

FINAL Transportation Impact Analysis

Beaumont General Plan Update

And Beaumont Downtown Area Plan

Prepared for:
Raimi and Associates

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OC17-0488

FEHR  PEERS

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1. EXECUTIVE SUMMARY

PROPOSED GENERAL PLAN UPDATE

Fehr & Peers has completed a transportation impact analysis (TIA) for the proposed 2018 Beaumont General Plan Update and Beaumont Downtown Area Plan (DAP) in the City of Beaumont, California. The proposed City of Beaumont General Plan Update (the project) consists of residential, commercial, industrial, and some mixed-use land use designations. In total, the General Plan land use buildout assumes the following:

26,566 acres

40,851 housing units

127,205 population¹

33,076,048 non-residential square feet

38,149 jobs

SCOPE OF STUDY

Intersections, roadway segments, freeway mainline segments, and multi-modal transportation facilities such as pedestrian, bicycle, and transit, were all considered in this TIA. The study area includes facilities mostly in the City of Beaumont and its sphere of influence, but it also includes facilities under the jurisdiction of Caltrans and the County of Riverside.

FINDINGS

This TIA, prepared pursuant to the California Environmental Quality Act (CEQA), found that the following locations require physical improvements in order to be consistent with applicable plans, ordinances or policies establishing measures of effectiveness for the performance of the circulation system. All

¹ This population count was developed for travel demand model forecasting purposes. The population for each traffic analysis zones (TAZ) was determined using the assumed residents per household identified in the SCAG socio-economic data. This method, though consistent with regional assumptions, differs from population estimates used in other analysis areas (such as energy and water).

intersections in the Existing (2018), Existing (2018) Plus Project, and Cumulative (2040) Conditions operate at an acceptable level of service (LOS). Therefore, no mitigation measures were created.

In the Existing Plus Project scenario, the Interstate 10 (I-10) between Pennsylvania Avenue and Highland Springs Avenue will require additional lanes to operate acceptably. In the Cumulative (2040) scenario, the following roadway segments will operate deficiently and require additional lanes to mitigate impacts:

Beaumont Avenue/State Route 79 (SR-79) - South of California Avenue

SR-60 Freeway - West of the I-10

I-10 Freeway West of SR-60

I-10 Freeway Between SR-60 and SR-79

I-10 Freeway Between SR-79 and Pennsylvania Avenue

I-10 Freeway Between Pennsylvania Avenue and Highland Springs Avenue

All other items covered in the Initial Checklist (Appendix G of CEQA) were determined to have less than significant impacts.

2. INTRODUCTION

Fehr & Peers has completed a TIA for the proposed Beaumont General Plan Update and the Beaumont Downtown Area Plan (DAP) in the City of Beaumont, California. This report summarizes the methodology, findings and conclusions of the analyses, including identification of recommended mitigation measures necessary to maintain consistency with the goals and policies of the proposed General and Area Plan. This chapter outlines the geographic scope of the TIA, including the study area.

PROJECT DESCRIPTION

The City of Beaumont is located in Riverside County. It is bordered by the City of Banning to the east and Calimesa to the west. The proposed Beaumont General Plan Update includes a sphere of influence located predominately south of the current City limits. In total, the General Plan land use proposes a buildout of the following assumptions:

26,566 acres
40,851 housing units
127,205 population
33,076,048 non-residential square feet
38,149 jobs

In the context of this TIA, the buildout of the general plan will be referred to as “the project”. **Figure 2-1** identifies the project’s boundaries (including the sphere of influence), proposed General Plan land use assumptions, and the general location of the City.

The analysis also reflects the Beaumont Downtown Area Plan. The DAP is focused on Sixth Street between Veile Avenue and Highland Springs Avenue, and along Beaumont Avenue between Fifth Street and 12th Street. **Figure 2-2** identifies the Beaumont Downtown Area Plan boundary and shows the proposed land use within that area.

STUDY AREA

The study area of this analysis includes roadway segments in and around the City of Beaumont that are anticipated to be affected by the proposed General Plan. Roadway segments were selected based on areas where significant change occurred due to the General Plan land use assumptions.

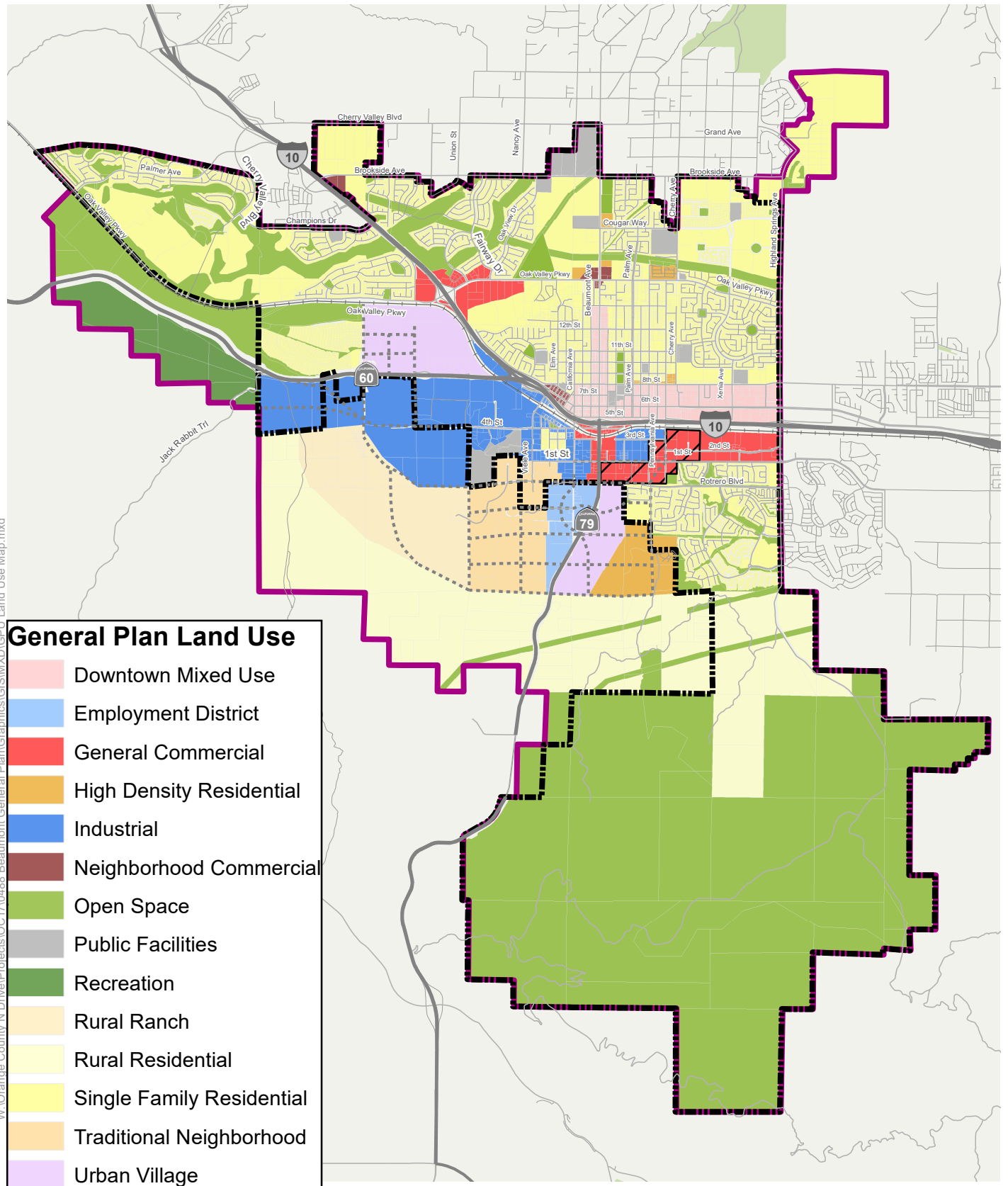
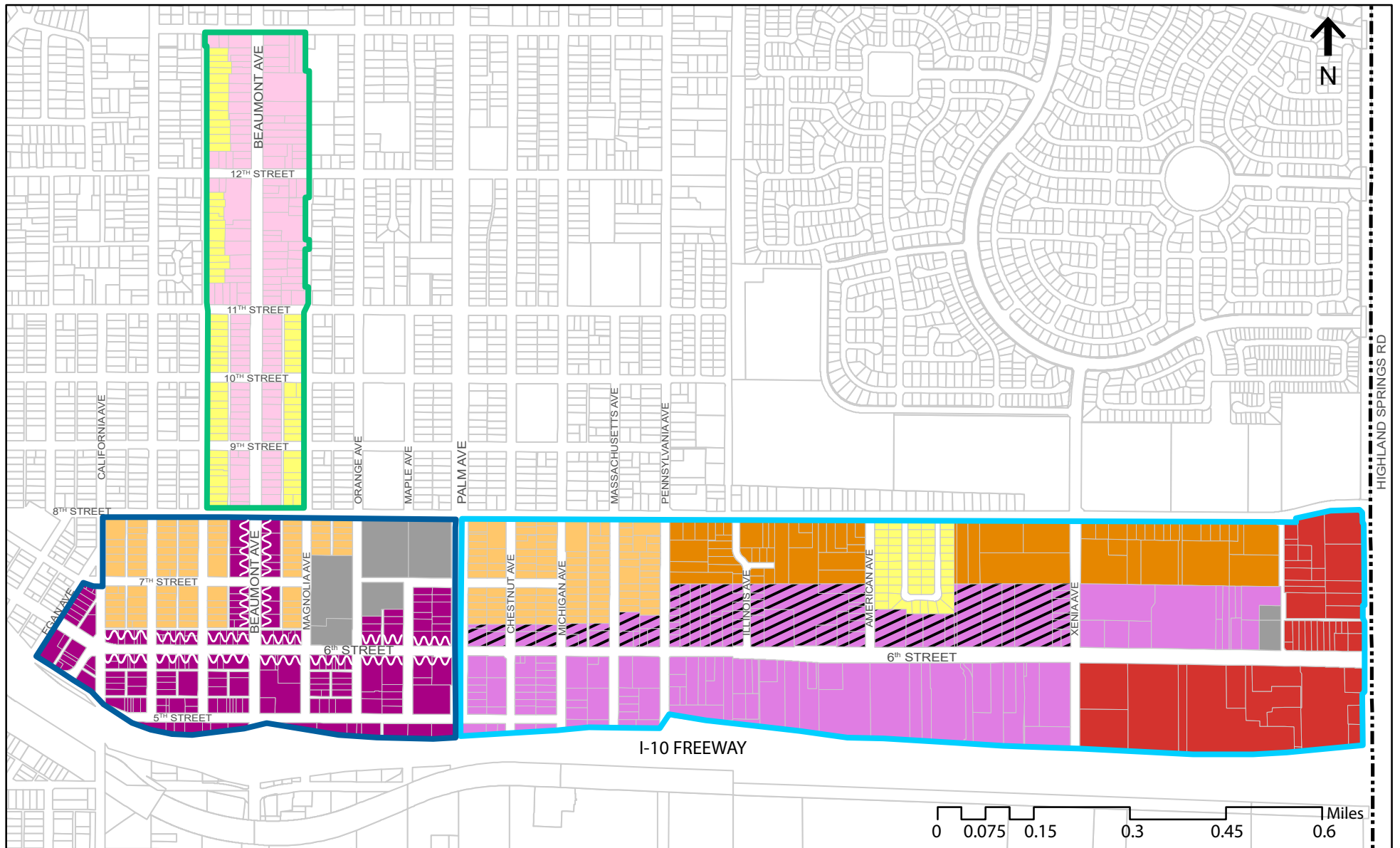


Figure 2-1

Beaumont General Plan Project Area



- | | | | | | |
|--|-----------------------------|--|------------------------------------|--|--------------------------------------|
| | City Boundary | | Downtown Residential Single Family | | Downtown Mixed Use |
| | Beaumont Avenue Subarea | | Downtown Mixed Residential | | Beaumont Mixed Use |
| | Downtown Subarea | | Downtown Residential Multifamily | | Sixth Street Mixed Use |
| | Extended 6th Street Subarea | | Local Commercial | | Sixth Street Mixed Use - Residential |
| | Active Ground Uses Required | | Public Facilities | | |

Figure 2-2

City of Beaumont Downtown Area Plan

The study intersections were selected based on the City's desire to review intersections within the Beaumont Downtown Area Plan Area and not required by the General Plan.

The following lists define the study area:

Signalized Intersections:

1. Beaumont Avenue/11th Street
2. Beaumont Avenue/Eighth Street
3. Sixth Street/California Avenue
4. Sixth Street/Beaumont Avenue
5. Beaumont Avenue/Fifth Street
6. Sixth Street/Orange Avenue
7. Sixth Street/Palm Avenue
8. Sixth Street/Pennsylvania Avenue
9. Sixth Street/Xenia Avenue
10. Sixth Street/Highland Springs Avenue
11. Beaumont Avenue/ I-10 westbound Ramps

Roadway Segments:

1. Oak Valley Parkway west of Potrero Boulevard
2. Oak Valley Parkway east of Potrero Boulevard
3. Oak Valley Parkway between I-10 westbound Ramps and Oak View Drive
4. Beaumont Avenue north of Oak Valley Parkway
5. Oak Valley Parkway west of Starlight Avenue
6. Beaumont Avenue between Eighth Street and 12th Street
7. Highland Springs Avenue south of Oak Valley Parkway
8. Xenia Avenue north of Sixth Street
9. Sixth Street east of Veile Avenue
10. Beaumont Avenue between Fifth Street and Sixth Street
11. Sixth Street east of Beaumont Avenue
12. Pennsylvania Avenue between Sixth Street and I-10 WB Ramps
13. Sixth Street east of Pennsylvania Avenue
14. Highland Springs Avenue between Fifth Street and Sixth Street
15. Veile Avenue north of Fourth Street
16. Beaumont Avenue south of Fourth Street

17. Pennsylvania Avenue between I-10 EB Ramps and Third Street
18. Highland Springs Avenue between I-10 EB Ramps and First Street
19. First Street between Pennsylvania and Highland Springs Avenue
20. Beaumont Avenue (SR-79) south of First Street
21. Beaumont Avenue (SR-79) south of California Avenue
22. SR-60 Freeway west of I-10
23. I-10 Freeway west of SR-60
24. I-10 Freeway between SR-60 and SR-79
25. I-10 Freeway between SR-79 and Pennsylvania Avenue
26. I-10 Freeway between Pennsylvania Ave and Highland Springs Avenue

Figure 2-3 and **Figure 2-4** showcase the study area and analyzed intersections and roadways.

ANALYSIS SCENARIOS

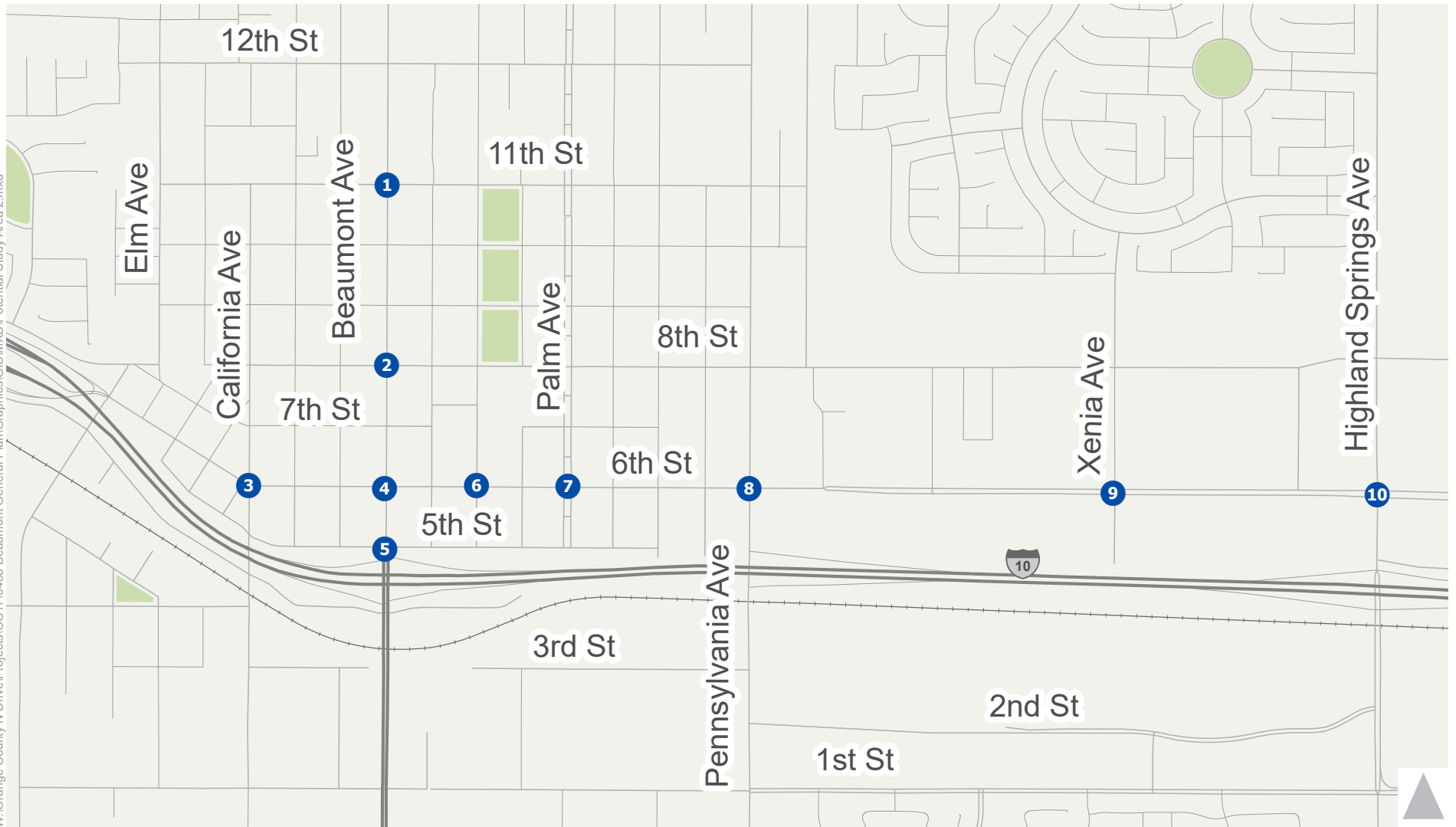
To identify potential significant project impacts, Fehr & Peers analyzed the following three scenarios:

Existing Year (2018) Conditions – Based on existing counts collected in the study area in April of 2018.

Existing Year (2018) Plus Project Conditions – Consists of forecasted volumes based on the buildout of the project inside the sphere of influence and existing land use conditions outside of the City. The “Plus Project” condition includes buildout of the proposed General Plan Update (which also includes the DAP).

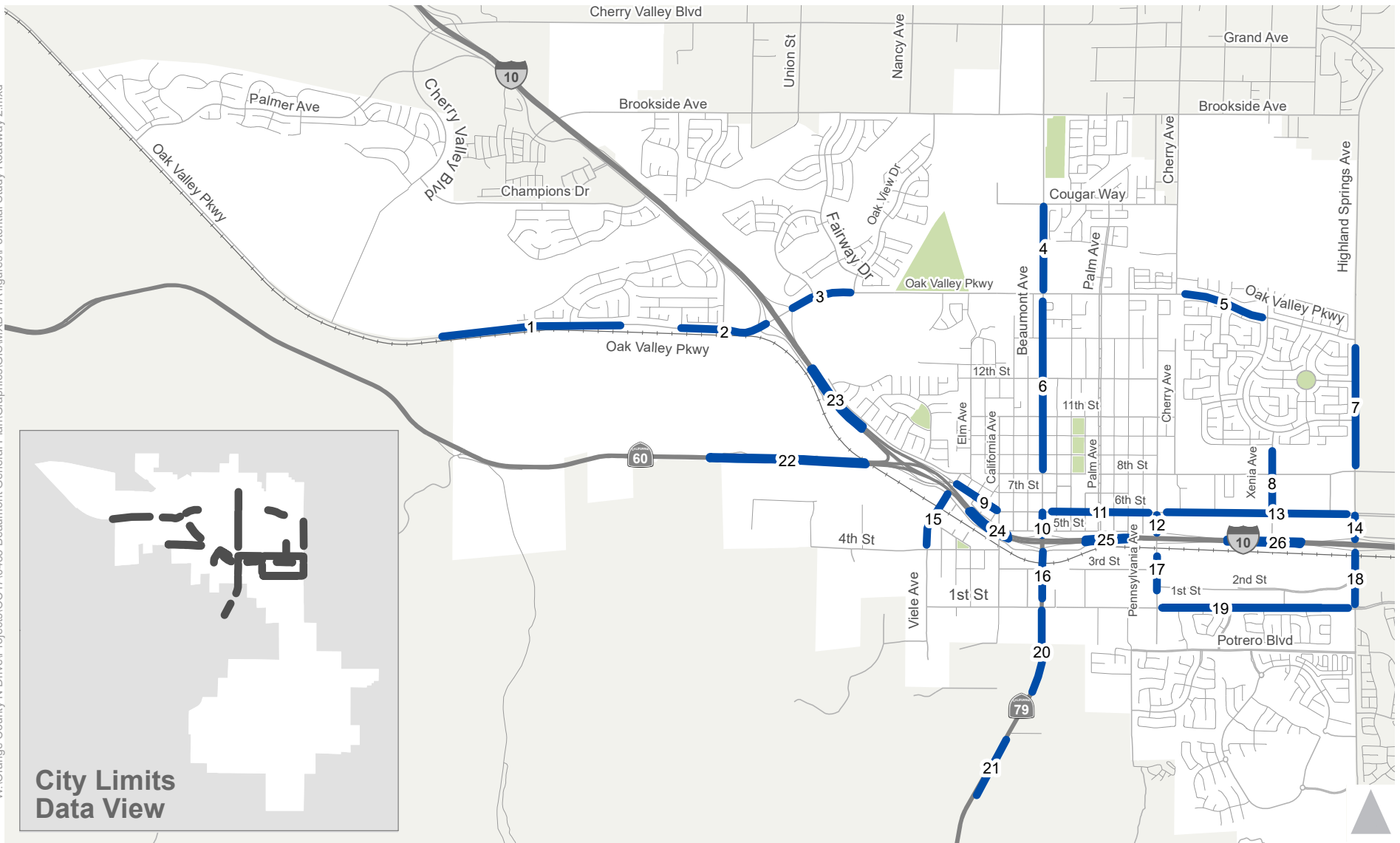
Cumulative Year (2040) Conditions – Consists of forecasted volumes to Year 2040 based on the growth and travel forecasts contained in the RIVTAM travel demand forecasting model and the land use and transportation projects proposed by the General Plan Update (which also includes the DAP).

The TIA was performed during the typical weekday AM and PM peak hour conditions at the study intersections. Average daily traffic was used to evaluate roadway segment operations for those study facilities. Planned intersection and roadway changes proposed as part of the Beaumont Downtown Area Plan are assumed as part of the project.



● Study Intersections

Figure 2-3
Study Intersections



— Roadway Study Segments

Figure 2-4
Roadway Study Segments

3. ANALYSIS METHODOLOGY

This chapter discusses the analysis methodologies and assumptions used to determine project impacts as approved by the City.

TRANSPORTATION TRENDS

Transportation network companies (TNCs), such as Lyft and Uber, and vehicles are transportation trends that have begun to influence travel behaviors and are projected to continue to do so in the future. At this time, however, sufficient data is not available to draw conclusions about these topics. Based on the limited information available, it is difficult, if not impossible, to document how these transportation trends quantitatively influence overall travel conditions. This TIA relies on the best information available about existing and future travel patterns, at the time of publication, in order to provide the public and decision makers with the best information possible on which to evaluate the General Plan. Therefore, this analysis of this TIA does not account for these transportation trends.

LEVEL OF SERVICE CRITERIA

INTERSECTION ANALYSIS

Intersection operating conditions in the study area were evaluated using the Highway Capacity Manual (HCM) 6th Edition Transportation Research Board (TRB) methodology, which is considered the state-of-the-practice methodology for evaluating intersection operations and is consistent with the City of Beaumont and Caltrans requirements.

The HCM 6th Edition Methodology estimates a quantitative delay at intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in Table 3-1. Please see Table 3-1 for intersection LOS criteria.

Trafficware Synchro 10 software package was used to facilitate the HCM 6th Edition calculations. The delay, calculated in seconds per vehicle, was compared to the LOS thresholds outlined in the HCM 6th Edition. For signalized and all-way stopped controlled intersections, intersection level of service is determined based on

average delay per the standard HCM 6th Edition methodology. For side-street stop-controlled intersections, level of service is determined based on worst-case approach delay.

The following factors were applied in the intersection analysis:

Peak Hour Factor (PHF) was based on traffic counts collected in the field for all Existing Conditions analysis

PHF for all future analysis was set to 0.95

Heavy vehicle percentage was set to 2% for all analysis scenarios

**TABLE 3-1
INTERSECTION LOS CRITERIA**

Level of Service	Description	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	< 10.0	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Source: Highway Capacity Manual (Transportation Research Board, 2017)

ROADWAY ANALYSIS

Roadway segment LOS is defined on the basis of Average Daily Traffic (ADT). Roadway segments for Existing (2018) conditions were analyzed utilizing the roadway segment LOS criteria from the Beaumont General Plan (1997). These traffic volume thresholds are shown in **Table 3-2**. Roadway segments for the Existing (2018) Plus Project and Cumulative (2040) Plus Project scenarios were analyzed utilizing HCM 6th Edition methodology. These traffic volume thresholds are shown in **Table 3-2**.

TABLE 3-2 PROPOSED ROADWAY CLASSIFICATION STANDARDS

Number of Lanes	LOS C (vehicles)	LOS D (vehicles)	LOS E (vehicles)
<i>Freeway</i>			
10	158,000	178,000	200,000
8	126,400	142,400	160,000
6	94,800	106,800	120,000
4	63,200	71,200	80,000
<i>Expressway</i>			
8	59,250	66,750	75,000
6	47,400	53,400	60,000
4	35,550	40,050	45,000
<i>Urban Arterial Highway</i>			
6	43,450	48,950	55,000
<i>Arterial/Major Highway/ Major Frontage</i>			
4	35,550	40,050	45,000
2	19,750	22,250	25,000
<i>Downtown Streets</i>			
6	43,450	48,950	55,000
4	35,550	40,050	45,000
2	19,750	22,250	25,000
<i>Secondary Streets/Secondary Highway/Secondary Frontage</i>			
4	31,600	35,600	40,000
2	15,800	17,800	20,000
<i>Collector/ Industrial Collector</i>			
4	19,750	22,250	25,000
2	9,880	11,130	12,500
<i>Local Streets</i>			
2	1,580	1,780	2,000

Source: Highway Capacity Manual (Transportation Research Board, 2017).

PERFORMANCE CRITERIA AND THRESHOLDS OF SIGNIFICANCE

The following LOS significance criteria were employed to determine if the project causes significant traffic impacts at intersections within the study area.

INTERSECTION IMPACT CRITERIA

Based on the City of Beaumont and Caltrans TIA guidelines, the following performance criteria and thresholds of significance were used to determine impacts at study facilities:

City of Beaumont

The City has adopted LOS D as the minimum acceptable standard, on all auto-priority streets, and LOS E as acceptable on non-auto-priority streets. A significant traffic impact occurs if the addition of project-generated trips causes an intersection to change from an acceptable LOS to a deficient LOS, or if project traffic increases the delay at any intersection already operating at an unacceptable LOS.

