Factor (fHV)	0.826
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1156
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.3
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

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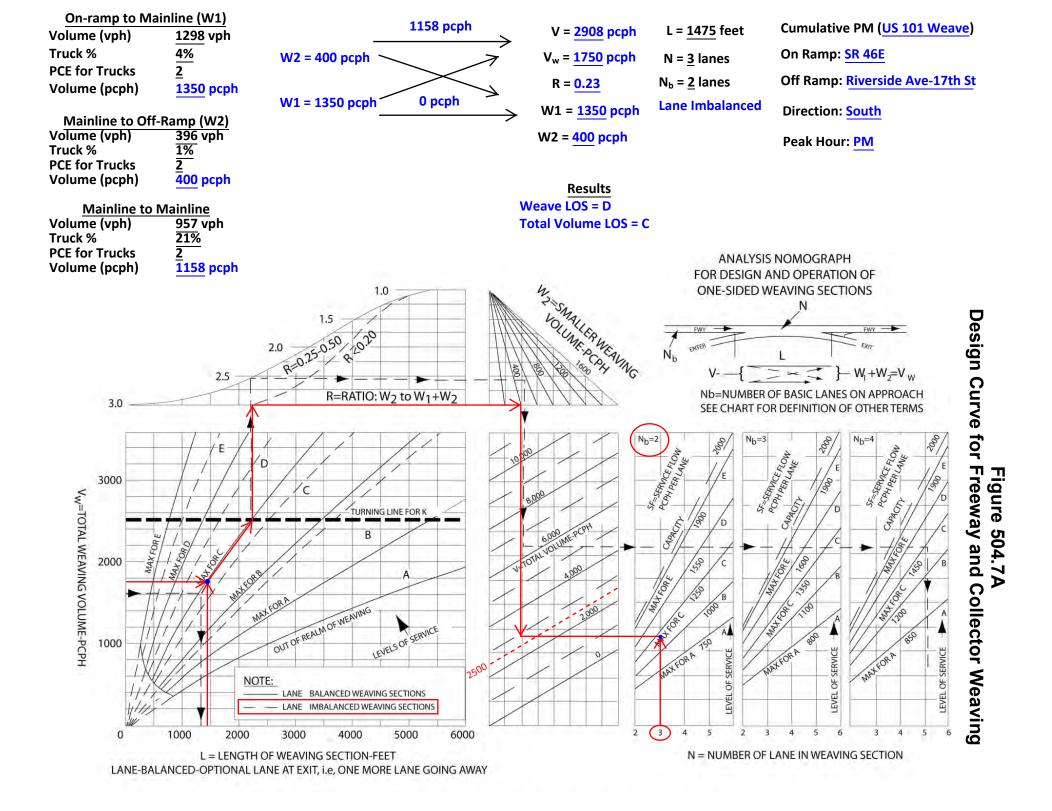
11 - CM PM US 101 mainline north of SR 46E - SB.xuf

	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
	CCTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
	CM PM US	101 Off Ramp @ SR 46			
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration I	Length (Lo	), ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity			'	'	
Demand Volume (Vi), veh/h			1796 443		
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	⊣v)		0.826	0.826	
Flow Rate (vi), pc/h			2313	571	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.52	0.30	
Speed and Density					
Upstream Equilibrium Distance (Leq	), ft	-	Density in Ramp Influence	Area (DR), pc/mi/ln	22.7
Distance to Upstream Ramp (Lur), ft	t	-	Speed Index (Ds)		0.503
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (voa), pc/h	h/ln	-
Distance to Downstream Ramp (Loc	own), ft	-	Off-Ramp Influence Area Sp	peed (S <sub>R</sub> ), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 an	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed	l (So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2313	Ramp Junction Speed (S), m	ni/h	54.2
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	-	Average Density (D), pc/mi/	/In	21.3
Level of Service (LOS)		С			

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HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	CM PM US 101 Mainline so	uth of SR 46E - SB (#15)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	2255	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1272		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.7		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	19.1		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	С		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9				
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		HCS7 Freeway	Merge Report		
Project Information					
Analyst	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description C	:M PM US	101 On Ramp @ Rivers	iide-17th - SB (#16)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	300	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2255	268	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fr	v)		0.943	0.990	
Flow Rate (vi), pc/h			2544	288	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.64	0.15	
Speed and Density			·		
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	25.6
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.367
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loo	wn), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	57.5
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2544	Ramp Junction Speed (S), mi/h		57.5
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2832	Average Density (D), pc/mi/ln		24.6
Level of Service (LOS)		С			

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16 - CM PM US 101 On Ramp at Riverside-17th - SB.xuf

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Project Information						
Analyst	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analy	zed P	PM	
Project Description CN	M PM US 10	1 Off Ramp @ R	tiverside/Pine - SB (#17)			
Geometric Data						
			Freeway		Ramp	
Number of Lanes (N)			2		1	
Free-Flow Speed (FFS), mi/h			70.0		35.0	
Segment Length (L) / Deceleration Le	ength (Lo), ft		1500		190	
Terrain Type			Level		Level	
Percent Grade, %			-		-	
Segment Type / Ramp Side			Freeway		Right	
Adjustment Factors						
Driver Population			Balanced Mix		Balanced Mix	
Weather Type			Non-Severe Wear	ther	Non-Severe Weather	
Incident Type			No Incident		-	
Final Speed Adjustment Factor (SAF)			0.950		0.950	
Final Capacity Adjustment Factor (CAF)			0.939		0.939	
Demand Adjustment Factor (DAF)			1.000		1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			2523		324	
Peak Hour Factor (PHF)			0.94		0.94	
Total Trucks, %			6.00		1.00	
Single-Unit Trucks (SUT), %			-		-	
Tractor-Trailers (TT), %			-		-	
Heavy Vehicle Adjustment Factor (fHV)	r)		0.943		0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2846		348	
Capacity (c), pc/h			4413		1878	
Volume-to-Capacity Ratio (v/c)			0.64		0.19	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp	Influence Area (DR)	, pc/mi/ln	27.0
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)			0.483
Downstream Equilibrium Distance (LE	:Q), ft -		Flow Outer Lanes	(VOA), pc/h/ln		-
Distance to Downstream Ramp (Loow	/N), ft -		Off-Ramp Influer	nce Area Speed (SR)	, mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	.000	Outer Lanes Free	way Speed (So), mi	/h	-
Flow in Lanes 1 and 2 (v12), pc/h	2	846	Ramp Junction S	peed (S), mi/h		54.7
Flow Entering Ramp-Infl. Area (VR12), p	pc/h -		Average Density	(D), pc/mi/ln		26.0
Level of Service (LOS)	(					

Segment Length (L) / Acceleration Length (LA)	, ft	1500	1330		
Terrain Type		Level	Level		
Percent Grade, %		-	-	-	
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced I	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2599	1127	1127	
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		6.00	1.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fHV)		0.943	0.990		
Flow Rate (vi), pc/h		2932	1211		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.94	0.64		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	29.0	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.478	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	ir), mi/h	54.8	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	2932	Ramp Junction Speed (S), mi/h		54.8	
Flow Entering Ramp-Infl. Area (VR12), pc/h	4143	Average Density (D), pc/mi/ln		37.8	
Level of Service (LOS)	D				

CM PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

Time Period Analyzed

PM

Ramp

35.0

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

	HCS7 Basic Fr	reeway Report			
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	CM PM US 101 Mainline no	orth of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3726	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	2102		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	53.2		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	39.5		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				
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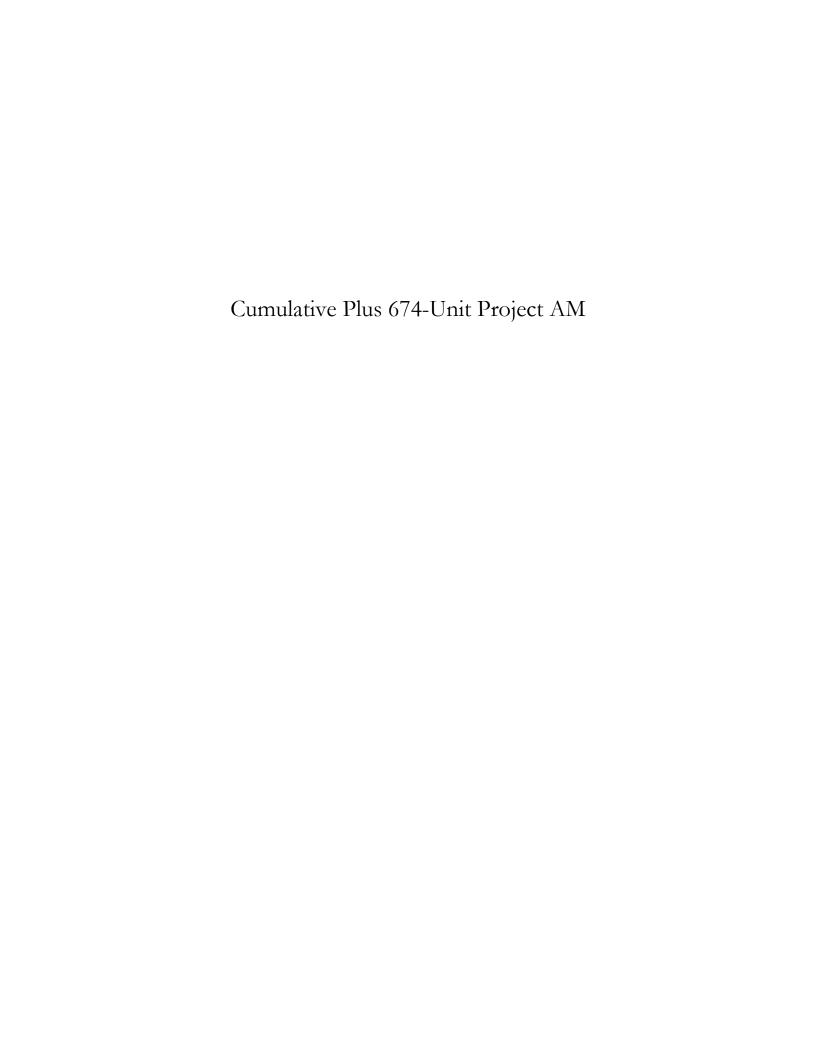
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	ŀ	HCS7 Freeway	Diverge Report			
Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description C	M PM US	101 Off Ramp @ SR 46	5W - SB (#20)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	210		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Balanced Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			3726	707		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			6.00	3.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fr	v)		0.943	0.971		
Flow Rate (vi), pc/h			4203	775		
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.95	0.41		
Speed and Density						
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	38.5	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.521	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-	
Distance to Downstream Ramp (LDO)	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	53.7	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		4203	Ramp Junction Speed (S), mi/h		53.7	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		39.1	
Level of Service (LOS)		E				

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. HCS7 1000 Freeways Version 7.4 20 - CM PM US 101 Off Ramp at SR 46W - SB.xuf Generated: 2/6/2019 5:56:03 PM

		HCS7 Freeway	Merge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	CM PM US	101 On Ramp @ SR 46	W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration I	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3019	300	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.943	0.971	
Flow Rate (vi), pc/h			3406	329	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.85	0.18	
Speed and Density			<u>'</u>		
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	32.6
Distance to Upstream Ramp (Lup), fi	t	-	Speed Index (Ms)		0.463
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln -		-
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 an	nd 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3406	Ramp Junction Speed (S), mi/h		55.2
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	3735	Average Density (D), pc/mi/ln		33.8
Level of Service (LOS)		D			



		HCS7 Freeway	Diverge Report		
Project Information	_				
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	CM+674 A	M US 101 Off Ramp @ 5	SR 46W - NB (#1)		
Geometric Data			· · ·		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	235	
Terrain Type	-		Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	AF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2629	300	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	6.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor	(fнv)		0.926	0.943	
Flow Rate (vi), pc/h			3020	338	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.68	0.18	
Speed and Density					
Upstream Equilibrium Distance (La	:Q), ft	-	Density in Ramp Influence Are	a (Dʀ), pc/mi/ln	28.1
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ds)		0.482
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln -		-
Distance to Downstream Ramp (Li	DOWN), ft	-	Off-Ramp Influence Area Spee	d (S <sub>R</sub> ), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 a	ind 2 (PFD)	1.000	Outer Lanes Freeway Speed (S	o), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3020	Ramp Junction Speed (S), mi/h	1	54.7
Flow Entering Ramp-Infl. Area (vR1	2), pc/h	-	Average Density (D), pc/mi/ln		27.6
Level of Service (LOS)		D			

Demand Volume (Vi), veh/h	2329	590			
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	6.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fhv)		0.926	0.943		
Flow Rate (vi), pc/h		2676	666		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.76	0.35	0.35	
Speed and Density			·		
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	29.1	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.408	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pe	c/h/ln	-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	56.5	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Spe	ed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2676	Ramp Junction Speed (S),	mi/h	56.5	
Flow Entering Ramp-Infl. Area (VR12), pc/h	3342	Average Density (D), pc/n	ni/ln	29.6	
Level of Service (LOS)	D				
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CM+674 AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

345

Right

0.950

0.939

1.000

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

Weather Type

Incident Type

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

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HCS7 Basic Freeway Report					
Project Information					
Analyst	сстс	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	CM+674 AM US 101 Mainli	ne north of SR 46W - NB (#3)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	2919	Heavy Vehicle Adjustment Factor (fHV)	0.926		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1676		
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	63.3		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	26.5		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7				
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		HCS7 Freeway	Diverge Report			
Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description CN	M+674 A	M US 101 Off Ramp @	Spring - NB (#4)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo	, ft	1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced I	Balanced Mix	
Weather Type			Non-Severe Weather	Non-Severe Weather		
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			2919	965		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			8.00	2.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fev	·)		0.862	0.980		
Flow Rate (vi), pc/h			3602	1048		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.82	0.56		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (I	Dr), pc/mi/ln	33.5	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.546	
Downstream Equilibrium Distance (La	Q), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (Loow	/N), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	53.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		3602			53.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		33.9	
Level of Service (LOS)		D				

Level of Service (LOS)

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4 - CM+674 AM US 101 Off Ramp at Spring - NB.xuf

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		HCS7 Freeway	Diverge Report			
Project Information						
Analyst C	CCTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description C	M+674 A	M US 101 Off Ramp @ F	Paso Robles - NB (#5)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo)	, ft	1500	270		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)	)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1954	423		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	ıv)		0.926	0.990		
Flow Rate (vi), pc/h			2245	455		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.51	0.24		
Speed and Density						
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence A	Area (DR), pc/mi/ln	21.1	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.492	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Ldown), ft -		-	Off-Ramp Influence Area Sp	eed (S <sub>R</sub> ), mi/h	54.4	
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000		Outer Lanes Freeway Speed (So), mi/h		-		
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2245	Ramp Junction Speed (S), m	ni/h	54.4	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/	ln	20.6	
Level of Service (LOS)		С				

	Level of Service (LOS)	С					
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	5 - CM+674 AM US 101 Off Ramp at Paso Robles - NB.xuf						

		HCS7 Freewa	y Merge Report			
Project Information						
Analyst C	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description C	M+674 A	M US 101 On Ramp @	Paso Robles - NB (#6)	·		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	400		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity			<u>'</u>			
Demand Volume (Vi), veh/h			1531	486		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fin	v)		0.926	0.990		
Flow Rate (vi), pc/h			1759	522		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.52	0.28		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	20.6	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)			
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Ldown), ft -		-	On-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	58.3	
Prop. Freeway Vehicles in Lane 1 and	1 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		1759	Ramp Junction Speed (S), mi/	h	58.3	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2281	Average Density (D), pc/mi/ln		19.6	
Level of Service (LOS)		С				

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6 - CM+674 AM US 101 On Ramp at Paso Robles - NB.xuf

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	HCS7 Basic Fr	reeway Report				
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	CM+674 AM US 101 Mainline south of SR 46E - NB (#7)					
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	2017	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1158			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7			
Right-Side Lateral Clearance Adj. (fr.Lc)	0.0	Density (D), pc/mi/ln	17.1			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	67.7					
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erved. HCS71001 Freeways Version 7.4 7 - CM+674 AM US 101 mainline south of SR 46E - NB.xuf

	ŀ	HCS7 Freeway	Diverge Report			
Project Information						
Analyst	CCTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description C	M+674 A	M US 101 Off Ramp @ :	SR 46E - NB (#8)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	, ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			<u>'</u>			
Driver Population			Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)	)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			2017	1164		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			8.00	5.00	5.00	
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	ıv)		0.926	0.952		
Flow Rate (vi), pc/h			2317	1301		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.53	0.69		
Speed and Density						
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	22.2	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.568	
Downstream Equilibrium Distance (L	LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Ldown), ft -		-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	52.6	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (V12), pc/h		2317	Ramp Junction Speed (S), mi/h		52.6	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		22.0	
Level of Service (LOS)		С				

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	HCS7 Freeway Merge Report					
Project Information		Treeway	- Merge Report			
	ССТС		Date			
. 7	CCIC					
Agency			Analysis Year	45.4		
Jurisdiction	C) 1 C7 1 1	MUC 404 O. D	Time Period Analyzed	AM		
,	CM+6/4 A	M US 101 On Ramp @ :	SK 46E - NB (#9)			
Geometric Data			-			
N. J. Cl. AN			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h		_	70.0	35.0		
Segment Length (L) / Acceleration	Length (La)	, ft	1500	405		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			853	360		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			18.00	18.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (f	hv)		0.847	0.847		
Flow Rate (v <sub>i</sub> ), pc/h			1071	452		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.35	0.24		
Speed and Density						
Upstream Equilibrium Distance (Lec	a), ft	-	Density in Ramp Influence Are	ea (DR), pc/mi/ln	14.7	
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ms)		0.312	
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Lo	Distance to Downstream Ramp (LDOWN), ft		On-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	58.9	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM) 1.000		1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v12), pc/h		1071	Ramp Junction Speed (S), mi/l	h	58.9	
Flow Entering Ramp-Infl. Area (VR12	), pc/h	1523	Average Density (D), pc/mi/ln		12.9	
Level of Service (LOS)		В				

Level of Service (LOS)

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9 - CM+674 AM US 101 On Ramp at \$\text{SR}\$ 46E - NB.xuf

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HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	CM+674 AM US 101 Mainli	ne north of SR 46E - NB (#10)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	1213	Heavy Vehicle Adjustment Factor (fHV)	0.847		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	762		
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34		
Passenger Car Equivalent (E⊤)	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.3		
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В		
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7				

Adjusted Free-Flow Speed (FFS<sub>odj</sub>), mt/h | 67.7

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10 - CM+674 AM US 101 mainline north of SR 46E - NB.xuf Generated: 2/5/2019 3:56:32 PM

	HCS7 Basic Fi	reeway Report				
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description CM+674 AM US 101 Mainline north of SR 46E - SB (#11)						
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1126	Heavy Vehicle Adjustment Factor (fHV)	0.840			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	713			
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	10.7			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	A			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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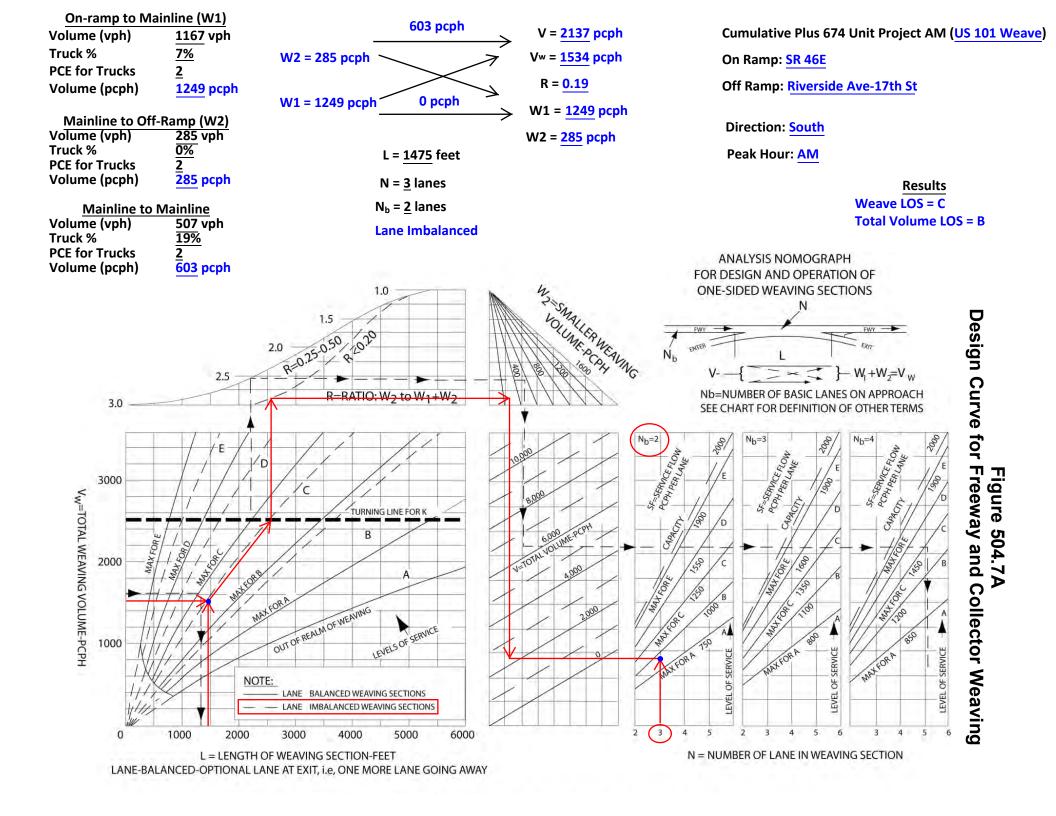
erved. HCS711M Freeways Version 7.4 11 - CM+674 AM US 101 mainline north of SR 46E - SB.xuf

		HCS7 Freeway	Diverge Report		
Project Information					
	:CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
	M+674 A	M US 101 Off Ramp @ :			
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			,		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1126 334		
Peak Hour Factor (PHF)			0.94	0.95	
Total Trucks, %			19.00	19.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fi	v)		0.840	0.840	
Flow Rate (vi), pc/h			1426	419	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.32	0.22	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Ar	ea (D <sub>R</sub> ), pc/mi/ln	15.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.489
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loo	istance to Downstream Ramp (LDOWN), ft -		Off-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h		1426	Ramp Junction Speed (S), mi/h		54.5
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/lr	1	13.1
Level of Service (LOS)		В			

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12 - CM+674 AM US 101 Off Ramp at SR 46E - SB.xuf

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	HCS7 Basic Freeway Report					
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	CM+674 AM US 101 Mainli	ne south of SR 46E - SB (#15)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1674	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	962			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	14.4			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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		HCS7 Freewa	y Merge Report			
Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description C	M+674 A	M US 101 On Ramp @	Riverside-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity						
Demand Volume (Vi), veh/h			1674	390		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			8.00	2.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fet	v)		0.926	0.980		
Flow Rate (v <sub>i</sub> ), pc/h			1923	423		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.53	0.23		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	21.8	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.342	
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOW	vn), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.1	
Prop. Freeway Vehicles in Lane 1 and	1 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So	), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2 (V12), pc/h 1923 Ramp Junction :		Ramp Junction Speed (S), mi/h	Ramp Junction Speed (S), mi/h 58.1		
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2346	Average Density (D), pc/mi/ln		20.2	
Level of Service (LOS)		С				

Level of Service (LOS)

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16 - CM+674 AM US 101 On Ramp at Riverside-17th - SB.xuf

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		TCS/ TTEEWa	y Diverge Report		
Project Information					
Analyst CC	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description CN	M+674 AN	M US 101 Off Ramp @	Riverside/Pine - SB (#17)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2064	204	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	5.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fev	)		0.926	0.952	
Flow Rate (vi), pc/h			2371	228	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.54	0.12	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	e Area (D <sub>R</sub> ), pc/mi/ln	22.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.472
Downstream Equilibrium Distance (LE	Q), ft	-	Flow Outer Lanes (VOA), po	c/h/ln	-
Distance to Downstream Ramp (Loow	'N), ft	-	Off-Ramp Influence Area	Speed (SR), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Spe	ed (So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2371	Ramp Junction Speed (S),	mi/h	54.9
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/n	ni/ln	21.6
Level of Service (LOS)		С			

Adjustment Factors					
Driver Population		Balanced Mix	Balanced Mix		
Weather Type	Non-Severe Weather	Non-Seve	re Weather		
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity		'			
Demand Volume (Vi), veh/h		2249	1432		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	2.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %	-	-			
Heavy Vehicle Adjustment Factor (fHV)		0.926	0.980		
Flow Rate (vi), pc/h		2584	1554		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.94	0.83	0.83	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	28.8	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.477	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (Ldown), ft	-	On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		54.8	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v12), pc/h	2584	Ramp Junction Speed (S), mi/h		54.8	
Flow Entering Ramp-Infl. Area (VR12), pc/h	4138	Average Density (D), pc/mi/ln		37.8	
Level of Service (LOS)	D				

CM+674 AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Time Period Analyzed

AM

Ramp

1

35.0

1330

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, %

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	CM+674 AM US 101 Mainli	ne north of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3681	Heavy Vehicle Adjustment Factor (fHV)	0.926		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	2114		
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.95		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	52.9		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	40.0		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E		
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9				
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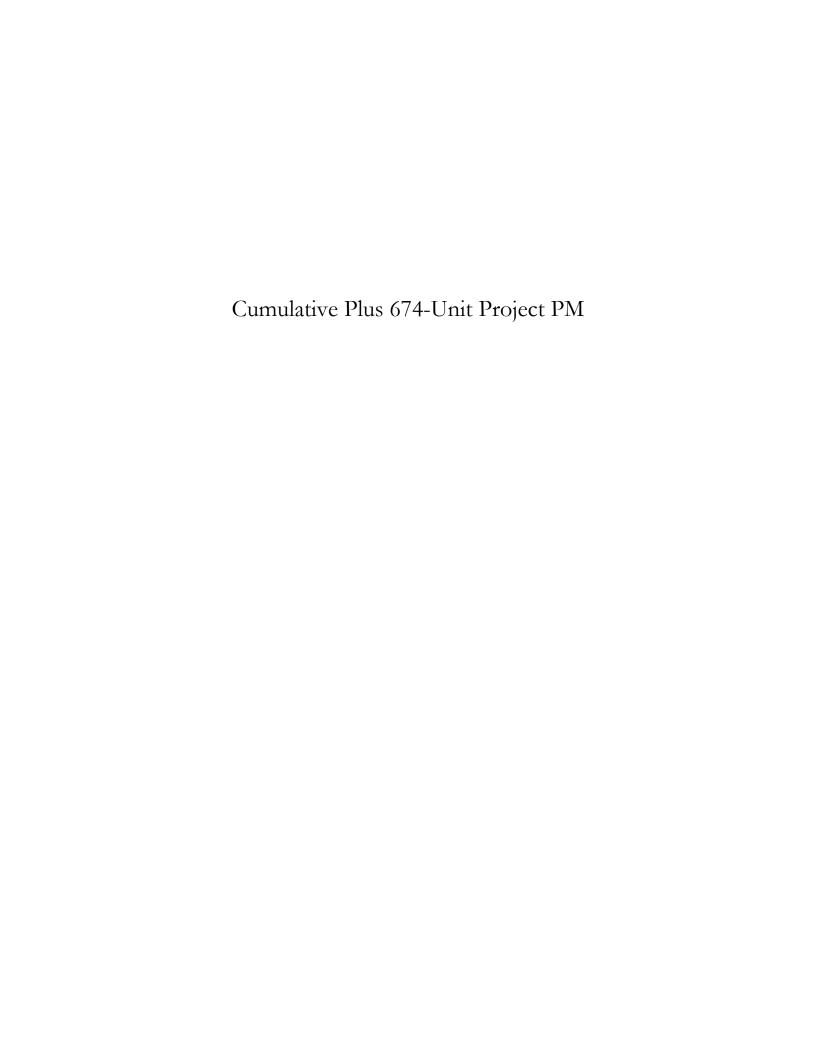
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ŀ	HCS7 Freewa	ay Diverge Report			
Project Information					
Analyst CCTC		Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description CM+674 Al	M US 101 Off Ramp	@ SR 46W - SB (#20)			
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Length (LD)	, ft	1500	210		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors		<u>'</u>	'		
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity		<u>'</u>	'		
Demand Volume (Vi), veh/h		3681	725		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	6.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )		0.926	0.943		
Flow Rate (vi), pc/h		4229	818		
Capacity (c), pc/h		4413	1878	1878	
Volume-to-Capacity Ratio (v/c)		0.96	0.44		
Speed and Density		<u>'</u>	'		
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence	Area (DR), pc/mi/ln	38.7	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.525	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Sp	peed (S <sub>R</sub> ), mi/h	53.6	
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed	d (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	4229	Ramp Junction Speed (S), n	ni/h	53.6	
	Area (vR12), pc/h  Average Density (D), pc/mi/ln				

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20 - CM+674 AM US 101 Off Ramp at SR 46W - SB.xuf

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		ncs/ Free	way Merge Report			
Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description CN	M+674 AI	M US 101 On Ran	np @ SR 46W - SB (#21)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ngth (La),	ft	1500	315		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			·			
Driver Population			Balanced Mix	Balane	ced Mix	
Weather Type			Non-Severe Weather	Non-S	Non-Severe Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	F)		0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity			<u> </u>			
Demand Volume (Vi), veh/h			2956	200	200	
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	6.00	6.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fee	·)		0.926	0.943	0.943	
Flow Rate (vi), pc/h			3396	226	226	
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.82	0.12	0.12	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influe	ence Area (D <sub>R</sub> ), pc/m	ni/ln 31.7	
Distance to Upstream Ramp (Lup), ft		- Speed Index (Ms)		0.446		
Downstream Equilibrium Distance (LE	:Q), ft	-	Flow Outer Lanes (VOA	), pc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft	-	On-Ramp Influence A	rea Speed (S <sub>R</sub> ), mi/h	55.6	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway S	Speed (So), mi/h	-	
Flow in Lanes 1 and 2 (V12), pc/h		3396	Ramp Junction Speed	(S), mi/h	55.6	
Flow Entering Ramp-Infl. Area (vR12),	pc/h	3622	Average Density (D), p	oc/mi/ln	32.6	
Level of Service (LOS)		D				



Project Information					
Analyst	CTC	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description CI	M+674 PM US 101 Off R	amp @ SR 46W - NB (#1)			
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Le	ength (Lo), ft	1500	235		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Sev	ere Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CA	F)	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		3451	300		
Peak Hour Factor (PHF)		0.98	0.94		
Total Trucks, %		4.00	1.00		
Single-Unit Trucks (SUT), %		-	-	-	
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (few	)	0.962	0.990		
Flow Rate (vi), pc/h		3661	322		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.83	0.17		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft -	Density in Ramp Influence	ce Area (DR), pc/mi/lr	33.6	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.480	
Downstream Equilibrium Distance (La	o), ft -	Flow Outer Lanes (voa), p	oc/h/ln	-	
Distance to Downstream Ramp (LDOW	n), ft -	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.7	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h	3661	Ramp Junction Speed (S	), mi/h	54.7	
Flow Entering Ramp-Infl. Area (VR12),	pc/h -	Average Density (D), pc/	mi/ln	33.5	
Level of Service (LOS)	D				

, igency						
Jurisdiction			Time Period Analyzed	PM		
Project Description C	M+674 PI	M US 101 On Ramp @ S	SR 46W - NB (#2)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (L <sub>A</sub> ),	, ft	1500	345		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			<u> </u>			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	ere Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CA	AF)		0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			3151	1047		
Peak Hour Factor (PHF)			0.98	0.94		
Total Trucks, %			4.00	1.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fer	v)		0.962	0.990		
Flow Rate (vi), pc/h			3342	1125		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			1.01	0.60		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/lr	-	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		-	
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOW	vn), ft	-	On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h		-	
Prop. Freeway Vehicles in Lane 1 and	1 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So	), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3342	Ramp Junction Speed (S), mi/h		-	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	4467	Average Density (D), pc/mi/ln		-	
Level of Service (LOS)		F				

Date

Analysis Year

**Project Information** 

CCTC

Analyst

Agency

	HCS7 Basic F	reeway Report					
Project Information							
Analyst	сстс	Date					
Agency		Analysis Year					
Jurisdiction		Time Period Analyzed	PM				
Project Description	CM+674 PM US 101 Mainli	ne north of SR 46W - NB (#3)					
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	4198	Heavy Vehicle Adjustment Factor (fHV)	0.962				
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	2226				
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00				
Passenger Car Equivalent (E <sub>T</sub> )	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	49.8				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	44.7				
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	Е				
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7						

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3 - CM+674 PM US 101 mainline north of SR 46W - NB.xuf

		HCS7 Freeway	Diverge Report		
Project Information				_	_
	CCTC		Date	1	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description CM+674 PM US 101 Off Ran					
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	195	
Terrain Type			Rolling	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			-		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	ere Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAI	F)		0.950	0.950	
Final Capacity Adjustment Factor (C	CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			4198	1685	
Peak Hour Factor (PHF)			0.98	0.98	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	HV)		0.926	0.990	
Flow Rate (vi), pc/h			4626	1737	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			1.05	0.92	
Speed and Density					
Upstream Equilibrium Distance (Leg	a), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	-
Distance to Upstream Ramp (Lup), f	t	-	Speed Index (Ds)		-
Downstream Equilibrium Distance (	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Loc	own), ft	-	Off-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	-
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (PFD)	1.000	Outer Lanes Freeway Speed (Sc	), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		4626	Ramp Junction Speed (S), mi/h		-
Flow Entering Ramp-Infl. Area (VR12	), pc/h	-	Average Density (D), pc/mi/ln		-
Level of Service (LOS)		F			

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4 - CM+674 PM US 101 Off Ramp at Spring - NB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst C	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description C	M+674 P	M US 101 Off Ramp @ F	Paso Robles - NB (#5)		
Geometric Data		<u> </u>			
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity			<u>'</u>	·	
Demand Volume (Vi), veh/h			2513	734	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.962	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2666	780	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.60	0.42	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	a (D <sub>R</sub> ), pc/mi/ln	24.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.522
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOV	wn), ft	-	Off-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	53.7
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (Sc	o), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2666	Ramp Junction Speed (S), mi/h		53.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		24.8
Level of Service (LOS)		С			

Capacity (c), pc/h	4413	1878		
Volume-to-Capacity Ratio (v/c)	0.54	0.26		
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	21.3
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.336
Downstream Equilibrium Distance (LEQ), ft	- Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		58.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1887	Ramp Junction Speed (S), mi/h		58.3
Flow Entering Ramp-Infl. Area (VR12), pc/h	2374	Average Density (D), pc/mi/ln		20.4
Level of Service (LOS)	С			
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CM+674 PM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1779

0.98

4.00

0.962

1887

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

463

0.96

1.00

0.990

487

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (fHV)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

	HCS7 Basic Fi	eeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	CM+674 PM US 101 Mainli	ne south of SR 46E - NB (#7)	•
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	2242	Heavy Vehicle Adjustment Factor (fHV)	0.962
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	1189
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.6
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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7 - CM+674 PM US 101 mainline south of SR 46E - NB.xuf

Analyst C	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description C	M+674 PN	и US 101 Off Ran	np @ SR 46E - NB (#8)	'		
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (L <sub>D</sub> )	, ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors				·		
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h		2242	1239			
Peak Hour Factor (PHF)			0.98	0.96	0.96	
Total Trucks, %			4.00	3.00	3.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fr	v)		0.962	0.971	0.971	
Flow Rate (vi), pc/h			2378	1329	1329	
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.54	0.71	0.71	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	22.7	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.571	
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), p	c/h/ln	-	
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	52.5	
Prop. Freeway Vehicles in Lane 1 and	d 2 (PFD)	1.000	Outer Lanes Freeway Spe	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2378	Ramp Junction Speed (S)	, mi/h	52.5	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/r	mi/ln	22.6	
Level of Service (LOS)		С				

		HCS7 Freeway	Merge Report		
Project Information	_			_	
-	CCTC		Date	I	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
	^M+674 PI	M US 101 On Ramp @ S	<u> </u>	11.141	
Geometric Data	2101107411	vi os ioi on itamp @ s	1402 140 (#3)		
Geometric Butu			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration L	ength (La)	, ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			•		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1003	338	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			12.00	12.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (f	iv)		0.893	0.893	
Flow Rate (vi), pc/h			1195	403	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.36	0.21	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	), ft	-	Density in Ramp Influence Area (I	OR), pc/mi/ln	15.3
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.313
Downstream Equilibrium Distance (I	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loo	wn), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	58.8
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1195	Ramp Junction Speed (S), mi/h		58.8
Flow Entering Ramp-Infl. Area (VR12),	, pc/h	1598	Average Density (D), pc/mi/ln		13.6
Level of Service (LOS)		В			

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9 - CM+674 PM US 101 On Ramp at SR 46E - NB.xuf

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	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	CM+674 PM US 101 Mainli	ne north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1341	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.893
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	799
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (E⊤)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

Adjusted Free-Flow Speed (FFSadj), mi/h 67.7
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	HCS7 Basic Fi	reeway Report					
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year					
Jurisdiction		Time Period Analyzed	PM				
Project Description CM+674 PM US 101 Mainline north of SR 46E - SB (#11)							
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	1809	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826				
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1165				
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52				
Passenger Car Equivalent (ET)	2.000						
Speed and Density							
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.4				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В				
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9						
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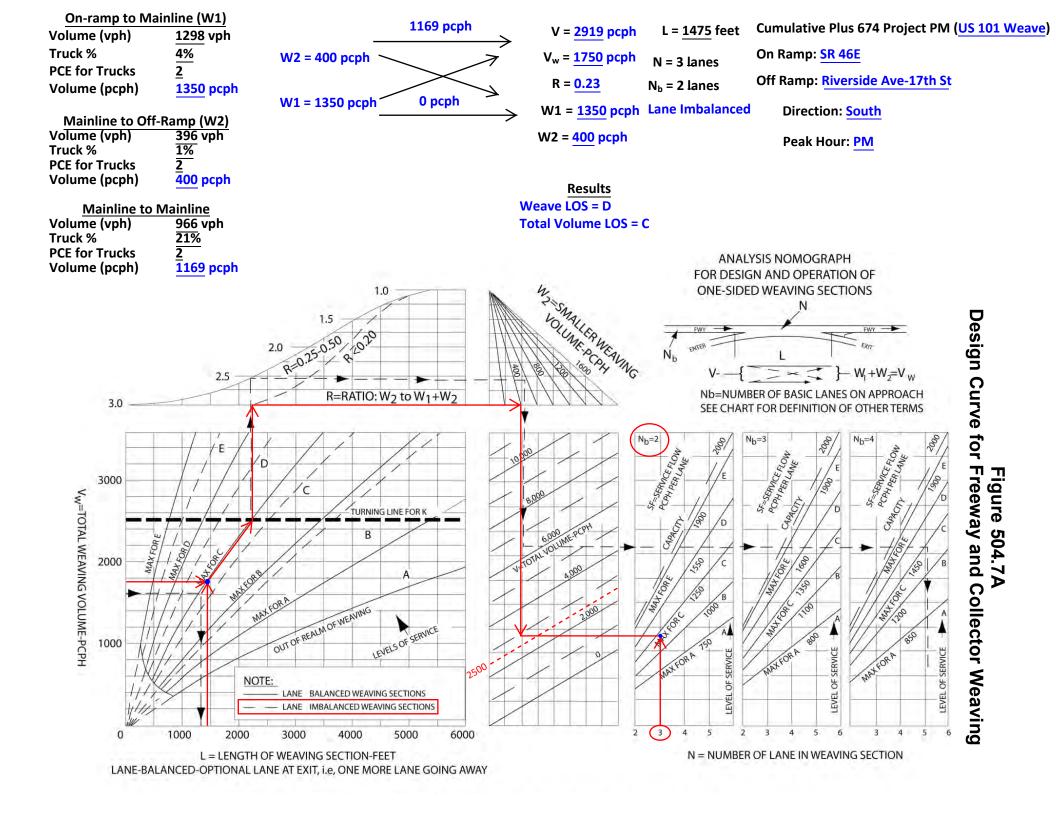
erved. HCS7100 Freeways Version 7.4 11 - CM+674 PM US 101 mainline north of SR 46E - SB.xuf

	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
-	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	CM+674 P	M US 101 Off Ramp @	SR 46E - SB (#12)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	155	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity			'	'	
Demand Volume (Vi), veh/h			1809 447		
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fi	HV)		0.826	0.826	
Flow Rate (vi), pc/h			2330	576	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.31	
Speed and Density					
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence	e Area (DR), pc/mi/ln	22.9
Distance to Upstream Ramp (Lup), fi	t	-	Speed Index (Ds)		0.503
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), po	:/h/ln	-
Distance to Downstream Ramp (LDC	own), ft	-	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 an	id 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h		2330	Ramp Junction Speed (S),	mi/h	54.2
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	-	Average Density (D), pc/n	ni/ln	21.5
Level of Service (LOS)		С			

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12 - CM+674 PM US 101 Off Ramp at SR 46E - SB.xuf

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	HCS7 Basic Fi	reeway Report				
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	CM+674 PM US 101 Mainli	ne south of SR 46E - SB (#15)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	2264	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1277			
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.7			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	19.1			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	С			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					

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15 - CM+674 PM US 101 mainline south of SR 46E - SB.xuf

		HCS7 Freeway	Merge Report			
Project Information						
Analyst C	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description C	M+674 P	M US 101 On Ramp @	Riverside-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h			2264	268		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			6.00	1.00		
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fin	v)		0.943	0.990		
Flow Rate (vi), pc/h			2554	288		
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.64	0.15		
Speed and Density			<u> </u>			
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	25.7	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.368	
Downstream Equilibrium Distance (LEQ), ft		Flow Outer Lanes (VOA), pc/h/ln		-		
Distance to Downstream Ramp (LDOW	wn), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	57.5	
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2554	Ramp Junction Speed (S), mi/h		57.5	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2842	Average Density (D), pc/mi/ln		24.7	
Level of Service (LOS)		С				

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
Analyst Co	CTC		Date	1	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description C	M+674 P	M US 101 Off Ramp @	Riverside/Pine - SB (#17)	1	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration Le	ength (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2532	333	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	v)		0.943	0.990	
Flow Rate (vi), pc/h			2856	358	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.65	0.19	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area (	(D <sub>R</sub> ), pc/mi/ln	27.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.484
Downstream Equilibrium Distance (Li	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Ldow	vn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and	1 2 (PFD)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2856	Ramp Junction Speed (S), mi/h		54.6
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		26.2
Level of Service (LOS)		С			

Incident Type		No Incident	-	
Final Speed Adjustment Factor (SAF)	0.950	0.950		
Final Capacity Adjustment Factor (CAF)	0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		2599	1174	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %		6.00	1.00	
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fHV)		0.943	0.990	
Flow Rate (vi), pc/h		2932	1262	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.95	0.67	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (E	DR), pc/mi/ln	29.3
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.491
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h		54.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	2932	Ramp Junction Speed (S), mi/h		54.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	4194	Average Density (D), pc/mi/ln		38.5
Level of Service (LOS)	D			

CM+674 PM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

Non-Severe Weather

Time Period Analyzed

PM

Ramp

1

35.0

1330

Level

Right

Balanced Mix

Non-Severe Weather

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Percent Grade, %
Segment Type / Ramp Side

Adjustment Factors

Driver Population

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

	HCS7 Basic Fi	reeway Report					
Project Information							
Analyst	ССТС	Date					
Agency		Analysis Year					
Jurisdiction		Time Period Analyzed	PM				
Project Description CM+674 PM US 101 Mainline north of SR 46W - SB (#19)							
Geometric Data							
Number of Lanes (N), In	2	Terrain Type	Level				
Segment Length (L), ft	-	Percent Grade, %	-				
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-				
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67				
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4				
Right-Side Lateral Clearance, ft	10						
Adjustment Factors							
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950				
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939				
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000				
Demand and Capacity							
Demand Volume (V), veh/h	3773	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.943				
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	2128				
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369				
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224				
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96				
Passenger Car Equivalent (ET)	2.000						
Speed and Density							
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	52.5				
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	40.5				
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E				
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9						
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Duning at Information	_					
Project Information						
Analyst CC	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description Cf	M+674 PI	M US 101 Off Ramp	@ SR 46W - SB (#20)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> )	, ft	1500	210		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	d Mix	
Weather Type			Non-Severe Weather	Non-Sev	vere Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h			3773	723		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			6.00	3.00	3.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fhv	')		0.943	0.971	0.971	
Flow Rate (vi), pc/h			4256	792		
Capacity (c), pc/h			4413	1878	1878	
Volume-to-Capacity Ratio (v/c)			0.96	0.42		
Speed and Density				,		
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influen	ce Area (DR), pc/mi/l	n 39.0	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.523	
Downstream Equilibrium Distance (La			Flow Outer Lanes (voa),	pc/h/ln	-	
Distance to Downstream Ramp (Loow	/N), ft	-	Off-Ramp Influence Are	a Speed (S <sub>R</sub> ), mi/h	53.7	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		4256	Ramp Junction Speed (S	i), mi/h	53.7	
Flow Entering Ramp-Infl. Area (vR12), pc/h - Average Density (D), pc/mi/ln 39.6			20.6			

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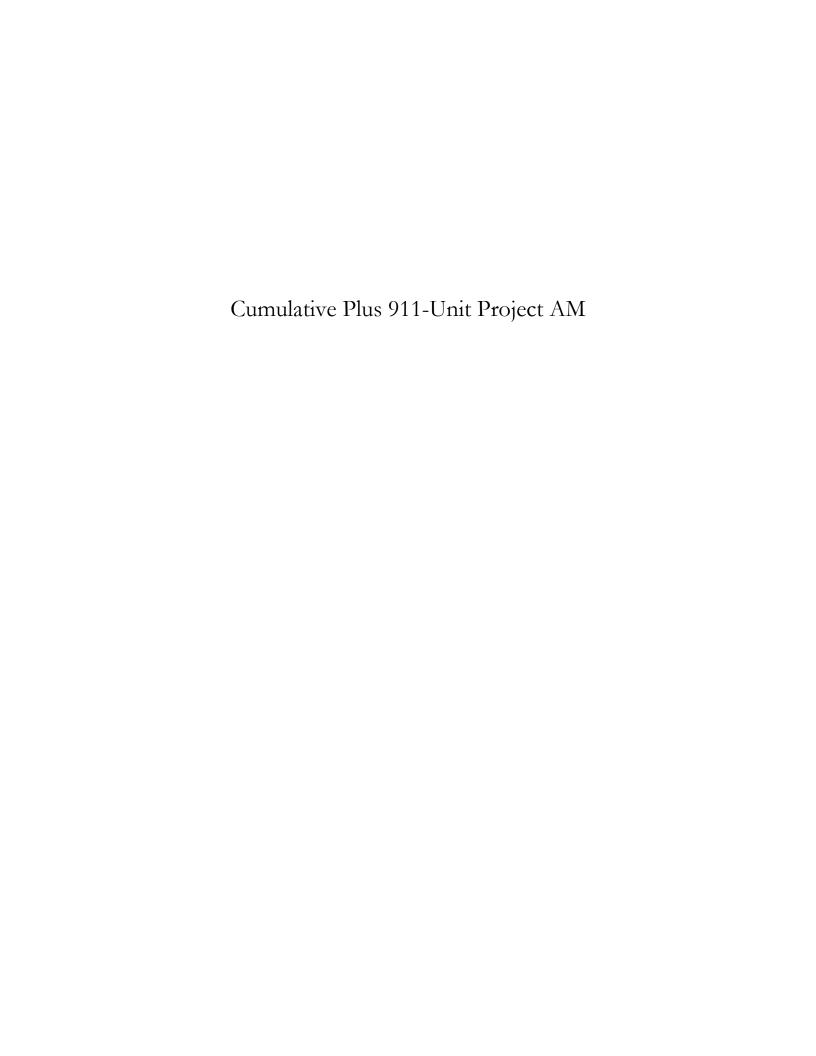
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		HCS7 Freeway	Merge Report		
<b>Project Information</b>					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	CM+674 P	M US 101 On Ramp @ S	SR 46W - SB (#21)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration I	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type			Non-Severe Weather	Non-Severe Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			3050	300	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	3.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fe	HV)		0.943	0.971	
Flow Rate (vi), pc/h			3441	329	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.85	0.18	
Speed and Density			<u>'</u>		
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Area (I	OR), pc/mi/ln	32.8
Distance to Upstream Ramp (Lup), fl	t	-	Speed Index (Ms)		0.469
Downstream Equilibrium Distance (	Leq), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 an	d 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3441	Ramp Junction Speed (S), mi/h		55.0
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	3770	Average Density (D), pc/mi/ln		34.3
Level of Service (LOS)		D			