Caltrans

Caltrans has adopted the transition between LOS C and LOS D as the threshold for their facilities. As such, LOS "D" is the minimum acceptable standard for state facilities. The project causes a significant impact if it causes the LOS to change from an acceptable LOS (LOS "D" or better) to a deficient LOS (LOS "E" or worse) or increases delay/density on a facility operating at an unacceptable level.

ROADWAY SEGMENT IMPACT CRITERIA

According to the City's evaluation criteria, the minimum acceptable daily LOS for roadways of Collector or higher roadway classification is LOS "D" for auto-priority streets, and LOS "E" for non-auto-priority. The recommended roadway segment impact thresholds are as follows:

A significant impact occurs when the LOS on a roadway segment degrades from an acceptable LOS to a deficient LOS; OR

A significant impact occurs when the project increases the volume to capacity (V/C) ratio of a roadway segment already operating at an unacceptable LOS by more than 0.02.²

² Significant impact threshold criteria is based on the County of Riverside TIA guidelines.

TRAFFIC VOLUME FORECASTING

RIVERSIDE COUNTY TRAFFIC ANALYSIS MODEL

The Riverside Traffic Analysis Model (RIVTAM) was used to develop forecasts for this project. The current RIVTAM uses a 2008 Base Year and a 2035 Future Year and Socioeconomic Data (SED), consistent with the Southern California Association of Governments (SCAG) 2008 Regional Transportation Plan (RTP) model. However, the roadway networks and SED were reviewed for consistency with the 2016 RTP/Sustainable Communities Strategy (SCS) in the study area and updated appropriately based on the comparison to create a 2016 Base Year and 2040 Future Year condition.

The roadway network in the RIVTAM model was reviewed to determine the level of detail in the project study area. The following roadway improvements were identified for inclusion based on the RTP:

- RTP ID RIV050535: Construction of new Potrero Boulevard and SR-60 interchange (Completion Year 2020)
- RTP ID 3AO4WT003: Widening of Highland Springs Avenue from four to six lanes between Fifth Street and I-10 south ramps (Completion Year 2035)
- RTP ID 3MO4WT001: Widening of Highland Springs Avenue from four to six lanes between Fifth Street and First Street (Completion Year 2027)
- RTP ID 3MO4WT004: Reconstruct Pennsylvania Avenue and I-10 interchange to a full diamond interchange (Completion Year 2030)

In addition to these network improvements noted above, the roadway network proposed as part of the General Plan Update Mobility Element were included as part of the proposed project. **Figure 3-1** shows the proposed roadway and network improvements.

Socio-Economic Data (SED)

As mentioned above, the General Plan land use proposes a buildout with the following assumptions:

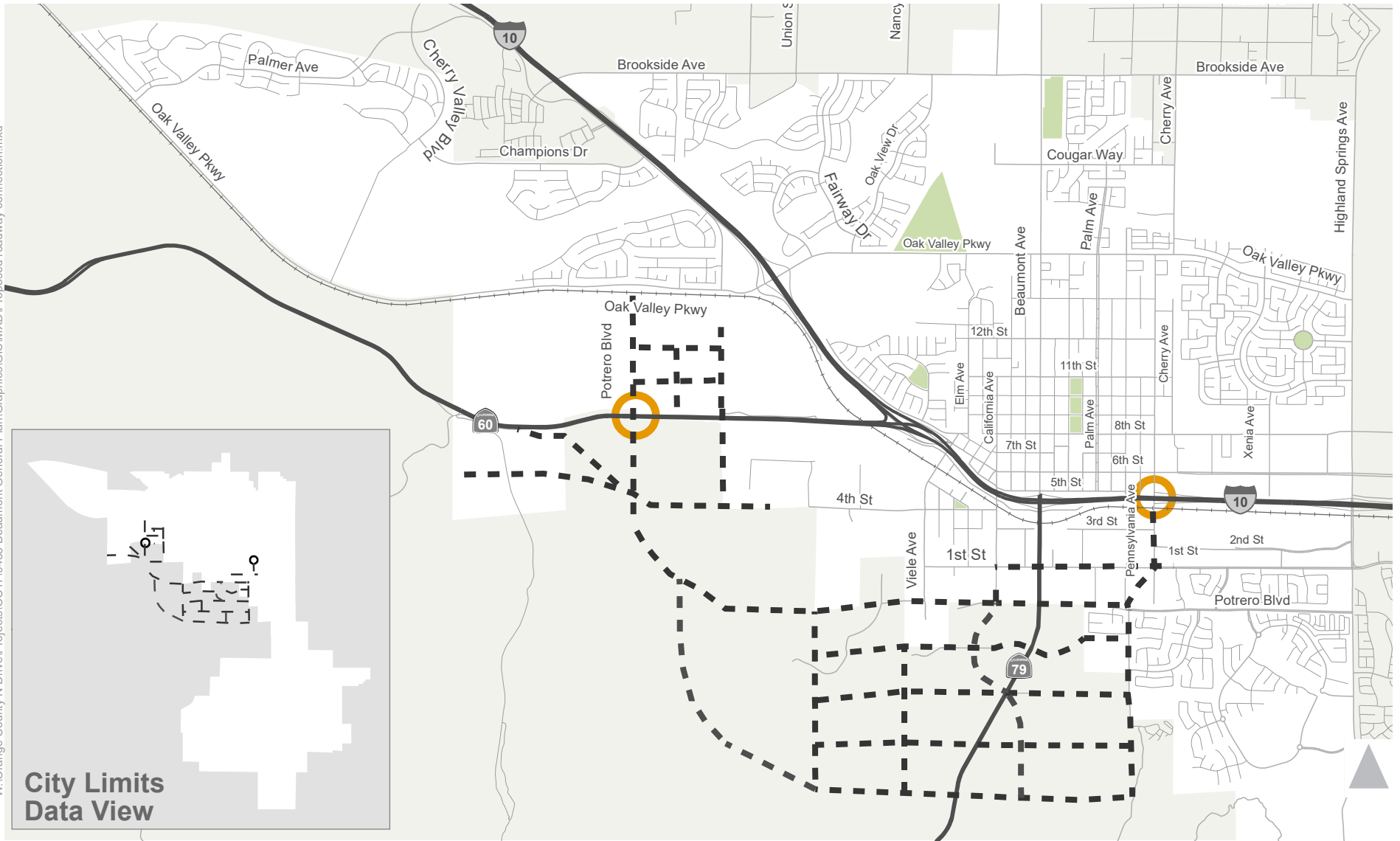
26,566 acres

40,851 housing units

127,205 population

33,076,048 non-residential square feet

38,149 jobs



- Proposed Roadway Connections
- New Interchange

Figure 3-1
Proposed Roadway Connections

The travel demand forecasting model includes inputs such as households, assumptions related to population in those households, and jobs (for non-residential uses). As mentioned above, the population for each traffic analysis zone (TAZ) was determined using the assumed residents per household identified in the SCAG socio-economic data. This method was used to be consistent with the regional RTP/SCS assumptions; however, using the SCAG socio-economic data to estimate population at a TAZ level does result in a population estimate that differs from population estimates used in other analysis areas.

Volumes Forecasting

RIVTAM was used to develop the future traffic volume forecasts. Three model scenarios were utilized in the forecasting process: Base Year, Base Year Plus Project, and Future Year, as described below:

Base Year Model – This scenario contains the base year (2012) land use and roadway network assumptions.

Base Year Plus Project Model – This scenario contains the base year (2012) land use and roadway network assumptions. The TAZs in the City of Beaumont were updated based on the General Plan proposed land use socioeconomic data. The network was updated to reflect the roadway network proposed in the Mobility Element of the General Plan Update. The most recent information for the Potrero Boulevard/SR-60 interchange improvement and Pennsylvania Avenue/I-10 interchange improvement projects were included in the roadway network.

Future Year Model – This scenario contains the future year (2040) land use and roadway network assumptions. The TAZs in the City of Beaumont were updated based on the General Plan proposed land use socioeconomic data. The network was updated to reflect the General Plan Mobility Element.

To develop Future Year scenario forecasts, the Future Year model was compared to the Base Year model outputs using the difference method. The difference method was implemented using standard techniques consistent with the National Cooperative Highway Research Program (NCHRP) Report 716. The arithmetic difference was taken between the future year and base year model outputs, and that difference was used to determine annual growth. That annual growth was then added to the existing traffic counts collected in 2018 to determine the project traffic volumes. This method was applied for both turning movement volumes and roadway segment ADT volumes. To provide a conservative analysis, negative growth was not included in the adjustment process. If the model predicted negative growth over existing conditions, the existing conditions volumes were utilized.

4. EXISTING (2018) CONDITIONS

This chapter discusses the existing transportation conditions in the project study area. This discussion addresses the roadway, transit, bicycle, and pedestrian networks. An operational analysis of the study area intersections, roadway segments, and freeway mainline facilities is also discussed.

EXISTING ROADWAY FACILITIES

REGIONAL ROADS

Interstate 10 (I-10) - I-10 provides direct access to the City by way of on and off-ramps located at Beaumont Avenue, Highland Spring Avenue, Oak Valley Parkway, Pennsylvania Avenue, and State Route 60 (SR-60). I-10 is an east-west facility with eight lanes and a posted speed of 70 mph that extends west to the City of Los Angeles and eastward to Arizona and beyond.

State Route 60 (SR-60) – The SR-60, also known as the Moreno Valley Freeway in Beaumont, provides direct access to the City by way of on- and off-ramps located at Sixth Street. Additional access will be provided by a new interchange currently under construction at Potrero Boulevard. SR-60 begins west of the City in Los Angeles and terminates at its I-10 junction within the City of Beaumont. Within the City limits, the highway has four lanes with a posted speed of 65 mph.

State Route 79 (SR-79) – SR-79 is a north-south facility beginning in Beaumont, extending south, and terminating in Los Terrenitos at Interstate 8 (I-8). Within the city limits, the highway has four lanes. Beaumont Avenue south of 5th Street is also designated as SR-79. It is a state highway with a posted speed of 45 miles per hour within the city limits.

LOCAL ROADS

First Street – First Street was classified as a major arterial between Michigan Avenue and Highland Springs Avenue, and as a secondary street between Michigan Avenue and Viele Avenue, in the 2007 General Plan Update. The roadway is now classified as an arterial. It is an east-west facility with four lanes that provides access to the Walmart transit transfer station.

Sixth Street – Sixth Street was classified as a major arterial between Pennsylvania Avenue and Xenia Avenue and a secondary arterial between Beaumont Avenue and Pennsylvania Avenue in the 2007 General Plan

Update. The roadway is not classified as a downtown street. It is an east-west facility with four lanes. It provides direct access to SR-60 and I-10.

Beaumont Avenue – Beaumont Avenue was classified as a major arterial between Oak Valley Parkway and Cougar Way, a secondary roadway between Sixth Street and Oak Valley Parkway, and an expressway between Laird Road and 5th Street in the 2007 General Plan Update. The roadway is now classified as a collector north of Cougar Way, an arterial between Cougar Way and Oak Valley Parkway, a downtown street between Oak Valley Parkway and the I-10 westbound ramps, and an expressway south of the I-10 westbound ramps. It is a north-south facility with four lanes that provides access through the central core of the city.

Highland Springs Avenue - Highland Springs Avenue was classified as an arterial north of Sixth Street and between First Street and Potrero Boulevard; an urban arterial between Sixth Street and First Street; a secondary roadway between Potrero Boulevard and Breckenridge Avenue; and a divided collector south of Breckenridge Avenue in the 2007 General Plan Update. The roadway is now classified as an arterial north of First Street and a collector between First Street and Potrero Boulevard. It is a north-south facility that varies between four and six lanes.

Oak Valley Parkway – Oak Valley Parkway was classified as an urban arterial between Potrero Boulevard and Oak View Drive, a major arterial between Potrero Boulevard and Palmer Avenue, and a major arterial between Beaumont Avenue and Highland Springs Avenue, in the 2007 General Plan Update. The roadway is now classified as an arterial. It is an east-west facility with four lanes.

Palms Avenue – Palms Avenue was classified as a collector roadway in the 2007 General Plan Update. The roadway is still classified as a collector. It is a north-south facility with two lanes. Palm Avenue has a center median that serves pedestrians and bicyclists.

Pennsylvania Avenue – Pennsylvania Avenue was classified as an arterial between Sixth Street and First Street in the 2007 General Plan Update. The roadway is still classified as an arterial. It is a north-south facility with two lanes that provides access to I-10.

Potrero Boulevard – Potrero Boulevard was classified as a major arterial between Fourth Street and Michigan Avenue, and as a secondary roadway between Michigan Avenue and Highland Springs Avenue in the 2007 General Plan Update. This roadway is now classified as an arterial west of Pennsylvania Avenue and a collector east of Pennsylvania Avenue. It is an east-west facility with two lanes.

BICYCLE FACILITIES

Bicycle facilities are classified as follows:

CLASS I BIKEWAYS (BIKE PATHS)

Class I bicycle facilities are bicycle trails or paths that are off-street and separated from automobiles. They are a minimum of eight feet in width for two-way travel and include bike lane signage and designated street crossings, where needed. A Class I Bike Path may parallel a roadway (within the parkway) or may be a completely separate right-of-way that meanders through a neighborhood or along a flood control channel or utility right-of-way.



CLASS I - Multi-Use Path

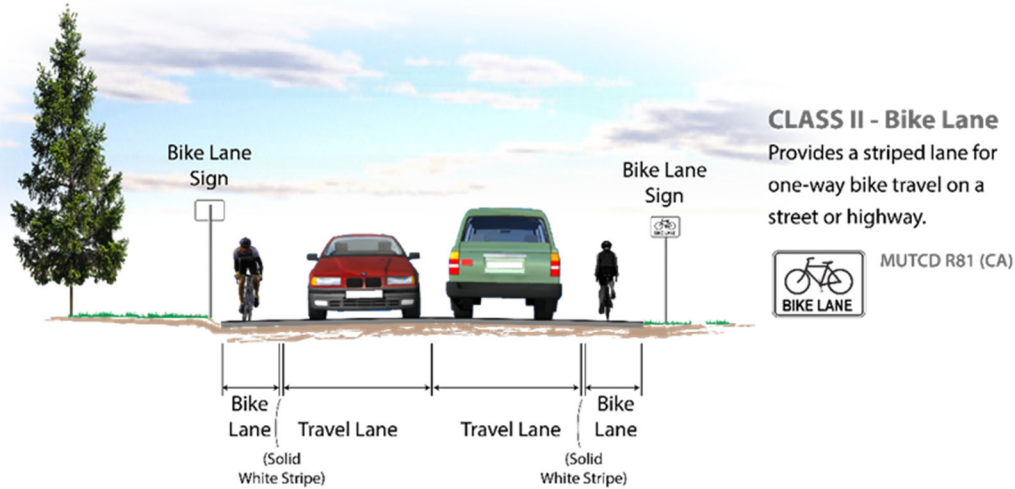
Provides a completely separated right-of-way for exclusive use of bicycles and pedestrians with crossflow minimized.



MUTCD R44A (CA)

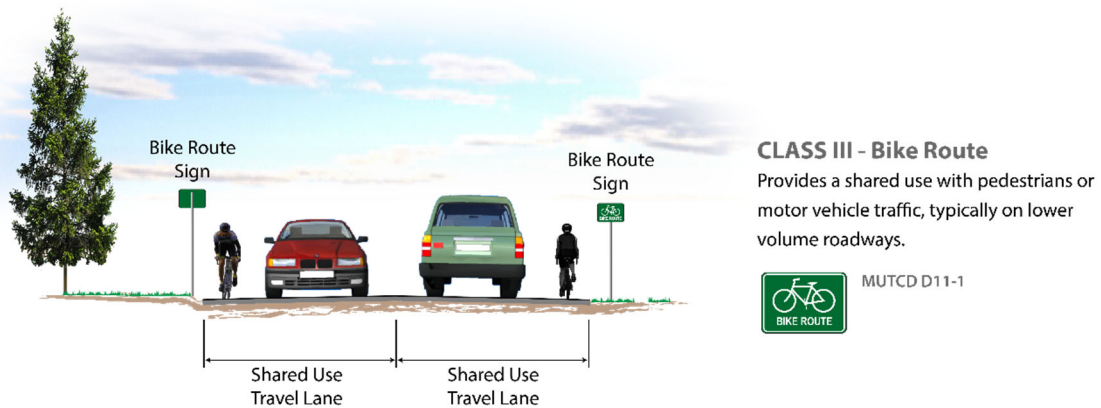
CLASS II BIKEWAYS (BIKE LANES)

Class II bicycle facilities are striped lanes that provide bike travel and can be either located next to a curb or parking lane. If located next to a curb, a minimum width of five feet is recommended. However, a bike lane adjacent to a parking lane can be four feet in width. Bike lanes are exclusively for the use of bicycles and include bike lane signage, special lane lines, and pavement markings.



CLASS III BIKEWAYS (BIKE ROUTES)

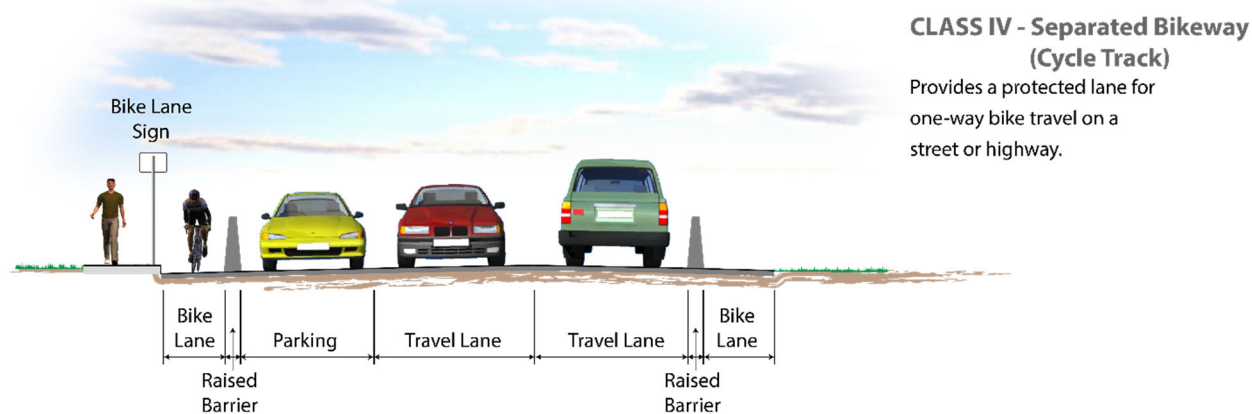
Class III Bikeways are streets providing for shared use by motor vehicles and bicyclists. While bicyclists have no exclusive use or priority, signage on both the side of the street and stenciled on the roadway surface alerts motorists to bicyclists sharing the roadway space, denoting that the street is an official bike route.



CLASS IV BIKEWAYS (CYCLE TRACKS)

Class IV bicycle facilities, sometimes called cycle tracks or separated bikeways, provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and are protected from vehicular traffic via separations (e.g., grade separation, flexible posts, inflexible physical barriers, and on-street parking).

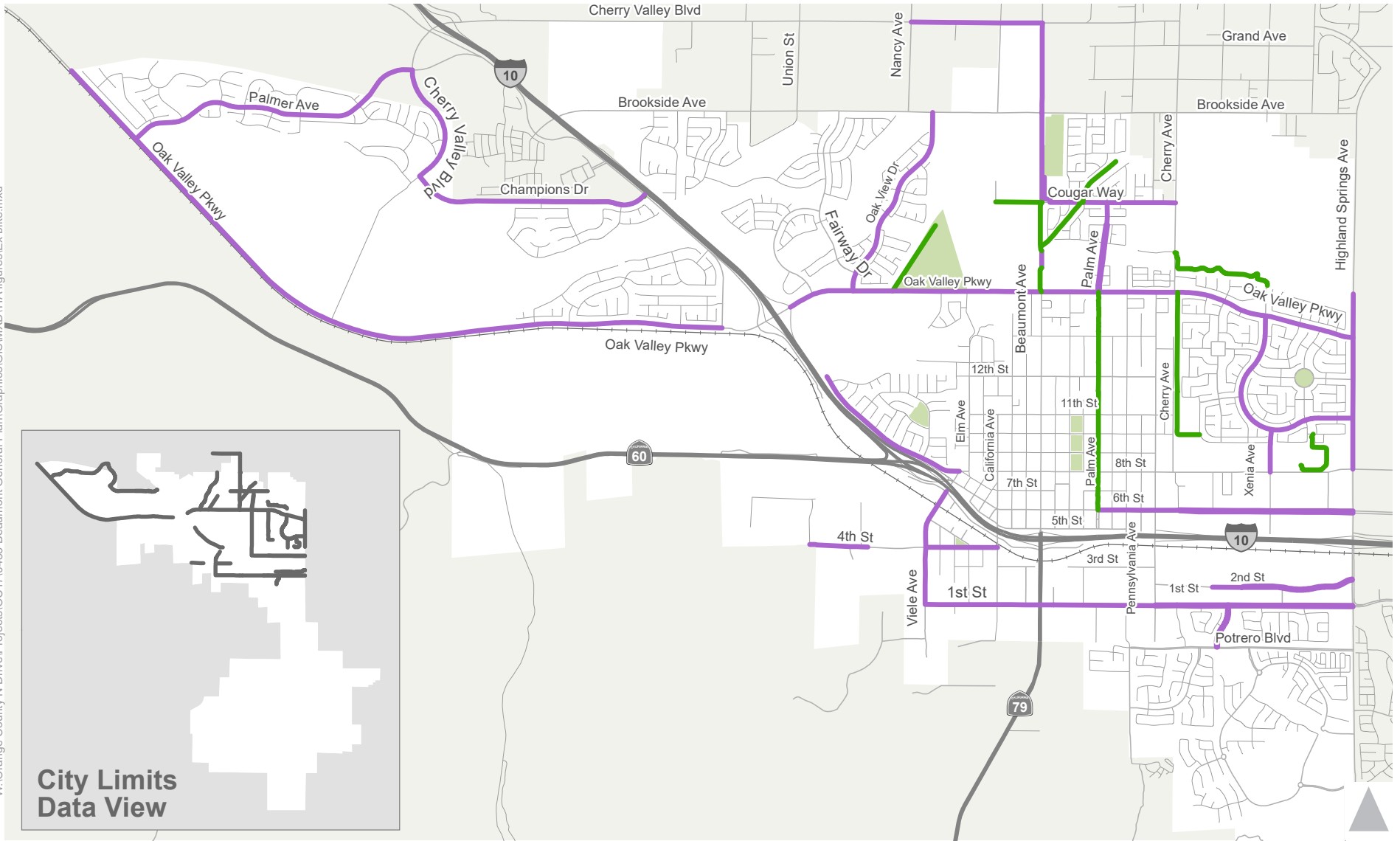
California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways in 2015.



Numerous bike facilities have been implemented throughout the City. However, they are generally disconnected and don't provide good cross-town connectivity to fully connect all residents to potential destinations. The City adopted a Bikeway and Pedestrian Master Plan in February 2011. The Master Plan has identified a comprehensive system of bikeways, including trails along key utility corridors that will complete the future bikeway system. The Bikeway Master Plan also identifies the development of bicycle facilities along the Edison Transmission Easement corridor, which spans from Oak View Drive to Highland Springs Avenue. **Figure 4-1** shows the existing bicycle facilities. The mobility element of the Beaumont General Plan Update identifies streets that should prioritize bicycle facilities. **Figure 4-2** shows the bicycle priority facilities. Policies within the mobility element are outlined to encourage the City to develop bicycle facilities along these bicycle priority roadways.

PEDESTRIAN FACILITIES

Walking is an environmentally friendly mode of transportation that enhances both personal and social well-being. In addition to transportation, this mode of travel provides many public access, health and economic benefits. Well-designed pedestrian facilities are safe, attractive, convenient, and easy to use. Incomplete sidewalk networks and poor sidewalk conditions are a major deterrent to walking. Sidewalks are generally provided on at least one side of the street along most of the major roadways throughout the City. However, there are also several sidewalk gaps along these corridors.



Existing Bicycle Facility

Class 1 Bike Path

Class 2 Bike Lane

Figure 4-1
Existing Bicycle Facility

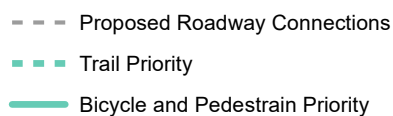


Figure 4-2
Pedestrian and Bicycle Facilities

Various signalized intersections contain crosswalks allowing pedestrians the choice of where to cross and providing good pedestrian access. The all-way and side-street stop controlled intersections within the City have a mix of crosswalks on all, some, or no approaches to the intersection. There is also a noticeable lack of sidewalk access in the residential areas adjacent to the downtown area. Specifically, in a grid roadway network that has great connectivity, sidewalks should be provided on both sides of the roadway.

EXISTING TRANSIT FACILITIES

Transit service in Beaumont is provided by the Beaumont Pass Transit System. It provides bus service to the City, local schools, and surrounding destinations. Riverside Transit Agency and SunLine Transit Agency also provide service to the City of Beaumont. The Walmart transit center operates as a key transit station and provides access to many of the routes that service the area. Many users of the City's system are students traveling to/from school. **Figure 4-3** shows the existing transit facilities.

BUS SERVICES

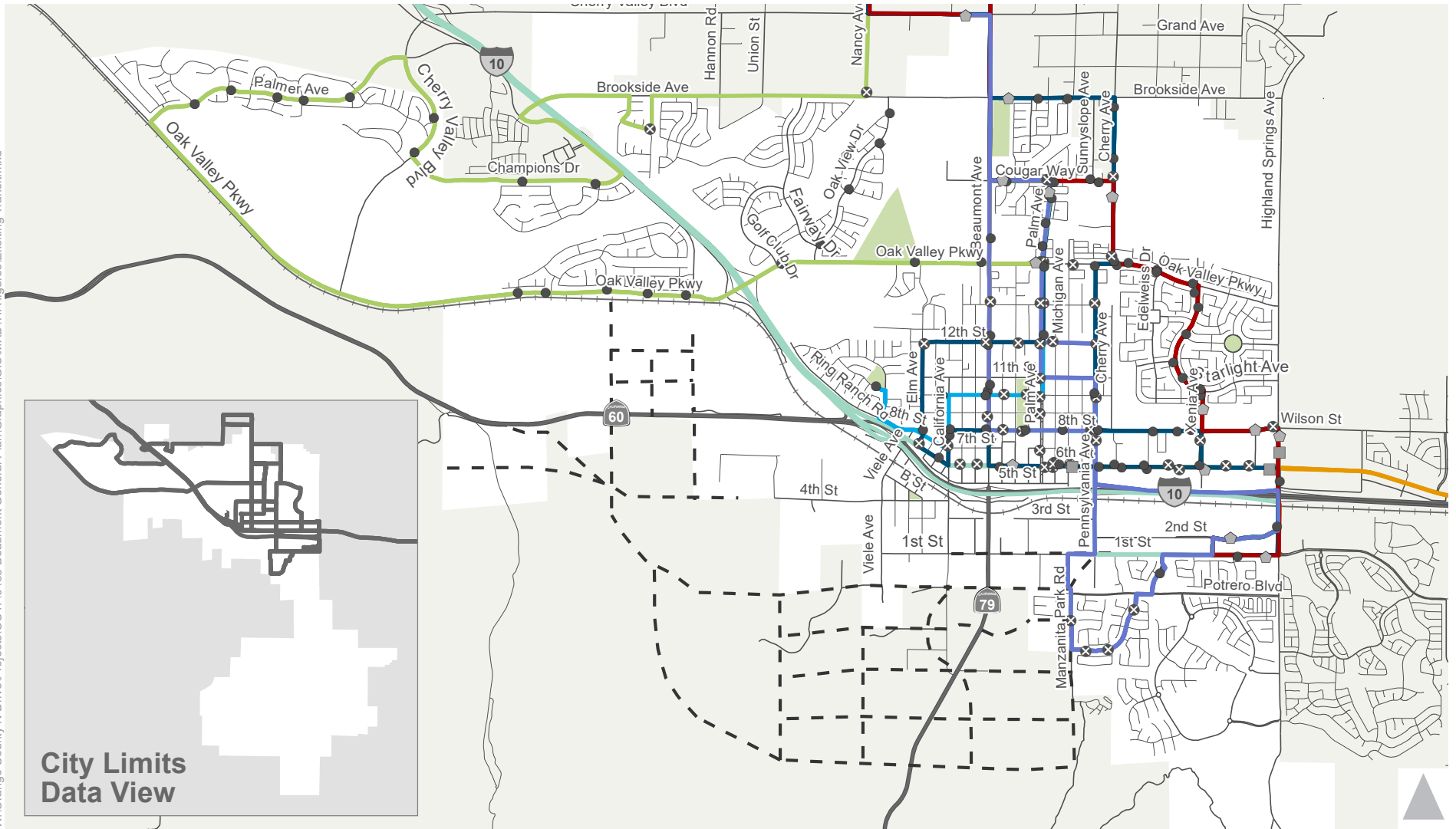
Route 2 – provides service from Beaumont to Cabazon. This route runs service to the Walmart transfer station, Banning, San Geronio Hospital transfer station, Casino Morongo and Outlet Malls. It operates from 6:30 AM to 7:50 PM at varying headways at least one hour apart on weekdays. It operates from 8:00 AM to 6:00 PM at approximately two-hour headways during the weekends.

Route 3 - provides service to the Walmart transfer station, Sundance, Beaumont High School, and Cherry Valley during the weekdays. It operates from 6:24 AM to 6:02 PM at varying headways, and at least one hour apart on weekdays. On Saturdays, this route operates in conjunction with Route 4.

Route 4 – provides service throughout midtown Beaumont to the Walmart transfer station, San Geronio Hospital transfer station, Orchard Park, and Chatigny Recreational Center. It operates from 7:35 AM to 7:35 PM at varying headways, at least one-hour apart on weekdays.

Route 7 – provides service in conjunction with Beaumont Unified School District and operates only when school is in session. This route provides service to Fairway Canyon and Beaumont High School. Route 9 operates between the hours of 6:35 AM to 7:54 AM and 3:10 PM to 4:30 PM.

Route 9 – provides service in conjunction with Beaumont Unified School District and operates only when school is in session. This route provides service to the Beaumont Walmart, Mountain View Middle School, San Geronio Middle School, and Beaumont High School. Route 9 operates between the hours of 6:35 AM to 7:54 AM and 3:10 PM to 4:18 PM.



Bus Routes

- 3
- 4
- 7
- 9
- 3/4
- 120
- 2

Bus Stops

- Bench/Sign
- No Bus Sign
- Shelter
- Sign Only

Figure 4-3
Existing Transit Facility

Route 136 – provides service in the City of Calimesa. This transit route is operated through Beaumont Pass Transit with connections to Commuter Link 120. Connection to this route provides transfer service to Yucaipa OmniTrans routes 308 and 309. Route 136 operates from 7:20 AM to 5:25 PM at varying 30-minute headways.

Commuter Link 120 – an express route that provides service from Beaumont to Calimesa, San Bernardino Metrolink Station and Loma Linda Veteran’s Hospital. The San Bernardino Metrolink Station provides transfer connections to Amtrak train services, as well as RTA, OmniTrans, Victor Valley Transit Authority, and Mountain Area Regional Transit Authority.

PASSENGER RAIL

There is no direct access to passenger rail within the City of Beaumont. However, RCTC is conducting a study to investigate passenger rail service from Riverside to Coachella Valley with a potential station in the Pass area.

GOLF CART NETWORK

In an effort to promote the use of an alternative form of non-polluting transportation, the City of Beaumont has developed a Golf Cart Transportation Plan (GCTP) (2010, Community & Economic Development Department). This plan introduces golf cart facilities, such as golf cart routes, to link neighborhoods with various attractions, including retail, medical, and recreational facilities. Designated routes are proposed along collector streets. The GCTP defines golf cart facilities as all publicly owned facilities that provide for golf cart travel, including golf cart lanes, routes, and crossings designated by signs or permanent markings, and are shared with pedestrians, bicyclists, and other motorists in the plan area. Golf cart facilities are separated into three categories: golf cart lanes, golf cart route area, and golf course cart crossing zones.

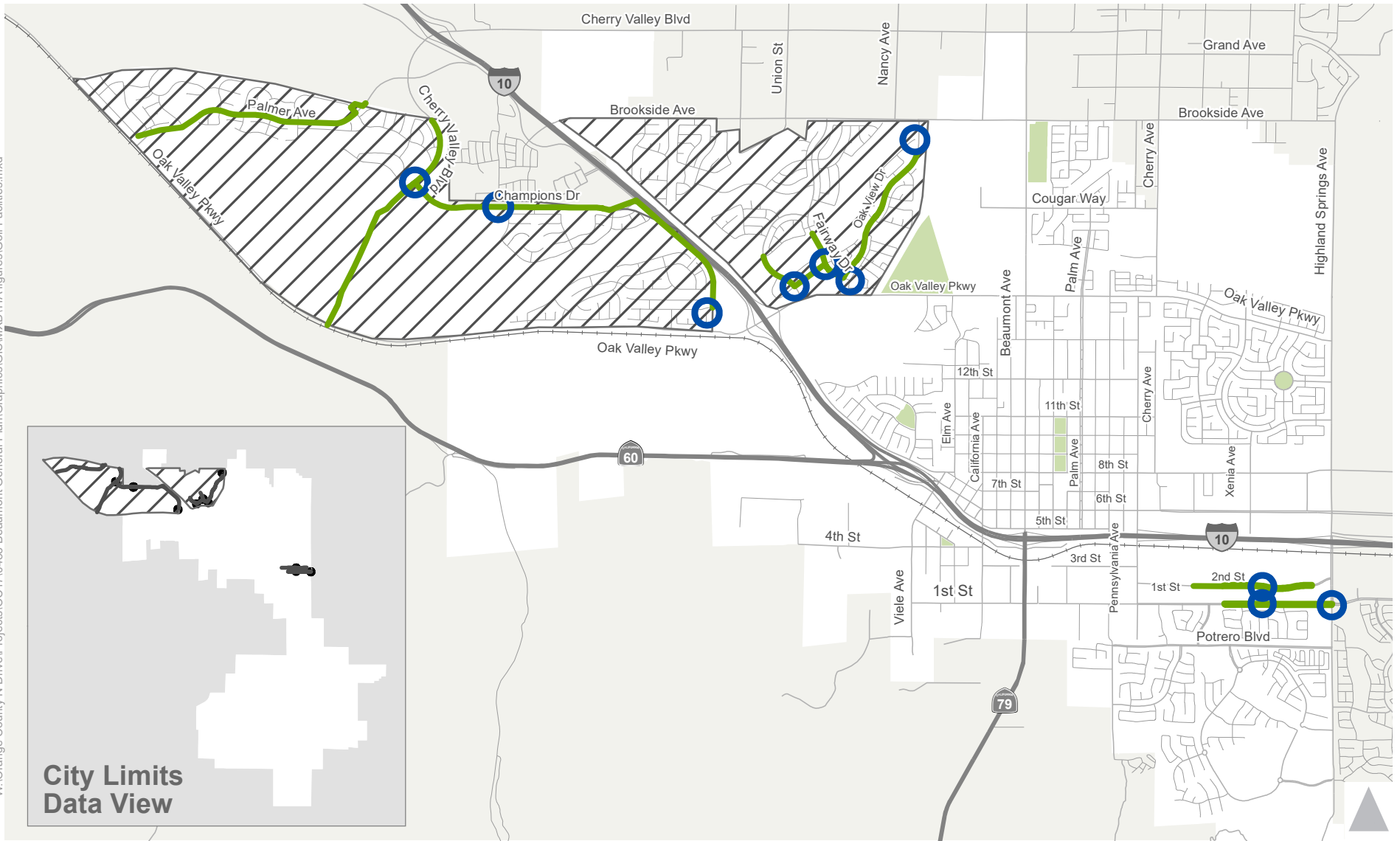
Figure 4-4 show the existing and proposed GCTP facilities.

GOLF CART LANES

Golf cart lanes are outlined as public roadways that are designated by signs and pavement markings for golf cart travel. The plan states that these lanes allow golf carts to travel adjacent to automobile traffic, but within a separated striped space. Golf cart lanes are allowed to share lanes with bicycles. Second Street has golf cart lanes.

GOLF CART ROUTE AREA

Golf cart route areas are travel lanes on residential streets that are shared with pedestrians, bicyclists, and other motorists.



-  GolfCart_Crossing
-  GolfCart_Lane
-  GolfCart_RouteAreas

Figure 4-4
Golf Cart Transportation Plan

GOLF COURSE CART CROSSING ZONES

Golf course cart crossing zones are classified as locations on public streets that allow golf carts to cross at any time other than during darkness on any streets, with the exception of highways.

TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Existing morning (7:00 am to 9:00 am) and evening (4:00 pm to 6:00 pm) peak period intersection vehicle and bicycle and pedestrian counts were collected at 11 study intersections throughout the City of Beaumont during April 2018. Daily roadway segment counts were collected at 26 locations throughout the City of Beaumont during April 2018. All traffic counts were collected during typical weekdays with clear weather and when school was in-session.

Existing (2018) peak hour traffic volumes and lane configurations for the study intersections are shown on **Figure 4-5**. Existing traffic counts are provided in **Appendix A**.

As part of the field inventory, Fehr & Peers also collected the following information:

- Lane configurations
- Signal phasing
- Land uses in the study area
- Existing pedestrian and bicycle facilities
- On-street parking conditions

INTERSECTION OPERATIONS

Existing traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for existing AM and PM peak hour conditions. The results summarized in **Table 4-1** show vehicular LOS at the study intersections. The Existing LOS reports are provided in **Appendix B**.

As shown in **Table 4-1**, all intersections operate at an acceptable LOS in both the AM and PM conditions.

TABLE 4-1 EXISTING INTERSECTION OPERATIONS

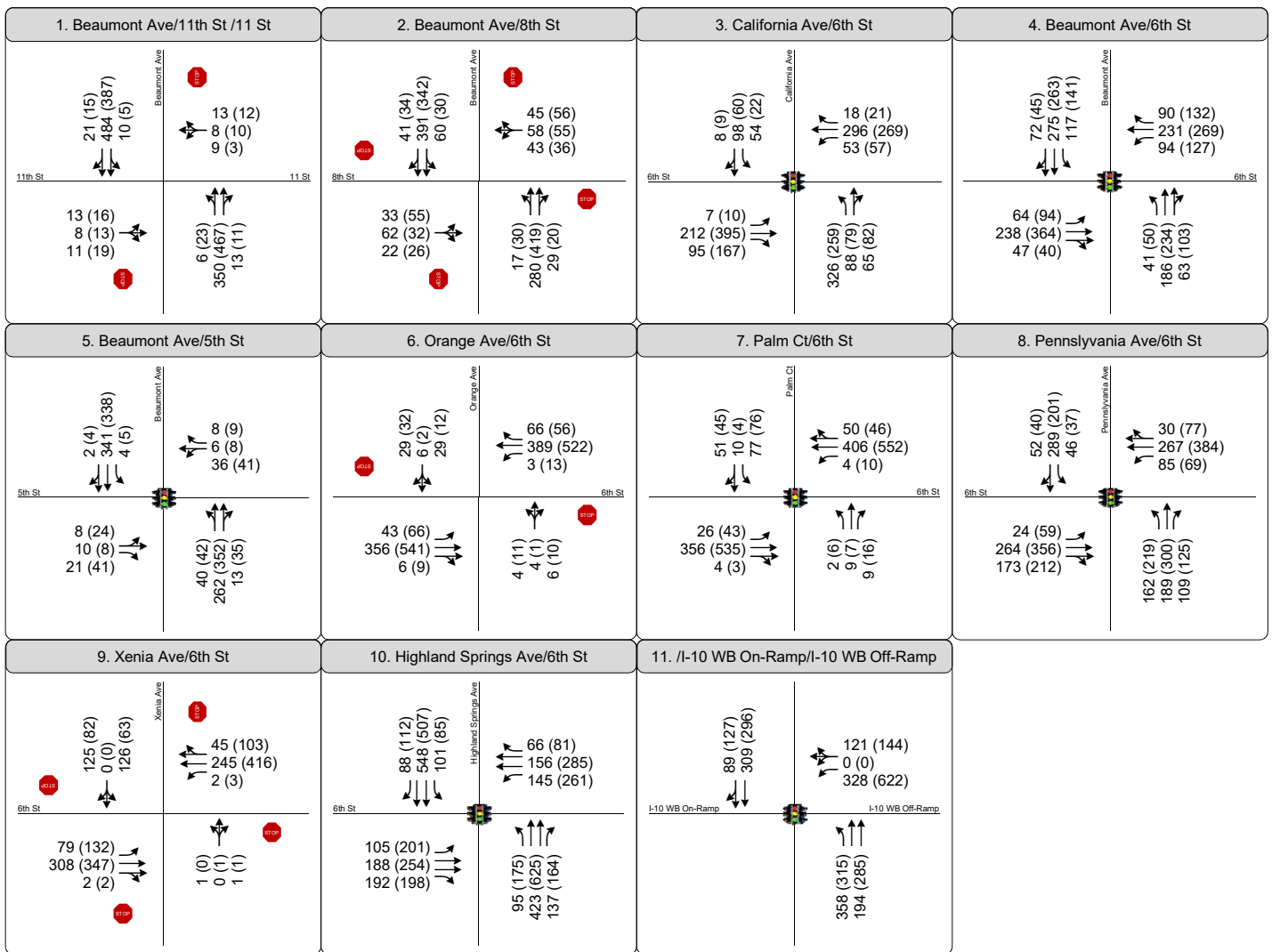
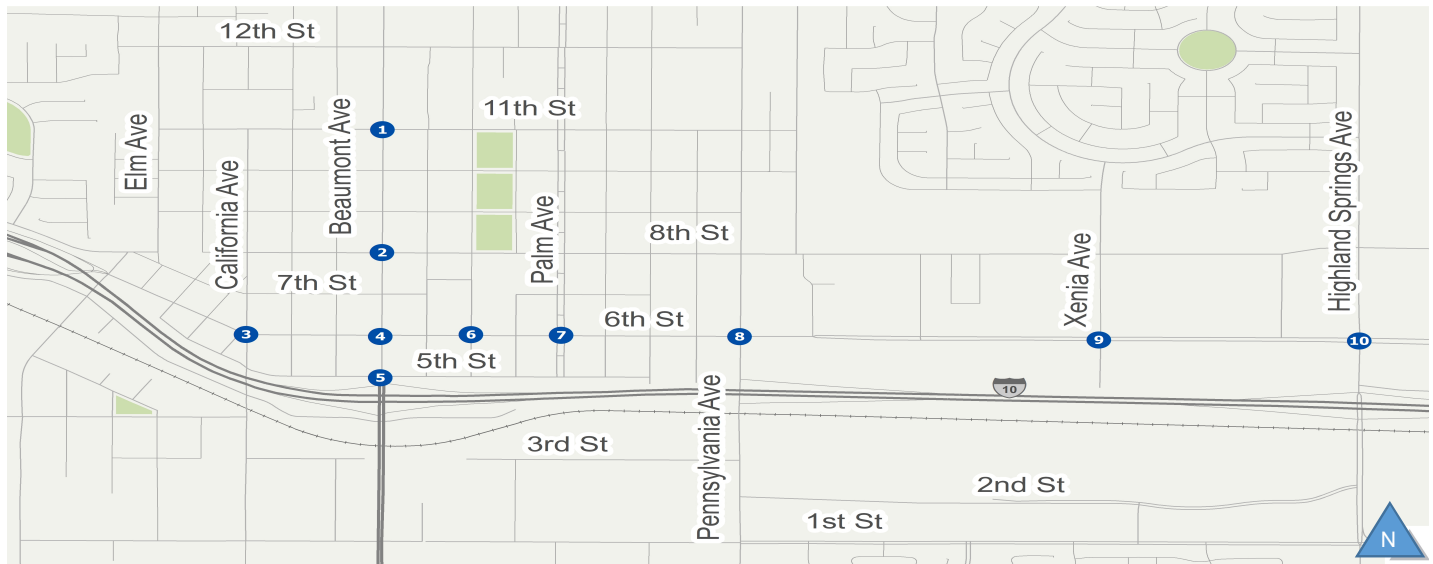
	Intersection	Peak Hour	Existing	
			Delay	LOS
1	Beaumont Avenue/11th Street	AM	18	C
		PM	18	C
2	Beaumont Avenue/Eighth Street	AM	12	B
		PM	13	B
3	Sixth Street/California Avenue	AM	19	B
		PM	19	B
4	Sixth Street/Beaumont Avenue	AM	13	B
		PM	16	B
5	Beaumont Avenue/Fifth Street	AM	23	C
		PM	24	C
6	Sixth Street/Orange Avenue	AM	18	C
		PM	35	D
7	Sixth Street/Palm Avenue	AM	14	B
		PM	15	B
8	Sixth Street/Pennsylvania Avenue	AM	17	B
		PM	18	B
9	Sixth Street/Xenia Avenue	AM	12	B
		PM	12	B
10	Sixth Street/Highland Springs Avenue	AM	38	D
		PM	48	D
11	Beaumont Avenue/I-10 Westbound Ramps	AM	24	C
		PM	30	C

Notes:

1. Delay is calculated using Synchro 10 with HCM 6 Methodology

2. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019



AM (PM)

Figure 4-5
Peak Hour Traffic Volumes and Lane Configurations
Existing (2018) Conditions



ROADWAY OPERATIONS

As shown in **Table 4-2**, the following roadway segment operates at an unacceptable LOS:

I-10 - Between Pennsylvania Avenue and Highland Springs Avenue (LOS E)

TABLE 4-2 ROADWAY LEVEL OF SERVICE EXISTING CONDITIONS

Roadway	Segment	Classification ¹	Number of Lanes	Capacity	Volume	V/C Ratio	LOS
Oak Valley Parkway	West of Potrero Boulevard	Major Frontage Road	2	25,000	2,546	0.10	A
Oak Valley Parkway	East of Potrero Boulevard	Urban Arterial	4	50,000	5,379	0.11	A
Oak Valley Parkway	Between I-10 WB Ramps and Oak View Drive	Urban Arterial	4	50,000	16,600	0.33	A
Beaumont Avenue	North of Oak Valley Parkway	Major Highway	4	40,000	16,511	0.41	A
Oak Valley Parkway	West of Starlight Avenue	Major Highway	4	40,000	8,471	0.17	A
Beaumont Avenue	Between Eighth Street and 12th Street	Secondary	4	25,000	12,081	0.48	A
Highland Springs Avenue	South of Oak Valley Parkway	Arterial Highway	2	40,000	15,241	0.38	A
Xenia Avenue	North of Sixth Street	Secondary	4	25,000	2,487	0.10	A
Sixth Street	East of Veile Avenue	Divided Collector	4	25,000	17,150	0.69	B
Beaumont Avenue	Between Fifth Street and Sixth Street	Major Highway	4	25,000	11,093	0.44	A
Sixth Street	East of Beaumont Avenue	Divided Collector	2	25,000	14,059	0.56	A
Pennsylvania Avenue	Between Sixth Street and I-10 WB Ramps	Major Highway	2	40,000	14,009	0.56	A
6th Street	East of Pennsylvania Ave	Major Highway	4	40,000	11,352	0.28	A
Highland Springs Avenue	Between Fifth Street and Sixth Street	Urban Arterial	6	50,000	23,810	0.48	A
Veile Avenue	North of Fourth Street	Divided Collector	2	25,000	2,870	0.11	A
Beaumont Avenue	South of Fourth Street	Expressway	4	60,000	28,000	0.46	A
Pennsylvania Avenue	Between I-10 EB Ramps and Third Street	Major Highway	2	40,000	10,628	0.27	A

Roadway	Segment	Classification ¹	Number of Lanes	Capacity	Volume	V/C Ratio	LOS
Highland Springs Avenue	Between I-10 EB Ramps and First Street	Urban Arterial	6	50,000	25,760	0.52	A
First Street	Between Pennsylvania Avenue and Highland Springs Avenue	Major Highway	4	40,000	12,901	0.32	A
Beaumont Avenue (SR-79)	South of First Street	Expressway	4	60,000	30,000	0.50	A
Beaumont Avenue (SR-79)	South of California Avenue	Expressway	6	60,000	31,000	0.52	A
SR-60	West of the I-10	Freeway	4	80,000	59,500	0.74	C
I-10	West of SR-60	Freeway	6	120,000	103,700	0.86	D
I-10	Between SR-60 and SR-79	Freeway	8	160,000	135,700	0.85	D
I-10	Between SR-79 and Pennsylvania Avenue	Freeway	8	160,000	139,300	0.87	D
I-10	Between Pennsylvania Avenue and Highland Springs Avenue	Freeway	8	160,000	146,900	0.92	E

Note:

- 2007 Beaumont General Plan Roadway Classifications were used for analysis in this scenario.
- Roadway segment operating below acceptable LOS are noted in **bold**.

Source: Fehr & Peers, 2019

5. EXISTING (2018) PLUS PROJECT CONDITIONS

This section provides the intersection, roadway segment, and freeway segment operations analysis for locations in the study area. Traffic volumes were developed based on the methodologies described in Chapter 3.

TRAFFIC VOLUMES

As described in Chapter 3, the traffic volumes for this scenario consist of existing counts plus the addition of growth derived from RIVTAM. This scenario includes the existing land use conditions outside of the City plus the addition of the General Plan at buildout within the City. This condition is used to evaluate the net change in traffic conditions and to identify the potential traffic impacts associated with the project. Traffic volumes for the Existing (2018) Plus Project Conditions scenario are shown in **Figure 5-1**.

PLANNED ROADWAY AND INTERSECTION IMPROVEMENTS

The General Plan Update proposes roadway and intersection improvements to increase connectivity throughout the City. In chapter 3, **Figure 3-1** shows the proposed roadway network proposed as part of the Mobility Element.

In addition to the roadway network connectivity proposed in the Mobility Element, the Beaumont Downtown Area Plan proposes intersection and roadway modifications to promote a downtown district within the City (which prioritizes bicycles and pedestrians). The DAP recommends that Beaumont Avenue, between 12th Street and Eighth Street, be reduced to two-lanes; and that Sixth Street, between California Avenue and Palm Avenue, be reduced to two-lanes. Modifications to the intersections, listed below, were also proposed by the DAP. The following recommended modifications are denoted by their corresponding study intersection identification numbers, as shown on **Figure 2-3**:

Beaumont Avenue/11th Street (#1)

- Install a traffic signal
- The northbound approach of the intersection will be modified from one shared left-through lane and one shared through-right lane to one left-turn lane and one shared through-right lane

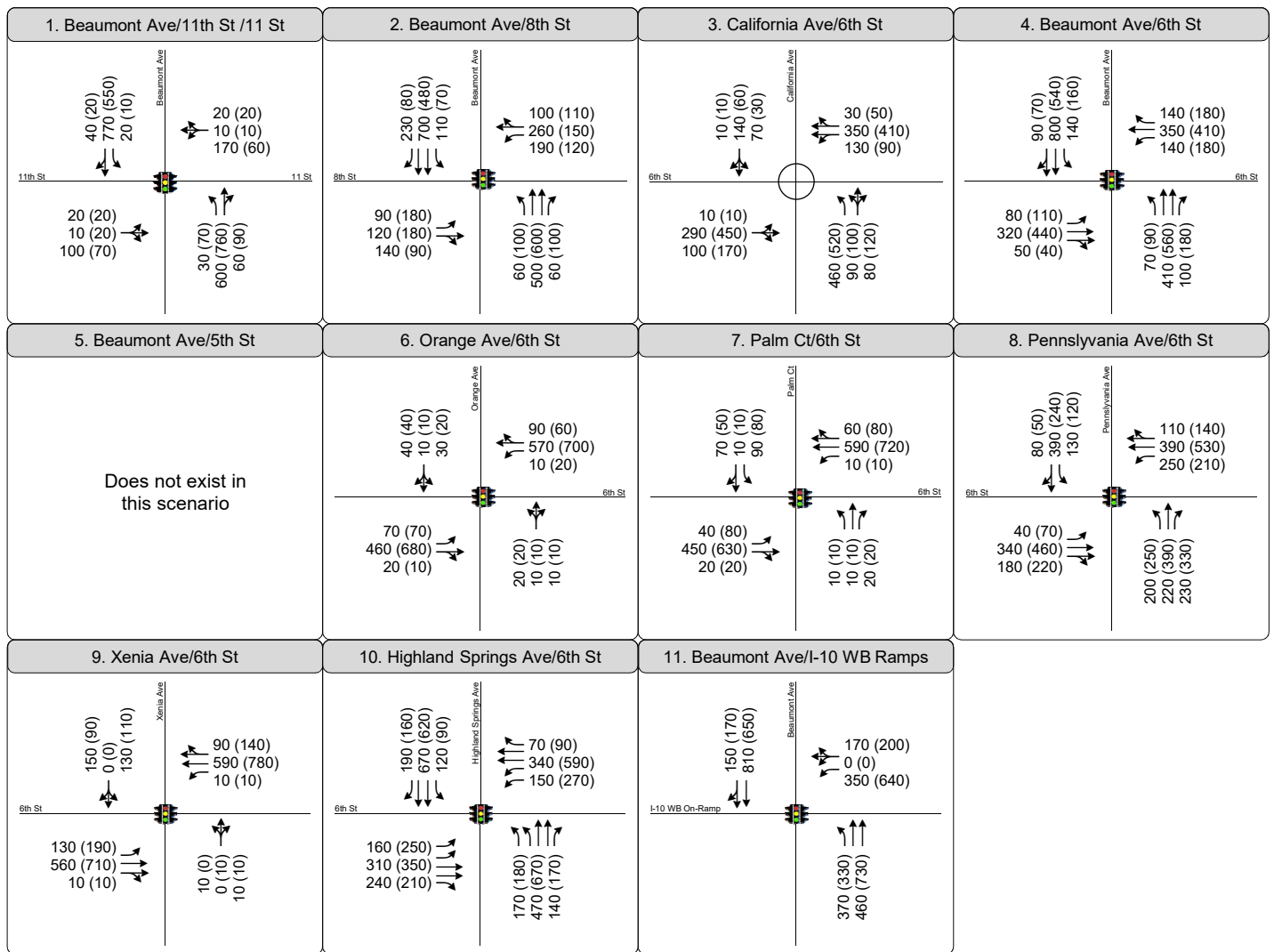
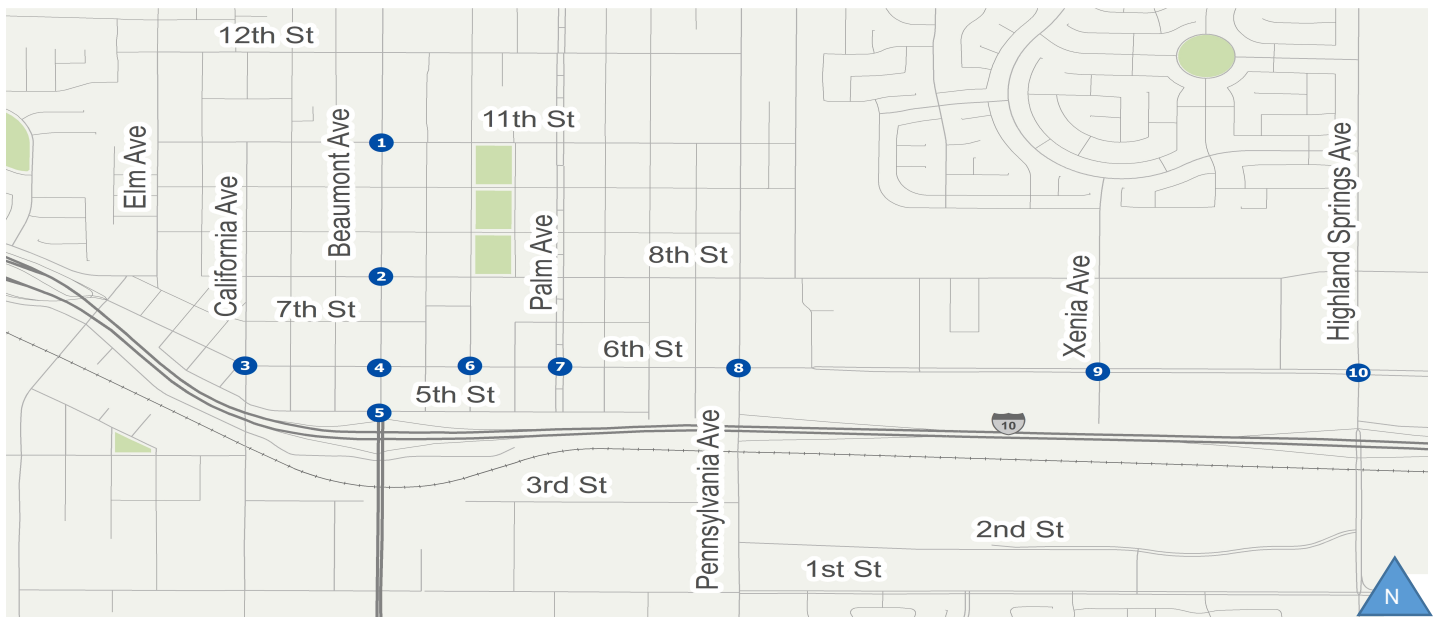