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Level of Service (LUS)

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21 - CM+674 PM US 101 On Ramp at SR 46W - SB.xuf



	HCS/	Freeway Diverge Report			
Project Information					
Analyst CC	TC	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description CN	/+911 AM US 10	Off Ramp @ SR 46W - NB (#1)			
Geometric Data					
		Freeway	Ramp		
Number of Lanes (N)		2	1		
Free-Flow Speed (FFS), mi/h		70.0	35.0		
Segment Length (L) / Deceleration Le	ngth (LD), ft	1500	235		
Terrain Type		Level	Level		
Percent Grade, %		-	-		
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type	cident Type		-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2633	300		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	6.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fнv		0.926	0.943		
Flow Rate (vi), pc/h		3025	338		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.69	0.18		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft -	Density in Ramp Influence	ce Area (D <sub>R</sub> ), pc/mi/In	28.2	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)		0.482	
Downstream Equilibrium Distance (LE	a), ft -	Flow Outer Lanes (VOA), p	oc/h/ln	-	
Distance to Downstream Ramp (Loow	n), ft -	Off-Ramp Influence Area	Speed (S <sub>R</sub> ), mi/h	54.7	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> ) 1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (V12), pc/h	3025	Ramp Junction Speed (S	), mi/h	54.7	
Flow Entering Ramp-Infl. Area (vR12), p	oc/h -	Average Density (D), pc/	mi/ln	27.7	
Level of Service (LOS)	D				

Segment Length (L) / Acceleration Length (LA)	1500	345		
Terrain Type	Level	Level		
Percent Grade, %	-	-		
Segment Type / Ramp Side		Freeway	Right	
Adjustment Factors				
Driver Population		Balanced Mix	Balanced	Mix
Weather Type		Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)		0.939	0.939	
Demand Adjustment Factor (DAF)		1.000	1.000	
Demand and Capacity				
Demand Volume (Vi), veh/h		2333	591	
Peak Hour Factor (PHF)		0.94	0.94	
Total Trucks, %	8.00	6.00		
Single-Unit Trucks (SUT), %		-	-	
Tractor-Trailers (TT), %		-	-	
Heavy Vehicle Adjustment Factor (fнv)		0.926	0.943	
Flow Rate (vi), pc/h		2680	667	
Capacity (c), pc/h		4413	1878	
Volume-to-Capacity Ratio (v/c)		0.76	0.36	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln		29.2
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.409
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 ( $P_{\text{FM}}$ )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2680	Ramp Junction Speed (S), mi/h		56.5
Flow Entering Ramp-Infl. Area (VR12), pc/h	3347	Average Density (D), pc/mi/ln		29.6
Level of Service (LOS)	D			

CM+911 AM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Freeway

2

70.0

Time Period Analyzed

AM

Ramp

35.0

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description **Geometric Data** 

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

HCS7 Basic Freeway Report  Project Information						
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	CM+911 AM US 101 Mainli	ne north of SR 46W - NB (#3)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	2924	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1680			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	63.3			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	26.5			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	D			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

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Project Information						
Analyst Co	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description CI	M+911 A	M US 101 Off Ra	mp @ Spring - NB (#4)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0	35.0	
Segment Length (L) / Deceleration Le	ength (LD)	), ft	1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	d Mix	
Weather Type			Non-Severe Weather	Non-Sev	vere Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h			2924	970		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			8.00	2.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (few	/)		0.862	0.980		
Flow Rate (vi), pc/h			3609	1053		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.82	0.56		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influen	ce Area (DR), pc/mi/l	n 33.5	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.546	
Downstream Equilibrium Distance (La	EQ), ft	-	Flow Outer Lanes (VOA), p	oc/h/ln	-	
Distance to Downstream Ramp (LDOW	/N), ft	-	Off-Ramp Influence Area	a Speed (S <sub>R</sub> ), mi/h	53.1	
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Sp	eed (So), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		3609	Ramp Junction Speed (S	), mi/h	53.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/	mi/ln	34.0	
Level of Service (LOS)		D				

	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
	СТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description C	M+911 A	M US 101 Off Ramp @ I	Paso Robles - NB (#5)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (L <sub>D</sub> )	), ft	1500	270	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			1954	423	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			8.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.926	0.990	
Flow Rate (v <sub>i</sub> ), pc/h			2245	455	
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)			0.51	0.24	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Ar	ea (D <sub>R</sub> ), pc/mi/ln	21.1
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.492
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/	ln	-
Distance to Downstream Ramp (LDOV	vn), ft	-	Off-Ramp Influence Area Spe	ed (S <sub>R</sub> ), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (	So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2245	Ramp Junction Speed (S), mi/	/h	54.4
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/lr	1	20.6
Level of Service (LOS)		С			

Volume-to-Capacity Ratio (v/c)		0.52	0.28	
Speed and Density				
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	R), pc/mi/ln	20.6
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.333
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	58.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), r	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	1759	Ramp Junction Speed (S), mi/h		58.3
Flow Entering Ramp-Infl. Area (VR12), pc/h	2283	Average Density (D), pc/mi/ln		19.6
Level of Service (LOS)	С			
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CM+911 AM US 101 On Ramp @ Paso Robles - NB (#6)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

1531

0.94

8.00

0.926

1759

Non-Severe Weather

Time Period Analyzed

AM

Ramp

1

35.0

400

Right

0.950

0.939

1.000

488

0.94

1.00

0.990

524

Balanced Mix

Non-Severe Weather

**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Weather Type

Incident Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

**Demand and Capacity** Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Total Trucks, % Single-Unit Trucks (SUT), % Tractor-Trailers (TT), %

Flow Rate (vi), pc/h

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Final Capacity Adjustment Factor (CAF)

Heavy Vehicle Adjustment Factor (fHV)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

CCTC

Project Information  Analyst CCTC Date  Agency Analysis Year  Jurisdiction Time Period Analyzed AM  Project Description CM+911 AM US 101 Mainline south of SR 46E - NB (#7)  Geometric Data  Number of Lanes (N), In 2 Terrain Type Level  Segment Length (L), ft - Percent Grade, % -  Measured or Base Free-Flow Speed Base Grade Length, mi -  Base Free-Flow Speed (BFFS), mi/h 75.4 Total Ramp Density (TRD), ramps/mi 1.33  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 71.3  Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (Fin) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (C.s.), pc/h/ln 2237  Tinctor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (En) 2.000  Speed and Density  Lane Width Adjustment (fiw) 0.0 Average Speed (S), mi/h 67.7  Right-Side Lateral Clearance Adj. (fisic) 0.0	HCS7 Basic Freeway Report						
Agency Jurisdiction Project Description CM+911 AM US 101 Mainline south of SR 46E - NB (#7)  Geometric Data  Number of Lanes (N), In Segment Length (L), ft Agency Base Free-Flow Speed Base Grade Length, mi Base Free-Flow Speed (BFFS), mi/h Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (TRD), ramps/mi Right-Side Lateral Clearance, ft Total Ramp Density (Free-Flow Speed (FFS), mi/h Total Ramp Density Peach Adjustment Factor (SAF) Right-Side Lateral Clearance, ft Right-Side Lateral Clearance, ft Total Ramp Density Revent Grade, %  Final Speed Adjustment Factor (SAF) Right-Side Lateral Clearance, ft Right-Side Lateral Clearance, f	Project Information						
Jurisdiction Time Period Analyzed AM Project Description CM+911 AM US 101 Mainline south of SR 46E - NB (#7)  Geometric Data  Number of Lanes (N), In 2 Terrain Type Level Segment Length (L), ft - Percent Grade, % - Measured or Base Free-Flow Speed Base Grade Length, mi - Base Free-Flow Speed (BFFS), mi/h 75.4 Total Ramp Density (TRD), ramps/mi 1.33  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 71.3  Right-Side Lateral Clearance, ft 10 Total Ramp Density (TRD), ramps/mi 1.33  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (finv) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp.), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2237  Single-Unit Trucks (SUT), % - Adjusted Capacity (csal), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (fiw) 0.0 Average Speed (S), mi/h 67.7	Analyst	сстс	Date				
Project Description  CM+911 AM US 101 Mainline south of SR 46E - NB (#7)  Geometric Data  Number of Lanes (N), In  Segment Length (L), ft  - Percent Grade, %  Measured or Base Free-Flow Speed Base Grade Length, mi - Career Flow Speed (BFFS), mi/h T5.4  Total Ramp Density (TRD), ramps/mi 1.33  Lane Width, ft 12 Free-Flow Speed (FFS), mi/h T1.3  Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) No Incident Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) Demand and Capacity  Demand Adjustment Factor (DAF)  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (Firv) Single-Unit Trucks (SUT), % - Adjusted Capacity (Capi), pc/h/ln 2232 Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) Descend and Density  Speed and Density  Lane Width Adjustment (fiv) 0.00  Average Speed (S), mi/h 67.7	Agency		Analysis Year				
Number of Lanes (N), In   2   Terrain Type   Level	Jurisdiction		Time Period Analyzed	AM			
Number of Lanes (N), In 2 Terrain Type Level  Segment Length (L), ft - Percent Grade, %	Project Description	CM+911 AM US 101 Mainli	ne south of SR 46E - NB (#7)				
Segment Length (L), ft  Measured or Base Free-Flow Speed Base Grade Length, mi  - Base Free-Flow Speed (BFFS), mi/h 75.4 Total Ramp Density (TRD), ramps/mi 1.33 Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 71.3 Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) Non-Severe Weather Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (fi+v) Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 1160 Total Trucks, % 8.00 Capacity (c), pc/h/ln 2377 Single-Unit Trucks (SUT), % - Adjusted Capacity (c-id), pc/h/ln 2232 Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) Passenger Car Equivalent (Er)  Speed and Density  Lane Width Adjustment (ft.w) 0.0 Average Speed (S), mi/h 67.7	Geometric Data						
Measured or Base Free-Flow Speed Base Grade Length, mi - Base Free-Flow Speed (BFFS), mi/h 75.4 Total Ramp Density (TRD), ramps/mi 1.33 Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 71.3 Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950 Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939 Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (fi-v) 0.926 Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 1160 Total Trucks, % 8.00 Capacity (c, pc/h/ln 2377 Single-Unit Trucks (SUT), % - Adjusted Capacity (Cod), pc/h/ln 2232 Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52 Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 67.7	Number of Lanes (N), In	2	Terrain Type	Level			
Base Free-Flow Speed (BFFS), mi/h  Total Ramp Density (TRD), ramps/mi  1.33  Lane Width, ft  12 Free-Flow Speed (FFS), mi/h  71.3  Right-Side Lateral Clearance, ft  10  Adjustment Factors  Driver Population  Balanced Mix  Final Speed Adjustment Factor (SAF)  Weather Type  Non-Severe Weather  Final Capacity Adjustment Factor (CAF)  Demand Adjustment Factor (DAF)  1.000  Demand and Capacity  Demand Volume (V), veh/h  2019  Heavy Vehicle Adjustment Factor (fhw)  Demand Volume (V), veh/h  1160  Total Trucks, %  8.00  Capacity (c), pc/h/ln  2377  Single-Unit Trucks (SUT), %  - Adjusted Capacity (Cad), pc/h/ln  2232  Tractor-Trailers (TT), %  - Volume-to-Capacity Ratio (v/c)  Speed and Density  Lane Width Adjustment (ftw)  0.00  Average Speed (S), mi/h  67.7	Segment Length (L), ft	-	Percent Grade, %	-			
Lane Width, ft 12 Free-Flow Speed (FFS), mi/h 71.3  Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (fhw) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (c, pc/h/ln 2377  Single-Unit Trucks (SUT), % - Adjusted Capacity (Cad), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (En) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 67.7	Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Right-Side Lateral Clearance, ft 10  Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (finv) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (v <sub>0</sub> ), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2377  Single-Unit Trucks (SUT), % - Adjusted Capacity (cash), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (En) 2.000  Speed and Density  Lane Width Adjustment (fiw) 0.0 Average Speed (S), mi/h 67.7	Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Adjustment Factors  Driver Population Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (Finv) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (v <sub>0</sub> ), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2377  Single-Unit Trucks (SUT), % - Adjusted Capacity (cash), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (En) 2.000  Speed and Density  Lane Width Adjustment (fiw) 0.0 Average Speed (S), mi/h 67.7	Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Driver Population  Balanced Mix Final Speed Adjustment Factor (SAF) 0.950  Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 1.000  Demand Adjustment Factor (DAF) Demand Adjustment Factor (DAF)  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (fi+v) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (c), pc/h/ln 2377  Single-Unit Trucks (SUT), % - Adjusted Capacity (c=d), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.950  Non-Severe Weather Final Speed Adjustment Factor (SAF) 0.939 1.000	Right-Side Lateral Clearance, ft	10					
Weather Type Non-Severe Weather Final Capacity Adjustment Factor (CAF) 0.939  Incident Type No Incident Demand Adjustment Factor (DAF) 1.000  Demand and Capacity  Demand Volume (V), veh/h 2019 Heavy Vehicle Adjustment Factor (fi+v) 0.926  Peak Hour Factor (PHF) 0.94 Flow Rate (vp), pc/h/ln 1160  Total Trucks, % 8.00 Capacity (c, pc/h/ln 2377  Single-Unit Trucks (SUT), % - Adjusted Capacity (cas), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (ftw) 0.0 Average Speed (S), mi/h 67.7	Adjustment Factors						
Incident Type  No Incident  Demand Adjustment Factor (DAF)  1.000  Demand and Capacity  Demand Volume (V), veh/h  2019  Heavy Vehicle Adjustment Factor (Finv)  0.926  Peak Hour Factor (PHF)  0.94  Flow Rate (v <sub>0</sub> ), pc/h/ln  1160  Total Trucks, %  8.00  Capacity (c), pc/h/ln  2377  Single-Unit Trucks (SUT), %  - Adjusted Capacity (cadj), pc/h/ln  2232  Tractor-Trailers (TT), %  - Volume-to-Capacity Ratio (v/c)  5peed and Density  Lane Width Adjustment (fiw)  0.0  Average Speed (S), mi/h  67.7	Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Demand and Capacity           Demand Volume (V), veh/h         2019         Heavy Vehicle Adjustment Factor (fi+v)         0.926           Peak Hour Factor (PHF)         0.94         Flow Rate (v <sub>e</sub> ), pc/h/ln         1160           Total Trucks, %         8.00         Capacity (c), pc/h/ln         2377           Single-Unit Trucks (SUT), %         -         Adjusted Capacity (cad), pc/h/ln         2232           Tractor-Trailers (TT), %         -         Volume-to-Capacity Ratio (v/c)         0.52           Passenger Car Equivalent (Et)         2.000         Speed and Density           Lane Width Adjustment (fi,w)         0.0         Average Speed (S), mi/h         67.7	Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Demand Volume (V), veh/h         2019         Heavy Vehicle Adjustment Factor (finv)         0.926           Peak Hour Factor (PHF)         0.94         Flow Rate (vp), pc/h/ln         1160           Total Trucks, %         8.00         Capacity (c), pc/h/ln         2377           Single-Unit Trucks (SUT), %         -         Adjusted Capacity (cad), pc/h/ln         2232           Tractor-Trailers (TT), %         -         Volume-to-Capacity Ratio (v/c)         0.52           Passenger Car Equivalent (Er)         2.000         Speed and Density           Lane Width Adjustment (ftw)         0.0         Average Speed (S), mi/h         67.7	Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Peak Hour Factor (PHF)         0.94         Flow Rate (v <sub>0</sub> ), pc/h/ln         1160           Total Trucks, %         8.00         Capacity (c), pc/h/ln         2377           Single-Unit Trucks (SUT), %         -         Adjusted Capacity (c <sub>a-0</sub> ), pc/h/ln         2232           Tractor-Trailers (TT), %         -         Volume-to-Capacity Ratio (v/c)         0.52           Passenger Car Equivalent (Er)         2.000         Speed and Density           Lane Width Adjustment (ftw)         0.0         Average Speed (S), mi/h         67.7	Demand and Capacity						
Total Trucks, %   8.00   Capacity (c), pc/h/ln   2377	Demand Volume (V), veh/h	2019	Heavy Vehicle Adjustment Factor (fHV)	0.926			
Single-Unit Trucks (SUT), % - Adjusted Capacity (cad), pc/h/ln 2232  Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (Et) 2.000  Speed and Density  Lane Width Adjustment (ft.w) 0.0 Average Speed (S), mi/h 67.7	Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1160			
Tractor-Trailers (TT), % - Volume-to-Capacity Ratio (v/c) 0.52  Passenger Car Equivalent (Et) 2.000  Speed and Density  Lane Width Adjustment (fi.w) 0.0 Average Speed (S), mi/h 67.7	Total Trucks, %	8.00	Capacity (c), pc/h/ln	2377			
Passenger Car Equivalent (Er) 2.000  Speed and Density  Lane Width Adjustment (fi.w) 0.0 Average Speed (S), mi/h 67.7	Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Speed and Density       Lane Width Adjustment (fuw)     0.0     Average Speed (S), mi/h     67.7	Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52			
Lane Width Adjustment (fi.w) 0.0 Average Speed (S), mi/h 67.7	Passenger Car Equivalent (E <sub>T</sub> )	2.000					
	Speed and Density						
Right-Side Lateral Clearance Adj. (fr.c) 0.0 Density (D), pc/mi/ln 17.1	Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7			
* * * * * * * * * * * * * * * * * * * *	Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.1			
Total Ramp Density Adjustment 4.1 Level of Service (LOS) B	Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h 67.7	Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

7 - CM+911 AM US 101 mainline south of SR 46E - NB.xuf

Capacity (c), pc/h 4413 1878 Volume-to-Capacity Ratio (v/c) 0.53 0.69 **Speed and Density** Upstream Equilibrium Distance (LEQ), ft Density in Ramp Influence Area (DR), pc/mi/ln 22.2 Distance to Upstream Ramp (Lup), ft Speed Index (Ds) 0.568 Downstream Equilibrium Distance (LEQ), ft Flow Outer Lanes (VOA), pc/h/ln Distance to Downstream Ramp (LDOWN), ft Off-Ramp Influence Area Speed (SR), mi/h 52.6 Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000 Outer Lanes Freeway Speed (So), mi/h Flow in Lanes 1 and 2 (v<sub>12</sub>), pc/h 2320 Ramp Junction Speed (S), mi/h 52.6 Flow Entering Ramp-Infl. Area (VR12), pc/h Average Density (D), pc/mi/ln 22.1

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**Project Information** 

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, %

Segment Type / Ramp Side

Weather Type

Incident Type

Adjustment Factors

Driver Population

Final Speed Adjustment Factor (SAF)

Demand Adjustment Factor (DAF)

Demand and Capacity

Demand Volume (Vi), veh/h

Peak Hour Factor (PHF)

Single-Unit Trucks (SUT), %

Tractor-Trailers (TT), %

Heavy Vehicle Adjustment Factor (fHV)

Total Trucks, %

Flow Rate (vi), pc/h

Level of Service (LOS)

Final Capacity Adjustment Factor (CAF)

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Deceleration Length (LD), ft

CCTC

Date

CM+911 AM US 101 Off Ramp @ SR 46E - NB (#8)

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

No Incident

0.950

0.939

1.000

2019

0.94

8.00

0.926

2320

Non-Severe Weather

Time Period Analyzed

AM

Ramp

35.0

225

Right

0.950

0.939

1.000

1164

0.94

5.00

0.952

1301

Balanced Mix

Non-Severe Weather

. HCS71000 Freeways Version 7.4 8 - CM+911 AM US 101 Off Ramp at SR 46E - NB.xuf Generated: 2/5/2019 4:41:33 PM

Project Information					
Analyst	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description CN	M+911 AN	/I US 101 On Ran	np @ SR 46E - NB (#9)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration Le	ngth (La),	ft	1500	405	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balance	d Mix
Weather Type			Non-Severe Weather	Non-Se	vere Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			855	361	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			18.00	18.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (few	')		0.847	0.847	
Flow Rate (vi), pc/h			1074	453	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.35	0.24	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influer	nce Area (D <sub>R</sub> ), pc/mi/	In 14.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.312
Downstream Equilibrium Distance (LE	:Q), ft	-	Flow Outer Lanes (VOA),	pc/h/ln	-
Distance to Downstream Ramp (LDOW	ν), ft	-	On-Ramp Influence Are	ea Speed (S <sub>R</sub> ), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway S	peed (So), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1074	Ramp Junction Speed (	S), mi/h	58.9
Flow Entering Ramp-Infl. Area (vR12),	pc/h	1527	Average Density (D), po	/mi/ln	13.0
Level of Service (LOS)		В			

	HCS7 Basic Fr	reeway Report	
Project Information			
Analyst	сстс	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	AM
Project Description	CM+911 AM US 101 Mainli	ne north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1216	Heavy Vehicle Adjustment Factor (fHV)	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	764
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E <sub>T</sub> )	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.3
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

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10 - CM+911 AM US 101 mainline north of SR 46E - NB.xuf

	HCS7 Basic Freeway Report					
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	CM+911 AM US 101 Mainli	ne north of SR 46E - SB (#11)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1127	Heavy Vehicle Adjustment Factor (fHV)	0.840			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	714			
Total Trucks, %	19.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32			
Passenger Car Equivalent (ET)	2.000					
Speed and Density						
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	10.7			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	A			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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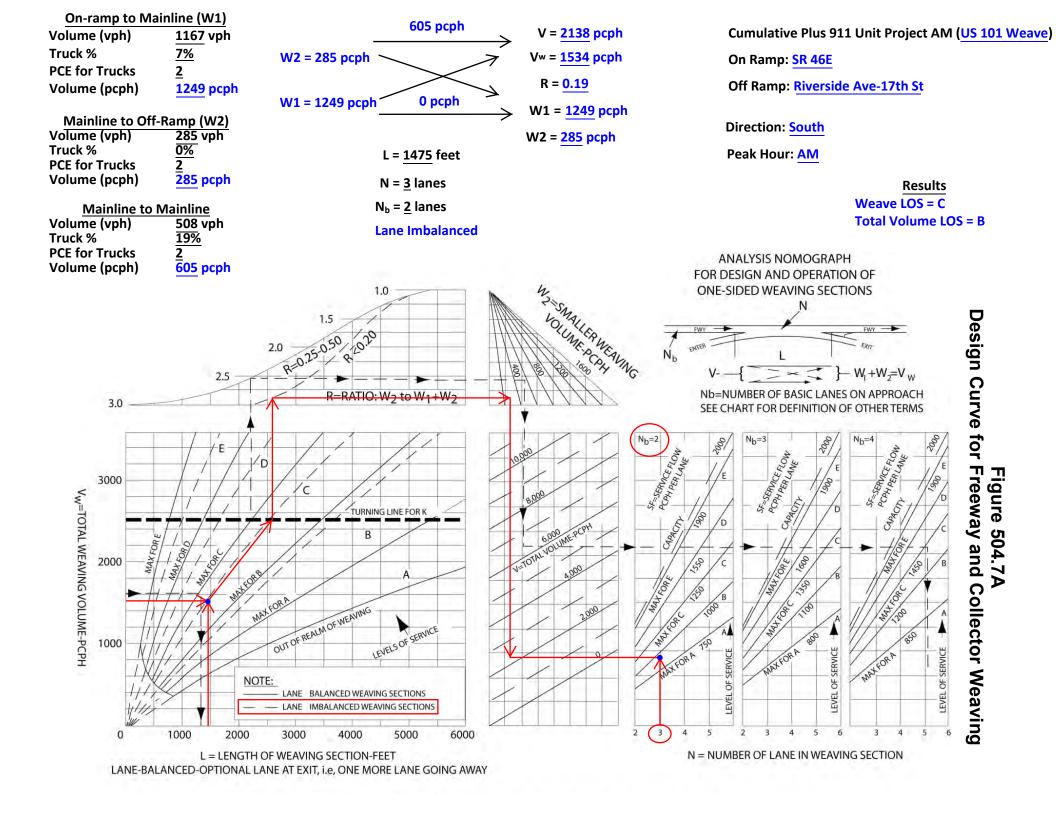
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	ŀ	HCS7 Freeway	Diverge Report			
Project Information						
Analyst C	СТС		Date	Τ		
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description C	:M+911 A	M US 101 Off Ramp @	SR 46E - SB (#12)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	155		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population		Balanced Mix	Balanced	Mix		
Weather Type		Non-Severe Weather	Non-Seve	Non-Severe Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity			<u>'</u>			
Demand Volume (Vi), veh/h		1127	334			
Peak Hour Factor (PHF)			0.94	0.95	0.95	
Total Trucks, %		19.00	19.00			
Single-Unit Trucks (SUT), %		-	-			
Tractor-Trailers (TT), %		-	-			
Heavy Vehicle Adjustment Factor (fire	v)		0.840	0.840		
Flow Rate (vi), pc/h			1427	419		
Capacity (c), pc/h		4413	1878	1878		
Volume-to-Capacity Ratio (v/c)		0.32	0.22	0.22		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	15.1	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.489	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOW	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.5	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		1427	Ramp Junction Speed (S), mi/h		54.5	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		13.1	
Level of Service (LOS)		В				