Figure 5-1
Peak Hour Traffic Volumes and Lane Configurations
Existing (2018) Plus Project Conditions



- The southbound approach of the intersection will be modified from one shared left-through lane and one shared through-right lane to one left-turn lane and one shared through-right lane

Beaumont Avenue/Eighth Street (#2)

- The northbound approach of the intersection will be modified from one shared left-through lane and one shared through-right lane to one left-turn lane, two through lanes, and one right-turn lane
- The southbound approach of the intersection will be modified from one shared through-left turn lane and one shared through-right turn lane to one left-turn lane, two through lanes, and one right-turn lane
- The eastbound approach of the intersection will be modified from one shared through-left turn-right turn lane to one left-turn lane, and one shared through-left turn lane
- The westbound approach of the intersection will be modified from one shared through-left turn-right turn lane to one left-turn lane, and one shared through-left turn lane

Sixth Street/California Avenue (#3)

- Install a two-lane roundabout

Sixth Street/Beaumont Avenue (#4)

- The northbound approach of the intersection will be modified from one left-turn lane, one through lane, and one shared through-right lane to one left-turn lane, two through lanes, and one right-turn lane

Fifth Street/Beaumont Avenue (#5)

- Removal of traffic signal

Sixth Street/Orange Avenue (#9)

- Install a traffic signal

Sixth Street/Highland Springs Avenue (#10)

- The northbound approach of the intersection will be modified from one left-turn lane, two through lanes, and one right-turn lane to two left-turn lanes, two through lanes, and one right-turn lane
- The eastbound approach of the intersection will be modified from one left-turn lane, two through lanes, and one right-turn lane to two left-turn lanes, two through lanes, and one right-turn lane

- The westbound approach of the intersection will be modified from one left-turn lane, two through lanes, and one right-turn lane to two left-turn lanes, two through lanes, and one right-turn lane

Beaumont Avenue/I-10 Westbound Ramps (#11)

- The northbound approach of the intersection will be modified from one left-turn lane and two through lanes to two left-turn lanes and two through lanes

INTERSECTION OPERATION ANALYSIS

Existing (2018) Plus Project traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for AM and PM peak hour conditions. The results are summarized in **Table 5-1**, showing vehicular LOS at the study intersections. The Existing (2018) Plus Project LOS report is provided in **Appendix B**. As shown in **Table 5-1**, all study intersections are forecast to operate at an acceptable LOS in the Existing Year (2018) Plus Project Conditions.

TABLE 5-1 EXISTING (2018) PLUS PROJECT INTERSECTION CONDITIONS

	Intersection	Peak Hour	Existing Plus Project	
			Delay	LOS
1	Beaumont Avenue/11th Street	AM	9	A
		PM	6	A
2	Beaumont Avenue/Eighth Street	AM	19	B
		PM	17	B
3	Sixth Street/California Avenue	AM	24	C
		PM	26	C
4	Sixth Street/Beaumont Avenue ¹	AM	18	B
		PM	21	C
5	Beaumont Avenue/Fifth Street ²	AM	-	-
		PM	-	-
6	Sixth Street/Orange Avenue	AM	6	A
		PM	6	A
7	Sixth Street/Palm Avenue	AM	15	B
		PM	16	B
8	Sixth Street/Pennsylvania Avenue	AM	31	C
		PM	26	C
9	Sixth Street/Xenia Avenue	AM	11	B
		PM	10	B
10	Sixth Street/Highland Springs Avenue	AM	37	D
		PM	36	D
11	Beaumont Avenue/I-10 Westbound Ramps	AM	28	C
		PM	23	C

Notes:

1. LOS E is an acceptable LOS for intersection 4 as part of the Beaumont Downtown Area Plan

2. Intersection 5 does not exist in the future year.

3. Delay is calculated using Synchro using HCM 6th Edition Methodology

4. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

ROADWAY OPERATIONS

As shown in **Table 5-2**, the following roadway segment operates at an unacceptable LOS:

- I-10 – Between Beaumont Avenue (SR-79) and Pennsylvania Avenue (LOS E)
- I-10 - Between Pennsylvania Avenue and Highland Springs Avenue (LOS E)

TABLE 5-2 ROADWAY LEVEL OF SERVICE EXISTING PLUS PROJECT CONDITIONS

Roadway	Segment	Classification ¹	Number of Lanes	Capacity	Volume	V/C Ratio	LOS
Oak Valley Parkway	West of Potrero Boulevard	Arterial Frontage	4	45,000	6,400	0.14	A
Oak Valley Parkway	East of Potrero Boulevard	Arterial Frontage	4	45,000	22,400	0.50	A
Oak Valley Parkway	Between I-10 WB Ramps and Oak View Drive	Arterial Frontage	4	45,000	30,000	0.67	B
Beaumont Avenue	North of Oak Valley Parkway	Arterial Highway	4	45,000	26,000	0.58	A
Oak Valley Parkway	West of Starlight Avenue	Arterial Highway	4	45,000	10,700	0.24	A
Beaumont Avenue	Between Eighth Street and 12th Street	Downtown Streets	2	25,000	17,000	0.68	B
Highland Springs Avenue	South of Oak Valley Parkway	Arterial Highway	4	45,000	14,500	0.32	A
Xenia Avenue	North of Sixth Street	Arterial Highway	4	45,000	3,900	0.09	A
Sixth Street	East of Veile Avenue	Downtown Streets	2	25,000	19,600	0.75	C
Beaumont Avenue	Between Fifth Street and Sixth Street	Downtown Streets	4	45,000	19,100	0.42	A
Sixth Street	East of Beaumont Avenue	Downtown Streets	2	25,000	15,100	0.60	B
Pennsylvania Avenue	Between Sixth Street and I-10 WB Ramps	Major Highway	4	45,000	17,700	0.39	A
6th Street	East of Pennsylvania Ave	Downtown Streets	4	45,000	17,100	0.38	A
Highland Springs Avenue	Between Fifth Street and Sixth Street	Urban Arterial Highway	6	55,000	25,300	0.46	A
Veile Avenue	North of Fourth Street	Arterial Highway	2	25,000	10,100	0.40	A
Beaumont Avenue	South of Fourth Street	Expressway	6	60,000	34,800	0.58	A

Roadway	Segment	Classification ¹	Number of Lanes	Capacity	Volume	V/C Ratio	LOS
Pennsylvania Avenue	Between I-10 EB Ramps and Third Street	Major Highway	4	45,000	22,000	0.49	A
Highland Springs Avenue	Between I-10 EB Ramps and First Street	Urban Arterial Highway	6	55,000	33,400	0.61	B
First Street	Between Pennsylvania Avenue and Highland Springs Avenue	Major Highway	4	45,000	17,200	0.38	A
Beaumont Avenue (SR-79)	South of First Street	Expressway	6	60,000	31,100	0.52	A
Beaumont Avenue (SR-79)	South of California Avenue	Expressway	6	60,000	41,600	0.69	B
SR-60	West of the I-10	Freeway	4	80,000	60,900	0.76	C
I-10	West of SR-60	Freeway	6	120,000	107,900	0.90	D
I-10	Between SR-60 and SR-79	Freeway	8	160,000	140,400	0.88	D
I-10	Between SR-79 and Pennsylvania Avenue	Freeway	8	160,000	144,200	0.90	E
I-10	Between Pennsylvania Avenue and Highland Springs Avenue	Freeway	8	160,000	152,500	0.95	E

Note:

1. Roadway Classifications from the 2019 Beaumont General Plan Update were used for analysis in this scenario.
2. Roadway segment operating below acceptable LOS are noted in **bold**.

Source: Fehr & Peers, 2019

IMPACT ASSESSMENT

INTERSECTION IMPACTS

As shown in **Table 5-1**, all intersections operate at an acceptable LOS. There are no intersection impacts in the Existing Plus Project conditions.

ROADWAY IMPACTS

Table 5-3 compares the changes in delay and LOS at intersections that operate at LOS E or F between “No Project” and “Plus Project” scenarios to determine project impacts. Changes are compared to the allowable change outlined in Chapter 3

TABLE 5-3 EXISTING (2018) PLUS PROJECT IMPACT ROADWAY SEGMENT IMPACTS SUMMARY

Roadway	Segment	Existing No Project V/C	Existing Plus Project V/C	Δ in V/C	Significant Impact?
I-10	Beaumont Avenue (SR-79) and Pennsylvania Avenue	0.87	0.90	0.03	Yes
I-10	Between Pennsylvania Avenue and Highland Springs Avenue	0.92	0.95	0.03	Yes

Note:

1. Significant impacts are noted in **bold**.

Source: Fehr & Peers, 2019

6. CUMULATIVE (2040) CONDITIONS

This section provides the intersection, roadway segment, and freeway segment operations analysis for locations in the study area. Traffic volumes were developed based on the methodologies described in Chapter 3.

TRAFFIC VOLUMES

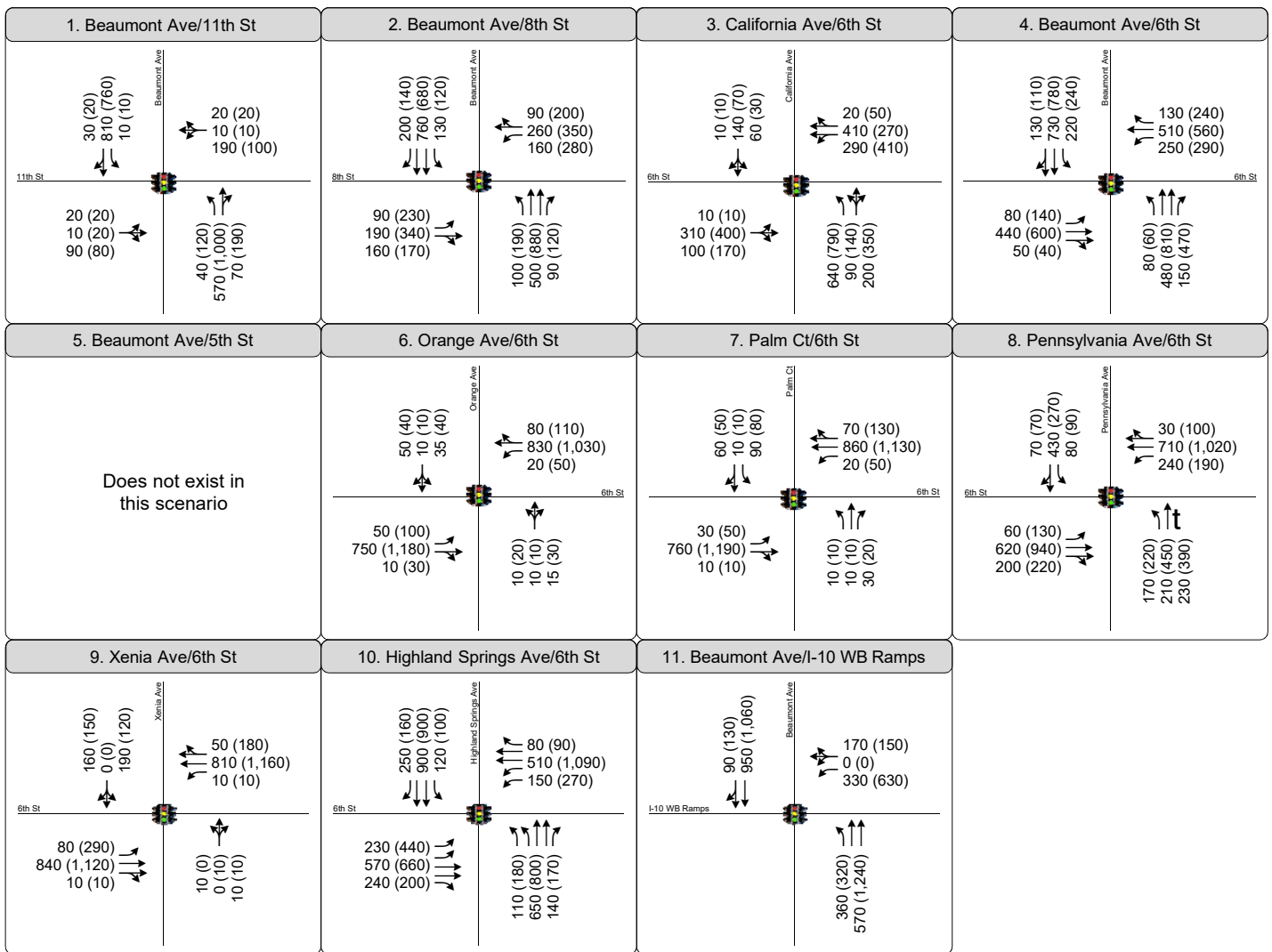
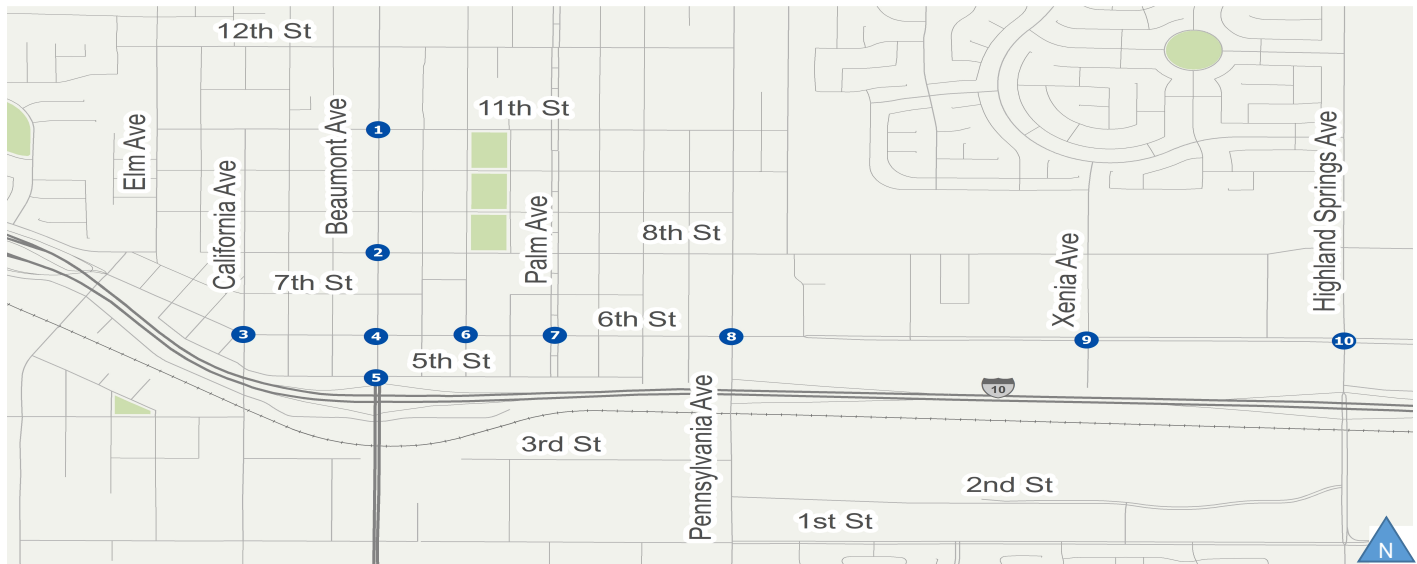
As described in Chapter 3, the traffic volumes for this scenario consist of existing counts plus the addition of growth derived from RIVTAM. Traffic volumes for the Cumulative Year (2040) Conditions scenario are shown in **Figure 6-1**.

PLANNED ROADWAY AND INTERSECTION IMPROVEMENTS

The same future roadway improvements assumed in Existing (2018) Plus Project Conditions were assumed in this scenario.

INTERSECTION OPERATION ANALYSIS

Future traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for Cumulative Year (2040) AM and PM peak hour conditions. The results are summarized in **Table 6-1**, showing vehicular LOS at the study intersections. The Cumulative Year (2040) LOS report is provided in **Appendix B**. As shown **Table 6-1**, all intersections operate at an acceptable LOS under both the AM and PM peak hour.



AM (PM)

Figure 6-1
Peak Hour Traffic Volumes and Lane Configurations
Cumulative (2040) Conditions



TABLE 6-1 CUMULATIVE (2040) YEAR INTERSECTION CONDITIONS

Intersection	Peak Hour	Future Year	
		Delay	LOS
1 Beaumont Avenue/11th Street	AM	14	B
	PM	15	B
2 Beaumont Avenue/Eighth Street	AM	23	C
	PM	53	D
3 Sixth Street/California Avenue	AM	21	C
	PM	32	D
4 Sixth Street/Beaumont Avenue ¹	AM	39	D
	PM	67	E
5 Beaumont Avenue/Fifth Street ²	AM	-	-
	PM	-	-
6 Sixth Street/Orange Avenue	AM	7	A
	PM	12	B
7 Sixth Street/Palm Avenue	AM	20	B
	PM	41	D
8 Sixth Street/Pennsylvania Avenue	AM	47	D
	PM	54	D
9 Sixth Street/Xenia Avenue	AM	14	B
	PM	19	B
10 Sixth Street/Highland Springs Avenue	AM	50	D
	PM	55	D
11 Beaumont Avenue/ I-10 Westbound Ramps	AM	31	C
	PM	29	C

Notes:

1. LOS E is an acceptable LOS for intersection 4 as part of the Beaumont Downtown Area Plan

2. Intersection 5 is not exist in the future year (2040).

3. Delay is calculated using Synchro using HCM 6th Edition Methodology

4. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

ROADWAY SEGMENT OPERATION ANALYSIS

Roadway segments LOS analysis is presented in **Table 6-2** for the Cumulative Year (2040) Conditions. As shown in **Table 6-2**, the following roadway segments operate at an unacceptable LOS:

Beaumont Avenue (SR-79) – South of California Avenue (LOS F)

SR-60 Freeway West of the I-10 (LOS F)

I-10 Freeway West of SR-60 (LOS F)

I-10 Freeway Between SR-60 and SR-79 (LOS F)

I-10 Freeway Between SR-79 and Pennsylvania Avenue (LOS F)

I-10 Freeway Between Pennsylvania Ave and Highland Springs Avenue (LOS F)

TABLE 6-2 ROADWAY SEGMENT OPERATIONS FUTURE YEAR CONDITIONS

Roadway	Segment	Classification ¹	Number of Lanes	Capacity	Volume	V/C Ratio	LOS
Oak Valley Parkway	West of Potrero Boulevard	Arterial Frontage	4	45,000	9,700	0.22	A
Oak Valley Parkway	East of Potrero Boulevard	Arterial Frontage	4	45,000	27,700	0.62	B
Oak Valley Parkway	Between I-10 WB Ramps and Oak View Drive	Arterial Frontage	4	45,000	33,500	0.74	C
Beaumont Avenue	North of Oak Valley Parkway	Arterial Highway	4	45,000	28,100	0.62	B
Oak Valley Parkway	West of Starlight Avenue	Arterial Highway	4	40,000	12,400	0.31	A
Beaumont Avenue	Between Eighth Street and 12th Street	Downtown Streets	2	25,000	19,400	0.78	C
Highland Springs Avenue	South of Oak Valley Parkway	Arterial Highway	4	45,000	15,900	0.35	A
Xenia Avenue	North of Sixth Street	Major Highway	4	45,000	5,000	0.11	A
Sixth Street ⁴	East of Veile Avenue	Downtown Streets	2	25,000	25,000	1.00	E
Beaumont Avenue	Between Fifth Street and Sixth Street	Downtown Streets	4	45,000	23,700	0.53	A
Sixth Street ⁴	East of Beaumont Avenue	Downtown Streets	2	25,000	23,800	0.95	E
Pennsylvania Avenue	Between Sixth Street and I-10 WB Ramps	Major Highway	4	45,000	22,800	0.51	A
Sixth Street	East of Pennsylvania Ave	Downtown Streets	4	45,000	25,100	0.56	A

Roadway	Segment	Classification ¹	Number of Lanes	Capacity	Volume	V/C Ratio	LOS
Highland Springs Avenue	Between Fifth Street and Sixth Street	Urban Arterial Highway	6	55,000	30,800	0.56	A
Veile Avenue	North of Fourth Street	Arterial Highway	2	25,000	15,300	0.61	B
Beaumont Avenue	South of Fourth Street	Expressway	6	60,000	46,300	0.77	C
Pennsylvania Avenue	Between I-10 EB Ramps and Third St	Major Highway	4	45,000	27,800	0.62	B
Highland Springs Avenue	Between I-10 EB Ramps and First Street	Urban Arterial Highway	6	55,000	40,200	0.73	C
First Street	Between Pennsylvania Avenue and Highland Springs Avenue	Major Highway	4	45,000	23,800	0.53	A
Beaumont Avenue (SR-79)	South of First Street	Expressway	6	60,000	40,800	0.68	B
Beaumont Avenue (SR-79)	South of California Avenue	Expressway	6	60,000	62,900	1.05	F
SR-60	West of the I-10	Freeway	4	80,000	109,800	1.37	F
I-10	West of SR-60	Freeway	6	120,000	156,700	1.31	F
I-10	Between SR-60 and SR-79	Freeway	8	160,000	222,000	1.39	F
I-10	Between SR-79 and Pennsylvania Avenue	Freeway	8	160,000	220,900	1.38	F
I-10	Between Pennsylvania Avenue and Highland Springs Avenue	Freeway	8	160,000	234,700	1.47	F

Notes:

- Roadway Classifications from the 2019 Beaumont General Plan Update were used for analysis in this scenario.
- LOS E is an acceptable LOS for non-automobile prioritize roadway.
- Bold** indicates an LOS below the acceptable threshold.

Source: Fehr & Peers, 2019

7. VEHICLE MILES TRAVELED (VMT) ANALYSIS

SB 743, signed by the Governor in 2013, changed the way transportation impacts are identified. Specifically, the legislation has directed the Office of Planning and Research (OPR) to look at different metrics for identifying transportation as a CEQA impact. The Final OPR guidelines, released in November 2017, identify vehicle miles of travel (VMT) as the preferred metric for traffic impact analysis moving forward. The Natural Resources Agency completed the rule making process to modify the CEQA guidelines in 2019 and VMT is the required CEQA metric as of July 1, 2020.

This chapter is particularly important, as VMT assessment is the basis for identifying CEQA impacts associated with project for transportation. The analyses provided in previous chapters focused on LOS.

VMT BACKGROUND

OPR has provided a Technical Advisory within the guidelines to “map out” potential criteria that can be applied by local agencies. The criteria, as currently written, is outlined below:

For residential projects, the project impact would be less-than-significant, if the resulting project VMT ratio is 15% below the existing regional or city VMT ratio.

For office projects, the project impact would be less-than-significant, if the resulting project VMT ratio is 15% below the existing regional or City VMT ratio.

For retail projects, the project impact is considered less-than-significant, if the project is local-serving retail. Retail which increases VMT compared to previous shopping patterns may be considered significant, such as large shopping centers with intended regional draw.

The legislative intent of SB 743 is to balance the needs of congestion management with statewide goals for infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. However, the OPR recommended VMT threshold of 15% below baseline conditions is almost exclusively based on GHG reduction goals identified in the Air Resources Board’s Mobile Source Strategy document. While this is a legislative intent objective of SB 743, the connection to the infill development and active transportation intent is less clear.

The OPR guidelines recognize that land use context matters when it comes to VMT mitigations options, thresholds, and effectiveness. The City of Beaumont adopted Traffic Impact Study (TIS) guidelines in June 2020 that address VMT impact criteria and analysis methodology. VMT per service population (total employment plus population) was utilized and compared back to the City’s existing VMT per Service

Population ratio. The City's VMT threshold indicates that a project impact would be less-than-significant if the resulting project's VMT is 3% below the existing citywide VMT. These guidelines were applied to the Project in this assessment.

VM T ANALYSIS

Fehr & Peers utilized the RIVTAM travel demand forecasting model to estimate VMT for the Project and the City. The VMT estimates incorporate the "full accounting" methodology in that it accounts for the complete length of the trip from the origin to the destination and assigns 100% of that trip distance to the City of Beaumont. To estimate the existing VMT, Fehr & Peers had to estimate VMT from both the Base Year (2016) and Future Year (2040) horizons in the RIVTAM Model. The VMT per service population was estimated for both of these horizons and then linear interpolation was utilized to estimate the existing (2018, consistent with our traffic count collection) VMT for the project.

The base year, existing year, and future year VMT estimates are summarized in **Table 7-1**. **Table 7-2** summarizes the VMT analysis and compares the City's existing and future year VMT. As shown in **Table 7-2**, the existing VMT per service population in the City is 24.4. 3% below the Citywide average would be mean that the General Plan would results in a significant impact if the VMT per service population was greater than 23.7. The Project (implementation of the General Plan including the SOI area) results in VMT per service population of 29.7, which is 25% higher than the threshold of significance established by the City. Based on the City's thresholds, this project results in a **significant impact** and would be subject to mitigation.

It should be noted that, even though the General Plan buildout will result in a significant impact, the City's VMT per service population will be 12% lower than the WRCOG regional average and development in Beaumont (instead of other areas in the WRCOG region) would generally benefit the environment.