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12 - CM+911 AM US 101 Off Ramp at SR 46E - SB.xuf

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	HCS7 Basic Freeway Report					
Project Information						
Analyst	ССТС	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	AM			
Project Description	CM+911 AM US 101 Mainli	ne south of SR 46E - SB (#15)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	1675	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926			
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	962			
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.9			
Right-Side Lateral Clearance Adj. (fr.LC)	0.0	Density (D), pc/mi/ln	14.4			
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В			
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9					
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Analyst	CCTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description C	M+911 A	M US 101 On Ramp @	Riverside-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration L	ength (L <sub>A</sub> )	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors				1		
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-	-	
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	1.000	
Demand and Capacity			·			
Demand Volume (Vi), veh/h			1675	390		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			8.00	2.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	ıv)		0.926	0.980		
Flow Rate (vi), pc/h			1924	423		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.53	0.23	0.23	
Speed and Density			·			
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area (	D <sub>R</sub> ), pc/mi/ln	21.8	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.342	
Downstream Equilibrium Distance (L	_EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-	
Distance to Downstream Ramp (LDO	wn), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	58.1	
Prop. Freeway Vehicles in Lane 1 and	d 2 (Р <sub>FМ</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		1924	Ramp Junction Speed (S), mi/h		58.1	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2347	Average Density (D), pc/mi/ln		20.2	
Level of Service (LOS)		С				

HCS7 Freeway Merge Report

**Project Information** 

16 - CM+911 AM US 101 On Ramp at Riverside-17th - SB.xuf

Project Information  Analyst CCTC Date Agency Analysis Year Jurisdiction Time Period Analyzed AM  Project Description CM+911 AM US 101 Off Ramp @ Riverside/Pine - SB (#17)  Geometric Data  Freeway Ramp  Number of Lanes (N) 2 1  Free-Flow Speed (FFS), mi/h 70.0 35.0  Segment Length (L) / Deceleration Length (Lo), ft 1500 190  Terrain Type Level Level Level  Percent Grade, %  Segment Type / Ramp Side Freeway Right  Adjustment Factors  Driver Population Balanced Mix Balanced Mix  Weather Type Non-Severe Weather Non-Severe Weather	
Agency Analysis Year Time Period Analyzed AM Project Description CM+911 AM US 101 Off Ramp @ Riverside/Pine - SB (#17)  Geometric Data Freeway Ramp Number of Lanes (N) 2 1 Free-Flow Speed (FFS), mi/h 70.0 35.0 Segment Length (L) / Deceleration Length (LD), ft 1500 190  Terrain Type Level Level Level Percent Grade, % Segment Type / Ramp Side Freeway Right  Adjustment Factors Driver Population Balanced Mix Balanced Mix	
Jurisdiction Time Period Analyzed AM Project Description CM+911 AM US 101 Off Ramp @ Riverside/Pine - SB (#17)  Geometric Data Freeway Ramp Number of Lanes (N) 2 1 Free-Flow Speed (FFS), mi/h 70.0 35.0 Segment Length (L) / Deceleration Length (Lo), ft 1500 190  Terrain Type Level Level Level Percent Grade, % Segment Type / Ramp Side Freeway Right  Adjustment Factors Driver Population Balanced Mix Balanced Mix	
Jurisdiction         Time Period Analyzed         AM           Project Description         CM+911 AM US 101 Off Ramp @ Riverside/Pine - SB (#17)           Geometric Data           Freeway         Ramp           Number of Lanes (N)         2         1           Free-Flow Speed (FFS), mi/h         70.0         35.0           Segment Length (L) / Deceleration Length (Lo), ft         1500         190           Terrain Type         Level         Level           Percent Grade, %         -         -           Segment Type / Ramp Side         Freeway         Right           Adjustment Factors           Driver Population         Balanced Mix         Balanced Mix	
Geometric Data           Freeway         Ramp           Number of Lanes (N)         2         1           Free-Flow Speed (FFS), mi/h         70.0         35.0           Segment Length (L) / Deceleration Length (LD), ft         1500         190           Terrain Type         Level         Level           Percent Grade, %         -         -           Segment Type / Ramp Side         Freeway         Right           Adjustment Factors           Driver Population         Balanced Mix         Balanced Mix	
Freeway   Ramp	
Number of Lanes (N)         2         1           Free-Flow Speed (FFS), mi/h         70.0         35.0           Segment Length (L) / Deceleration Length (Lo), ft         1500         190           Terrain Type         Level         Level           Percent Grade, %         -         -           Segment Type / Ramp Side         Freeway         Right           Adjustment Factors           Driver Population         Balanced Mix         Balanced Mix	
Free-Flow Speed (FFS), mi/h         70.0         35.0           Segment Length (L) / Deceleration Length (Lo), ft         1500         190           Terrain Type         Level         Level           Percent Grade, %         -         -           Segment Type / Ramp Side         Freeway         Right           Adjustment Factors           Driver Population         Balanced Mix         Balanced Mix	
Segment Length (L) / Deceleration Length (Lo), ft 1500 190  Terrain Type Level Level  Percent Grade, %  Segment Type / Ramp Side Freeway Right  Adjustment Factors  Driver Population Balanced Mix Balanced Mix	
Terrain Type Level Level  Percent Grade, %  Segment Type / Ramp Side Freeway Right  Adjustment Factors  Driver Population Balanced Mix Balanced Mix	
Percent Grade, %	
Segment Type / Ramp Side Freeway Right  Adjustment Factors  Driver Population Balanced Mix Balanced Mix	
Adjustment Factors  Driver Population Balanced Mix Balanced Mix	
Driver Population Balanced Mix Balanced Mix	
Weather Type Non-Severe Weather Non-Severe Weather	
Incident Type No Incident -	
Final Speed Adjustment Factor (SAF) 0.950 0.950	
Final Capacity Adjustment Factor (CAF) 0.939 0.939	
Demand Adjustment Factor (DAF) 1.000 1.000	
Demand and Capacity	
Demand Volume (Vi), veh/h 2065 205	
Peak Hour Factor (PHF)         0.94         0.94	
Total Trucks, % 8.00 5.00	
Single-Unit Trucks (SUT), %	
Tractor-Trailers (TT), %	
Heavy Vehicle Adjustment Factor (fhv) 0.926 0.952	
Flow Rate (v), pc/h 2372 229	
Capacity (c), pc/h 4413 1878	
Volume-to-Capacity Ratio (v/c) 0.54 0.12	
Speed and Density	
Upstream Equilibrium Distance (Leo), ft - Density in Ramp Influence Area (DR), pc/mi/In 22.9	
Distance to Upstream Ramp (Lue), ft - Speed Index (Ds) 0.472	
Downstream Equilibrium Distance (LEQ), ft - Flow Outer Lanes (VOA), pc/h/ln -	
Distance to Downstream Ramp (LDOWN), ft - Off-Ramp Influence Area Speed (SR), mi/h 54.9	
Prop. Freeway Vehicles in Lane 1 and 2 (PFD) 1.000 Outer Lanes Freeway Speed (So), mi/h	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h         2372         Ramp Junction Speed (S), mi/h         54.9	
Flow Entering Ramp-Infl. Area (VR12), pc/h - Average Density (D), pc/mi/ln 21.6	
Level of Service (LOS)	

•					
Weather Type		Non-Severe Weather	Non-Seve	Non-Severe Weather	
Incident Type	No Incident	-			
Final Speed Adjustment Factor (SAF)	0.950	0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)	1.000	1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2249	1450		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	2.00		
Single-Unit Trucks (SUT), %		-	-		
Tractor-Trailers (TT), %		-	-		
Heavy Vehicle Adjustment Factor (fнv)		0.926	0.980		
Flow Rate (vi), pc/h		2584	1574		
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.94	0.84		
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D	DR), pc/mi/ln	28.9	
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)		0.482	
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-	
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S	SR), mi/h	54.7	
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So),	mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2584	Ramp Junction Speed (S), mi/h		54.7	
Flow Entering Ramp-Infl. Area (VR12), pc/h	4158	Average Density (D), pc/mi/ln		38.0	
Level of Service (LOS)	D				

HCS7 Freeway Merge Report

CM+911 AM US 101 On Ramp @ Spring - SB (#18)

Date

Analysis Year

Freeway

2

70.0

1500

Level

Freeway

Balanced Mix

Time Period Analyzed

AM

Ramp

1

35.0

1330

Level

Right

Balanced Mix

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

**Geometric Data** 

Terrain Type

Percent Grade, % Segment Type / Ramp Side

**Adjustment Factors** Driver Population

Number of Lanes (N)

Free-Flow Speed (FFS), mi/h

Segment Length (L) / Acceleration Length (LA), ft

HCS7 Basic Freeway Report					
Project Information					
Analyst	ССТС	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	AM		
Project Description	CM+911 AM US 101 Mainli	ne north of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3699	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.926		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	2125		
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96		
Passenger Car Equivalent (ET)	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	52.6		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	40.4		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				
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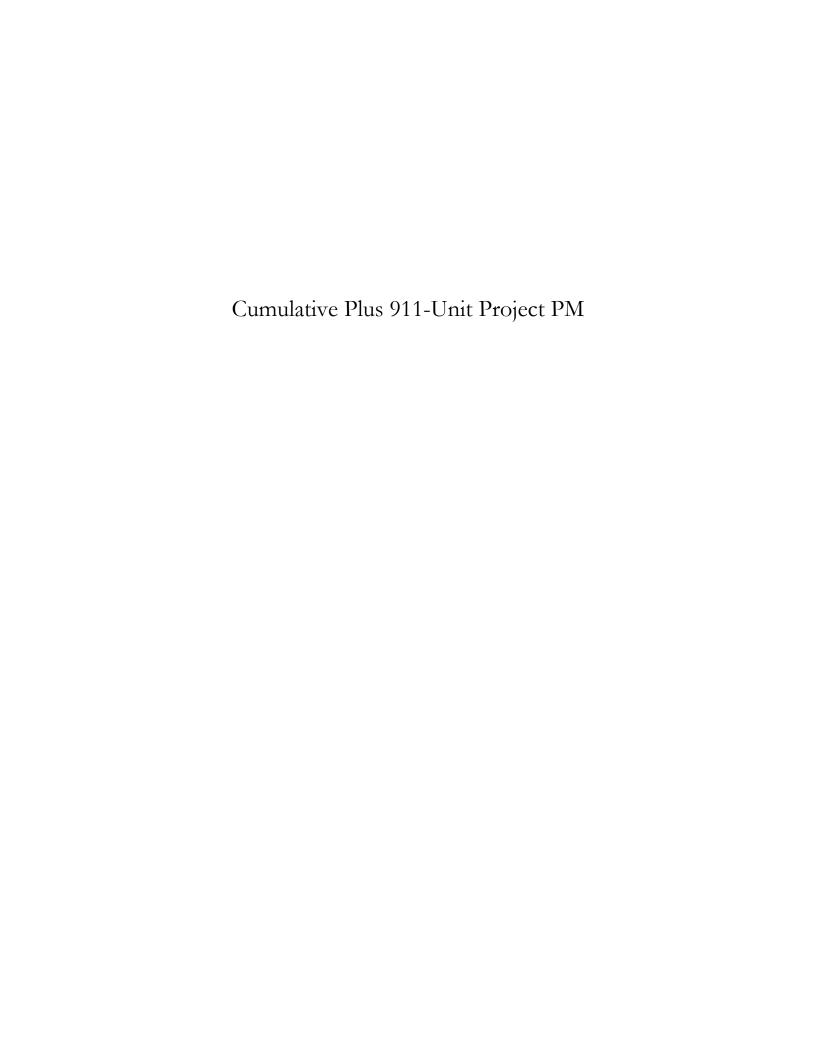
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Project Information						
Analyst	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	AM		
Project Description CI	M+911 AN	/I US 101 Off Ra	imp @ SR 46W - SB (#20)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration Le	ength (L <sub>D</sub> ),	ft	1500	210		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population		Balanced Mix	Balanced	d Mix		
Weather Type		Non-Severe Weather	Non-Sev	Non-Severe Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity			<u> </u>	'		
Demand Volume (Vi), veh/h			3699	731		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			8.00	6.00	6.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (few	<i>i</i> )		0.926	0.943	0.943	
Flow Rate (vi), pc/h			4250	825		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.96	0.44		
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influer	nce Area (DR), pc/mi/l	n 38.9	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.526	
Downstream Equilibrium Distance (La	EQ), ft	-	Flow Outer Lanes (voa),	pc/h/ln	1-	
Distance to Downstream Ramp (Loow		-	Off-Ramp Influence Are		53.6	
Prop. Freeway Vehicles in Lane 1 and	-	1.000	Outer Lanes Freeway Sp		-	
Flow in Lanes 1 and 2 (v12), pc/h	()	4250	Ramp Junction Speed (		53.6	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), po		39.6	
Level of Service (LOS)	P-///	E	Average Density (D), pe	y y	33.0	

		HCS7 Freeway	Merge Report		
<b>Project Information</b>					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	AM	
Project Description	CM+911 A	M US 101 On Ramp @ :	SR 46W - SB (#21)	·	
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration	Length (La)	, ft	1500	315	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side		Freeway	Right		
Adjustment Factors					
Driver Population		Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h		2968	200		
Peak Hour Factor (PHF)		0.94	0.94		
Total Trucks, %		8.00	6.00		
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (	fhv)		0.926	0.943	
Flow Rate (vi), pc/h			3410	226	
Capacity (c), pc/h		4413	1878		
Volume-to-Capacity Ratio (v/c)		0.82	0.12		
Speed and Density					
Upstream Equilibrium Distance (Leo	2), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	31.8
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.448
Downstream Equilibrium Distance	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (Lo	own), ft	-	On-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (Рғм)	1.000	Outer Lanes Freeway Speed (So)	, mi/h	-
Flow in Lanes 1 and 2 (V12), pc/h		3410	Ramp Junction Speed (S), mi/h		55.5
Flow Entering Ramp-Infl. Area (VR12	), pc/h	3636	Average Density (D), pc/mi/ln		32.8
Level of Service (LOS)		D			

Level of Service (LOS)

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21 - CM+911 AM US 101 On Ramp at SR 46W - SB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information					
•	CTC		Date	Π	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description C	M+911 P	M US 101 Off Ramp @ :	SR 46W - NB (#1)		
Geometric Data		, -	. ,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	ength (Lo	, ft	1500	235	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type		Non-Severe Weather	Non-Severe Weather		
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity					
Demand Volume (Vi), veh/h			3463	300	
Peak Hour Factor (PHF)			0.98	0.94	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fr	ıv)		0.962	0.990	
Flow Rate (vi), pc/h			3673	322	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.83	0.17	
Speed and Density					
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area (I	Dr.), pc/mi/ln	33.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.480
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDO)	wn), ft	-	Off-Ramp Influence Area Speed (	(S <sub>R</sub> ), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		3673	Ramp Junction Speed (S), mi/h		54.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		33.6
Level of Service (LOS)		D			

		Freeway		Ramp	
Number of Lanes (N)		2		1	
Free-Flow Speed (FFS), mi/h	70.0		35.0		
Segment Length (L) / Acceleration Length (LA)	1500		345		
Terrain Type		Level		Level	
Percent Grade, %		-		-	
Segment Type / Ramp Side		Freeway		Right	
Adjustment Factors					
Driver Population		Balanced Mix		Balanced	Mix
Weather Type		Non-Severe Weather		Non-Seve	ere Weather
Incident Type		No Incident		-	
Final Speed Adjustment Factor (SAF)	0.950		0.950		
Final Capacity Adjustment Factor (CAF)	0.939		0.939		
Demand Adjustment Factor (DAF)	1.000		1.000		
Demand and Capacity			'		
Demand Volume (Vi), veh/h	3163		1054		
Peak Hour Factor (PHF)		0.98		0.94	
Total Trucks, %		4.00		1.00	
Single-Unit Trucks (SUT), %		-		-	
Tractor-Trailers (TT), %		-		-	
Heavy Vehicle Adjustment Factor (fhv)		0.962		0.990	
Flow Rate (vi), pc/h		3355		1133	
Capacity (c), pc/h		4413		1878	
Volume-to-Capacity Ratio (v/c)		1.02		0.60	
Speed and Density					
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influe	ence Area (D	R), pc/mi/ln	-
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)			-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa)	), pc/h/ln		-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Ar	rea Speed (S	R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway S	Speed (So), n	ni/h	-
Flow in Lanes 1 and 2 (v12), pc/h	3355	Ramp Junction Speed	(S), mi/h		-
Flow Entering Ramp-Infl. Area (VR12), pc/h	4488	Average Density (D), p	c/mi/ln		-
Level of Service (LOS)	F				

HCS7 Freeway Merge Report

CM+911 PM US 101 On Ramp @ SR 46W - NB (#2)

Date

Analysis Year

Time Period Analyzed

PM

**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

Project Description

	HCS7 Basic F	reeway Report				
Project Information						
Analyst	сстс	Date				
Agency		Analysis Year				
Jurisdiction		Time Period Analyzed	PM			
Project Description	CM+911 PM US 101 Mainli	ne north of SR 46W - NB (#3)				
Geometric Data						
Number of Lanes (N), In	2	Terrain Type	Level			
Segment Length (L), ft	-	Percent Grade, %	-			
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-			
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33			
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3			
Right-Side Lateral Clearance, ft	10					
Adjustment Factors						
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950			
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939			
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000			
Demand and Capacity						
Demand Volume (V), veh/h	4217	Heavy Vehicle Adjustment Factor (fHV)	0.962			
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>p</sub> ), pc/h/ln	2236			
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377			
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232			
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00			
Passenger Car Equivalent (E <sub>T</sub> )	2.000					
Speed and Density						
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	-			
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	-			
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	F			
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7					

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3 - CM+911 PM US 101 mainline north of SR 46W - NB.xuf

		HCS7 Freeway	Diverge Report			
Project Information				_	_	
	CCTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
	CM+911 P	M US 101 Off Ramp @ 5	· ·			
Geometric Data			-Fr5 11- (11)			
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration	Length (Lo	), ft	1500	195		
Terrain Type			Rolling	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			-			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	ere Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)			0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity						
Demand Volume (Vi), veh/h			4217	1704		
Peak Hour Factor (PHF)			0.98	0.98		
Total Trucks, %			4.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (f	HV)		0.926	0.990		
Flow Rate (vi), pc/h			4647	1756		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			1.05	0.94		
Speed and Density						
Upstream Equilibrium Distance (LEG	), ft	-	Density in Ramp Influence Are	a (D <sub>R</sub> ), pc/mi/ln	-	
Distance to Upstream Ramp (Lur), ft -		Speed Index (Ds)		-		
Downstream Equilibrium Distance (	(LEQ), ft	-	Flow Outer Lanes (voa), pc/h/lr	1	-	
Distance to Downstream Ramp (Loc	own), ft	-	Off-Ramp Influence Area Spee	d (S <sub>R</sub> ), mi/h	-	
Prop. Freeway Vehicles in Lane 1 ar	nd 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S	o), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		4647	Ramp Junction Speed (S), mi/h	1	-	
Flow Entering Ramp-Infl. Area (VR12	), pc/h	-	Average Density (D), pc/mi/ln		-	
Level of Service (LOS)		F				

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4 - CM+911 PM US 101 Off Ramp at Spring - NB.xuf

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	ŀ	HCS7 Freeway	Diverge Report		
Project Information		<u> </u>			
Analyst C		Date	I		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
	M+911 PI	M US 101 Off Ramp @		1	
Geometric Data		41 03 101 011 tamp @	1 430 100103 110 (#3)		
Ocometric Buttu			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration L	enath (LD)	ı, ft	1500	270	
Terrain Type		, -	Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors				1 3 .	
Driver Population			Balanced Mix	Balanced I	Mix
Weather Type		Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			2513	734	
Peak Hour Factor (PHF)			0.98	0.95	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fire	v)		0.962	0.990	
Flow Rate (vi), pc/h			2666	780	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.60	0.42	
Speed and Density					
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence Area (	Dr), pc/mi/ln	24.7
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.522
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (voa), pc/h/ln		-
Distance to Downstream Ramp (LDOV	wn), ft	-	Off-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	53.7
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2666	Ramp Junction Speed (S), mi/h		53.7
Flow Entering Ramp-Infl. Area (VR12),	pc/h	-	Average Density (D), pc/mi/ln		24.8
Level of Service (LOS)		С			

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D <sub>R</sub> ), pc/mi/ln	24.7		Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/lr	n 21.3
Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ds)	0.522		Distance to Upstream Ramp (Lup), ft	-	Speed Index (Ms)	0.336
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln	-		Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (voa), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h	53.7		Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (So), mi/h	-		Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (So), mi/h	-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	2666	Ramp Junction Speed (S), mi/h	53.7		Flow in Lanes 1 and 2 (v12), pc/h	1887	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (VR12), pc/h	-	Average Density (D), pc/mi/ln	24.8		Flow Entering Ramp-Infl. Area (VR12), pc/h	2376	Average Density (D), pc/mi/ln	20.4
Level of Service (LOS)	С				Level of Service (LOS)	С		
Copyright © 2019 University of Florida. All Rights Reserve		vays Version 7.4 Ger Ramp at Paso Robles - NB.xuf	nerated: 2/5/2019 4:44:52 PN	i	Copyright © 2019 University of Florida. All Rights Reserve		vays Version 7.4 Ge Ramp at Paso Robles - NB.xuf	enerated: 2/5/2019 4:52:09 PN

		HCS7 Freewa	y Merge Report		
Project Information					
-	CTC		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description C	M+911 P	M US 101 On Ramp @	Paso Robles - NB (#6)		
Geometric Data					
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	400	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			<u>'</u>		
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type		No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h			1779	465	
Peak Hour Factor (PHF)			0.98	0.96	
Total Trucks, %			4.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fer	v)		0.962	0.990	
Flow Rate (vi), pc/h			1887	489	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)		0.54	0.26		
Speed and Density					
Upstream Equilibrium Distance (LEQ),	ft	-	Density in Ramp Influence Area	(Dr), pc/mi/ln	21.3
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.336
Downstream Equilibrium Distance (L	EQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (LDOW	vn), ft	-	On-Ramp Influence Area Speed	d (S <sub>R</sub> ), mi/h	58.3
Prop. Freeway Vehicles in Lane 1 and	1 2 (Рғм)	1.000	Outer Lanes Freeway Speed (Sc	), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		1887	Ramp Junction Speed (S), mi/h		58.3
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2376	Average Density (D), pc/mi/ln		20.4
Level of Comics (ICC)					

HCS7 Basic Freeway Report									
Project Information									
Analyst	сстс	Date							
Agency		Analysis Year							
Jurisdiction		Time Period Analyzed	PM						
Project Description CM+911 PM US 101 Mainline south of SR 46E - NB (#7)									
Geometric Data									
Number of Lanes (N), In	2	Terrain Type	Level						
Segment Length (L), ft	-	Percent Grade, %	-						
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-						
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33						
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3						
Right-Side Lateral Clearance, ft	10								
Adjustment Factors									
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950						
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939						
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000						
Demand and Capacity									
Demand Volume (V), veh/h	2244	Heavy Vehicle Adjustment Factor (fHV)	0.962						
Peak Hour Factor (PHF)	0.98	Flow Rate (v <sub>P</sub> ), pc/h/ln	1190						
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2377						
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232						
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53						
Passenger Car Equivalent (E <sub>T</sub> )	2.000								
Speed and Density									
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7						
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.6						
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В						
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7								
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		HCS7 Freeway	Diverge Report			
Project Information						
	CCTC		l B-t-			
,	.CIC		Date			
Agency			Analysis Year	2014		
Jurisdiction	- A - O - A - D	A 110 404 0 0 0	Time Period Analyzed	PM		
<u> </u>	.M+911 P	M US 101 Off Ramp @	SK 46E - NB (#8)			
Geometric Data			-			
N. J. Cl. (All)			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Deceleration L	ength (Lo	), ft	1500	225		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors			I			
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type		Non-Severe Weather	Non-Seve	re Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			2244	1239		
Peak Hour Factor (PHF)			0.98	0.96	0.96	
Total Trucks, %			4.00	3.00	3.00	
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	iv)		0.962	0.971		
Flow Rate (vi), pc/h			2380	1329		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.54	0.71		
Speed and Density						
Upstream Equilibrium Distance (LEQ)	, ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	22.7	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.571	
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln		-		
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area Speed	I (S <sub>R</sub> ), mi/h	52.5	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So	), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		2380	Ramp Junction Speed (S), mi/h		52.5	
Flow Entering Ramp-Infl. Area (VR12),	, pc/h	-	Average Density (D), pc/mi/ln		22.7	
Level of Service (LOS)		С				
,						

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8 - CM+911 PM US 101 Off Ramp at SR 46E - NB.xuf

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Project Information						
Analyst	CTC		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description CI	M+911 PM L	JS 101 On Ram	np @ SR 46E - NB (#9)			
Geometric Data						
			Freeway	Ram	р	
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La), ft		1500	405		
Terrain Type			Level	Leve	I	
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Righ	t	
Adjustment Factors						
Driver Population			Balanced Mix	Balar	nced	Mix
Weather Type			Non-Severe Weather	Non-	Non-Severe Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SAF)		0.950	0.950	)		
Final Capacity Adjustment Factor (CAF)		0.939	0.939	9		
Demand Adjustment Factor (DAF)		1.000	1.000	)		
Demand and Capacity						
Demand Volume (Vi), veh/h			1005	339		
Peak Hour Factor (PHF)			0.94	0.94	0.94	
Total Trucks, %			12.00	12.00	12.00	
Single-Unit Trucks (SUT), %			-	-	-	
Tractor-Trailers (TT), %			-	-	-	
Heavy Vehicle Adjustment Factor (fev	r)		0.893	0.893	0.893	
Flow Rate (vi), pc/h			1197	404		
Capacity (c), pc/h			4413	1878	3	
Volume-to-Capacity Ratio (v/c)			0.36	0.22	0.22	
Speed and Density						
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp Influ	ence Area (DR), pc/i	mi/ln	15.3
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ms)			0.313
Downstream Equilibrium Distance (La	:Q), ft -		Flow Outer Lanes (VOA	), pc/h/ln		-
Distance to Downstream Ramp (Loow	/N), ft -		On-Ramp Influence A	rea Speed (S <sub>R</sub> ), mi/l	h	58.8
Prop. Freeway Vehicles in Lane 1 and	2 (P <sub>FM</sub> ) 1	.000	Outer Lanes Freeway	Speed (So), mi/h		-
Flow in Lanes 1 and 2 (v12), pc/h	1	197	Ramp Junction Speed	(S), mi/h		58.8
Flow Entering Ramp-Infl. Area (VR12),	pc/h 1	601	Average Density (D), p	oc/mi/ln		13.6
Level of Service (LOS)	В					

	HCS7 Basic Fi	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	CM+911 PM US 101 Mainli	ne north of SR 46E - NB (#10)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	71.3
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1344	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.893
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	800
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2377
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (Ετ)	2.000		
Speed and Density			
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	67.7
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	67.7		

Adjusted Free-Flow Speed (FFSadj), mi/h 67.7
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10 - CM+911 PM US 101 mainline north of SR 46E - NB.xuf Generated: 2/5/2019 4:36:28 PM

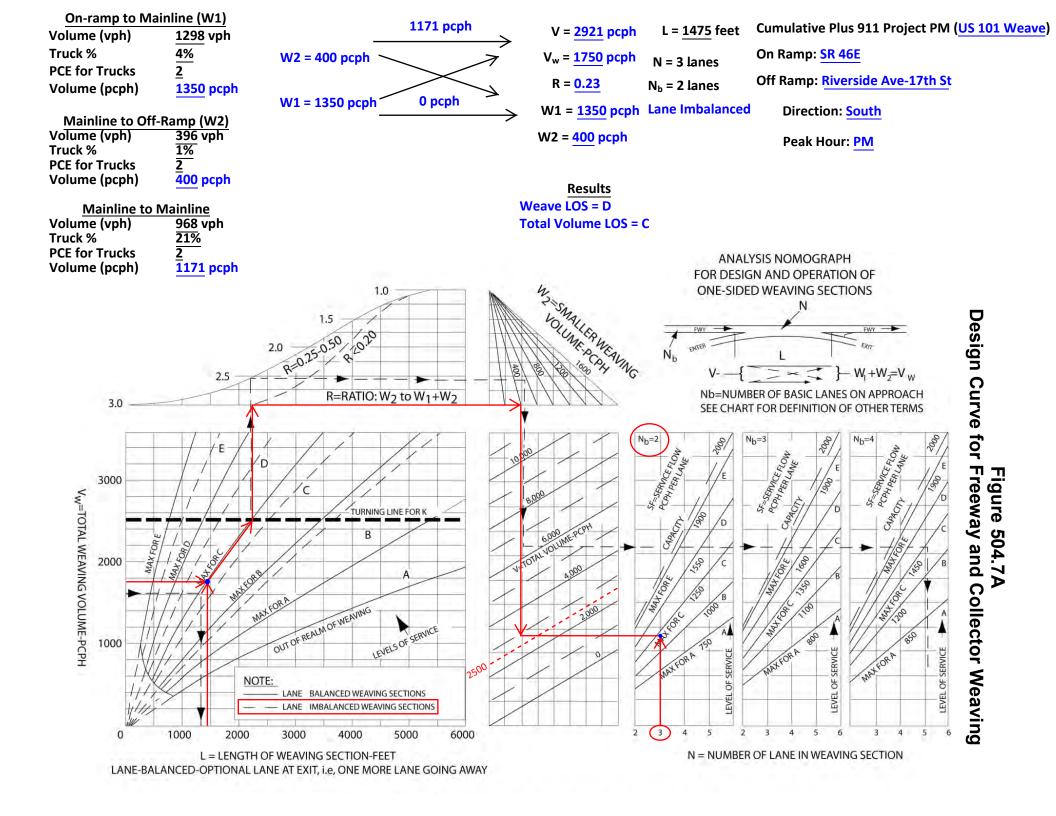
	11037 50310 11	reeway Report	
Project Information			
Analyst	ССТС	Date	
Agency		Analysis Year	
Jurisdiction		Time Period Analyzed	PM
Project Description	CM+911 PM US 101 Mainli	ne north of SR 46E - SB (#11)	
Geometric Data			
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume (V), veh/h	1813	Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1168
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2369
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (ET)	2.000		
Speed and Density			
Lane Width Adjustment (fLw)	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	В
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9		

		HCS7 F <u>reeway</u>	Diverge Report		
Project Information					
	CCTC		Date	Τ	
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
	^M±Q11 D	M US 101 Off Ramp @	· ·	1 101	
Geometric Data	ZIVITZITI	W 03 101 On Kamp @	3K 40L - 3D (#12)		
Geometric Data			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration I	enath (Lo	\ ft	1500	155	
Terrain Type	Length (LD	), it	Level	Level	
Percent Grade, %			Level	Level	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors			Treeway	Right	
Driver Population			Balanced Mix	Balanced	Miv
·		Non-Severe Weather		re Weather	
Weather Type Incident Type		No Incident	-	TC Weather	
Final Speed Adjustment Factor (SAF)		0.950	0.950		
Final Capacity Adjustment Factor (CAF)		0.939	0.939		
Demand Adjustment Factor (DAF)		1.000	1.000		
Demand and Capacity				1	
Demand Volume (Vi), veh/h			1813	449	
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			21.00	21.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor (fi	HV)		0.826	0.826	
Flow Rate (vi), pc/h	<u>'</u>		2335	578	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)			0.53	0.31	
Speed and Density			<u> </u>		
Upstream Equilibrium Distance (LEQ)	), ft	-	Density in Ramp Influence Area	(D <sub>R</sub> ), pc/mi/ln	22.9
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ds)		0.503
Downstream Equilibrium Distance (I	LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln		-
Distance to Downstream Ramp (Loo	wn), ft	-	Off-Ramp Influence Area Speed	(S <sub>R</sub> ), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 an	d 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (So),	mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h		2335	Ramp Junction Speed (S), mi/h		54.2
Flow Entering Ramp-Infl. Area (VR12)	, pc/h	-	Average Density (D), pc/mi/ln		21.5
Level of Service (LOS)		С			

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12 - CM+911 PM US 101 Off Ramp at SR 46E - SB.xuf

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	HCS7 Basic Freeway Report								
Project Information									
Analyst	ССТС	Date							
Agency		Analysis Year							
Jurisdiction		Time Period Analyzed	PM						
Project Description CM+911 PM US 101 Mainline south of SR 46E - SB (#15)									
Geometric Data									
Number of Lanes (N), In	2	Terrain Type	Level						
Segment Length (L), ft	-	Percent Grade, %	-						
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-						
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67						
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4						
Right-Side Lateral Clearance, ft	10								
Adjustment Factors									
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950						
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939						
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000						
Demand and Capacity									
Demand Volume (V), veh/h	2266	Heavy Vehicle Adjustment Factor (fHV)	0.943						
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	1278						
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369						
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224						
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57						
Passenger Car Equivalent (E <sub>T</sub> )	2.000								
Speed and Density									
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	66.7						
Right-Side Lateral Clearance Adj. (fr.LC)	0.0	Density (D), pc/mi/ln	19.2						
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	С						
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	66.9	vays Version 7.4	Generated: 2/5/2019 4:37:52 PM						

erved. HCS711M Freeways Version 7.4 15 - CM+911 PM US 101 mainline south of SR 46E - SB.xuf

		HCS/Freewa	y Merge Report			
Project Information						
Analyst C	СТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description C	M+911 PI	M US 101 On Ramp @	Riverside-17th - SB (#16)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration Le	ength (La)	, ft	1500	300		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)		0.939	0.939			
Demand Adjustment Factor (DAF)		1.000	1.000			
Demand and Capacity			-	'		
Demand Volume (Vi), veh/h			2266	268		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			6.00	1.00	1.00	
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fire	v)		0.943	0.990		
Flow Rate (vi), pc/h			2556	288		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.64	0.15		
Speed and Density			·	'		
Upstream Equilibrium Distance (LEQ),	, ft	-	Density in Ramp Influence	Area (D <sub>R</sub> ), pc/mi/ln	25.7	
Distance to Upstream Ramp (Lup), ft		-	Speed Index (Ms)		0.368	
Downstream Equilibrium Distance (L	.EQ), ft	-	Flow Outer Lanes (VOA), pc,	/h/ln	-	
Distance to Downstream Ramp (Look	wn), ft	-	On-Ramp Influence Area S	speed (S <sub>R</sub> ), mi/h	57.5	
Prop. Freeway Vehicles in Lane 1 and	d 2 (Рғм)	1.000	Outer Lanes Freeway Spee	d (So), mi/h	-	
Flow in Lanes 1 and 2 (v12), pc/h		2556	Ramp Junction Speed (S),	mi/h	57.5	
Flow Entering Ramp-Infl. Area (VR12),	pc/h	2844	Average Density (D), pc/m	i/ln	24.7	
Level of Service (LOS)		С				

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		HCS7 Freeway	Diverge Report		
Project Information					
Analyst	ССТС		Date		
Agency			Analysis Year		
Jurisdiction			Time Period Analyzed	PM	
Project Description	CM+911 P	M US 101 Off Ramp @ F	Riverside/Pine - SB (#17)		
Geometric Data			,		
			Freeway	Ramp	
Number of Lanes (N)			2	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0	
Segment Length (L) / Deceleration	n Length (Lo	), ft	1500	190	
Terrain Type			Level	Level	
Percent Grade, %			-	-	
Segment Type / Ramp Side			Freeway	Right	
Adjustment Factors					
Driver Population			Balanced Mix	Balanced	Mix
Weather Type			Non-Severe Weather	Non-Seve	re Weather
Incident Type			No Incident	-	
Final Speed Adjustment Factor (SA	AF)		0.950	0.950	
Final Capacity Adjustment Factor (CAF)			0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000	
Demand and Capacity					
Demand Volume (Vi), veh/h		2534	335		
Peak Hour Factor (PHF)			0.94	0.94	
Total Trucks, %			6.00	1.00	
Single-Unit Trucks (SUT), %			-	-	
Tractor-Trailers (TT), %			-	-	
Heavy Vehicle Adjustment Factor	(f <sub>HV</sub> )		0.943	0.990	
Flow Rate (vi), pc/h			2859	360	
Capacity (c), pc/h			4413	1878	
Volume-to-Capacity Ratio (v/c)		0.65	0.19		
Speed and Density					
Upstream Equilibrium Distance (Li	(Q), ft	-	Density in Ramp Influence Are	a (DR), pc/mi/ln	27.1
Distance to Upstream Ramp (Lup), ft -		Speed Index (Ds) 0.484		0.484	
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/lr	ı	-	
Distance to Downstream Ramp (L	DOWN), ft	-	Off-Ramp Influence Area Spee	ed (S <sub>R</sub> ), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 a	and 2 (PFD)	1.000	Outer Lanes Freeway Speed (So), mi/h -		-
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		2859	Ramp Junction Speed (S), mi/h 54.6		54.6
Flow Entering Ramp-Infl. Area (vs.	12), pc/h	-	Average Density (D), pc/mi/ln		26.2
Level of Service (LOS)		С			

				1		
Project Description	CM+911 P	M US 101 On Ramp @ S	pring - SB (#18)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1	1	
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration	Length (La)	, ft	1500	1330		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced	Mix	
Weather Type			Non-Severe Weather	Non-Seve	re Weather	
Incident Type			No Incident	-		
Final Speed Adjustment Factor (SA	AF)		0.950	0.950		
Final Capacity Adjustment Factor	(CAF)		0.939	0.939	0.939	
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h			2599	1185		
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			6.00	1.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor	(fнv)		0.943	0.990		
Flow Rate (vi), pc/h			2932	1273		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)			0.95	0.68		
Speed and Density						
Upstream Equilibrium Distance (La	eq), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln 29.4		29.4	
Distance to Upstream Ramp (Lup),	ft	-	Speed Index (Ms)		0.494	
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln	Outer Lanes (voa), pc/h/ln -			
Distance to Downstream Ramp (LDOWN), ft -		On-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h 54.4		54.4		
Prop. Freeway Vehicles in Lane 1 and 2 (PFM) 1.000		Outer Lanes Freeway Speed (So), mi/h -		-		
Flow in Lanes 1 and 2 (v12), pc/h		2932	Ramp Junction Speed (S), mi/h 54.4		54.4	
Flow Entering Ramp-Infl. Area (vR1	12), pc/h	4205	Average Density (D), pc/mi/ln		38.6	
Level of Service (LOS)		D				

HCS7 Freeway Merge Report

Date

Analysis Year

Time Period Analyzed

PM

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**Project Information** 

CCTC

Analyst

Agency

Jurisdiction

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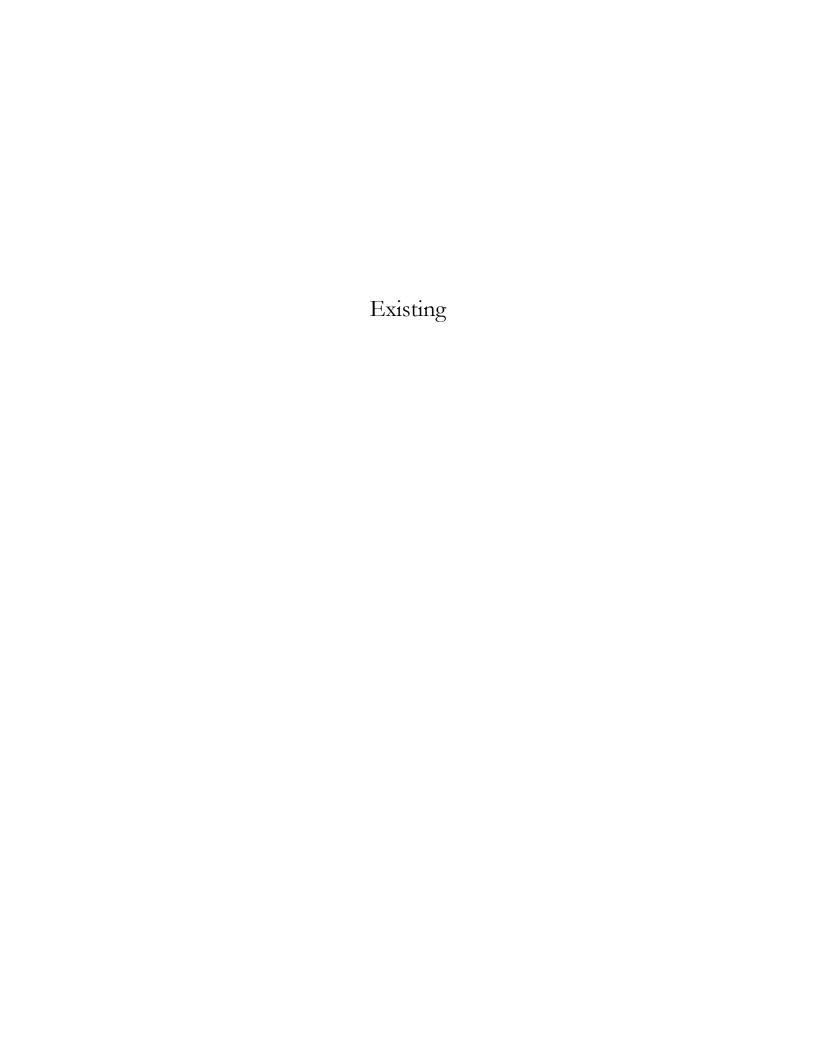
HCS7 Basic Freeway Report					
Project Information					
Analyst	сстс	Date			
Agency		Analysis Year			
Jurisdiction		Time Period Analyzed	PM		
Project Description	CM+911 PM US 101 Mainli	ne north of SR 46W - SB (#19)			
Geometric Data					
Number of Lanes (N), In	2	Terrain Type	Level		
Segment Length (L), ft	-	Percent Grade, %	-		
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-		
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67		
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.4		
Right-Side Lateral Clearance, ft	10				
Adjustment Factors					
Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950		
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.939		
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000		
Demand and Capacity					
Demand Volume (V), veh/h	3784	Heavy Vehicle Adjustment Factor (fHV)	0.943		
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>P</sub> ), pc/h/ln	2134		
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2369		
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (Cadj), pc/h/ln	2224		
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96		
Passenger Car Equivalent (E <sub>T</sub> )	2.000				
Speed and Density					
Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	52.3		
Right-Side Lateral Clearance Adj. (fr.c)	0.0	Density (D), pc/mi/ln	40.8		
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E		
Adjusted Free-Flow Speed (FFSadj), mi/h	66.9				
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Project Information							
Analyst	СТС		Date				
Agency			Analysis Year				
Jurisdiction			Time Period Analy	zed	PM		
Project Description C	M+911 PM I	JS 101 Off Ram	np @ SR 46W - SB (#20)				
Geometric Data							
			Freeway		Ramp		
Number of Lanes (N)			2		1		
Free-Flow Speed (FFS), mi/h			70.0		35.0		
Segment Length (L) / Deceleration Le	ength (LD), ft		1500		210		
Terrain Type			Level		Level		
Percent Grade, %			-		-		
Segment Type / Ramp Side			Freeway		Right		
Adjustment Factors							
Driver Population			Balanced Mix		Balanced	Mix	
Weather Type			Non-Severe Wea	ther	Non-Seve	Non-Severe Weather	
Incident Type			No Incident		-	-	
Final Speed Adjustment Factor (SAF)			0.950		0.950		
Final Capacity Adjustment Factor (CAF)		0.939		0.939	0.939		
Demand Adjustment Factor (DAF)			1.000		1.000		
Demand and Capacity							
Demand Volume (Vi), veh/h			3784		726		
Peak Hour Factor (PHF)		0.94		0.94			
Total Trucks, %			6.00		3.00		
Single-Unit Trucks (SUT), %			-		-		
Tractor-Trailers (TT), %			-		-	-	
Heavy Vehicle Adjustment Factor (fet	v)		0.943		0.971		
Flow Rate (vi), pc/h			4269		795		
Capacity (c), pc/h			4413		1878		
Volume-to-Capacity Ratio (v/c)			0.97		0.42		
Speed and Density							
Upstream Equilibrium Distance (LEQ),	ft -		Density in Ramp	Influence Area	(D <sub>R</sub> ), pc/mi/ln	39.1	
Distance to Upstream Ramp (Lup), ft	-		Speed Index (Ds)			0.523	
Downstream Equilibrium Distance (L	EQ), ft -		Flow Outer Lane	(voa), pc/h/ln		-	
Distance to Downstream Ramp (LDOW	vn), ft -		Off-Ramp Influer	nce Area Speed	I (S <sub>R</sub> ), mi/h	53.7	
Prop. Freeway Vehicles in Lane 1 and	d 2 (P <sub>FD</sub> ) 1	.000	Outer Lanes Free	way Speed (So	), mi/h	-	
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h		269	Ramp Junction S	peed (S), mi/h		53.7	
Flow Entering Ramp-Infl. Area (VR12),	pc/h -		Average Density	(D), pc/mi/ln		39.7	
Level of Service (LOS)	E						

HCS7 Freeway Merge Report						
<b>Project Information</b>						
Analyst	ССТС		Date			
Agency			Analysis Year			
Jurisdiction			Time Period Analyzed	PM		
Project Description	CM+911 P	M US 101 On Ramp @ S	SR 46W - SB (#21)			
Geometric Data						
			Freeway	Ramp		
Number of Lanes (N)			2	1		
Free-Flow Speed (FFS), mi/h			70.0	35.0		
Segment Length (L) / Acceleration I	Length (La)	, ft	1500	315		
Terrain Type			Level	Level		
Percent Grade, %			-	-		
Segment Type / Ramp Side			Freeway	Right		
Adjustment Factors						
Driver Population			Balanced Mix	Balanced I	Mix	
Weather Type			Non-Severe Weather	Non-Severe Weather		
Incident Type		No Incident	-			
Final Speed Adjustment Factor (SAF)		0.950	0.950			
Final Capacity Adjustment Factor (CAF)			0.939	0.939		
Demand Adjustment Factor (DAF)			1.000	1.000		
Demand and Capacity						
Demand Volume (Vi), veh/h		3058	300			
Peak Hour Factor (PHF)			0.94	0.94		
Total Trucks, %			6.00	3.00		
Single-Unit Trucks (SUT), %			-	-		
Tractor-Trailers (TT), %			-	-		
Heavy Vehicle Adjustment Factor (fe	HV)		0.943	0.971		
Flow Rate (vi), pc/h			3450	329		
Capacity (c), pc/h			4413	1878		
Volume-to-Capacity Ratio (v/c)		0.86	0.18			
Speed and Density			<u>'</u>			
Upstream Equilibrium Distance (LEQ	), ft	-	Density in Ramp Influence Area (I	OR), pc/mi/ln	32.9	
Distance to Upstream Ramp (Lup), fl	t	-	Speed Index (Ms)		0.471	
Downstream Equilibrium Distance (LEQ), ft -		Flow Outer Lanes (VOA), pc/h/ln -		-		
Distance to Downstream Ramp (Loc	own), ft	-	On-Ramp Influence Area Speed (	S <sub>R</sub> ), mi/h	55.0	
Prop. Freeway Vehicles in Lane 1 an	d 2 (P <sub>FM</sub> )	1.000	Outer Lanes Freeway Speed (So), mi/h -		-	
Flow in Lanes 1 and 2 (v12), pc/h		3450	Ramp Junction Speed (S), mi/h 55.		55.0	
Flow Entering Ramp-Infl. Area (VR12)	), pc/h	3779	Average Density (D), pc/mi/ln 34.4		34.4	
Level of Service (LOS)		D				