TABLE 7-1 BEAUMONT GENERAL PLAN UPDATE VMT SUMMARY

Scenario	2016 Base Year			2018 Interpolated Conditions			2040 Future Year (Including General Plan Buildout)		
	Total VMT	Service Population	VMT per Service Population	Total VMT	Service Population	VMT per Service Population	Total VMT	Service Population	VMT per Service Population
City of Beaumont (Citywide) VMT	1,085,515	46,806	23.2	1,318,032	54,093	24.4	3,875,716	134,255	28.9
Sphere of Influence (SOI) Only VMT	138,764	3,456	40.2	218,563	5,914	37.0	1,096,347	32,949	33.3
Total Beaumont General Plan Area (Citywide plus SOI)	1,224,279	50,262	24.4	1,536,594	60,007	25.6	4,972,063	167,204	29.7
WRCOG VMT	67,556,043	2,263,510	29.8	71,464,388	2,374,232	30.1	114,456,180	3,411,485	33.6

Notes:

1. VMT represents daily VMT between Tuesdays and Thursdays. VMT analysis does not reflect weekend or holiday travel.

Source: Fehr & Peers, 2019

TABLE 7-2 VMT PER SERVICE POPULATION ANALYSIS

Scenario	Existing (2018)	Future (2040)	Delta
	VMT per Service Population	VMT per Service Population	
City of Beaumont VMT	24.4	28.9	4.5 (16%)
Sphere of Influence Only VMT	37.0	33.3	-3.7 (-11%)
Total Beaumont General Plan Update Area	25.6	29.7	4.1 (14%)

Source: Fehr & Peers, 2020

Table 7-3 compares the Future Year VMT for the general plan area with and without the general plan buildout. As shown in **Table 7-3**, the buildout of the general plan significantly reduces the VMT per service population throughout the general plan area by approximately 50%. The mixed used development associated with the general plan improves VMT by providing more availability to different land uses within the City and shortening travel trips.

TABLE 7-3 FUTURE YEAR VMT PER SERVICE POPULATION COMPARISON

Scenario	Future (2040) No Build	Future (2040) General Plan Buildout	Delta
	VMT per Service Population	VMT per Service Population	
City of Beaumont VMT	43.8	28.9	-14.9 (-51%)
Sphere of Influence Only VMT	158.9	33.3	-125.6 (-377%)
Total Beaumont General Plan Update Area	52.1	29.7	-22.4 (-75%)

Source: Fehr & Peers, 2020

Table 7-4 below shows comparison of VMT and VMT per service population for areas around Beaumont. As shown in **Table 7-4**, VMT per service population in Beaumont is lower than other nearby cities within Riverside County with the addition of the General Plan. VMT analysis outputs are provided in **Appendix C**.

TABLE 7-4 VMT REGIONAL COMPARISON – FUTURE YEAR

Area	VMT	VMT per Service Population ¹
Beaumont	3,875,716	28.9
Sphere of Influence Only VMT	1,096,347	33.3
Total Beaumont General Plan Area	4,972,063	29.7
Regional Comparison		
WRCOG	114,456,180	33.6
Nearby City Comparison		
Banning	2,055,092	31.3
Calimesa	946,917	36.2
San Jacinto	3,245,972	33.1
Moreno Valley	8,424,484	27.6
Hemet	4,216,271	28.4

Notes:

1. VMT represents daily VMT between Tuesdays and Thursdays. VMT analysis does not reflect weekend or holiday travel.

Source: Fehr & Peers, 2019

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) measures are effective ways to reduce VMT, daily vehicle trips, and peak hour vehicle trips. These measures are not captured in the travel demand model (such as RIVTAM) utilized in this analysis. As the General Plan Buildout results in a significant impact, goals listed in the Mobility Element that promote TDM policies could further reduce the VMT. These goals include policies that require new residential and retail developments implement TDM measures to reduce VMT. Many TDM programs can be residential, employment, and transit specific and should be tailored to meet the suburban needs of the City. The California Air Resource Board's Zero Carbon Buildings Study identified TDM strategies and programs that can be used to reduce VMT and shorten trip lengths. Listed below are some examples of TDM measures that could be utilized to reduce VMT:

PARKING

- A “park once” policy that encourages employees, residents, and visitors to park once and walk to multiple destinations.
- Unbundled parking programs that would allow parking spaces to be sold or rented separately without inclusion into rental cost.
- Shared parking between multiple land uses developments can increase parking utilization during off-peak parking demand hours.
- Paid parking programs, especially for high turnover at the most desirable locations, such as the Downtown Area Plan

COMMUTE

- Transportation Network Companies (TNCs) Partnerships to connect individuals to nearest transit stations or encourage carpooling.
- Market programs that educate visitors, residents, and employees about alternatives to driving.
- Carshare programs, such as Zip Car, are short-term rental services that can be located near key points of interest encouraging reduced vehicle ownership
- Carpool and vanpool programs provide payments to individuals who participate in in each model.
- Telecommuting programs that allow individuals to work from home.

PEDESTRIAN AND BICYCLE

- Secure bicycle parking facilities on site that may include restricted access to specific facilities.
- Bikeshare system that provide individuals with loaner bikes for short, one-way trips.
- Bicycle riders guide with bicycle routes, lanes, and paths to between key points of interest and bicycle parking facilities.
- Walking programs that encourage employees to walk to work and may include mapping walking routes, creating walking groups or buddies, and providing incentives.

It should also be noted that the TDM strategies mentioned above do not take into consideration some foreseeable travel changes including increased use of TNCs, such as Uber and Lyft, nor the potential for autonomous vehicles. Although the technology for autonomous vehicles is expected to be available over the planning horizon, the federal and state legal and policy frameworks are uncertain. Initial modeling of an autonomous future indicates that with automated and connected vehicles, the capacity of the existing transportation system would increase as vehicles can travel closer together; however, these efficiencies are only realized when a high percentage of vehicles on the roadway are automated and connected. There is also the potential for vehicle travel to increase with zero-occupancy vehicles on the roadway.

The California Air Pollution Control Officers Association (CAPCOA) documentation identifies the maximum achievable VMT reduction with TDM measures to be 10% in a suburban setting. Given that the general plan buildout is estimated to generate VMT per service population that is approximately 25% higher than the threshold of significance, TDM measures would likely not reduce VMT per service population to a level below the City's threshold of significance. Therefore, the general plan buildout will result in a ***significant-and-unavoidable impact***.

8. IMPACT ANALYSIS

This chapter summarizes the environmental impacts of the proposed project and recommends feasible roadway and intersection improvements where possible. The results are summarized below.

EXISTING (2018) PLUS PROJECT IMPACTS

INTERSECTION IMPROVEMENT IMPACTS

As shown in Chapter 5, all study intersections were forecast to operate at an acceptable LOS in the Existing (2018) Plus Project Conditions. Therefore, there are no impacts in this scenario.

ROADWAY IMPROVEMENT IMPACTS

As shown in Chapter 6, the following roadway segment operates at an unacceptable LOS:

I-10 Freeway - Between Pennsylvania Ave and Highland Springs Ave (LOS E)

The General Plan combined with the regional growth, results in an impact to the I-10. To improve the impact additional lanes would be required. It should be noted that, the 2016 RTP/SCS does not include any lane widening improvements to I-10 Freeway between Pennsylvania Avenue and Highland Springs Avenue.

CUMULATIVE YEAR (2040) IMPACTS

INTERSECTION IMPACTS

As shown in Chapter 6, none of the study intersections were forecast to operate deficiently in the Cumulative (2040) Year Conditions. Therefore, there are no impacts in this scenario.

ROADWAY IMPACTS

As shown in Chapter 6, the following roadway segments operate at an unacceptable LOS:

Beaumont Avenue (SR-79) – South of California Avenue (LOS F)

SR-60 Freeway West of the I-10 (LOS F)

I-10 Freeway West of SR-60 (LOS F)

I-10 Freeway Between SR-60 and SR-79 (LOS F)

I-10 Freeway Between SR-79 and Pennsylvania Avenue (LOS F)

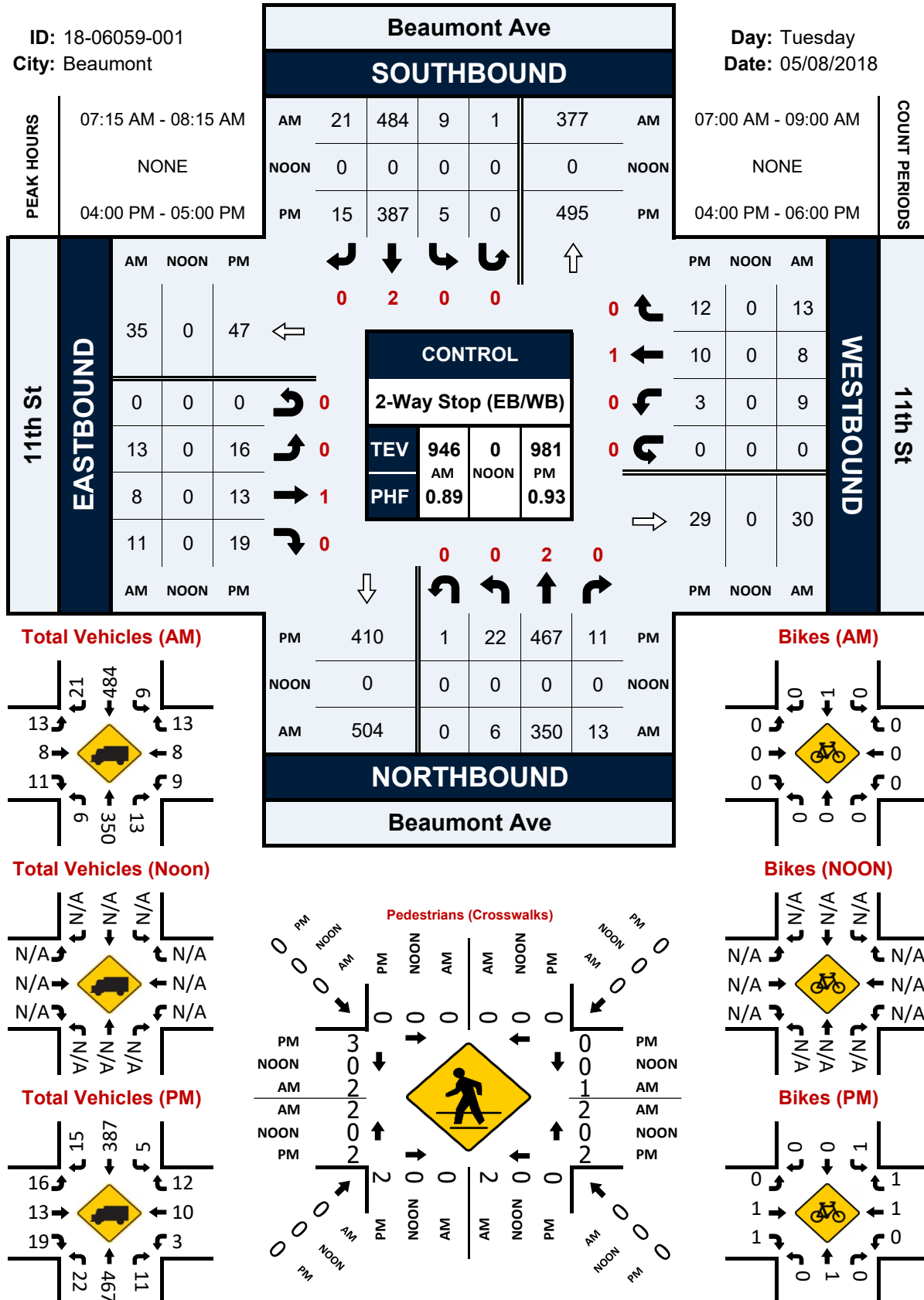
I-10 Freeway Between Pennsylvania Avenue and Highland Springs Avenue (LOS F)

The General Plan combined with the regional growth results in an impact to the SR-79, SR-60, and I-10. To improve operations at these facilities, additional lanes would be required. The 2016 RTP/SCS does not include any lane widening improvements to any of these facilities.

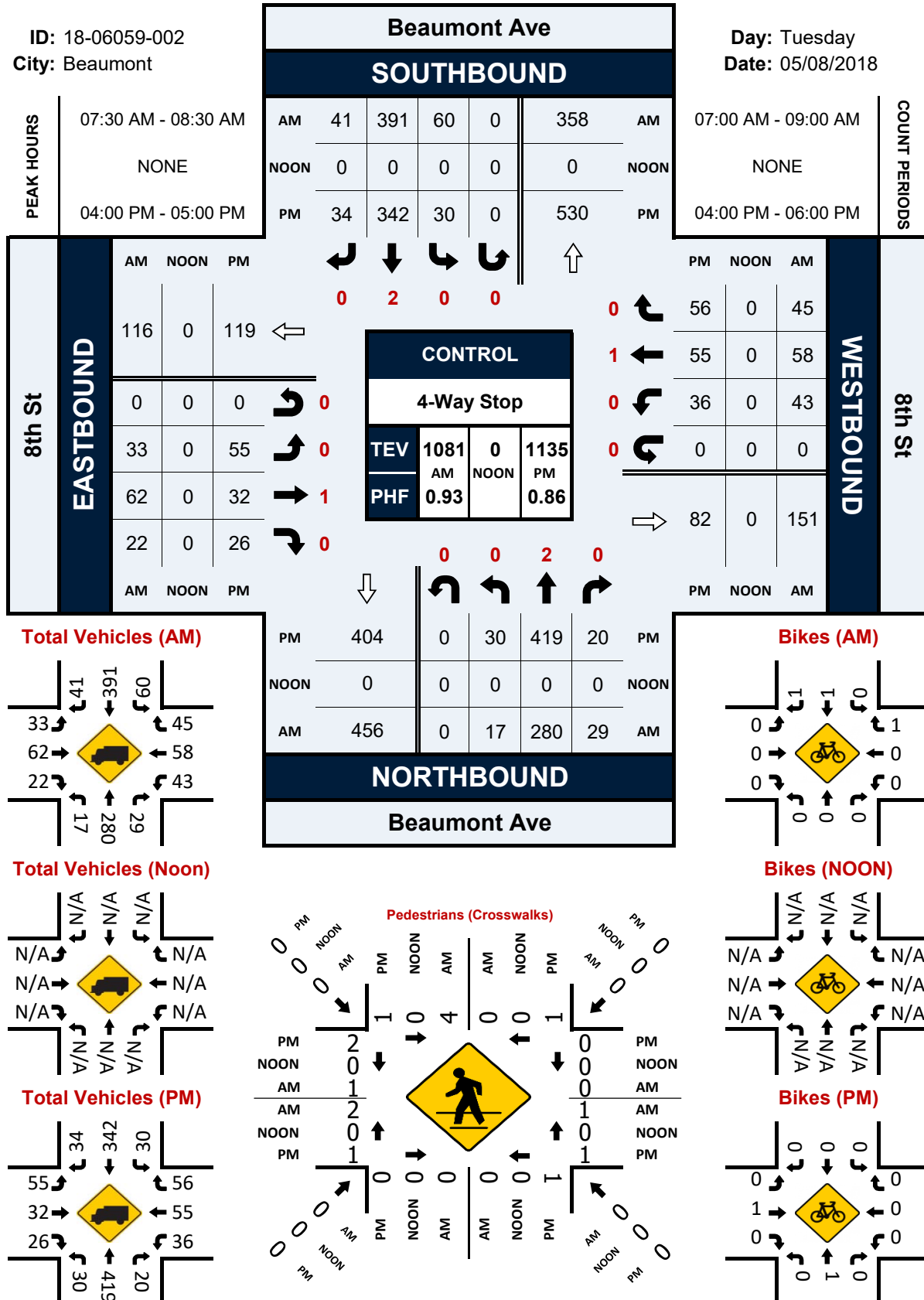
APPENDIX A: TRAFFIC COUNTS



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Date: 05/08/2018



Day: Tuesday
Date: 05/08/2018

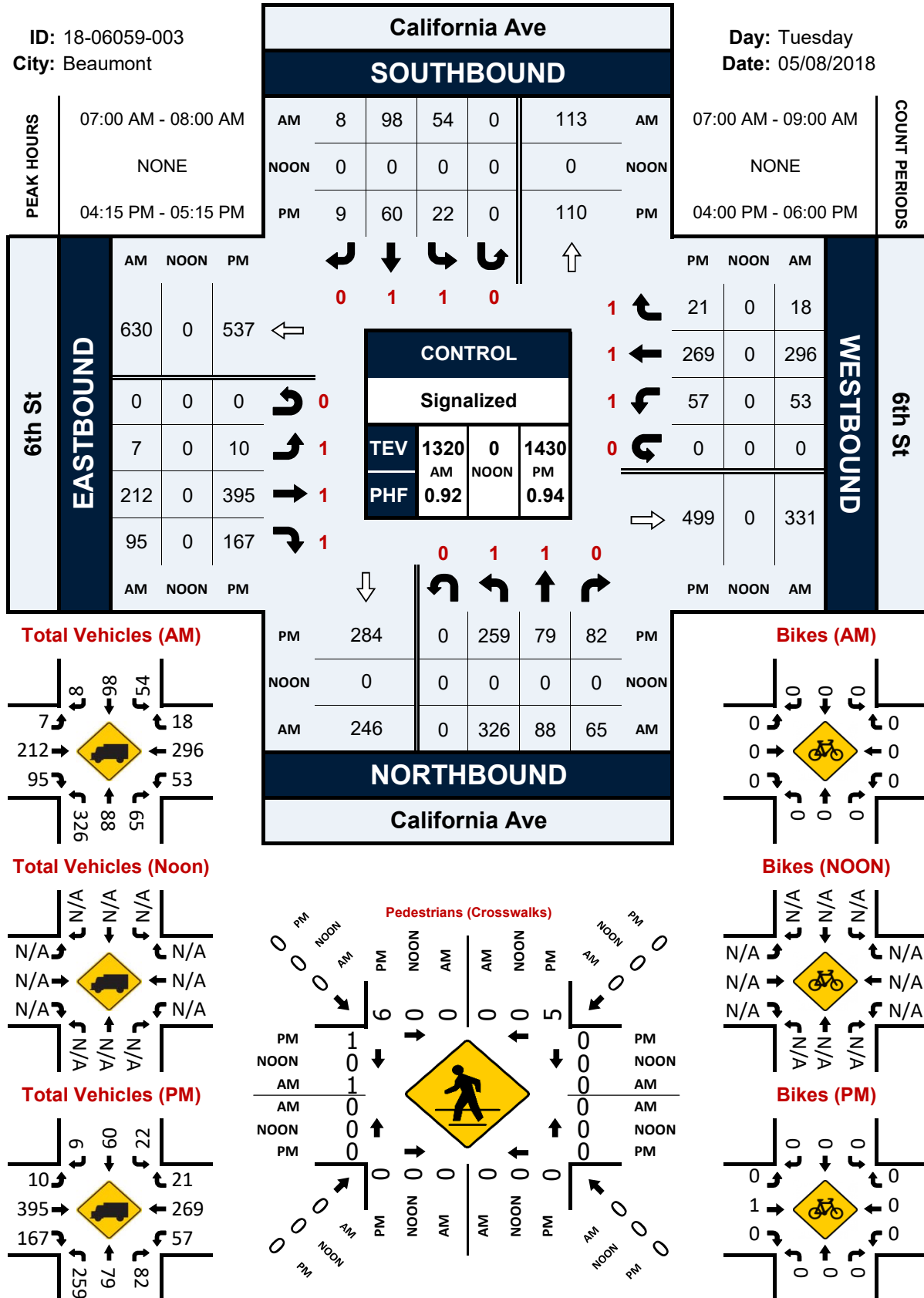


California Ave & 6th St

Peak Hour Turning Movement Count

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City: Beaumont

Day: Tuesday
Date: 05/08/2018

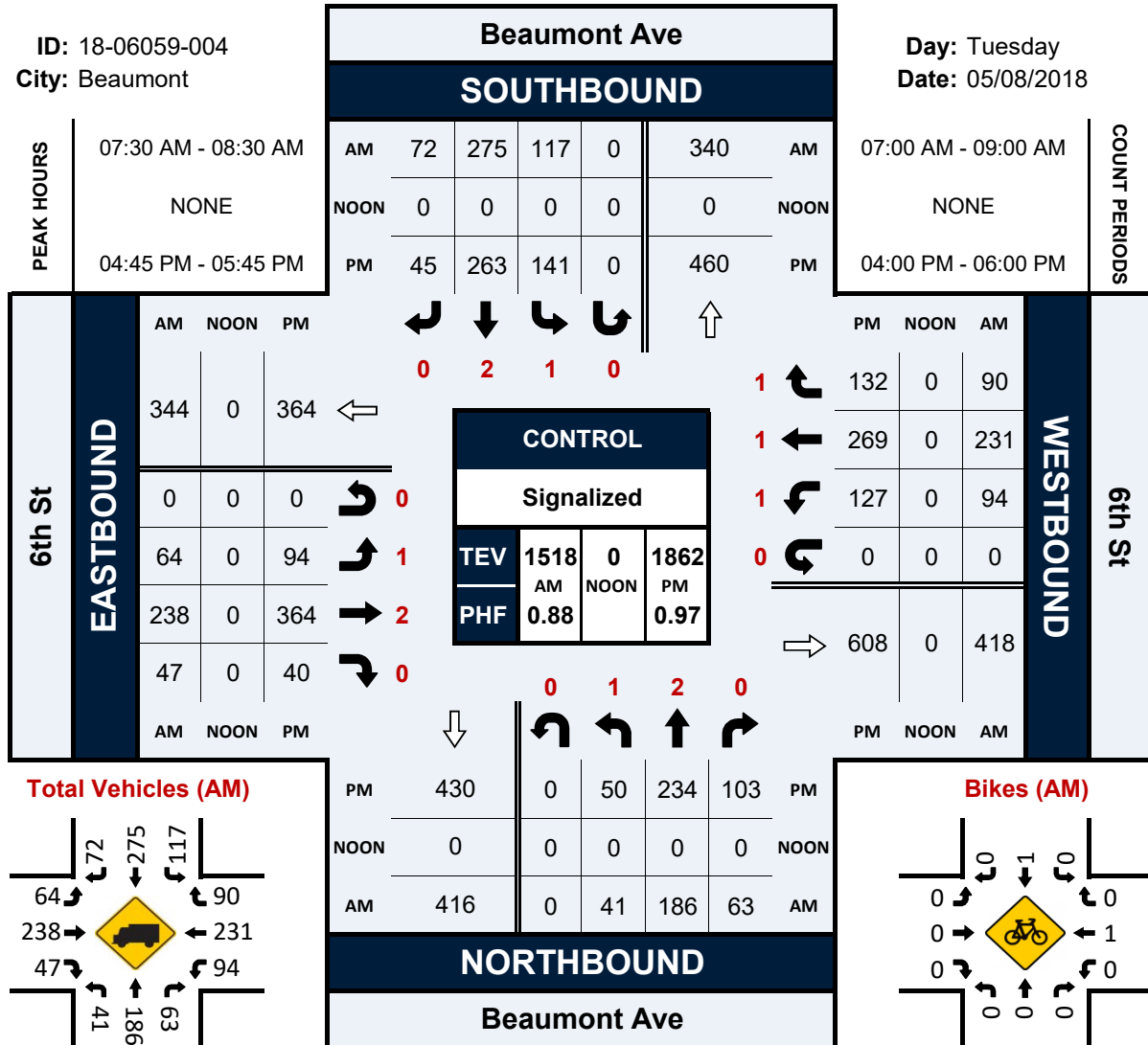


Beaumont Ave & 6th St

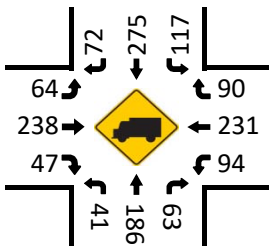
Peak Hour Turning Movement Count

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City: Beaumont

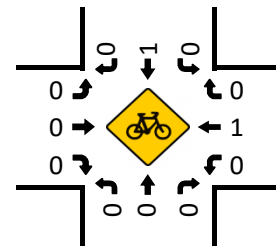
Day: Tuesday
Date: 05/08/2018



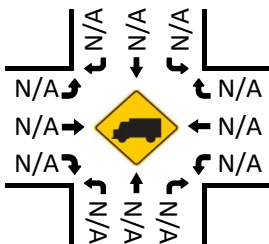
Total Vehicles (AM)



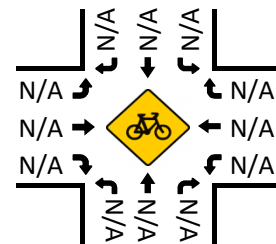
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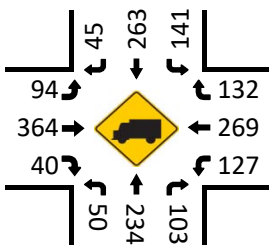
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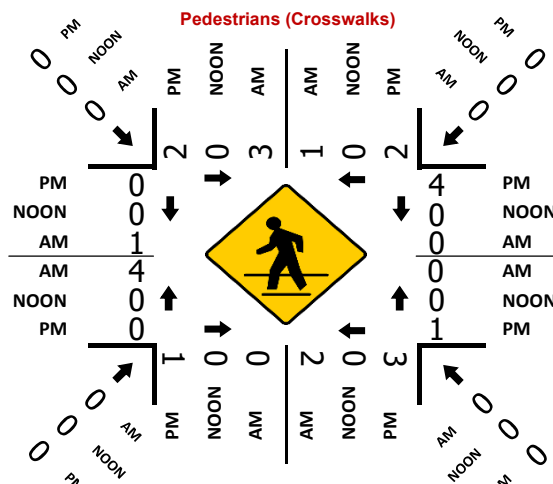
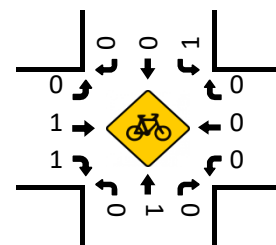
Bikes (NOON)

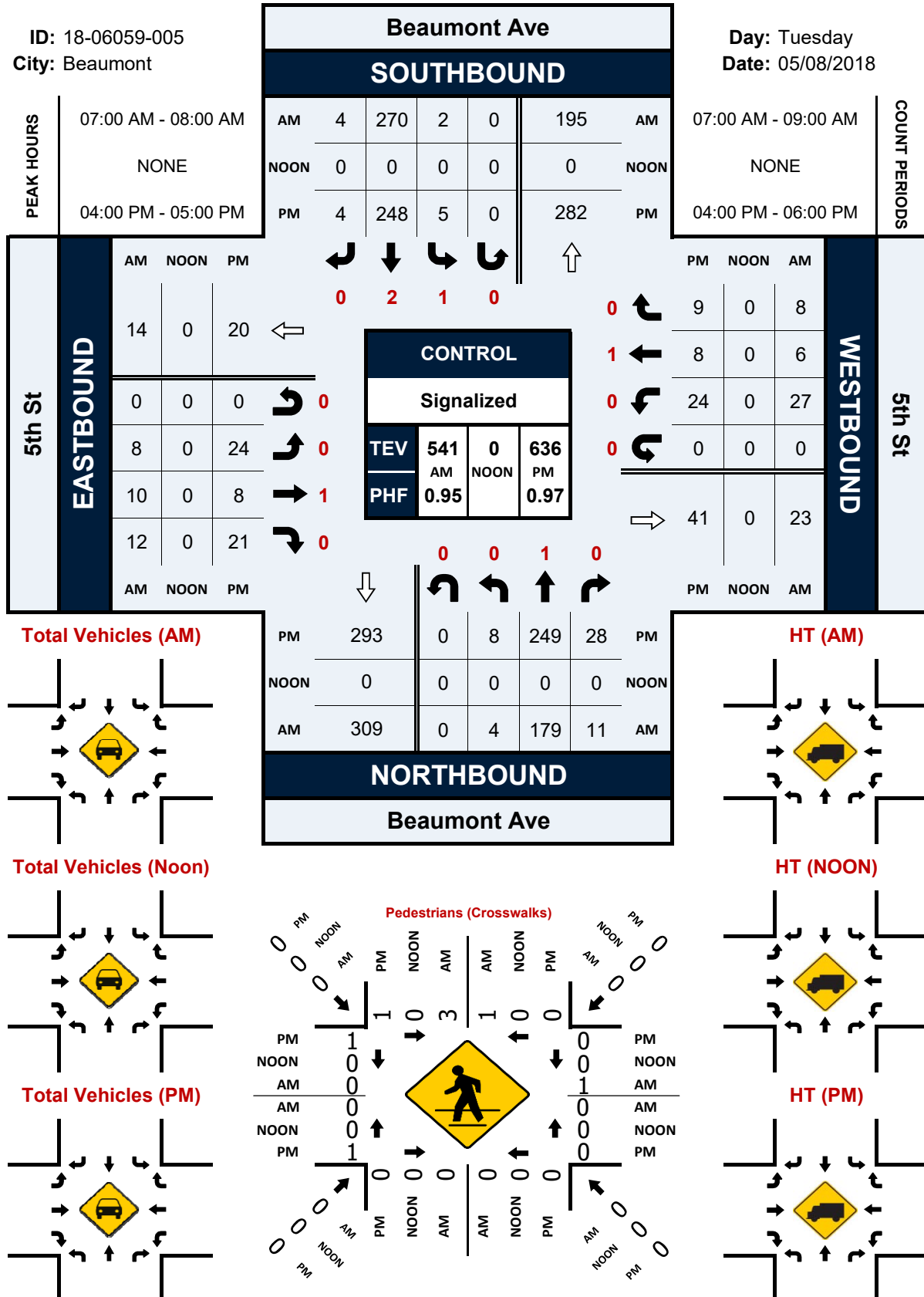


Total Vehicles (PM)



Bikes (PM)



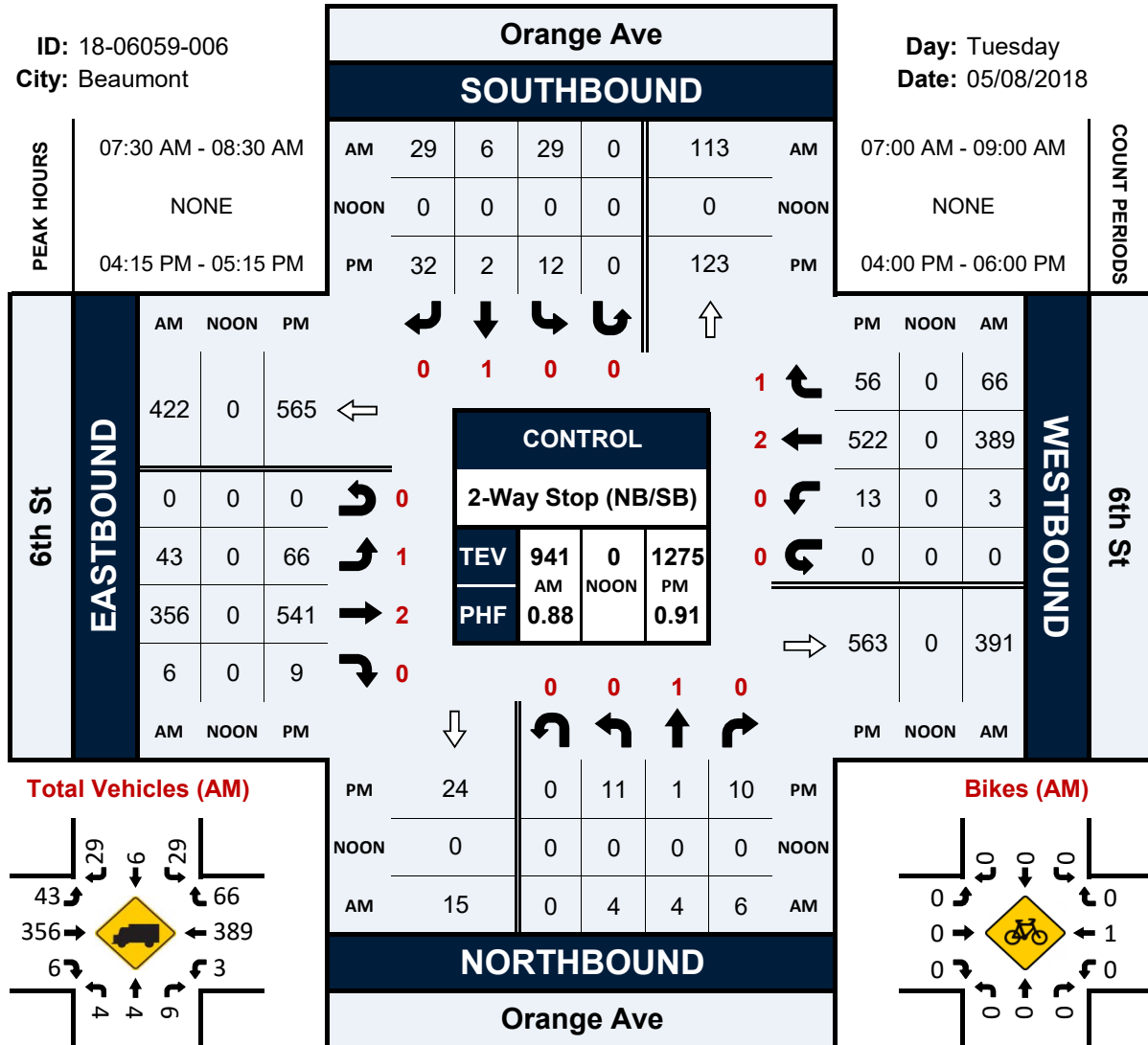


Orange Ave & 6th St

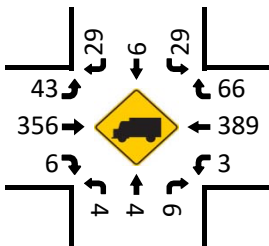
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City: Beaumont

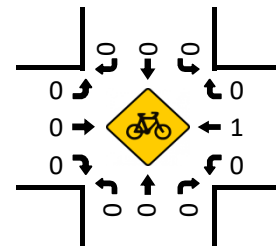
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Date: 05/08/2018



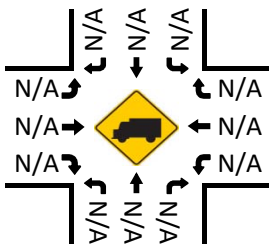
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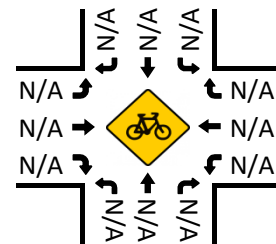
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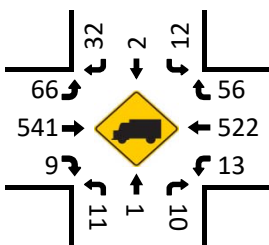
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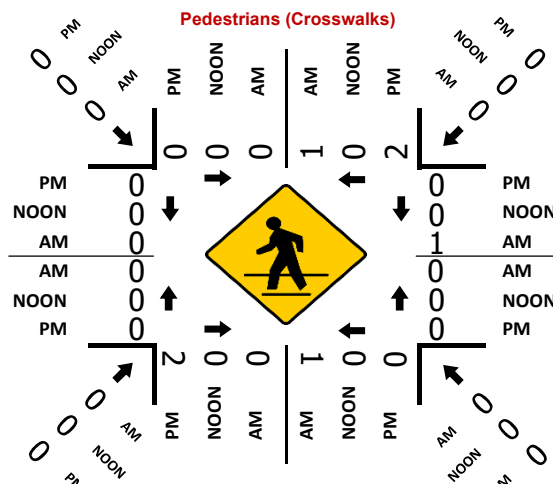
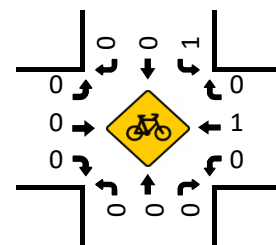
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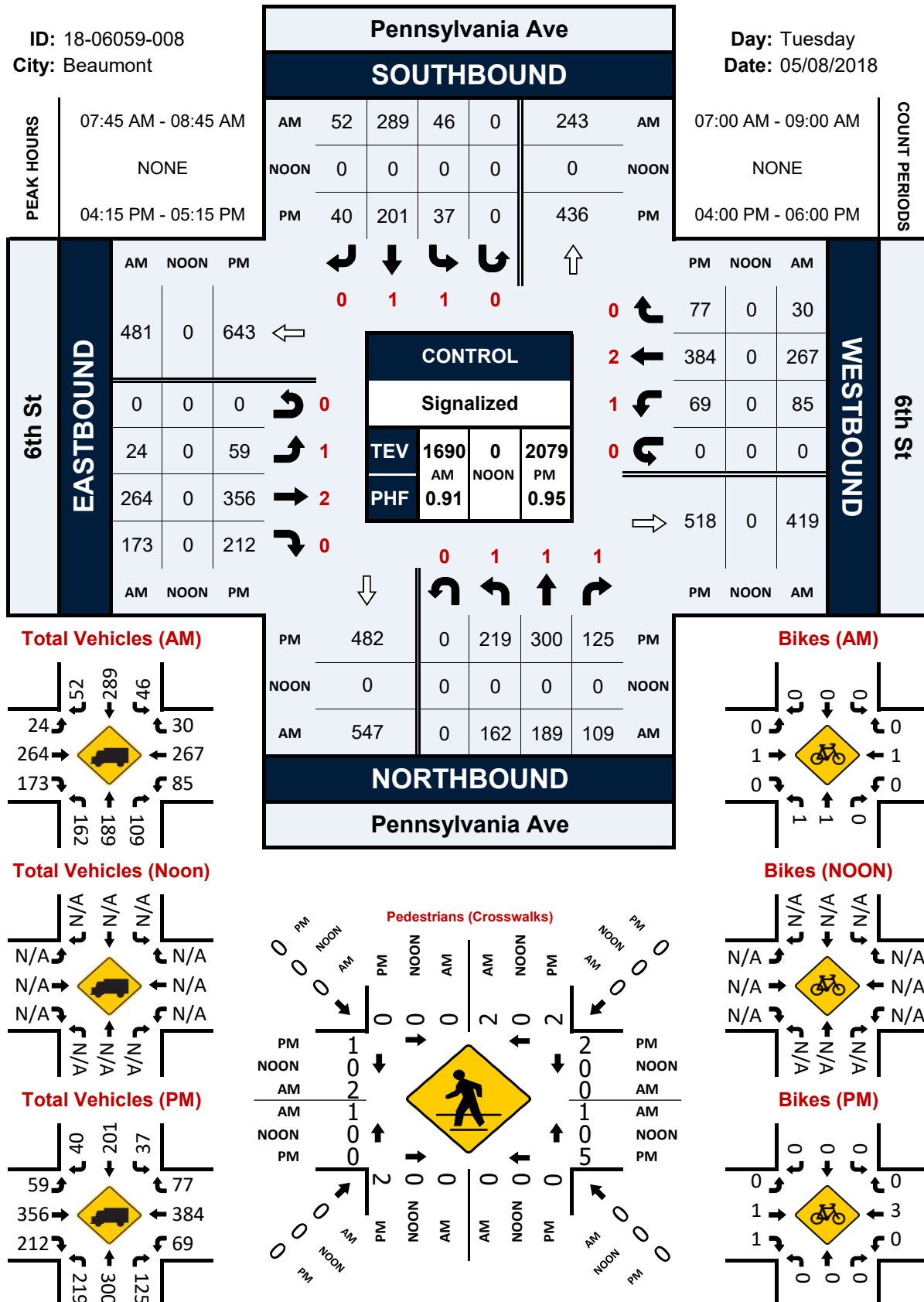
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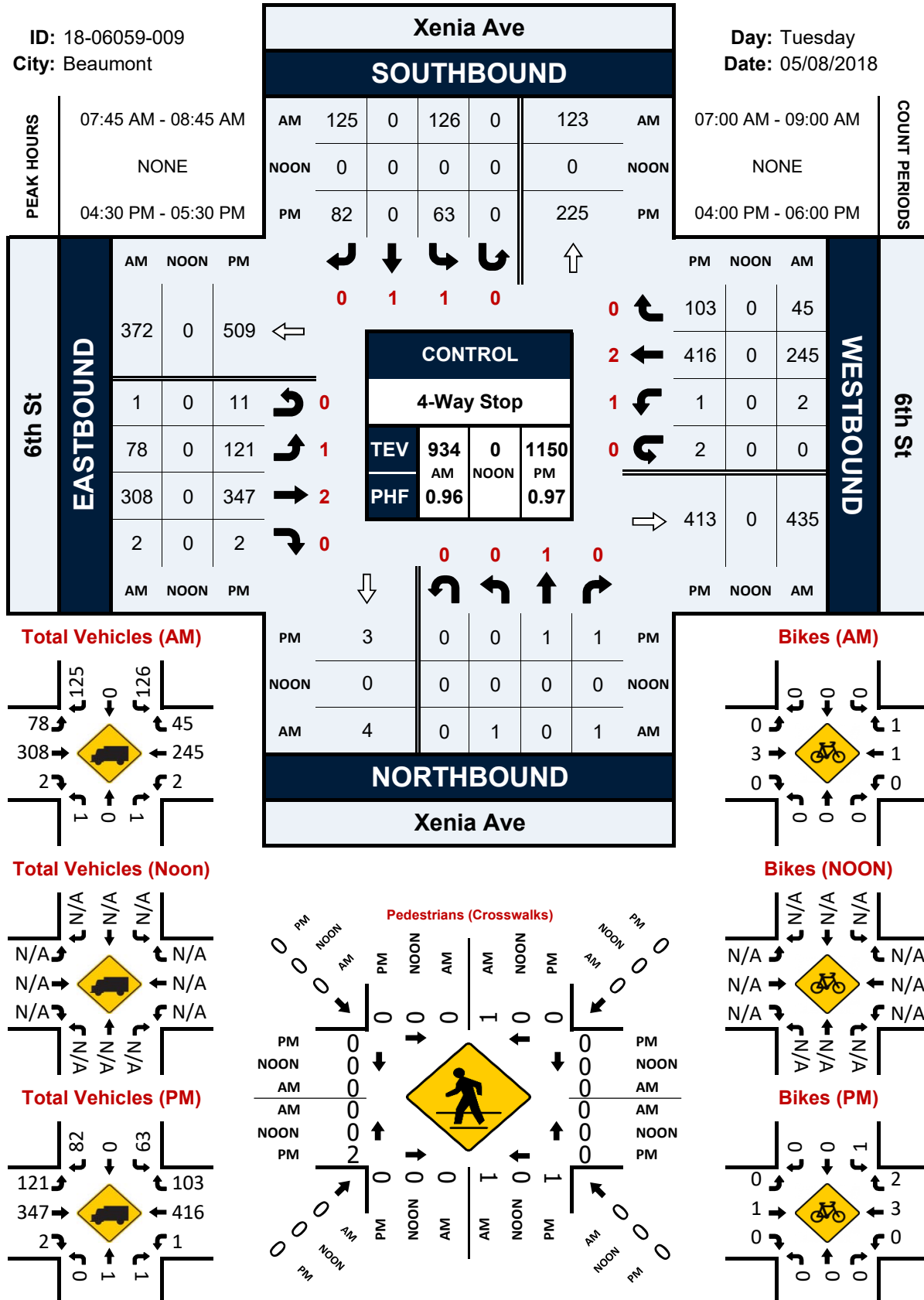
Bikes (PM)



Day: Tuesday
Date: 05/08/2018



Day: Tuesday
Date: 05/08/2018

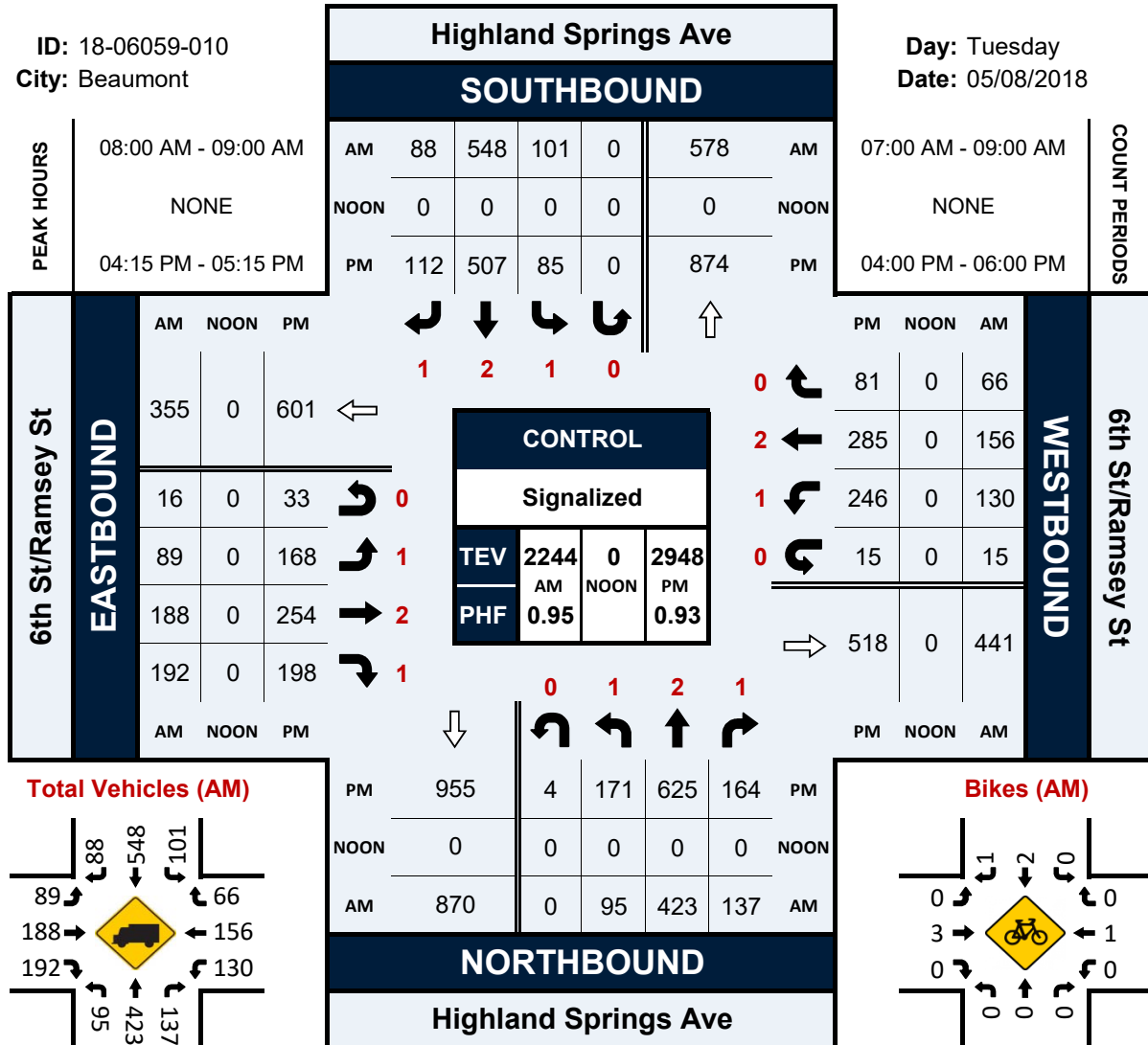


Highland Springs Ave & 6th St/Ramsey St

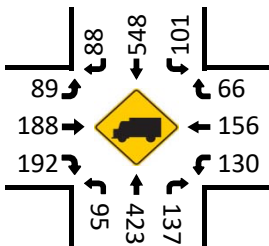
Peak Hour Turning Movement Count

ID: 18-06059-010
City: Beaumont

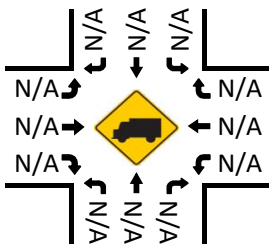
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Date: 05/08/2018



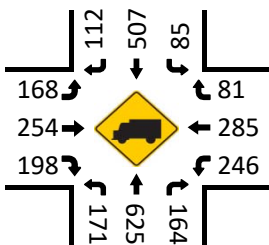
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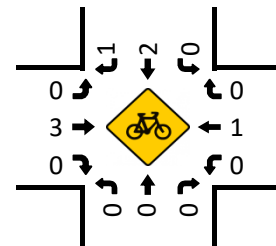
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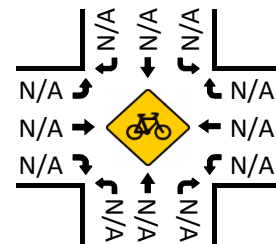
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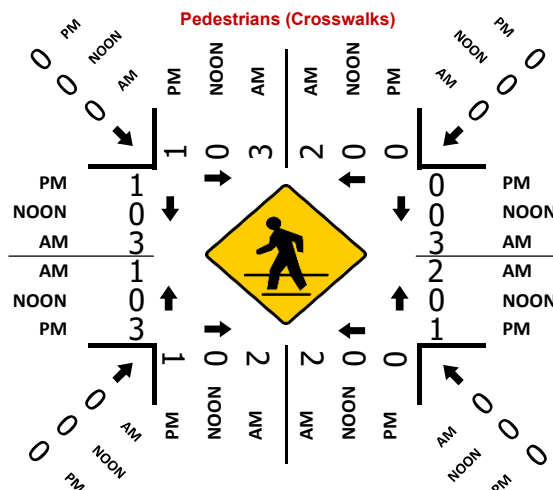
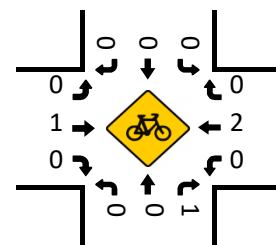
Bikes (AM)



Bikes (Noon)



Bikes (PM)



VOLUME

Oak Valley Pkwy Bet. Potrero Blvd & 2800' W/O Apron Ln

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_001

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0						1,252	1,294	2,546
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
00:00			2	2	4		12:00			19	16	35		
00:15			3	0	3		12:15			18	19	37		
00:30			2	0	2		12:30			11	18	29		
00:45			1	8	3	5	12:45			17	65	24	77	
01:00			3	2	5		13:00			18	16	34		
01:15			2	2	4		13:15			19	11	30		
01:30			4	0	4		13:30			40	19	59		
01:45			1	10	2	6	13:45			12	89	18	64	
02:00			1	0	1		14:00			13	26	39		
02:15			2	0	2		14:15			21	22	43		
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06:15			13	16	29		18:15			25	24	49		
06:30			11	19	30		18:30			23	26	49		
06:45			19	52	41	129	18:45			17	82	13	89	
07:00			12	26	38		19:00			13	10	23		
07:15			17	41	58		19:15			16	16	32		
07:30			37	26	63		19:30			12	12	24		
07:45			25	91	54	213	19:45			10	51	14	52	
08:00			17	26	43		20:00			7	12	19		
08:15			19	11	30		20:15			14	18	32		
08:30			15	12	27		20:30			10	15	25		
08:45			13	64	31	131	20:45			7	38	10	55	
09:00			17	14	31		21:00			12	12	24		
09:15			16	16	32		21:15			8	14	22		
09:30			11	15	26		21:30			7	9	16		
09:45			14	58	35	124	21:45			3	30	8	43	
10:00			19	12	31		22:00			9	9	18		
10:15			15	15	30		22:15			4	2	6		
10:30			17	16	33		22:30			5	6	11		
10:45			19	70	37	131	22:45			5	23	4	21	
11:00			21	18	39		23:00			1	4	5		
11:15			18	13	31		23:15			1	2	3		
11:30			25	15	40		23:30			3	1	4		
11:45			15	79	31	141	23:45			1	6	2	9	
TOTALS	487				556	1043	TOTALS	765				738	1503	
SPLIT %	46.7%				53.3%	41.0%	SPLIT %	50.9%				49.1%	59.0%	

DAILY TOTALS				NB	SB	EB				WB	Total
				0	0	1,252				1,294	2,546
AM Peak Hour			07:30	07:00	07:15	PM Peak Hour			15:30	14:45	14:45
AM Pk Volume			98	122	218	PM Pk Volume			115	98	197
Pk Hr Factor			0.662	0.744	0.865	Pk Hr Factor			0.737	0.942	0.966
7 - 9 Volume	0	0	155	189	344	4 - 6 Volume	0	0	194	148	342
7 - 9 Peak Hour			07:30	07:00	07:15	4 - 6 Peak Hour			16:15	17:00	16:15
7 - 9 Pk Volume	0	0	98	122	218	4 - 6 Pk Volume	0	0	112	79	179
Pk Hr Factor	0.000	0.000	0.662	0.744	0.865	Pk Hr Factor	0.000	0.000	0.718	0.859	0.746

VOLUME

Oak Valley Pkwy Bet. Gateway Dr & I-10 SB Ramps

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_002

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0						2,818	2,561	5,379
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
00:00			8	6	14		12:00			40	37	77		
00:15			6	3	9		12:15			41	46	87		
00:30			3	4	7		12:30			33	32	65		
00:45			4	21	3	16	12:45			49	163	44	159	
01:00			3	5	8		13:00			40	54	94		
01:15			5	4	9		13:15			49	32	81		
01:30			6	2	8		13:30			68	39	107		
01:45			2	16	3	14	13:45			38	195	46	171	
02:00			4	1	5		14:00			42	52	94		
02:15			3	1	4		14:15			47	44	91		
02:30			1	2	3		14:30			54	49	103		
02:45			2	10	0	4	14:45			61	204	43	188	
03:00			3	3	6		15:00			55	40	95		
03:15			5	0	5		15:15			42	48	90		
03:30			9	8	17		15:30			52	37	89		
03:45			9	26	2	13	15:45			51	200	26	151	
04:00			9	2	11		16:00			34	44	78		
04:15			9	6	15		16:15			49	35	84		
04:30			9	14	23		16:30			47	38	85		
04:45			8	35	9	31	16:45			50	180	35	152	
05:00			14	12	26		17:00			41	50	91		
05:15			12	15	27		17:15			50	27	77		
05:30			23	16	39		17:30			42	40	82		
05:45			26	75	19	62	17:45			43	176	43	160	
06:00			33	33	66		18:00			37	56	93		
06:15			45	24	69		18:15			41	55	96		
06:30			32	31	63		18:30			37	40	77		
06:45			48	158	37	125	18:45			30	145	33	184	
07:00			56	42	98		19:00			34	38	72		
07:15			65	45	110		19:15			27	32	59		
07:30			63	45	108		19:30			20	26	46		
07:45			59	243	48	180	19:45			21	102	39	135	
08:00			44	39	83		20:00			17	35	52		
08:15			46	28	74		20:15			21	32	53		
08:30			43	30	73		20:30			14	31	45		
08:45			39	172	31	128	20:45			16	68	24	122	
09:00			47	36	83		21:00			16	21	37		
09:15			35	29	64		21:15			12	25	37		
09:30			39	33	72		21:30			13	15	28		
09:45			38	159	36	134	21:45			12	53	15	76	
10:00			52	30	82		22:00			9	21	30		
10:15			35	26	61		22:15			10	12	22		
10:30			42	30	72		22:30			6	19	25		
10:45			41	170	32	118	22:45			10	35	18	70	
11:00			49	30	79		23:00			4	12	16		
11:15			52	35	87		23:15			6	11	17		
11:30			51	37	88		23:30			5	4	9		
11:45			42	194	31	133	23:45			3	18	8	35	
TOTALS	1279				958	2237	TOTALS	1539				1603	3142	
SPLIT %	57.2%				42.8%	41.6%	SPLIT %	49.0%				51.0%	58.4%	