Appendix D: Warrant Analysis Sheets





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Existing (AM)		

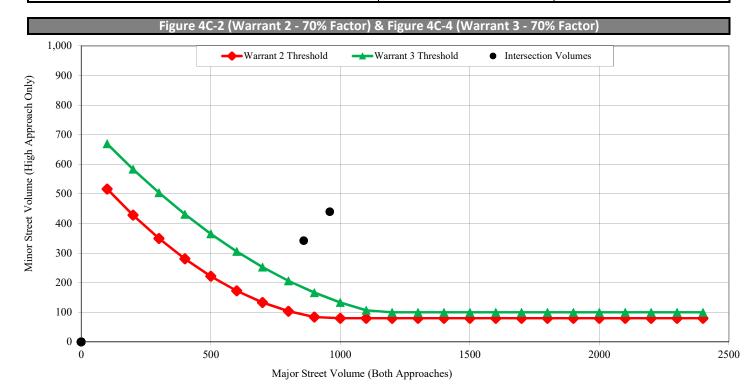
Intersection Information					
Major Street (N/S Road)	Golden Hill Rd	Minor Street (E/W Road)	Union Rd		
Analyzed with	2 or more approach lanes	Analyzed with	2 or more approach lanes		
Total Approach Volume	1819 vehicles	Total Approach Volume	1560 vehicles		
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings		
Right turn reduction of	0 percent applied	Right turn reduction of	100 percent applied		

Warrant 1, Eight Hour Vehicular Volume					
Condition A Condition B Condition A+B*					
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied		
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)		
Criteria - Major Street (veh/hr)	420	630	336 (Cond. A) & 504 (Cond. B)		
Criteria - Minor Street (veh/hr)	140	70	112 (Cond. A) & 56 (Cond. B)		

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume					
Condition Satisfied?	Not Satisfied				
Required values reached for	2 hours				
Criteria	See Figure Below				

Warrant 3, Peak Hour Vehicular Volume					
	Condition A	Condition B			
Condition Satisfied?	Satisfied	Satisfied			
Required values reached for	1559 total, 408 minor, 7.1 delay	2 hours			
Criteria - Total Approach Volume (veh in one hour)	800				
Criteria - Minor Street High Side Volume (veh in one hour)	150	See Figure Below			
Criteria - Minor Street High Side Delay (veh-hrs)	5				





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP			
Project/File #	2019_114			
Scenario	Existing (AM)			

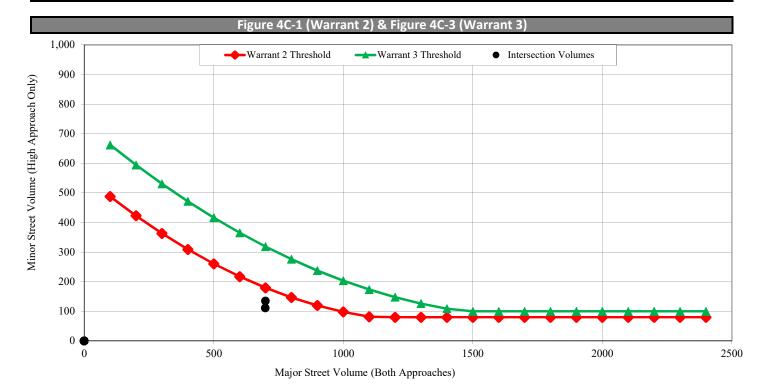
Intersection Information					
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd		
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane		
Total Approach Volume	1399 vehicles	Total Approach Volume	406 vehicles		
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings		
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied		

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	0 hours	1 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	0 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	952 total, 135 minor, 1.5 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Existing Plus 554 Unit Project (AM)	

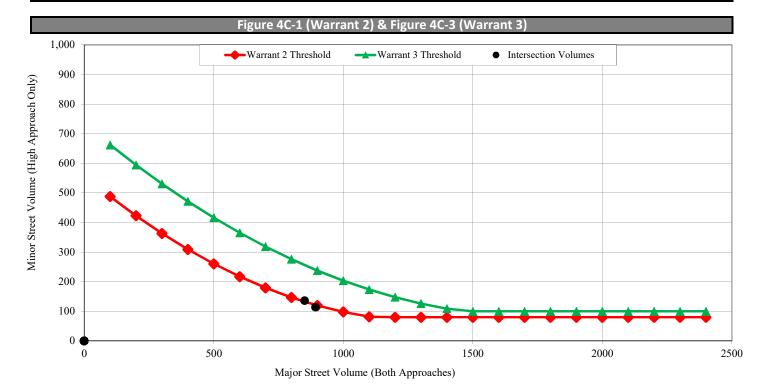
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1744 vehicles	Total Approach Volume	410 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	2 hours	1 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1104 total, 136 minor, 3.4 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Existing Plus 674 Unit Project (AM)	

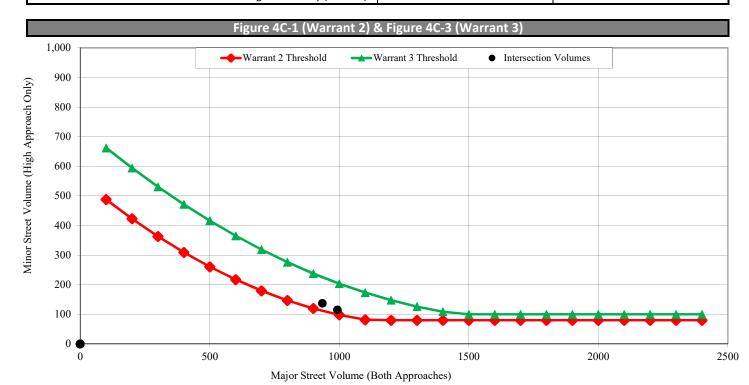
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1928 vehicles	Total Approach Volume	412 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	2 hours	1 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Not Satisfied
Required values reached for	1189 total, 137 minor, 5.5 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Existing Plus 674 Unit Project (PM)

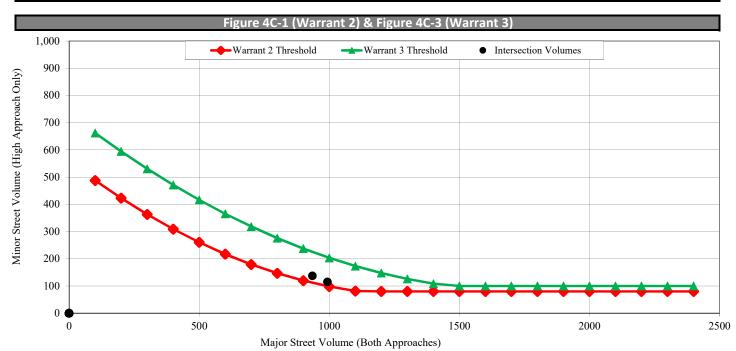
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1928 vehicles	Total Approach Volume	412 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	2 hours	1 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1151 total, 115 minor, 1.2 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Existing Plus 911 Unit Project (PM)

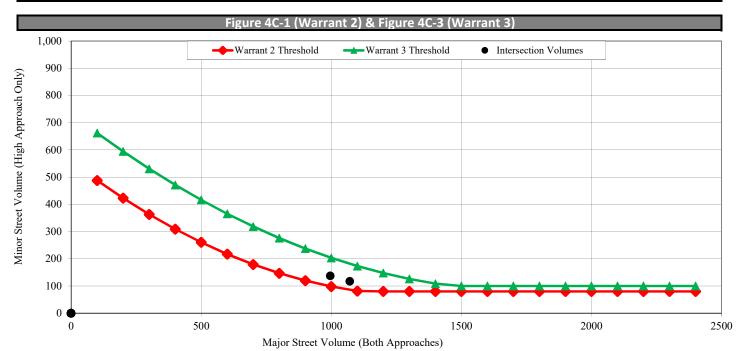
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2067 vehicles	Total Approach Volume	414 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	2 hours	1 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1231 total, 117 minor, 1.5 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Existing Plus 911 Unit Project (AM)

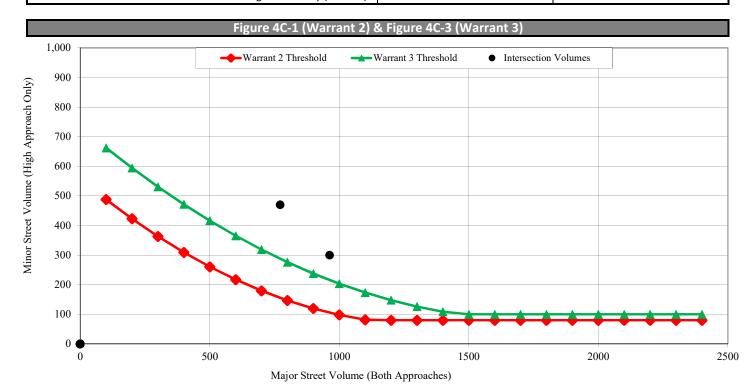
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Meadowlark Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1735 vehicles	Total Approach Volume	825 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume				
Condition Satisfied?	Not Satisfied			
Required values reached for	2 hours			
Criteria	See Figure Below			

Warrant 3, Peak Hour Vehicular Volume				
	Condition A	Condition B		
Condition Satisfied?	Satisfied	Satisfied		
Required values reached for	1278 total, 470 minor, 8.2 delay	2 hours		
Criteria - Total Approach Volume (veh in one hour)	800			
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below		
Criteria - Minor Street High Side Delay (veh-hrs)	4			





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Existing Plus 674 Unit Project (AM)		

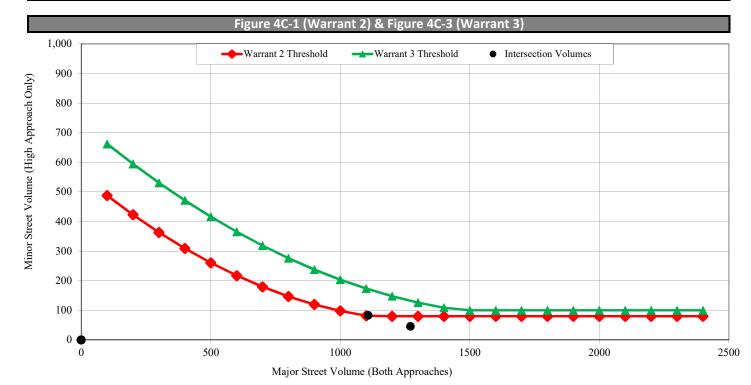
Intersection Information				
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln	
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane	
Total Approach Volume	2379 vehicles	Total Approach Volume	129 vehicles	
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings	
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied	

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	0 hours	1 hour	0 (Cond. A) & 1 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	1 hour		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume				
	Condition A	Condition B		
Condition Satisfied?	Not Satisfied	Not Satisfied		
Required values reached for	1191 total, 83 minor, 1.2 delay	0 hours		
Criteria - Total Approach Volume (veh in one hour)	650			
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below		
Criteria - Minor Street High Side Delay (veh-hrs)	4			





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Existing Plus 911 Unit Project (AM)		

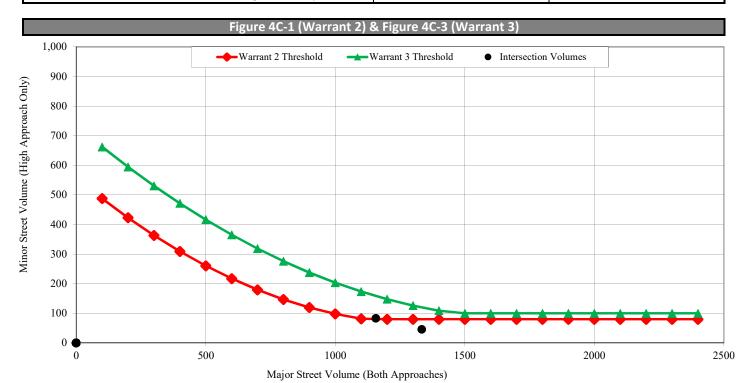
Intersection Information				
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln	
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane	
Total Approach Volume	2491 vehicles	Total Approach Volume	129 vehicles	
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings	
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied	

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	0 hours	1 hour	0 (Cond. A) & 1 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	1 hour		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1240 total, 83 minor, 1.4 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Existing Plus 674 Unit Project (PM)	

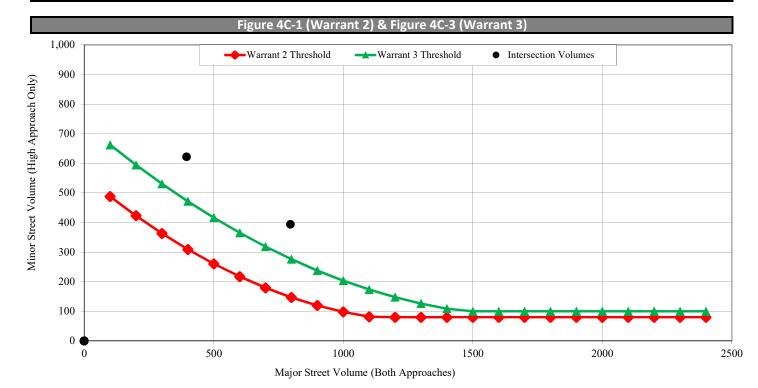
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Charolais Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1191 vehicles	Total Approach Volume	1016 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

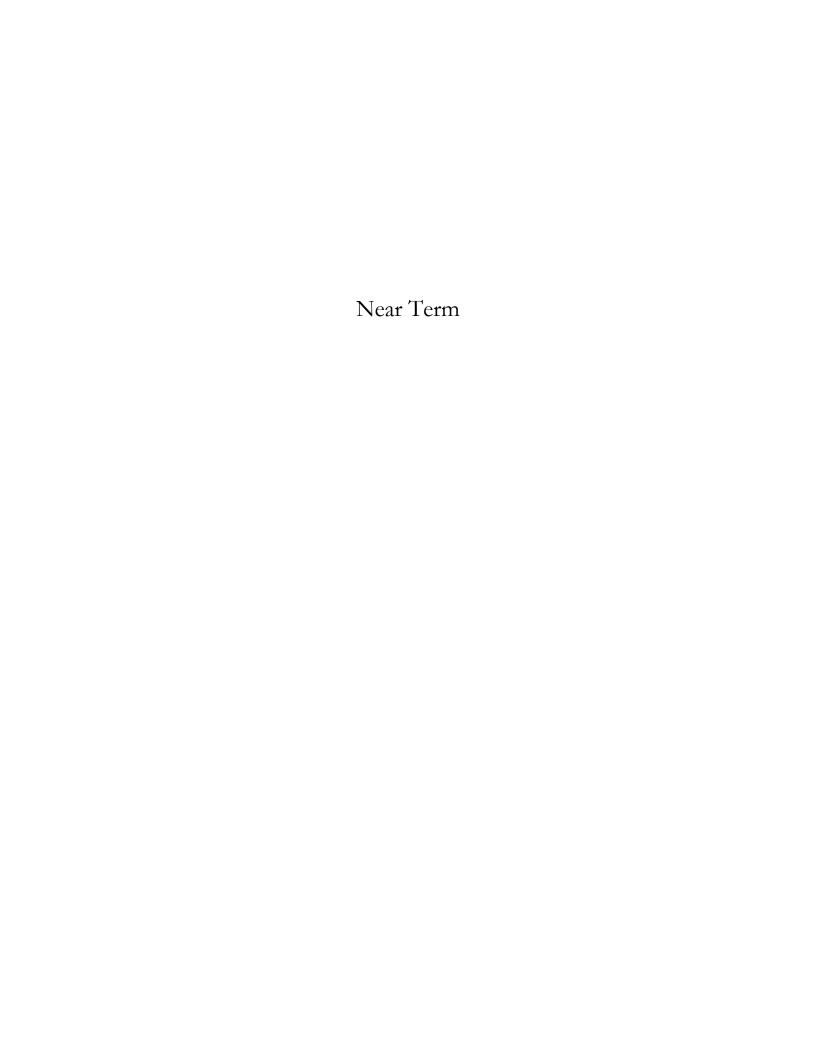
Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	1 hour	1 hour	1 (Cond. A) & 1 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1190 total, 394 minor, 6.4 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	







### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Near Term (AM)

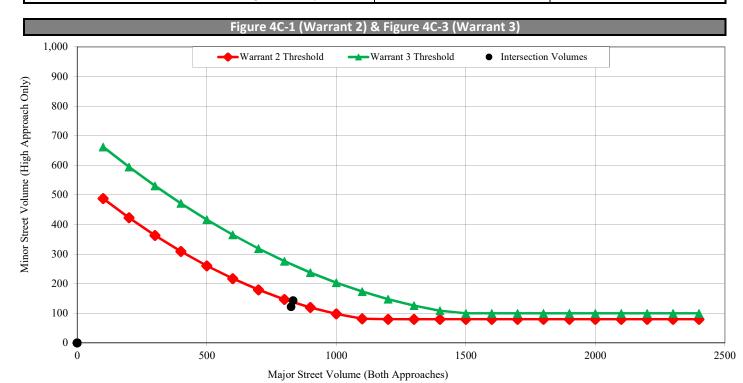
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1660 vehicles	Total Approach Volume	429 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	0 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	1 hour		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1098 total, 143 minor, 2 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 554 Unit Project (AM)		

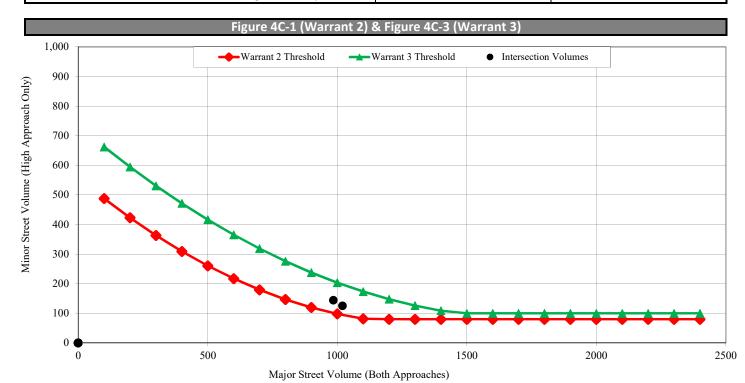
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2005 vehicles	Total Approach Volume	433 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	0 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Not Satisfied
Required values reached for	1250 total, 144 minor, 4 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 674 Unit Project (AM)		

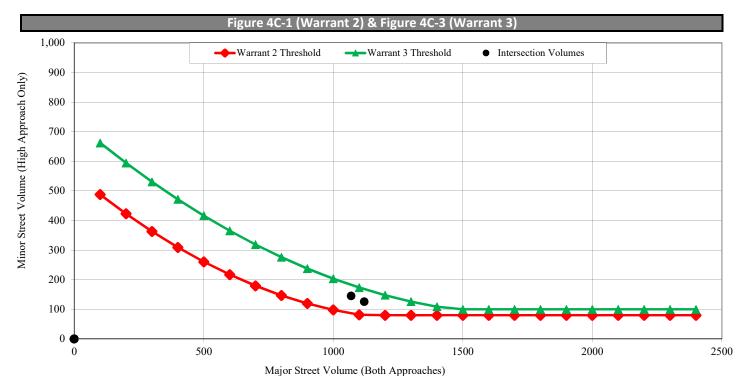
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2189 vehicles	Total Approach Volume	435 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	0 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Satisfied	Not Satisfied	
Required values reached for	1335 total, 145 minor, 6.4 delay	0 hours	
Criteria - Total Approach Volume (veh in one hour)	800		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 674 Unit Project (PM)		

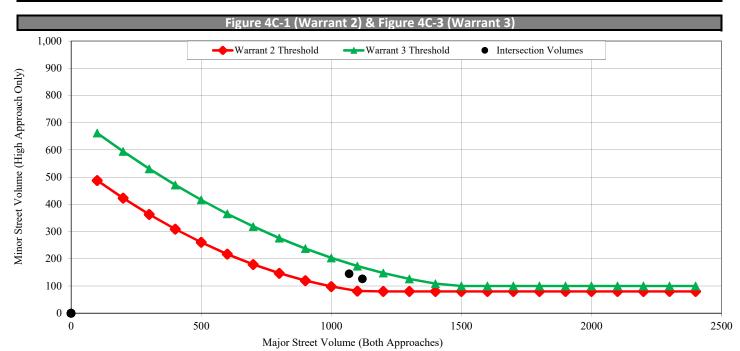
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2189 vehicles	Total Approach Volume	435 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	2 hours	2 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Not Satisfied	Not Satisfied	
Required values reached for	1289 total, 126 minor, 2.1 delay	0 hours	
Criteria - Total Approach Volume (veh in one hour)	800		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 911 Unit Project (PM)		

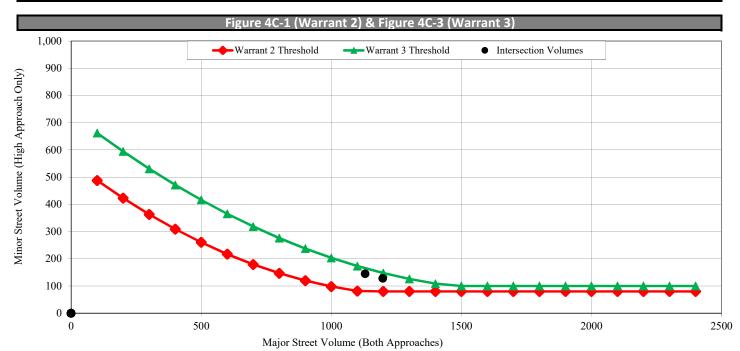
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2328 vehicles	Total Approach Volume	437 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	2 hours	2 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Not Satisfied	Not Satisfied	
Required values reached for	1369 total, 128 minor, 2.9 delay	0 hours	
Criteria - Total Approach Volume (veh in one hour)	800		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 554 Unit Project (AM)		

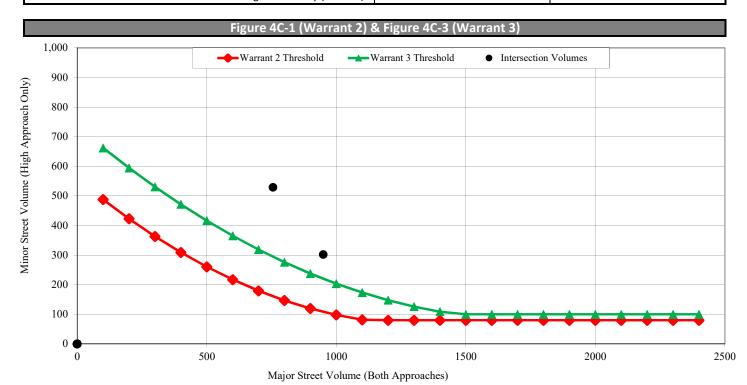
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Meadowlark Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1706 vehicles	Total Approach Volume	882 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1320 total, 529 minor, 9.3 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 674 Unit Project (AM)		