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0	2,818					2,561	5,379	

AM Peak Hour			07:00	07:00	07:00	PM Peak Hour			14:15	17:30	14:15
AM Pk Volume			243	180	423	PM Pk Volume			217	194	393
Pk Hr Factor			0.935	0.938	0.961	Pk Hr Factor			0.889	0.866	0.945
7 - 9 Volume	0	0	415	308	723	4 - 6 Volume	0	0	356	312	668
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			16:30	17:00	16:15
7 - 9 Pk Volume	0	0	243	180	423	4 - 6 Pk Volume	0	0	188	160	345
Pk Hr Factor	0.000	0.000	0.935	0.938	0.961	Pk Hr Factor	0.000	0.000	0.940	0.800	0.948

VOLUME

Oak Valley Pkwy Bet. I-10 NB Ramps & Oak View Dr

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_003

DAILY TOTALS				NB	SB					EB	WB	Total	
				0	0					7,829	8,771	16,600	

AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			22	7	29		12:00			107	110	217	
00:15			23	7	30		12:15			96	117	213	
00:30			14	9	23		12:30			113	100	213	
00:45			17	76	4	27	12:45			99	415	115	442
					21	103						214	857
01:00			19	8	27		13:00			85	100	185	
01:15			14	5	19		13:15			102	104	206	
01:30			10	3	13		13:30			109	137	246	
01:45			10	53	6	22	13:45			100	396	120	461
					16	75						220	857
02:00			11	3	14		14:00			125	124	249	
02:15			9	6	15		14:15			113	116	229	
02:30			8	6	14		14:30			129	112	241	
02:45			10	38	12	27	14:45			137	504	129	481
					22	65						266	985
03:00			8	13	21		15:00			148	133	281	
03:15			12	21	33		15:15			133	180	313	
03:30			10	29	39		15:30			139	151	290	
03:45			10	40	31	94	15:45			153	573	113	577
					41	134						266	1150
04:00			9	42	51		16:00			144	153	297	
04:15			10	51	61		16:15			141	125	266	
04:30			12	48	60		16:30			175	114	289	
04:45			14	45	57	198	16:45			179	639	104	496
					71	243						283	1135
05:00			16	89	105		17:00			176	116	292	
05:15			26	103	129		17:15			178	113	291	
05:30			31	109	140		17:30			178	122	300	
05:45			54	127	119	420	17:45			165	697	111	462
					173	547						276	1159
06:00			41	187	228		18:00			167	153	320	
06:15			39	202	241		18:15			169	122	291	
06:30			52	231	283		18:30			148	104	252	
06:45			60	192	228	848	18:45			156	640	102	481
					288	1040						258	1121
07:00			99	221	320		19:00			129	102	231	
07:15			114	212	326		19:15			124	90	214	
07:30			141	200	341		19:30			111	78	189	
07:45			113	467	177	810	19:45			134	498	111	381
					290	1277						245	879
08:00			85	153	238		20:00			120	111	231	
08:15			71	135	206		20:15			130	83	213	
08:30			83	157	240		20:30			102	60	162	
08:45			94	333	131	576	20:45			114	466	73	327
					225	909						187	793
09:00			68	115	183		21:00			97	56	153	
09:15			67	110	177		21:15			88	57	145	
09:30			73	105	178		21:30			73	41	114	
09:45			100	308	91	421	21:45			73	331	33	187
					191	729						106	518
10:00			64	93	157		22:00			58	24	82	
10:15			74	99	173		22:15			48	39	87	
10:30			78	111	189		22:30			39	29	68	
10:45			82	298	121	424	22:45			50	195	29	121
					203	722						79	316
11:00			87	113	200		23:00			41	27	68	
11:15			106	102	208		23:15			22	10	32	
11:30			93	104	197		23:30			31	11	42	
11:45			95	381	112	431	23:45			23	117	9	57
					207	812						32	174
TOTALS			2358	4298	6656		TOTALS			5471	4473	9944	
SPLIT %			35.4%	64.6%	40.1%		SPLIT %			55.0%	45.0%	59.9%	

DAILY TOTALS				NB	SB					EB	WB	Total	
				0	0					7,829	8,771	16,600	

AM Peak Hour			07:00	06:30	07:00	PM Peak Hour			16:45	15:15	17:15
AM Pk Volume			467	892	1277	PM Pk Volume			711	597	1187
Pk Hr Factor			0.828	0.965	0.936	Pk Hr Factor			0.993	0.829	0.927
7 - 9 Volume	0	0	800	1386	2186	4 - 6 Volume	0	0	1336	958	2294
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			16:45	16:00	16:45
7 - 9 Pk Volume	0	0	467	810	1277	4 - 6 Pk Volume	0	0	711	496	1166
Pk Hr Factor	0.000	0.000	0.828	0.916	0.936	Pk Hr Factor	0.000	0.000	0.993	0.810	0.972

VOLUME

Beaumont Ave Bet. Cougar Way & Oak Valley Pkwy

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_004

DAILY TOTALS				NB	SB					EB	WB	Total	
				7,785	8,726					0	0	16,511	

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	9		5						14	12:00	105		133						238
00:15	11		5						16	12:15	84		200						284
00:30	10		10						20	12:30	121		143						264
00:45	5	35	2	22					7 57	12:45	114	424	105	581					219 1005
01:00	10		6						16	13:00	93		130						223
01:15	2		0						2	13:15	85		137						222
01:30	2		3						5	13:30	103		136						239
01:45	7	21	1	10					8 31	13:45	84	365	142	545					226 910
02:00	6		1						7	14:00	112		180						292
02:15	2		2						4	14:15	119		150						269
02:30	2		4						6	14:30	198		111						309
02:45	9	19	3	10					12 29	14:45	249	678	124	565					373 1243
03:00	1		6						7	15:00	228		261						489
03:15	3		9						12	15:15	173		287						460
03:30	1		9						10	15:30	153		245						398
03:45	2	7	15	39					17 46	15:45	163	717	154	947					317 1664
04:00	1		15						16	16:00	148		169						317
04:15	3		17						20	16:15	139		148						287
04:30	4		17						21	16:30	153		123						276
04:45	14	22	28	77					42 99	16:45	162	602	128	568					290 1170
05:00	18		30						48	17:00	143		148						291
05:15	21		42						63	17:15	184		120						304
05:30	19		45						64	17:30	177		106						283
05:45	22	80	48	165					70 245	17:45	181	685	146	520					327 1205
06:00	24		63						87	18:00	162		157						319
06:15	35		80						115	18:15	155		114						269
06:30	87		92						179	18:30	136		121						257
06:45	89	235	154	389					243 624	18:45	106	559	83	475					189 1034
07:00	139		148						287	19:00	126		82						208
07:15	216		189						405	19:15	82		73						155
07:30	203		247						450	19:30	98		87						185
07:45	194	752	240	824					434 1576	19:45	64	370	75	317					139 687
08:00	130		178						308	20:00	91		73						164
08:15	94		121						215	20:15	72		73						145
08:30	84		123						207	20:30	71		77						148
08:45	89	397	117	539					206 936	20:45	68	302	105	328					173 630
09:00	85		122						207	21:00	68		168						236
09:15	114		95						209	21:15	50		68						118
09:30	85		89						174	21:30	57		39						96
09:45	102	386	91	397					193 783	21:45	36	211	32	307					68 518
10:00	78		95						173	22:00	33		22						55
10:15	86		103						189	22:15	29		14						43
10:30	92		109						201	22:30	24		18						42
10:45	90	346	136	443					226 789	22:45	22	108	16	70					38 178
11:00	80		139						219	23:00	11		10						21
11:15	108		156						264	23:15	20		10						30
11:30	99		133						232	23:30	11		9						20
11:45	121	408	120	548					241 956	23:45	14	56	11	40					25 96
TOTALS	2708		3463						6171	TOTALS	5077		5263						10340
SPLIT %	43.9%		56.1%						37.4%	SPLIT %	49.1%		50.9%						62.6%

DAILY TOTALS				NB	SB					EB	WB	Total	
				7,785	8,726					0	0	16,511	

AM Peak Hour	07:00	07:15		07:15	PM Peak Hour	14:30	15:00		14:45
AM Pk Volume	752	854		1597	PM Pk Volume	848	947		1720
Pk Hr Factor	0.870	0.864		0.887	Pk Hr Factor	0.851	0.825		0.879
7 - 9 Volume	1149	1363	0	0	2512	4 - 6 Volume	1287	1088	0 0 2375
7 - 9 Peak Hour	07:00	07:15		07:15	4 - 6 Peak Hour	17:00	16:00		17:00
7 - 9 Pk Volume	752	854	0	0	1597	4 - 6 Pk Volume	685	568	0 0 1205
Pk Hr Factor	0.870	0.864	0.000	0.000	0.887	Pk Hr Factor	0.931	0.840	0.000 0.000 0.921

VOLUME

Oak Valley Pkwy Bet. Cherry Ave & Star Light Ave

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_005

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						4,282	4,189	8,471	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			2	5	7		12:00			41	58	99			
00:15			3	4	7		12:15			52	49	101			
00:30			4	1	5		12:30			51	52	103			
00:45			3	12	3	13	12:45			58	202	48	207	106	409
01:00			5	3	8		13:00			44	59	103			
01:15			2	1	3		13:15			50	57	107			
01:30			3	1	4		13:30			60	45	105			
01:45			3	13	1	6	13:45			57	211	49	210	106	421
02:00			1	1	2		14:00			62	46	108			
02:15			3	2	5		14:15			73	64	137			
02:30			2	3	5		14:30			71	82	153			
02:45			4	10	8	14	14:45			100	306	80	272	180	578
03:00			6	2	8		15:00			102	87	189			
03:15			9	5	14		15:15			74	75	149			
03:30			8	9	17		15:30			132	122	254			
03:45			6	29	17	56	15:45			72	380	73	357	145	737
04:00			9	14	23		16:00			70	62	132			
04:15			11	9	20		16:15			82	77	159			
04:30			17	14	31		16:30			63	68	131			
04:45			11	48	28	102	16:45			72	287	74	281	146	568
05:00			23	20	43		17:00			68	63	131			
05:15			21	25	46		17:15			86	118	204			
05:30			21	28	49		17:30			77	97	174			
05:45			31	96	66	204	17:45			79	310	71	349	150	659
06:00			63	57	120		18:00			85	65	150			
06:15			74	63	137		18:15			66	58	124			
06:30			90	79	169		18:30			52	55	107			
06:45			94	321	188	614	18:45			47	250	53	231	100	481
07:00			103	106	209		19:00			48	45	93			
07:15			96	90	186		19:15			38	35	73			
07:30			106	84	190		19:30			45	37	82			
07:45			89	394	187	772	19:45			39	170	32	149	71	319
08:00			110	89	199		20:00			38	18	56			
08:15			75	68	143		20:15			25	39	64			
08:30			79	93	172		20:30			28	23	51			
08:45			114	378	192	706	20:45			30	121	30	110	60	231
09:00			70	85	155		21:00			30	29	59			
09:15			44	41	85		21:15			15	27	42			
09:30			47	48	95		21:30			15	22	37			
09:45			46	207	95	430	21:45			15	75	21	99	36	174
10:00			53	30	83		22:00			9	10	19			
10:15			56	60	116		22:15			16	12	28			
10:30			44	48	92		22:30			11	15	26			
10:45			42	195	108	399	22:45			7	43	9	46	16	89
11:00			52	56	108		23:00			7	5	12			
11:15			41	54	95		23:15			8	7	15			
11:30			44	40	84		23:30			9	7	16			
11:45			59	196	117	404	23:45			4	28	3	22	7	50
TOTALS	1899			1856	3755		TOTALS	2383			2333	4716			
SPLIT %	50.6%			49.4%	44.3%		SPLIT %	50.5%			49.5%	55.7%			

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						4,282	4,189	8,471	
AM Peak Hour			07:15	07:00	06:45		PM Peak Hour			14:45	14:45	14:45			
AM Pk Volume			401	378	773		PM Pk Volume			408	364	772			
Pk Hr Factor			0.911	0.892	0.925		Pk Hr Factor			0.773	0.746	0.760			
7 - 9 Volume	0	0	772	706	1478		4 - 6 Volume	0	0	597	630	1227			
7 - 9 Peak Hour			07:15	07:00	07:00		4 - 6 Peak Hour			17:00	16:45	17:00			
7 - 9 Pk Volume	0	0	401	378	772		4 - 6 Pk Volume	0	0	310	352	659			
Pk Hr Factor	0.000	0.000	0.911	0.892	0.923		Pk Hr Factor	0.000	0.000	0.901	0.746	0.808			

VOLUME

Beaumont Ave Bet. 12th St & 8th St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_006

DAILY TOTALS				NB	SB					EB	WB	Total	
				5,955	6,126					0	0	12,081	

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	9		10						19		12:00	94		88						182	
00:15	10		4						14		12:15	92		135						227	
00:30	12		2						14		12:30	111		96						207	
00:45	10	41	8	24					18	65	12:45	112	409	105	424					217	833
01:00	11		4						15		13:00	91		104						195	
01:15	6		2						8		13:15	73		88						161	
01:30	5		3						8		13:30	85		99						184	
01:45	4	26	4	13					8	39	13:45	83	332	84	375					167	707
02:00	5		2						7		14:00	82		139						221	
02:15	7		2						9		14:15	99		98						197	
02:30	6		2						8		14:30	149		95						244	
02:45	3	21	6	12					9	33	14:45	185	515	107	439					292	954
03:00	3		7						10		15:00	142		138						280	
03:15	4		6						10		15:15	97		145						242	
03:30	6		11						17		15:30	118		173						291	
03:45	4	17	10	34					14	51	15:45	118	475	117	573					235	1048
04:00	3		12						15		16:00	136		108						244	
04:15	6		14						20		16:15	123		105						228	
04:30	4		10						14		16:30	125		92						217	
04:45	9	22	24	60					33	82	16:45	115	499	107	412					222	911
05:00	14		24						38		17:00	109		114						223	
05:15	15		27						42		17:15	112		112						224	
05:30	22		31						53		17:30	113		81						194	
05:45	29	80	39	121					68	201	17:45	109	443	91	398					200	841
06:00	34		45						79		18:00	116		110						226	
06:15	35		35						70		18:15	87		99						186	
06:30	41		50						91		18:30	93		73						166	
06:45	57	167	87	217					144	384	18:45	84	380	70	352					154	732
07:00	52		72						124		19:00	68		75						143	
07:15	77		108						185		19:15	81		53						134	
07:30	93		137						230		19:30	65		51						116	
07:45	106	328	140	457					246	785	19:45	59	273	85	264					144	537
08:00	97		120						217		20:00	72		69						141	
08:15	67		117						184		20:15	48		40						88	
08:30	72		89						161		20:30	64		61						125	
08:45	74	310	109	435					183	745	20:45	57	241	40	210					97	451
09:00	87		96						183		21:00	44		40						84	
09:15	94		85						179		21:15	46		29						75	
09:30	92		86						178		21:30	39		20						59	
09:45	70	343	101	368					171	711	21:45	38	167	24	113					62	280
10:00	62		79						141		22:00	21		17						38	
10:15	71		92						163		22:15	19		18						37	
10:30	93		84						177		22:30	22		15						37	
10:45	106	332	74	329					180	661	22:45	26	88	19	69					45	157
11:00	90		107						197		23:00	19		19						38	
11:15	99		87						186		23:15	16		15						31	
11:30	93		81						174		23:30	17		12						29	
11:45	99	381	98	373					197	754	23:45	13	65	8	54					21	119
TOTALS	2068		2443						4511		TOTALS	3887		3683						7570	
SPLIT %	45.8%		54.2%						37.3%		SPLIT %	51.3%		48.7%						62.7%	

DAILY TOTALS				NB	SB					EB	WB	Total	
				5,955	6,126					0	0	12,081	

AM Peak Hour	11:45	07:30			07:15	PM Peak Hour	14:15	15:00			14:45
AM Pk Volume	396	514			878	PM Pk Volume	575	573			1105
Pk Hr Factor	0.892	0.918			0.892	Pk Hr Factor	0.777	0.828			0.946
7 - 9 Volume	638	892	0	0	1530	4 - 6 Volume	942	810	0	0	1752
7 - 9 Peak Hour	07:15	07:30			07:15	4 - 6 Peak Hour	16:00	16:30			16:00
7 - 9 Pk Volume	373	514	0	0	878	4 - 6 Pk Volume	499	425	0	0	911
Pk Hr Factor	0.880	0.918	0.000	0.000	0.892	Pk Hr Factor	0.917	0.932	0.000	0.000	0.933

VOLUME

Highland Springs Ave Bet. Oak Valley Pkwy & Wilson St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_007

DAILY TOTALS	NB	SB	EB		WB	Total
	7,483	7,758	0	0		15,241

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	16	8			24	12:00	101	115			216
00:15	10	4			14	12:15	112	128			240
00:30	12	4			16	12:30	103	127			230
00:45	8	46	7	23	15 69	12:45	102	418	113	483	215 901
01:00	13	8			21	13:00	99	104			203
01:15	14	7			21	13:15	93	101			194
01:30	5	3			8	13:30	89	124			213
01:45	6	38	6	24	12 62	13:45	116	397	106	435	222 832
02:00	8	10			18	14:00	114	128			242
02:15	7	11			18	14:15	126	105			231
02:30	5	12			17	14:30	172	137			309
02:45	4	24	7	40	11 64	14:45	198	610	116	486	314 1096
03:00	5	4			9	15:00	175	183			358
03:15	7	9			16	15:15	159	261			420
03:30	3	12			15	15:30	140	194			334
03:45	2	17	14	39	16 56	15:45	159	633	147	785	306 1418
04:00	5	11			16	16:00	150	120			270
04:15	7	17			24	16:15	149	112			261
04:30	4	20			24	16:30	140	102			242
04:45	9	25	29	77	38 102	16:45	169	608	106	440	275 1048
05:00	20	32			52	17:00	160	114			274
05:15	25	44			69	17:15	171	104			275
05:30	33	47			80	17:30	143	112			255
05:45	52	130	73	196	125 326	17:45	151	625	113	443	264 1068
06:00	41	67			108	18:00	123	109			232
06:15	69	68			137	18:15	156	93			249
06:30	65	89			154	18:30	142	118			260
06:45	95	270	126	350	221 620	18:45	124	545	97	417	221 962
07:00	111	129			240	19:00	123	99			222
07:15	131	133			264	19:15	110	85			195
07:30	128	158			286	19:30	110	72			182
07:45	100	470	224	644	324 1114	19:45	86	429	83	339	169 768
08:00	101	204			305	20:00	100	91			191
08:15	104	180			284	20:15	76	74			150
08:30	76	118			194	20:30	72	53			125
08:45	86	367	121	623	207 990	20:45	77	325	37	255	114 580
09:00	79	123			202	21:00	75	41			116
09:15	59	125			184	21:15	70	39			109
09:30	64	107			171	21:30	48	19			67
09:45	90	292	136	491	226 783	21:45	42	235	21	120	63 355
10:00	91	102			193	22:00	46	36			82
10:15	83	105			188	22:15	44	19			63
10:30	93	116			209	22:30	45	17			62
10:45	85	352	103	426	188 778	22:45	46	181	21	93	67 274
11:00	86	114			200	23:00	30	19			49
11:15	87	113			200	23:15	19	15			34
11:30	100	115			215	23:30	20	11			31
11:45	85	358	128	470	213 828	23:45	19	88	14	59	33 147
TOTALS	2389	3403			5792	TOTALS	5094	4355			9449
SPLIT %	41.2%	58.8%			38.0%	SPLIT %	53.9%	46.1%			62.0%

DAILY TOTALS	NB	SB	EB		WB	Total
	7,483	7,758	0	0		15,241

AM Peak Hour	07:00	07:30			07:30	PM Peak Hour	14:30	15:00			14:45
AM Pk Volume	470	766			1199	PM Pk Volume	704	785			1426
Pk Hr Factor	0.897	0.855			0.925	Pk Hr Factor	0.889	0.752			0.849
7 - 9 Volume	837	1267	0	0	2104	4 - 6 Volume	1233	883	0	0	2116
7 - 9 Peak Hour	07:00	07:30			07:30	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	470	766	0	0	1199	4 - 6 Pk Volume	643	443	0	0	1079
Pk Hr Factor	0.897	0.855	0.000	0.000	0.925	Pk Hr Factor	0.940	0.971	0.000	0.000	0.981

VOLUME

Xenia Ave Bet. Carnation Ln & 6th St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_008

DAILY TOTALS					NB	SB					EB	WB	Total	
					1,175	1,312					0	0	2,487	

AM Period	NB		SB		EB	WB	TOTAL	PM Period	NB		SB		EB	WB	TOTAL
00:00	2		1				3	12:00	22		27				49
00:15	3		0				3	12:15	18		12				30
00:30	2		0				2	12:30	16		20				36
00:45	1	8	3	4			4 12	12:45	10	66	21	80			31 146
01:00	2		0				2	13:00	16		14				30
01:15	0		2				2	13:15	18		10				28
01:30	1		1				2	13:30	36		19				55
01:45	1	4	1	4			2 8	13:45	20	90	18	61			38 151
02:00	1		0				1	14:00	25		27				52
02:15	2		2				4	14:15	20		22				42
02:30	0		1				1	14:30	21		22				43
02:45	1	4	0	3			1 7	14:45	24	90	27	98			51 188
03:00	0		1				1	15:00	26		22				48
03:15	1		0				1	15:15	22		25				47
03:30	0		0				0	15:30	24		24				48
03:45	1	2	1	2			2 4	15:45	32	104	12	83			44 187
04:00	0		0				0	16:00	17		19				36
04:15	3		2				5	16:15	39		22				61
04:30	3		14				17	16:30	26		11				37
04:45	2	8	11	27			13 35	16:45	20	102	19	71			39 173
05:00	4		12				16	17:00	25		16				41
05:15	5		10				15	17:15	24		17				41
05:30	6		14				20	17:30	16		23				39
05:45	5	20	15	51			20 71	17:45	22	87	22	78			44 165
06:00	7		21				28	18:00	17		26				43
06:15	7		13				20	18:15	24		24				48
06:30	17		17				34	18:30	22		26				48
06:45	12	43	23	74			35 117	18:45	15	78	13	89			28 167
07:00	12		27				39	19:00	12		10				22
07:15	15		31				46	19:15	15		16				31
07:30	20		23				43	19:30	12		12				24
07:45	20	67	25	106			45 173	19:45	10	49	14	52			24 101
08:00	13		19				32	20:00	11		12				23
08:15	19		25				44	20:15	13		18				31
08:30	16		18				34	20:30	12		15				27
08:45	17	65	20	82			37 147	20:45	15	51	10	55			25 106
09:00	14		20				34	21:00	11		12				23
09:15	15		22				37	21:15	6		14				20
09:30	13		19				32	21:30	6		10				16
09:45	15	57	17	78			32 135	21:45	4	27	8	44			12 71
10:00	14		17				31	22:00	6		9				15
10:15	13		15				28	22:15	3		2				5
10:30	12		14				26	22:30	5		6				11
10:45	16	55	22	68			38 123	22:45	5	19	4	21			9 40
11:00	13		18				31	23:00	1		4				5
11:15	23		21				44	23:15	1		2				3
11:30	20		17				37	23:30	3		1				4
11:45	17	73	16	72			33 145	23:45	1	6	2	9			3 15
TOTALS	406		571				977	TOTALS	769		741				1510
SPLIT %	41.6%		58.4%				39.3%	SPLIT %	50.9%		49.1%				60.7%

DAILY TOTALS					NB	SB					EB	WB	Total	
					1,175	1,312					0	0	2,487	

AM Peak Hour	11:15	07:00			07:00	PM Peak Hour	15:45	14:00			14:45
AM Pk Volume	82	106			173	PM Pk Volume	114	98			194
Pk Hr Factor	0.891	0.855			0.940	Pk Hr Factor	0.731	0.907			0.951
7 - 9 Volume	132	188	0	0	320	4 - 6 Volume	189	149	0	0	338
7 - 9 Peak Hour	07:30	07:00			07:00	4 - 6 Peak Hour	16:15	17:00			16:15
7 - 9 Pk Volume	72	106	0	0	173	4 - 6 Pk Volume	110	78	0	0	178
Pk Hr Factor	0.900	0.855	0.000	0.000	0.940	Pk Hr Factor	0.705	0.848	0.000	0.000	0.730

VOLUME

6th St Bet. Veile Ave & California Ave

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_009

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						6,682	10,468						17,150
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
00:00			15	9	24		12:00			105	127	232							
00:15			11	6	17		12:15			108	135	243							
00:30			15	8	23		12:30			74	128	202							
00:45			12	53	12	35	12:45			70	357	122	512	192	869				
01:00			13	8	21		13:00			98	145	243							
01:15			11	11	22		13:15			84	189	273							
01:30			13	5	18		13:30			105	171	276							
01:45			10	47	5	29	13:45			99	386	158	663	257	1049				
02:00			8	11	19		14:00			119	178	297							
02:15			9	0	9		14:15			138	166	304							
02:30			8	4	12		14:30			136	200	336							
02:45			12	37	8	23	14:45			103	496	136	680	239	1176				
03:00			15	18	33		15:00			132	178	310							
03:15			8	20	28		15:15			126	191	317							
03:30			9	25	34		15:30			154	197	351							
03:45			12	44	23	86	15:45			144	556	186	752	330	1308				
04:00			11	26	37		16:00			164	186	350							
04:15			13	31	44		16:15			155	206	361							
04:30			15	40	55		16:30			162	184	346							
04:45			15	54	37	134	16:45			151	632	155	731	306	1363				
05:00			17	51	68		17:00			162	212	374							
05:15			23	91	114		17:15			184	190	374							
05:30			30	103	133		17:30			162	206	368							
05:45			42	112	163	408	17:45			153	661	182	790	335	1451				
06:00			39	157	196		18:00			143	153	296							
06:15			39	228	267		18:15			126	129	255							
06:30			49	260	309		18:30			130	116	246							
06:45			62	189	230	875	18:45			95	494	92	490	187	984				
07:00			63	265	328		19:00			79	96	175							
07:15			82	240	322		19:15			82	99	181							
07:30			89	213	302		19:30			65	91	156							
07:45			121	355	206	924	19:45			64	290	85	371	149	661				
08:00			88	190	278		20:00			55	77	132							
08:15			67	179	246		20:15			57	50	107							
08:30			64	185	249		20:30			54	48	102							
08:45			96	315	148	702	20:45			55	221	44	219	99	440				
09:00			88	178	266		21:00			59	45	104							
09:15			59	131	190		21:15			64	59	123							
09:30			69	172	241		21:30			43	40	83							
09:45			63	279	149	630	21:45			34	200	43	187	77	387				
10:00			73	134	207		22:00			39	33	72							
10:15			87	123	210		22:15			34	25	59							
10:30			77	151	228		22:30			32	22	54							
10:45			81	318	129	537	22:45			22	127	24	104	46	231				
11:00			82	120	202		23:00			28	15	43							
11:15			92	145	237		23:15			24	22	46							
11:30			92	154	246		23:30			17	16	33							
11:45			101	367	103	522	23:45			23	92	11	64	34	156				
TOTALS				2170	4905	7075	TOTALS				4512	5563	10075						
SPLIT %				30.7%	69.3%	41.3%	SPLIT %				44.8%	55.2%	58.7%						