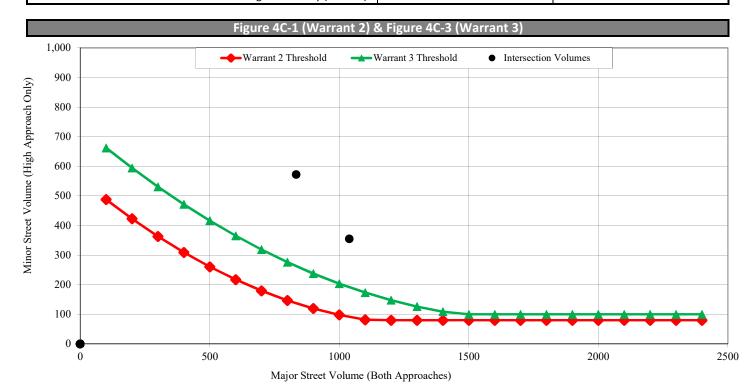
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Meadowlark Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1873 vehicles	Total Approach Volume	980 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1442 total, 572 minor, 15.1 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Near Term Plus 911 Unit Project (PM)		

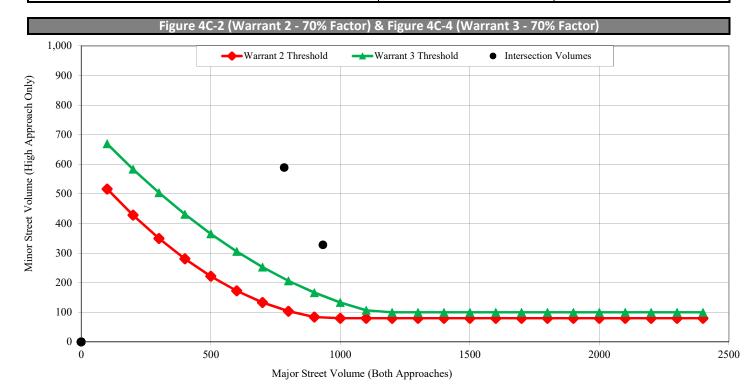
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Charolais Rd
Analyzed with	2 or more approach lanes	Analyzed with	2 or more approach lanes
Total Approach Volume	1717 vehicles	Total Approach Volume	917 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	420	630	336 (Cond. A) & 504 (Cond. B)
Criteria - Minor Street (veh/hr)	140	70	112 (Cond. A) & 56 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1373 total, 589 minor, 6.7 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	150	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	5	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Near Term (AM)

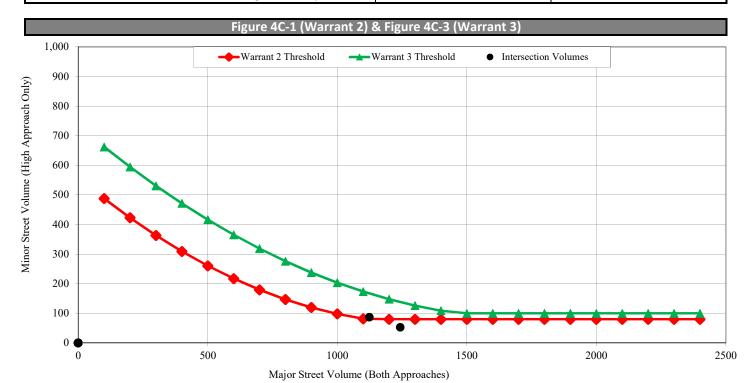
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2367 vehicles	Total Approach Volume	140 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	1 hour	0 (Cond. A) & 1 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1211 total, 87 minor, 0.9 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Near Term Plus 674 Unit Project (AM)	

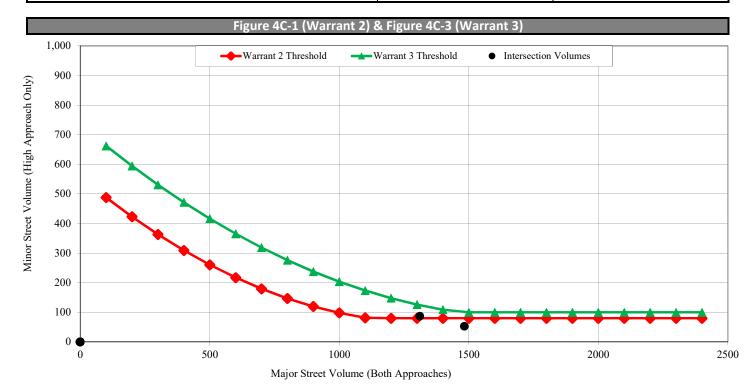
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2794 vehicles	Total Approach Volume	140 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	1 hour	0 (Cond. A) & 1 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1398 total, 87 minor, 1.5 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Near Term Plus 911 Unit Project (AM)

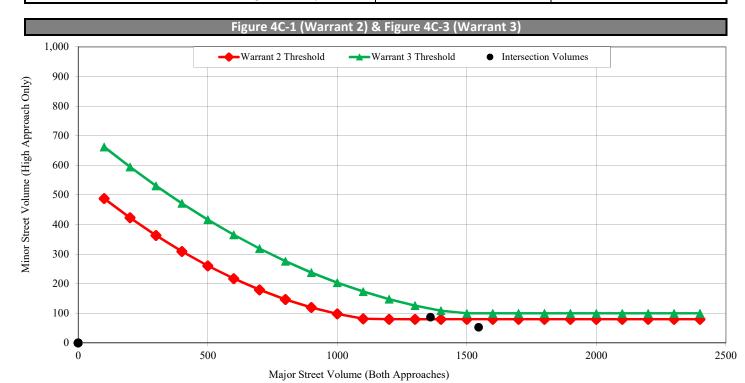
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2906 vehicles	Total Approach Volume	140 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	1 hour	0 (Cond. A) & 1 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1447 total, 87 minor, 1.7 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Near Term (PM)

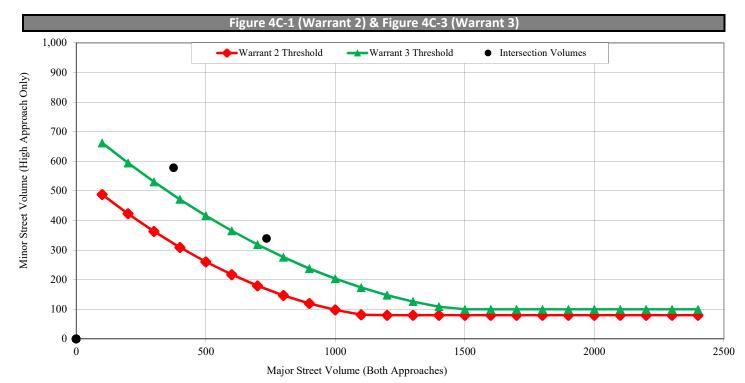
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Charolais Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1111 vehicles	Total Approach Volume	917 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	1 hour	0 hours	1 (Cond. A) & 1 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	2 hours	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1074 total, 339 minor, 8.1 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	







### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP
Project/File #	2019_114
Scenario	Cumulative (AM)

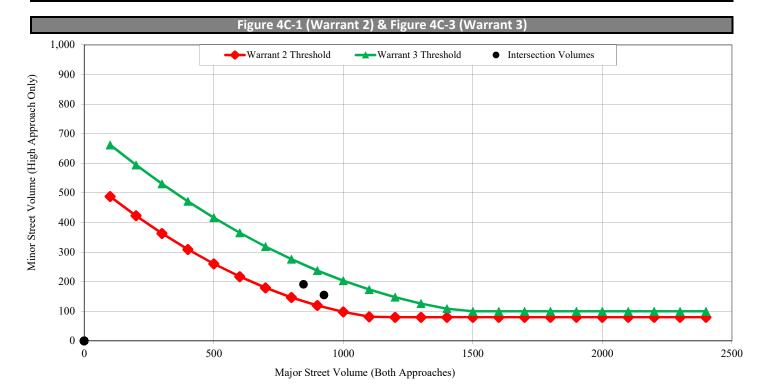
Intersection Information				
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd	
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane	
Total Approach Volume	1773 vehicles	Total Approach Volume	542 vehicles	
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings	
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied	

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Satisfied	Not Satisfied	
Required values reached for	1172 total, 191 minor, 5.5 delay	0 hours	
Criteria - Total Approach Volume (veh in one hour)	800		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative (PM)	

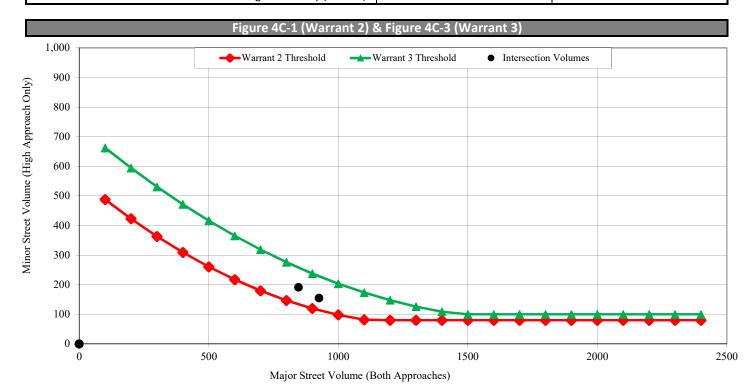
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1773 vehicles	Total Approach Volume	542 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Not Satisfied	Not Satisfied	
Required values reached for	1143 total, 155 minor, 1.8 delay	0 hours	
Criteria - Total Approach Volume (veh in one hour)	800		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





#### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Cumulative Plus 674 Unit Project (PM)		

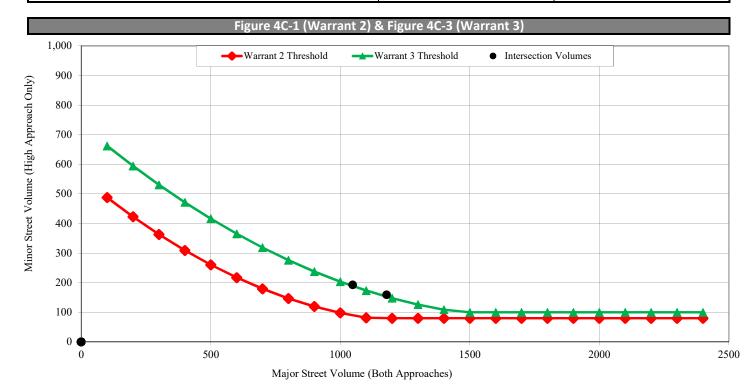
Intersection Information				
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Stoney Creek Rd	
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane	
Total Approach Volume	2227 vehicles	Total Approach Volume	548 vehicles	
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings	
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied	

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied? Not Satisfied			
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1400 total, 159 minor, 5.3 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative Plus 554 Unit Project (AM)	

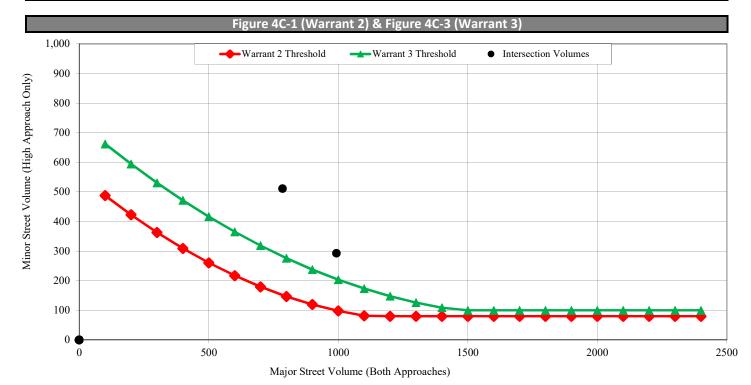
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Meadowlark Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1778 vehicles	Total Approach Volume	878 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied? Not Satisfied			
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Satisfied	Satisfied	
Required values reached for	1337 total, 511 minor, 5.1 delay	2 hours	
Criteria - Total Approach Volume (veh in one hour)	800		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative Plus 674 Unit Project (AM)	

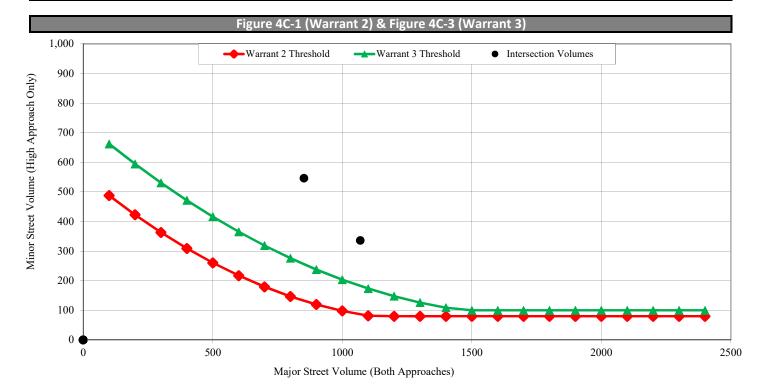
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Meadowlark Rd
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	1922 vehicles	Total Approach Volume	958 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)	
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied? Not Satisfied			
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Satisfied	Satisfied
Required values reached for	1440 total, 546 minor, 12.6 delay	2 hours
Criteria - Total Approach Volume (veh in one hour)	800	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP		
Project/File #	2019_114		
Scenario	Cumulative Plus 911 Unit Project (PM)		

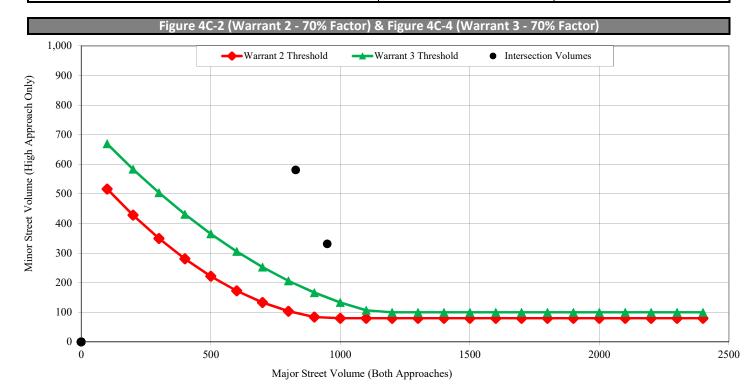
Intersection Information			
Major Street (N/S Road)	Creston Rd	Minor Street (E/W Road)	Charolais Rd
Analyzed with	2 or more approach lanes	Analyzed with	2 or more approach lanes
Total Approach Volume	1778 vehicles	Total Approach Volume	912 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	2 hours	2 hours	2 (Cond. A) & 2 (Cond. B)	
Criteria - Major Street (veh/hr)	420	630	336 (Cond. A) & 504 (Cond. B)	
Criteria - Minor Street (veh/hr)	140	70	112 (Cond. A) & 56 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	2 hours		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Satisfied	Satisfied	
Required values reached for	1409 total, 581 minor, 6.7 delay	2 hours	
Criteria - Total Approach Volume (veh in one hour)	650		
Criteria - Minor Street High Side Volume (veh in one hour)	150	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	5		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative (PM)	

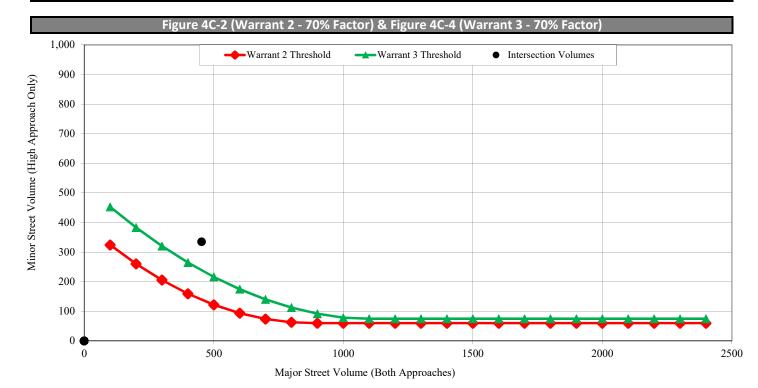
Intersection Information			
Major Street (N/S Road)	Riverside	Minor Street (E/W Road)	US 101 SB Ramp
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	453 vehicles	Total Approach Volume	335 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume				
Condition A Condition B Condition A+B*				
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied	
Required values reached for	1 hour	0 hours	1 (Cond. A) & 1 (Cond. B)	
Criteria - Major Street (veh/hr)	350	525	280 (Cond. A) & 420 (Cond. B)	
Criteria - Minor Street (veh/hr)	105	53	84 (Cond. A) & 42 (Cond. B)	

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume			
Condition Satisfied?	Not Satisfied		
Required values reached for	1 hour		
Criteria	See Figure Below		

Warrant 3, Peak Hour Vehicular Volume			
	Condition A	Condition B	
Condition Satisfied?	Not Satisfied	Satisfied	
Required values reached for	788 total, 335 minor, 2.7 delay	1 hour	
Criteria - Total Approach Volume (veh in one hour)	650		
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below	
Criteria - Minor Street High Side Delay (veh-hrs)	4		





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative (AM)	

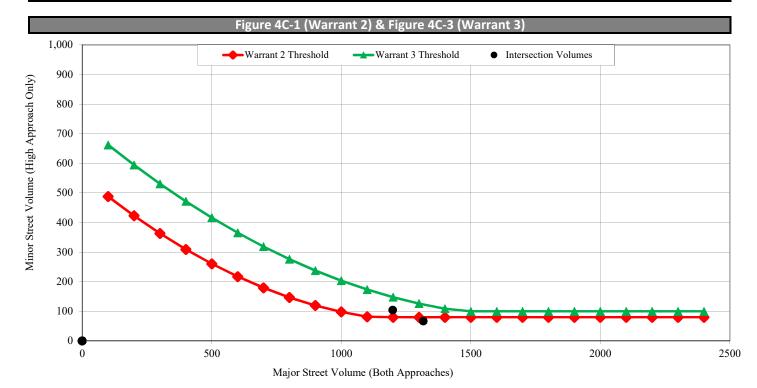
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2516 vehicles	Total Approach Volume	171 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	1 hour	0 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1303 total, 104 minor, 1.4 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative Plus 674 Unit Project (AM)	

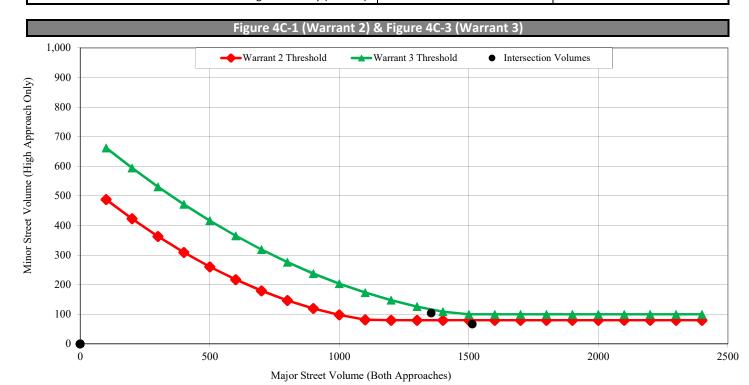
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2869 vehicles	Total Approach Volume	171 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
Condition A Condition B Condition A+B*			
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	1 hour	0 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1459 total, 104 minor, 2.3 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below
Criteria - Minor Street High Side Delay (veh-hrs)	4	





### Warrants 1 - 3 (Volume Warrants)

Project Name	Beechwood SP	
Project/File #	2019_114	
Scenario	Cumulative Plus 911 Unit Project (AM)	

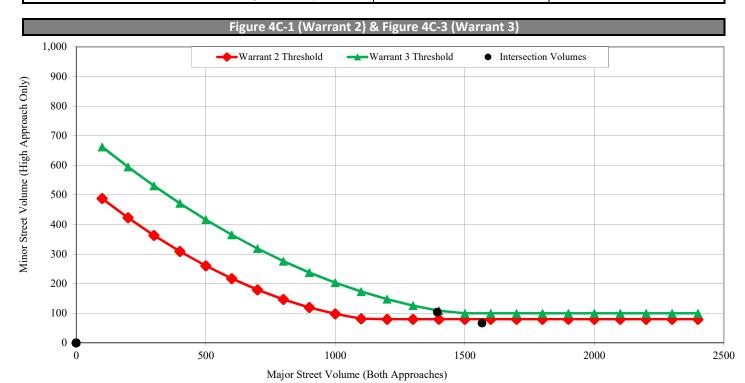
Intersection Information			
Major Street (N/S Road)	S River Rd	Minor Street (E/W Road)	Riverbank Ln
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane
Total Approach Volume	2961 vehicles	Total Approach Volume	171 vehicles
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	1 hour	0 (Cond. A) & 2 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	150	75	120 (Cond. A) & 60 (Cond. B)

<sup>\*</sup> Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume		
Condition Satisfied?	Not Satisfied	
Required values reached for	1 hour	
Criteria	See Figure Below	

Warrant 3, Peak Hour Vehicular Volume				
Condition A Condition B				
Condition Satisfied? Not Satisfied		Not Satisfied		
Required values reached for	1498 total, 104 minor, 2.7 delay	0 hours		
Criteria - Total Approach Volume (veh in one hour)	650			
Criteria - Minor Street High Side Volume (veh in one hour)	100	See Figure Below		
Criteria - Minor Street High Side Delay (veh-hrs)	4			



Appendix E: Agency Comment/Response



#### **COMMENT/RESPONSE SUMMARY**

Date: December 12, 2018

From: Joe Fernandez, Travis Low, and Vanessa See

Project: Beechwood SP TIS MOA and Olsen-Chandler SP TIS SOW – Caltrans Comment Response (received October 2, 2018)

#### Document: Beechwood Specific Plan TIS Assumptions Memo

ID	Comment	Response/Action
CT-001	This project represents a portion of what had been previously presented as a larger development, the Chandler portion of the project reached north to Union Road. This project should evaluate all the same intersections as the larger project would be required to study to allow for trip redistribution evaluation and impacts when the rest of the larger area is developed.	The traffic study will be prepared in conjunction with the study for the Olsen-Chandler project. Cumulative Plus Project and Near Term Plus Project conditions will include both projects.
CT-002	The Beechwood and Olsen-Chandler projects should study the same locations with the same requirements.	The Beechwood traffic study will be prepared in conjunction with the study for the Olsen-Chandler project. There will be some difference in local intersections studied but the same Caltrans facilities will be studied.
СТ-003	The intersections should be counted for 24 hours.	Hourly count data on US 101 north of Main Street shows that on midweek school days during the previous school year, the peak hours in both directions most frequently occurred between 7-9 AM and 4-6 PM. On the counted day (Wed. 6/6/18) the peak hours in both directions also occurred during these times and the peak hour volumes were all within 2% of the average. Hourly count data on SR 46E west of McMillan Canyon Road shows that on midweekdays from July through September 2018, the PM peak hour in both directions most frequently occurred between 4-6 PM and had a substantially larger volume on average than the AM peak hour. Tables have been provided as Attachment 1.  This data indicates that 7-9 AM and 4-6 PM intersection counts are sufficient.

CT-004	The following intersections need to be added:	These intersections will be added to the study.
	SR 46 E/Buena Vista Drive	
	SR 46 E/Airport Road	
	SR 46 E/Mill Road	
CT-005	The US 101 Segments need to be studied using ADT volumes to	Please provide Caltrans ADT thresholds.
	match the data collect on the local roads and roadway segments.	
CT-006	The following US 101 segments need to be added:	These segments will be added to the study using data from the
	• US 101 NB at SR 46 W (on and off ramps)	on-going SR 46W/US 101 PA&ED update.
	<ul> <li>US 101 NB at SR 46 W (on and off ramps)</li> </ul>	
CT-007	Given the projects location, all new trips should be considered Primary Trips to and from the State Right-Of-Way. For the local internal network, the methodology for Pass-by and Diverted-Link trips needs to be developed and reviewed. The ITE Trip Generation Handbook 3 <sup>rd</sup> Edition documentation (Calculations, site map with driveway locations, the +/- trip distribution map, etc.) should be required.	Pass-by and diverted link trips will be estimated consistent with the City's TIS guidelines and industry standard practice
CT-008	This Memo does not appear to include the Union Road flyover improvements or the SR 46 West roundabout interchange improvements, please include if and/or which scenarios (near term, cumulative) those improvements will be considered in for analysis.	The Union Road and SR 46W improvements will be included in the Cumulative scenarios but not Near Term scenarios.
CT-009	Caltrans requests that the Synchro and/or Sidra models use HCS 6 analysis methodology and the made available to Caltrans for review.	The HCM 6 methodology will be used unless unique intersection configurations or signal phasing require a different method. The models will be made available to Caltrans for review.
CT-010	Page 2, 3, 5 Table 2, 11 – The 17 <sup>th</sup> Street/Riverside Ave at SB HWY 101 is missing from the tables and portions of the analysis. Update all figures and tables throughout the document and updated the analysis as necessary.	The Riverside Ave/17th St ramps are included in the freeway analysis. The project is not expected to add a significant amount of traffic to these ramps.
СТ-011	Page 7 Table 3 – The table states "Storage Length", but the lengths provided are the total length of the pocket. The total length of the pocket includes deceleration length and storage length. The storage length in the table needs to be corrected.	Deceleration lengths per the HDM will be subtracted from total pocket lengths for approaches on SR 46 E only. For all other pockets, no adjustment will be made since partial deceleration in the through lane, if necessary, is consistent with driver expectation.

CT-012	Page 8 – Provide more clarification on how the truck percentages for HWY 101 were calculated and distributed, include the calculations. Clarify where the Niblick Road Bridge counts were taken and why this location was chosen. Do the counts support an even average being distributed along the corridor for PHF and truck percentages? Does the PHF fluctuate along the corridor in those three segments?	The ramp data supports consistent truck percentages and PHFs along the corridor except as follows: higher NB and SB truck percentages north of SR 46 E, lower NB PHF north of SR 46 E. Adjustments will be made for those locations based on the ramp data. The Niblick Road Bridge count were collected where the bridge crosses over HWY 101.	
CT-013	Clarify in the Memorandum that the Leisch weaving methodology will be used in the analysis.	The Leisch weaving methodology will be used instead of the HCM method.	
СТ-014	Page 9-10 – Trip Generation Rates applied the Fitted Curve Equation. Each of these locations qualify for the Fitted Curve Equation. The consultant used the "Peak Hour of Adjacent Street Traffic" for the calculations, "Peak Hour Generator" should be used to determine the trips generated for the project. The 24 hour counts provided in the appendices provide data that roadways approaching and intersections adjacent to SR46E and HWY 101 have peak hours that are not between 7-9am and 4-6pm. Traffic counts for HWY 101 and SR46E were only completed between the hours of 7-9am and 4-6pm, so there is deficit in the data collected. This deficit could also affect the existing peak hour factor calculations for the ramps (as described on page 8) and the information provided in Table 5 on page 9.	See response to CT-003. Where peaks on local facilities occur outside of the typical peak period the difference is minimal, and the project's peak trip generation is expected to coincide with the peak hours collected.	
CT-015	Page 11 – This project area is so large it might be beneficial to add the major attractors for reference such as schools and existing major retail centers. This would allow reviewers to better understand where trips may end or originate.	Major attractors will be added to the Project Trip Distribution figure.	
CT-016	Page 12 – Explain why the no project scenario will not include any dwelling units on the project site, that paragraph is unclear. Clarify if the no project scenario will or will not include the Shopping Center.	The no project scenarios will not reflect any land use changes on the project site, e.g. the existing condition.	
СТ-017	Existing Peak Hour Factors cannot be carried forward for future analysis. The Peak Hour Factor (PHF) of 0.92 (or the recommended default value from the HCM for the roadway) will be used for "Near-Term" and "Cumulative" forecasts.	For Near Term and Cumulative conditions, a PHF of 0.92 (or the recommended default value from the HCM for the roadway) will be used unless the existing PHF exceeds 0.92 under existing conditions, in which case the higher PHF will be used.	

CT-018	The intersection turning movement counts provide PHF values for each leg of the intersection, the synchro sheets use the intersection average. To provide the best model, the more specific PHF values should be used in Synchro.	The intersection average was used per HCM 6 Chapter 19: "If peak hour factors are used, a single peak hour factor for the entire intersection is generally preferred because it will decrease the likelihood of creating demand scenarios with conflicting volumes that are disproportionate to the actual volumes during the 15-min analysis period."
CT-019	Truck Percentages should be rounded up, not down for the Synchro model.	Truck percentages will be rounded up, not down.
СТ-020	The Bicycle counts taken at location #4 - 13th Street and Riverside Avenue were taken on the day of the AIDs Life Cycle Event. This needs to be noted and perhaps new counts taken.	Note will be added. The PM bicycle counts, as well as the AM bicycle counts on the unaffected approaches, show that typical bicycle demand at the intersection is not large enough to have a significant effect on the analysis results.

#### Document: Olsen-Chandler Specific Plan TIS Scope of Work

ID	Comment	Response/Action
CT-021	Task 3 is proposed as the Project Trip Generation and Distribution. This task includes the Memorandum of Assumptions, as well as the Trip Generation and Distribution. This should be Task #1. It is difficult to determine which intersections need to be studied without knowing the type of land uses and development proposed, where the proposed trips will be going on the roadway network and what intersections will be impacted.	Trip Generation and Distribution will be performed first, before finalizing study intersections.
CT-022	This scope represents a portion of what has been previously presented as a larger development, where the Chandler portion reached north to Union Road. This project should evaluate all the same intersections as the larger project will be required to study to allow for trip redistribution evaluation and impacts when the rest of the larger area is developed.	See response to CT-001.
CT-023	The Beechwood and Olsen-Chandler projects should study the same locations with the same requirements. Please update Beechwood as necessary to match all study requirements.	The same Caltrans facilities will be studied, see response to CT-002. The Beechwood study requirements will be updated to match Olsen-Chandler.

Given the projects location, all new trips should be considered Primary Trips to and from the State Right-Of-Way. For the local internal network, the methodology for Pass-by and Diverted-Link trips needs to be developed and reviewed. The ITE Trip Generation Handbook 3 <sup>rd</sup> Edition documentation (Calculations, site map with driveway locations, the +/- trip distribution map, etc.) should be required.	See response to CT-007.
It is anticipated that the Beechwood and Olsen-Chandler Traffic Impact Studies will be coordinated.	Agreed, see response to CT-002.
[Task 1- Data Collection] Please, include a map with all the study area intersections marked.	A study intersection map will be provided.
[Task 1- Data Collection] The intersections should be counted for 24 hours. The traffic counts provided by the Beechwood Traffic Impact Memorandum showed intersections in this area have A.M. and P.M. peak hours that do not fall between the typical A.M. and P.M. commuter peak hours. Clarify the hours of data collection.	See response to CT-004.
<ul> <li>[Task 1- Data Collection] The following intersections need to be added:</li> <li>SR 46 E/Buna Vista Drive</li> <li>SR 46 E/Airport Road</li> <li>SR 46 E/Mill Road</li> </ul>	Intersections will be added per the City's TIA Guidelines. See response to CT-004.
[Task 1- Data Collection] The US 101 Segments need to be studied using ADT volumes to match the data collect on the local roads and roadway segments.	See response to CT-005.
<ul> <li>[Task 1- Data Collection] The following US 101 segments need to be added:</li> <li>US 101 NB at SR 46 W (on and off ramps)</li> <li>US 101 SB at SR 46 W (on and off ramps)</li> <li>US 101 SB at Riverside Avenue/Pine Street (Off Ramp)</li> </ul>	The SR 46 W ramps will be added, see response to CT-006. Also, the Riverside/Pine SB off ramp will be added.
[Task 1- Data Collection] The correct data collected for analysis needs to include:  • Queuing on ramps • Impacts to ramp metering	Ramp queue observations will be conducted. Please provide the applicable ramp metering impact criteria.
	Trips to and from the State Right-Of-Way. For the local internal network, the methodology for Pass-by and Diverted-Link trips needs to be developed and reviewed. The ITE Trip Generation Handbook 3rd Edition documentation (Calculations, site map with driveway locations, the +/- trip distribution map, etc.) should be required.  It is anticipated that the Beechwood and Olsen-Chandler Traffic Impact Studies will be coordinated.  [Task 1- Data Collection] Please, include a map with all the study area intersections marked.  [Task 1- Data Collection] The intersections should be counted for 24 hours. The traffic counts provided by the Beechwood Traffic Impact Memorandum showed intersections in this area have A.M. and P.M. peak hours that do not fall between the typical A.M. and P.M. commuter peak hours. Clarify the hours of data collection.  [Task 1- Data Collection] The following intersections need to be added:  • SR 46 E/Buna Vista Drive • SR 46 E/Airport Road • SR 46 E/Mill Road  [Task 1- Data Collection] The US 101 Segments need to be studied using ADT volumes to match the data collect on the local roads and roadway segments.  [Task 1- Data Collection] The following US 101 segments need to be added:  • US 101 NB at SR 46 W (on and off ramps)  • US 101 SB at Riverside Avenue/Pine Street (Off Ramp)  [Task 1- Data Collection] The correct data collected for analysis needs to include:

СТ-032	[Task 2 – Existing Model Review and Calibration] What software is the model in? Does it include the Caltrans intersections and segments? Include in the scope that Caltrans will be able to review the preliminary model.	TransCAD 7 will be used. The model includes the Caltrans intersections and segments.
CT-033	[Task 3 – Project Trip Generation and Distribution] Is there a current site plan and project description? If so, provide to determine if any additional scoping is required.	A current site plan and project description will be provided.
СТ-034	[Task 3 – Project Trip Generation and Distribution] The ITE Trip Generation Manual User's Guide should provide the guidance for trip generation, using the fitted curve or weighted average. Additionally, the Peak Hour Generator should be used for trip generation, not the adjacent street traffic generator.	The fitted curve or weighted average will be selected per ITE guidance. See response to CT-014 regarding Peak Hour of Generator.
CT-035	[Task 4 – Existing and Existing Plus Project Conditions] Update scope to include that the highway segments will be evaluated using the Caltrans requirements.	Please clarify the Caltrans requirements.
CT-036	[Task 5 – Near Term and Near Term Plus Project Conditions] Include the pending and proposed project list, and the planned roadway network changes with the Memorandum of Assumptions.	The pending and proposed project list and the planned roadway network changes will be included in the TIS.
СТ-037	[Task 6 – Cumulative and Cumulative Plus Project Conditions] Clarify if the planned roadway network changes will be different from the Near Term roadway network changes.	See response to CT-008.
CT-038	[Task 6 – Cumulative and Cumulative Plus Project Conditions] Clarify the last sentence, "Despite the General Plan buildout assumptions, the Cumulative no project scenario will not include any dwelling units on the project site."	See response to CT-016.
CT-039	[Task 7 – Deficiency and Mitigation Analysis] Any changes to intersection control within Caltrans Right-of-Way will require an Intersection Control Evaluation per Caltrans requirement. It is suggested that multiple warrants are evaluated before proposing a signal as a mitigation.	Comment noted. The peak hour signal warrant is the first step in the process towards signalization; other warrants and other traffic control methods would also be evaluated.

CT-040	[Task 8 – Site Access and On-Site Circulation] Clarify if the circulation of the Chandler portion has been master planned. Previous studies, the entire parcel had access to Union Road. That future access will need to be addressed and documented.	Clarification will be added. Future access will be addressed and documented.
CT-041	[Task 9 – Documentation] The model and synchro should be provided for review at the draft stage.	The technical files can be provided to Caltrans for review at the draft stage.

#### Attachment 1: Hourly Data from Caltrans Count Stations

#### **Peak Hour Volumes**

US 101 n/o Main St	NB AM	NB PM	SB AM	SB PM
OS 101 II/O IVIAIII St	Peak	Peak	Peak	Peak
Average	1924	2696	2407	2412
6/6/2018	1958	2698	2454	2456
Difference	1.74%	0.09%	1.96%	1.81%

### **Most Frequent Peak Hour**

US 101 n/o Main St	AM	PM
NB	7-8	4-5
SB	7-8	4-5

#### **Peak Hour Volumes**

SR 46E w/o McMillan	EB AM	EB PM	WB AM	WB PM
Canyon Rd	Peak	Peak	Peak	Peak
Average	549	703	515	666

### **Most Frequent Peak Hour**

SR 46E w/o McMillan Canyon Rd	AM	PM	
ЕВ	11-12	5-6	
WB	11-12	4-5	



#### **COMMENT/RESPONSE SUMMARY**

Date: May 16, 2019

From: Joe Fernandez, Travis Low, Devin Ciriaco, and Vanessa See

Project: Beechwood SP Administrative Draft TIA - Caltrans Comment Response (received April 5, 2019)

#### Document: Beechwood Specific Plan Administrative Draft TIA

ID	Comment	Response/Action
Caltrans-p1a	After reviewing the mitigation measures and discussing them internally, most of the proposed mitigation measure will not be supported by Caltrans due to physical or operational constraints.	Noted. Project will make fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents.
Caltrans-p1b	Was the existing signal timing requested and used for the existing Synchro conditions? If not, the signal timing needs to be requested via Public Records Request and the existing scenarios updated. Were U-Turns or left turns considered in the analysis?	Signal timing at the intersection of State Route 46 E/Buena Vista and State Route 46 E/Golden Hill was requested, received and will be included in the updated report. U-turns are prohibited at Buena Vista. U-turn volumes are included in the left turn volumes at Golden Hill.
Caltrans-p1c	As mitigations propose changes to the signal timing, please include a list of the changes to the operation and new signal timing sheets for review.	Will summarize recommended timing changes where applicable in the updated report. See following table for proposed timing sheet changes
Caltrans-p1d	Volume Maps – The orientation of intersection 10 (Creston Road and Golden Hills Road) appears to be off from the existing condition. Creston is a N/S with a right angle to the west and Golden Hills is the street north of the right angle. The map does not match the trip movements of the existing roadway conditions/turning movements.	Creston was assumed to run E/W at this intersection so that Golden Hill would be consistent with its orientation at other intersections. All figures and Synchro files are consistent with this orientation.

Caltrans-p1e	Near Term Conditions – The mitigations may not have been studied properly. It needs to be determined if the Union Road fly over is realistic in a near term (2025) time frame.	Report notes that "For the 46 E corridor to operate acceptably under Near Term Conditions with or without the project, the Union Road/Paso Robles Boulevard Extension to Airport Road and the Union Road eastbound on and off-ramps are needed." The study assumed that the overcrossing is not in place under Near Term conditions.
Caltrans-p1f	Synchro Model and Simulation – The intersection of Buena Vista and SR46E does not match existing conditions. The existing signal timing does not appear to be what is in the Synchro Model for Buena Vista or Golden Hills Road at SR46E.	Signal timing at the intersection of State Route 46 E/Buena Vista and State Route 46 E/Golden Hill was input into the updated Synchro files and will be included in the updated report. No microsimulation was performed for the study.
Caltrans-p1g	The Paso Robles Road Overcrossing – It is unclear how the phasing of this project ties into the phasing of the Paso Robles Road Overcrossing. The TOAR for the overcrossing is still in progress and the timing of construction of the overcrossing may be considerably different from the timing of constructing the phases of Beechwood.	There are existing LOS deficiencies without the construction of this project as shown in this report and the draft TOAR. The Project will make fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable planning documents.
Caltrans-p1h	Was the existing signal timing requested and used for the existing Synchro conditions? If not, the signal timing needs to be requested via Public Records Request and the existing scenarios updated. Were U-Turns or left turns considered in the analysis?	See response to Caltrans-p1b and Caltrans-p1f.
Caltrans-p1i	Fair Share Cost Calculations need to be completed for this project.	Fair share calculations will be prepared once mitigations are finalized.
Caltrans-p11	Analysis Methods Caltrans peak hour can be outside of the 7-9 am and 4-6 pm discussed in the City TIS Guidelines.	Refer to last paragraph of the "Existing Traffic Conditions" section on pages 17-18
Caltrans-p14	Existing Roadway Network Include information about access types to all Caltrans intersections.	Refer to Figure 4 on page 27 for existing lane configurations and traffic control.

Caltrans-p17	Existing Traffic Conditions  Was the existing signal timing requested for the Caltrans signals and implemented in the Synchro (SR46 and Buena Vista Drive, SR46 and Golden Hill Road, Riverside Avenue/Pine Street/US 101 SB Ramp)?	See response to Caltrans-p1b and Caltrans-p1f. The intersection of Riverside Avenue/Pine Street/US 101 SB Ramp is stop controlled.
Caltrans-p28	Trip Generation  Table 10 includes Internal Trips that were subtracted from the overall trips generated from the project. Caltrans previously commented that all trips to and from the state facilities should be considered primary trips with no reductions. I checked the appendices and there were not trip gen worksheets, internal trip worksheets, or internal trip distribution with volume map included. Those sheets need to be included to complete the review.	No pass-by trip reductions were applied so all trips are primary trips. Since this development includes a commercial component, there will be Internal Trips between the commercial and residential developments. These Internal Trips represent a portion of the total development's trip generation without using the external road system, and thus must be subtracted from the Gross Trips to determine Net New Trips. We will show project trip distributions leaving each project access intersection.
Caltrans-p37	Existing Plus Project Impact Analysis SR46E/Union Road #3 Intersection: There are only 5 AM trips and 9 PM trips turning left. Were other options considered before restriction of the left turns? Creating right turn pocket? Restricting left turns from Union Road to SR45E may not be feasible.	A 25' NBR turn pocket was already being modeled at this intersection. Constructing a formal NBR turn pocket or constructing a median acceleration lane were both considered. Restricting the northbound left turns improves the LOS to an acceptable LOS C. Restricting the NB lefts also reduces the conflict points at the intersection. The signal at Golden Hill Road/SR 46E serves this movement. No restriction of westbound left turns are proposed due to likely secondary impacts to the Golden Hill Road/SR 46E signal.
Caltrans-p50a	Transportation Network  Provide an update on the status of the three projects listed in the Transportation network?	Will include in the updated report.
Caltrans-p50b	Transportation Network  The Synchro for SR46E does not appear to be updated to match the mitigations proposed for the near term mitigations.	Will provide the Near Term mitigated Synchro networks and output sheets with the updated report.

Caltrans-p56a	Near Term Plus Project Impact Analysis Intersections	See response to Caltrans-p37			
	SR46E/Union Road #3: Were other options considered before restriction of the left turns? Creating right turn pocket? Restricting left turns from Union Road to SR45E may not be feasible.				
Caltrans-p56b	Near Term Plus Project Impact Analysis Intersections  SR46E/Airport Road #4: What other mitigations are possible? There is a project specific impact that needs to be addressed to return the intersection to the performance before the project.	Will expand discussion of potential mitigation measures in the updated report.			
Caltrans-p56c	Near Term Plus Project Impact Analysis Intersections  The recommendation has confusing wording that could use clarification, it's providing a recommendation that is not recommended unless Union Road/ Paso Robles Blvd. is extended to Airport Road. What if that extension doesn't happen?	Will expand discussion of the overcrossing/Paso Robles Boulevard extension in the updated report.			
Caltrans-p59	Near Term Plus Project Impact Analysis Queues SR46E/Golden Hills Road #2: See general comment about existing signal timing. Clarify which directions would require right turn overlap to improve the intersection performance. Explain how right turn overlaps would improve the intersection if the issue is with the left turn queue volumes on the North/Southbound Golden Hills Road. Installing right turn overlap timing would mean U-Turns would have to be prohibited.	See response to Caltrans-p1b and Caltrans-p1f. Will clarify overlap phases in the updated report for cumulative LOS impacts at this intersection. Queuing is not a measure of effectiveness at signalized and unsignalized intersections in the Caltrans Guide for the Preparation of Traffic Impact Studies; therefore, queuing impacts are not considered at Caltrans facilities in the updated analysis.			
Caltrans-p60a	Summary of Intersection Mitigations  Where in the Phasing of this project is the Paso Robles Boulevard  Overcrossing required for additional phases to be built?	As shown in Table 20 improvements to State Route 46 are needed without the construction of this project. Union and Airport operate at LOS F in the PM in all Near-Term scenarios. The project will make fair share contribution through the City's impact fee program for ultimate improvements on SR 46 E consistent with the RTP and other applicable documents			

Caltrans-p60b	Summary of Intersection Mitigations  Table 20 Intersection #4 doesn't match the mitigations on page 56. All the mitigations proposed in Caltrans Right-of-Way and intersections need to be explored for additional options or other alternatives.	The proposed mitigation is to prohibit southbound lefts, which is consistent with the City's General Plan. All improvements within Caltrans' right-of-way will require approval by Caltrans.
Caltrans-p63a	Cumulative Conditions Transportation Network  All the mitigations proposed in Caltrans Right-of-Way and intersections need to be explored for additional options or other alternatives. Some of the proposed mitigations are not acceptable for implementation.	The Cumulative roadway network includes planned improvements consistent with the City's General Plan. These are not project-specific mitigation measures, but the project would contribute to their construction via payment of impact fees. All improvements within Caltrans' right-of-way will require approval by Caltrans.
Caltrans-p63b	Cumulative Conditions Transportation Network  The Synchro for SR46E does not appear to be updated to match the mitigations proposed for the cumulative mitigations.	Will provide the Cumulative mitigated Synchro networks and output sheets with the updated report.
Caltrans-p75	Summary of Intersection Mitigations  Where in the Phasing of this project is the Paso Robles Boulevard  Overcrossing required for additional phases to be built?	See response to Caltrans-p60a. Under Cumulative Conditions, the Overcrossing is already assumed to have been constructed.

Intersection #2: State Route 46 & Golden Hill Road – Proposed changes to signal timing.

Scena <del>ri</del> o	Phase Movement	1 WBL	2 EBT	3 NBL	4 SBT	5 EBL	6 WBT	7 SBT	8 NBT	Overlap A SBR(w/EBL)
Existing	Minimum Green	4	8	4	6	4	8	4	6	4
Existing	MaxGreen	18	70	20	41	18	70	20	41	-
Existing	Yellow	3	5.8	3	4.3	3	5.8	3	4.3	3
Existing	AllRed	1	1.5	1	1	1	1.5	1	1	1
Existing	Max split	22	77.3	24	46.3	22	77.3	24	46.3	-
Cumulative AM	MaxGreen	26	57	26	35	26	57	20	41	-
Cumulative AM	Max split	30	64.3	30	40.3	30	64.3	24	46.3	-
Cumulative PM	MaxGreen	26	57	26	35	18	65	20	41	-
Cumulative PM	Max split	30	64.3	30	40.3	22	72.3	24	46.3	-
XX - Proposed changes to timing sheets.										



#### **COMMENT/RESPONSE SUMMARY**

Date: April 11, 2019

From: Joe Fernandez, Travis Low, and Vanessa See

Project: Beechwood SP Administrative Draft TIA – County of San Luis Obispo Comment Response (received April 10, 2019)

#### Document: Beechwood Specific Plan Administrative Draft TIA

ID	Comment	Response/Action
Roberts-1	-Impacts to South River Road  Did not see mention of traffic routing to South River (south of Charolais) as an alternate to taking 101 south. Would imagine that in a future condition bypassing through east Templeton could be a time saver to 101 south vs River to Niblick to 101. Trader Joe's for instance, is closer mileage-wise to the project through east Templeton vs. through Paso.	Project traffic through east Templeton was assigned to the segment of South River Road south of Spanish Camp Road (via Barley Grain Road) rather than the segment immediately south of Charolais Road. Project trips into Templeton via El Pomar Drive will be calculated and provided in the County section of the updated report.
Roberts-2	-Impacts to Barley Grain  The intersection geometry of BG @ Creston appears sufficient to handle the cumulative + project condition. No action.	Comment noted.
Roberts-3	-101 NB @ 46E Offramp  Surprised that this has an existing LOS B and only rolls to LOS C in the cumulative + project. Currently queuing at the offramp can spill onto the mainline. I understand Caltrans is potentially looking at future improvements at this location. Assuming Caltrans will chime in.	The results of the freeway diverge analysis consider only the capacity of the ramp itself and do not account for any queue spillback from the downstream signalized intersection. This intersection was not a study location. Project traffic is not expected to use this ramp.