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						6,682	10,468						17,150

AM Peak Hour			11:30	06:30	07:00	PM Peak Hour			17:00	17:00	17:00
AM Pk Volume			406	995	1279	PM Pk Volume			661	790	1451
Pk Hr Factor			0.940	0.939	0.975	Pk Hr Factor			0.898	0.932	0.970
7 - 9 Volume	0	0	670	1626	2296	4 - 6 Volume	0	0	1293	1521	2814
7 - 9 Peak Hour			07:15	07:00	07:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	380	924	1279	4 - 6 Pk Volume	0	0	661	790	1451
Pk Hr Factor	0.000	0.000	0.785	0.872	0.975	Pk Hr Factor	0.000	0.000	0.898	0.932	0.970

VOLUME

Beaumont Ave Bet. 6th St & 5th St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_010

DAILY TOTALS				NB	SB					EB	WB	Total	
				5,975	5,118					0	0	11,093	

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	10		6						16	12:00	106		97						203
00:15	13		17						30	12:15	127		76						203
00:30	10		12						22	12:30	117		94						211
00:45	15	48	10	45					25 93	12:45	91	441	79	346					170 787
01:00	4		9						13	13:00	95		67						162
01:15	9		6						15	13:15	111		78						189
01:30	10		4						14	13:30	96		73						169
01:45	8	31	8	27					16 58	13:45	85	387	76	294					161 681
02:00	7		6						13	14:00	130		59						189
02:15	4		6						10	14:15	92		96						188
02:30	6		3						9	14:30	78		89						167
02:45	8	25	6	21					14 46	14:45	104	404	92	336					196 740
03:00	8		3						11	15:00	121		77						198
03:15	10		3						13	15:15	120		92						212
03:30	10		8						18	15:30	124		89						213
03:45	14	42	11	25					25 67	15:45	110	475	86	344					196 819
04:00	14		9						23	16:00	96		104						200
04:15	18		9						27	16:15	104		89						193
04:30	12		13						25	16:30	79		90						169
04:45	18	62	18	49					36 111	16:45	108	387	88	371					196 758
05:00	30		19						49	17:00	88		118						206
05:15	32		13						45	17:15	114		106						220
05:30	31		31						62	17:30	92		115						207
05:45	54	147	41	104					95 251	17:45	100	394	90	429					190 823
06:00	47		39						86	18:00	102		75						177
06:15	42		29						71	18:15	100		87						187
06:30	67		47						114	18:30	91		67						158
06:45	88	244	47	162					135 406	18:45	64	357	56	285					120 642
07:00	60		63						123	19:00	66		56						122
07:15	64		76						140	19:15	61		43						104
07:30	75		118						193	19:30	58		45						103
07:45	77	276	91	348					168 624	19:45	81	266	42	186					123 452
08:00	65		98						163	20:00	86		52						138
08:15	74		74						148	20:15	44		63						107
08:30	66		89						155	20:30	65		39						104
08:45	69	274	78	339					147 613	20:45	51	246	48	202					99 448
09:00	91		66						157	21:00	40		45						85
09:15	103		91						194	21:15	41		38						79
09:30	94		72						166	21:30	32		48						80
09:45	83	371	62	291					145 662	21:45	39	152	36	167					75 319
10:00	82		58						140	22:00	34		24						58
10:15	75		58						133	22:15	29		25						54
10:30	94		60						154	22:30	22		34						56
10:45	80	331	77	253					157 584	22:45	26	111	32	115					58 226
11:00	101		54						155	23:00	26		28						54
11:15	103		73						176	23:15	20		22						42
11:30	103		77						180	23:30	12		25						37
11:45	127	434	79	283					206 717	23:45	12	70	21	96					33 166
TOTALS	2285		1947						4232	TOTALS	3690		3171						6861
SPLIT %	54.0%		46.0%						38.2%	SPLIT %	53.8%		46.2%						61.8%

DAILY TOTALS				NB	SB					EB	WB	Total	
				5,975	5,118					0	0	11,093	

AM Peak Hour	11:45	07:15			11:45	PM Peak Hour	15:00	17:00			16:45
AM Pk Volume	477	383			823	PM Pk Volume	475	429			829
Pk Hr Factor	0.939	0.811			0.975	Pk Hr Factor	0.958	0.909			0.942
7 - 9 Volume	550	687	0	0	1237	4 - 6 Volume	781	800	0	0	1581
7 - 9 Peak Hour	07:30	07:15			07:30	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	291	383	0	0	672	4 - 6 Pk Volume	402	429	0	0	829
Pk Hr Factor	0.945	0.811	0.000	0.000	0.870	Pk Hr Factor	0.882	0.909	0.000	0.000	0.942

VOLUME

6th St Bet. Beaumont Ave & Palm Ct

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_011

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						6,680	7,379						14,059
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00			11	13	24		12:00			131	111	242							
00:15			15	5	20		12:15			124	113	237							
00:30			12	14	26		12:30			108	121	229							
00:45			11	49	10	42	12:45			116	479	130	475	246	954				
01:00			10	5	15		13:00			115	105	220							
01:15			8	8	16		13:15			103	138	241							
01:30			12	6	18		13:30			122	121	243							
01:45			6	36	7	26	13:45			109	449	145	509	254	958				
02:00			8	5	13		14:00			153	127	280							
02:15			8	4	12		14:15			152	129	281							
02:30			5	8	13		14:30			173	160	333							
02:45			8	29	9	26	14:45			141	619	184	600	325	1219				
03:00			9	9	18		15:00			134	145	279							
03:15			5	10	15		15:15			146	134	280							
03:30			4	9	13		15:30			183	134	317							
03:45			6	24	12	40	15:45			145	608	164	577	309	1185				
04:00			6	14	20		16:00			151	140	291							
04:15			8	27	35		16:15			147	138	285							
04:30			8	27	35		16:30			161	132	293							
04:45			13	35	24	92	16:45			159	618	151	561	310	1179				
05:00			16	37	53		17:00			143	148	291							
05:15			14	28	42		17:15			148	127	275							
05:30			24	35	59		17:30			151	120	271							
05:45			43	97	51	151	17:45			118	560	122	517	240	1077				
06:00			32	45	77		18:00			128	77	205							
06:15			33	53	86		18:15			141	92	233							
06:30			31	73	104		18:30			116	97	213							
06:45			46	142	92	263	18:45			98	483	82	348	180	831				
07:00			69	124	193		19:00			33	66	99							
07:15			63	97	160		19:15			41	78	119							
07:30			92	116	208		19:30			38	67	105							
07:45			116	340	122	459	19:45			47	159	83	294	130	453				
08:00			104	100	204		20:00			39	82	121							
08:15			91	93	184		20:15			32	62	94							
08:30			81	125	206		20:30			28	59	87							
08:45			94	370	91	409	20:45			22	121	54	257	76	378				
09:00			84	102	186		21:00			24	46	70							
09:15			85	100	185		21:15			15	45	60							
09:30			100	125	225		21:30			18	45	63							
09:45			117	386	113	440	21:45			20	77	31	167	51	244				
10:00			93	116	209		22:00			15	38	53							
10:15			113	120	233		22:15			17	23	40							
10:30			97	111	208		22:30			21	20	41							
10:45			89	392	112	459	22:45			24	77	22	103	46	180				
11:00			105	141	246		23:00			22	14	36							
11:15			87	111	198		23:15			15	21	36							
11:30			146	122	268		23:30			14	22	36							
11:45			125	463	122	496	23:45			16	67	11	68	27	135				
TOTALS			2363	2903	5266		TOTALS			4317	4476	8793							
SPLIT %			44.9%	55.1%	37.5%		SPLIT %			49.1%	50.9%	62.5%							

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						6,680	7,379						14,059

AM Peak Hour			11:30	11:00	11:30	PM Peak Hour			15:30	14:30	14:00
AM Pk Volume			526	496	994	PM Pk Volume			626	623	1219
Pk Hr Factor			0.901	0.879	0.927	Pk Hr Factor			0.855	0.846	0.915
7 - 9 Volume	0	0	710	868	1578	4 - 6 Volume	0	0	1178	1078	2256
7 - 9 Peak Hour			07:30	07:00	07:30	4 - 6 Peak Hour			16:00	16:15	16:00
7 - 9 Pk Volume	0	0	403	459	834	4 - 6 Pk Volume	0	0	618	569	1179
Pk Hr Factor	0.000	0.000	0.869	0.925	0.876	Pk Hr Factor	0.000	0.000	0.960	0.942	0.951

VOLUME

Pennsylvania Ave Bet. 6th St & I-10 WB off-ramp

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_012

DAILY TOTALS					NB	SB					EB	WB	Total	
					7,211	6,798					0	0	14,009	

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	13		9						22	12:00	106		112						218
00:15	11		5						16	12:15	93		126						219
00:30	10		5						15	12:30	132		104						236
00:45	10	44	5	24					15 68	12:45	113	444	112	454					225 898
01:00	6		4						10	13:00	125		103						228
01:15	6		3						9	13:15	101		101						202
01:30	5		5						10	13:30	114		99						213
01:45	3	20	1	13					4 33	13:45	115	455	104	407					219 862
02:00	5		0						5	14:00	111		123						234
02:15	3		8						11	14:15	157		104						261
02:30	2		4						6	14:30	156		128						284
02:45	6	16	3	15					9 31	14:45	148	572	145	500					293 1072
03:00	5		2						7	15:00	144		119						263
03:15	4		5						9	15:15	122		176						298
03:30	4		3						7	15:30	137		153						290
03:45	4	17	6	16					10 33	15:45	126	529	114	562					240 1091
04:00	6		5						11	16:00	147		131						278
04:15	7		12						19	16:15	128		102						230
04:30	6		18						24	16:30	143		129						272
04:45	10	29	32	67					42 96	16:45	179	597	119	481					298 1078
05:00	15		27						42	17:00	177		125						302
05:15	12		38						50	17:15	143		108						251
05:30	19		44						63	17:30	169		106						275
05:45	25	71	73	182					98 253	17:45	154	643	99	438					253 1081
06:00	25		62						87	18:00	112		105						217
06:15	28		73						101	18:15	115		116						231
06:30	49		63						112	18:30	114		99						213
06:45	64	166	102	300					166 466	18:45	118	459	105	425					223 884
07:00	101		84						185	19:00	106		115						221
07:15	108		97						205	19:15	83		70						153
07:30	128		94						222	19:30	97		81						178
07:45	114	451	145	420					259 871	19:45	86	372	91	357					177 729
08:00	166		128						294	20:00	89		76						165
08:15	92		146						238	20:15	78		45						123
08:30	81		128						209	20:30	68		41						109
08:45	117	456	123	525					240 981	20:45	54	289	35	197					89 486
09:00	79		117						196	21:00	49		30						79
09:15	75		83						158	21:15	61		29						90
09:30	80		113						193	21:30	45		25						70
09:45	123	357	98	411					221 768	21:45	36	191	18	102					54 293
10:00	93		74						167	22:00	46		20						66
10:15	98		107						205	22:15	31		11						42
10:30	98		98						196	22:30	27		13						40
10:45	87	376	92	371					179 747	22:45	24	128	19	63					43 191
11:00	115		95						210	23:00	33		12						45
11:15	100		88						188	23:15	26		7						33
11:30	110		122						232	23:30	21		10						31
11:45	111	436	122	427					233 863	23:45	13	93	12	41					25 134
TOTALS	2439		2771						5210	TOTALS	4772		4027						8799
SPLIT %	46.8%		53.2%						37.2%	SPLIT %	54.2%		45.8%						62.8%

DAILY TOTALS					NB	SB					EB	WB	Total	
					7,211	6,798					0	0	14,009	

AM Peak Hour	07:15	07:45			07:30	PM Peak Hour	16:45	14:45			14:45
AM Pk Volume	516	547			1013	PM Pk Volume	668	593			1144
Pk Hr Factor	0.777	0.937			0.861	Pk Hr Factor	0.933	0.842			0.960
7 - 9 Volume	907	945	0	0	1852	4 - 6 Volume	1240	919	0	0	2159
7 - 9 Peak Hour	07:15	07:45			07:30	4 - 6 Peak Hour	16:45	16:00			16:45
7 - 9 Pk Volume	516	547	0	0	1013	4 - 6 Pk Volume	668	481	0	0	1126
Pk Hr Factor	0.777	0.937	0.000	0.000	0.861	Pk Hr Factor	0.933	0.918	0.000	0.000	0.932

VOLUME

6th St Bet. Pennsylvania Ave & Xenia Ave

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_013

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						5,998	5,354						11,352
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
00:00			11	3	14		12:00			109	99	208							
00:15			5	5	10		12:15			104	110	214							
00:30			9	6	15		12:30			109	111	220							
00:45			6	31	6	20	12:45			82	404	92	412	174	816				
01:00			5	3	8		13:00			95	95	190							
01:15			4	1	5		13:15			121	105	226							
01:30			3	5	8		13:30			93	91	184							
01:45			7	19	3	12	13:45			137	446	101	392	238	838				
02:00			2	2	4		14:00			116	96	212							
02:15			3	5	8		14:15			121	108	229							
02:30			2	4	6		14:30			129	111	240							
02:45			6	13	6	17	14:45			143	509	103	418	246	927				
03:00			2	6	8		15:00			101	97	198							
03:15			2	1	3		15:15			116	101	217							
03:30			5	2	7		15:30			148	89	237							
03:45			9	18	3	12	15:45			127	492	95	382	222	874				
04:00			3	5	8		16:00			108	115	223							
04:15			9	1	10		16:15			113	114	227							
04:30			15	7	22		16:30			125	122	247							
04:45			7	34	6	19	16:45			109	455	131	482	240	937				
05:00			13	6	19		17:00			128	134	262							
05:15			10	2	12		17:15			116	119	235							
05:30			16	8	24		17:30			124	120	244							
05:45			30	69	25	41	17:45			100	468	92	465	192	933				
06:00			27	17	44		18:00			74	83	157							
06:15			33	17	50		18:15			87	75	162							
06:30			40	29	69		18:30			61	68	129							
06:45			56	156	38	101	18:45			64	286	70	296	134	582				
07:00			50	47	97		19:00			62	73	135							
07:15			36	40	76		19:15			73	60	133							
07:30			63	69	132		19:30			62	69	131							
07:45			99	248	102	258	19:45			66	263	59	261	125	524				
08:00			99	84	183		20:00			77	44	121							
08:15			105	101	206		20:15			40	36	76							
08:30			88	88	176		20:30			69	35	104							
08:45			75	367	92	365	20:45			40	226	44	159	84	385				
09:00			81	73	154		21:00			37	38	75							
09:15			95	66	161		21:15			38	32	70							
09:30			102	86	188		21:30			32	35	67							
09:45			99	377	97	322	21:45			26	133	33	138	59	271				
10:00			94	86	180		22:00			21	26	47							
10:15			123	93	216		22:15			20	19	39							
10:30			97	80	177		22:30			20	20	40							
10:45			111	425	70	329	22:45			18	79	15	80	33	159				
11:00			118	87	205		23:00			18	10	28							
11:15			103	71	174		23:15			20	17	37							
11:30			94	84	178		23:30			10	8	18							
11:45			108	423	85	327	23:45			9	57	11	46	20	103				
TOTALS	2180			1823	4003		TOTALS	3818			3531	7349							
SPLIT %	54.5%			45.5%	35.3%		SPLIT %	52.0%			48.0%	64.7%							

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						5,998	5,354						11,352

AM Peak Hour			10:15	11:45	11:45	PM Peak Hour			14:00	16:30	16:30
AM Pk Volume			449	405	835	PM Pk Volume			509	506	984
Pk Hr Factor			0.913	0.912	0.949	Pk Hr Factor			0.890	0.944	0.939
7 - 9 Volume	0	0	615	623	1238	4 - 6 Volume	0	0	923	947	1870
7 - 9 Peak Hour			07:45	07:45	07:45	4 - 6 Peak Hour			16:30	16:30	16:30
7 - 9 Pk Volume	0	0	391	375	766	4 - 6 Pk Volume	0	0	478	506	984
Pk Hr Factor	0.000	0.000	0.931	0.919	0.930	Pk Hr Factor	0.000	0.000	0.934	0.944	0.939

VOLUME

Highland Springs Ave Bet. 6th St & 5th St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_014

DAILY TOTALS				NB	SB					EB	WB	Total	
				12,258	11,552					0	0	23,810	

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	25		32						57	12:00	181		161						342
00:15	30		23						53	12:15	185		159						344
00:30	29		22						51	12:30	198		162						360
00:45	18	102	8	85					26 187	12:45	200	764	181	663					381 1427
01:00	17		21						38	13:00	193		169						362
01:15	16		17						33	13:15	191		192						383
01:30	12		10						22	13:30	204		183						387
01:45	13	58	17	65					30 123	13:45	205	793	198	742					403 1535
02:00	16		21						37	14:00	223		187						410
02:15	19		11						30	14:15	210		195						405
02:30	15		12						27	14:30	239		223						462
02:45	17	67	12	56					29 123	14:45	232	904	228	833					460 1737
03:00	10		10						20	15:00	216		193						409
03:15	13		11						24	15:15	222		222						444
03:30	8		13						21	15:30	197		210						407
03:45	12	43	10	44					22 87	15:45	230	865	189	814					419 1679
04:00	13		15						28	16:00	200		226						426
04:15	13		10						23	16:15	240		243						483
04:30	15		11						26	16:30	242		215						457
04:45	24	65	21	57					45 122	16:45	238	920	207	891					445 1811
05:00	40		25						65	17:00	239		242						481
05:15	41		33						74	17:15	254		211						465
05:30	52		48						100	17:30	241		213						454
05:45	70	203	73	179					143 382	17:45	266	1000	229	895					495 1895
06:00	56		64						120	18:00	225		165						390
06:15	83		71						154	18:15	236		189						425
06:30	74		85						159	18:30	179		198						377
06:45	111	324	99	319					210 643	18:45	174	814	198	750					372 1564
07:00	108		125						233	19:00	174		163						337
07:15	145		143						288	19:15	173		156						329
07:30	150		155						305	19:30	141		148						289
07:45	184	587	206	629					390 1216	19:45	156	644	131	598					287 1242
08:00	144		158						302	20:00	147		157						304
08:15	142		156						298	20:15	134		102						236
08:30	127		168						295	20:30	128		115						243
08:45	165	578	208	690					373 1268	20:45	122	531	128	502					250 1033
09:00	146		187						333	21:00	121		111						232
09:15	142		142						284	21:15	126		89						215
09:30	160		139						299	21:30	115		102						217
09:45	167	615	160	628					327 1243	21:45	106	468	81	383					187 851
10:00	155		166						321	22:00	98		79						177
10:15	191		162						353	22:15	105		71						176
10:30	161		162						323	22:30	75		58						133
10:45	205	712	184	674					389 1386	22:45	53	331	68	276					121 607
11:00	161		140						301	23:00	64		52						116
11:15	155		162						317	23:15	56		49						105
11:30	179		165						344	23:30	40		41						81
11:45	170	665	141	608					311 1273	23:45	45	205	29	171					74 376
TOTALS	4019		4034						8053	TOTALS	8239		7518						15757
SPLIT %	49.9%		50.1%						33.8%	SPLIT %	52.3%		47.7%						66.2%

DAILY TOTALS				NB	SB					EB	WB	Total	
				12,258	11,552					0	0	23,810	

AM Peak Hour	11:45	08:15			10:00	PM Peak Hour	17:00	16:15			17:00
AM Pk Volume	734	719			1386	PM Pk Volume	1000	907			1895
Pk Hr Factor	0.927	0.864			0.891	Pk Hr Factor	0.940	0.933			0.957
7 - 9 Volume	1165	1319	0	0	2484	4 - 6 Volume	1920	1786	0	0	3706
7 - 9 Peak Hour	07:15	08:00			07:30	4 - 6 Peak Hour	17:00	16:15			17:00
7 - 9 Pk Volume	623	690	0	0	1295	4 - 6 Pk Volume	1000	907	0	0	1895
Pk Hr Factor	0.846	0.829	0.000	0.000	0.830	Pk Hr Factor	0.940	0.933	0.000	0.000	0.957

VOLUME

Veile Ave Bet. Luis Estrada Rd & 4th St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_015

DAILY TOTALS				NB	SB					EB	WB	Total	
				1,323	1,547					0	0	2,870	

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	13		5						18	12:00	24		23						47
00:15	3		1						4	12:15	18		17						35
00:30	4		1						5	12:30	18		24						42
00:45	4	24	3	10					7 34	12:45	14	74	26	90					40 164
01:00	5		0						5	13:00	18		24						42
01:15	8		2						10	13:15	15		10						25
01:30	9		1						10	13:30	27		25						52
01:45	5	27	2	5					7 32	13:45	12	72	20	79					32 151
02:00	17		0						17	14:00	28		11						39
02:15	5		4						9	14:15	21		22						43
02:30	5		0						5	14:30	54		23						77
02:45	14	41	0	4					14 45	14:45	19	122	26	82					45 204
03:00	16		2						18	15:00	17		35						52
03:15	7		13						20	15:15	15		27						42
03:30	11		4						15	15:30	49		27						76
03:45	8	42	9	28					17 70	15:45	29	110	24	113					53 223
04:00	6		5						11	16:00	55		25						80
04:15	10		5						15	16:15	36		25						61
04:30	8		11						19	16:30	22		23						45
04:45	4	28	14	35					18 63	16:45	32	145	16	89					48 234
05:00	2		14						16	17:00	53		27						80
05:15	4		19						23	17:15	11		19						30
05:30	3		30						33	17:30	22		21						43
05:45	10	19	38	101					48 120	17:45	13	99	23	90					36 189
06:00	5		15						20	18:00	10		8						18
06:15	12		14						26	18:15	13		16						29
06:30	4		28						32	18:30	13		12						25
06:45	15	36	36	93					51 129	18:45	12	48	11	47					23 95
07:00	9		24						33	19:00	4		8						12
07:15	10		47						57	19:15	2		11						13
07:30	11		15						26	19:30	9		11						20
07:45	10	40	33	119					43 159	19:45	3	18	10	40					13 58
08:00	11		27						38	20:00	4		8						12
08:15	12		24						36	20:15	4		8						12
08:30	15		17						32	20:30	6		12						18
08:45	20	58	37	105					57 163	20:45	11	25	18	46					29 71
09:00	13		19						32	21:00	9		10						19
09:15	12		20						32	21:15	9		12						21
09:30	20		24						44	21:30	5		9						14
09:45	20	65	22	85					42 150	21:45	7	30	10	41					17 71
10:00	11		19						30	22:00	2		3						5
10:15	16		23						39	22:15	5		5						10
10:30	19		13						32	22:30	1		5						6
10:45	19	65	36	91					55 156	22:45	11	19	2	15					13 34
11:00	20		23						43	23:00	8		2						10
11:15	31		36						67	23:15	2		6						8
11:30	18		34						52	23:30	6		3						9
11:45	28	97	29	122					57 219	23:45	3	19	6	17					9 36
TOTALS	542		798						1340	TOTALS	781		749						1530
SPLIT %	40.4%		59.6%						46.7%	SPLIT %	51.0%		49.0%						53.3%

DAILY TOTALS				NB	SB					EB	WB	Total	
				1,323	1,547					0	0	2,870	

AM Peak Hour	11:15	06:30			11:15	PM Peak Hour	15:30	14:45			15:30
AM Pk Volume	101	135			223	PM Pk Volume	169	115			270
Pk Hr Factor	0.815	0.718			0.832	Pk Hr Factor	0.768	0.821			0.844
7 - 9 Volume	98	224	0	0	322	4 - 6 Volume	244	179	0	0	423
7 - 9 Peak Hour	08:00	07:15			07:15	4 - 6 Peak Hour	16:00	16:15			16:00
7 - 9 Pk Volume	58	122	0	0	164	4 - 6 Pk Volume	145	91	0	0	234
Pk Hr Factor	0.725	0.649	0.000	0.000	0.719	Pk Hr Factor	0.659	0.843	0.000	0.000	0.731

VOLUME

Pennsylvania Ave Bet. I-10 EB on-ramp & 3rd St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_016

DAILY TOTALS	NB	SB	EB		WB	Total
	5,353	5,275	0	0		10,628

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	6		8						14	12:00	92		66						158
00:15	3		5						8	12:15	77		92						169
00:30	5		4						9	12:30	93		92						185
00:45	4	18	2	19					6 37	12:45	95	357	87	337					182 694
01:00	5		1						6	13:00	83		69						152
01:15	1		3						4	13:15	80		71						151
01:30	3		0						3	13:30	72		84						156
01:45	0	9	2	6					2 15	13:45	87	322	99	323					186 645
02:00	1		2						3	14:00	109		103						212
02:15	3		4						7	14:15	113		90						203
02:30	1		2						3	14:30	107		137						244
02:45	1	6	0	8					1 14	14:45	124	453	114	444					238 897
03:00	1		5						6	15:00	103		115						218
03:15	0		4						4	15:15	160		121						281
03:30	2		2						4	15:30	143		150						293
03:45	4	7	5	16					9 23	15:45	90	496	122	508					212 1004
04:00	6		5						11	16:00	98		130						228
04:15	7		2						9	16:15	106		92						198
04:30	8		6						14	16:30	107		107						214
04:45	17	38	14	27					31 65	16:45	114	425	97	426					211 851
05:00	13		9						22	17:00	109		122						231
05:15	22		19						41	17:15	111		110						221
05:30	25		40						65	17:30	114		110						224
05:45	44	104	40	108					84 212	17:45	94	428	98	440					192 868
06:00	35		23						58	18:00	88		79						167
06:15	43		44						87	18:15	93		92						185
06:30	49		67						116	18:30	80		65						145
06:45	95	222	83	217					178 439	18:45	75	336	77	313					152 649
07:00	51		61						112	19:00	80		68						148
07:15	46		62						108	19:15	50		57						107
07:30	61		63						124	19:30	59		51						110
07:45	96	254	106	292					202 546	19:45	72	261	44	220					116 481
08:00	84		81						165	20:00	58		25						83
08:15	97		72						169	20:15	36		54						90
08:30	85		83						168	20:30	37		45						82
08:45	80	346	77	313					157 659	20:45	33	164	33	157					66 321
09:00	88		72						160	21:00	28		43						71
09:15	47		59						106	21:15	23		32						55
09:30	56		57						113	21:30	24		28						52
09:45	68	259	63	251					131 510	21:45	25	100	27	130					52 230
10:00	68		65						133	22:00	19		21						40
10:15	72		90						162	22:15	22		19						41
10:30	92		88						180	22:30	16		26						42
10:45	71	303	64	307					135 610	22:45	16	73	19	85					35 158
11:00	79		65						144	23:00	14		15						29
11:15	77		72						149	23:15	13		12						25
11:30	87		75						162	23:30	9		2						11
11:45	88	331	79	291					167 622	23:45	5	41	8	37					13 78
TOTALS	1897		1855						3752	TOTALS	3456		3420						6876
SPLIT %	50.6%		49.4%						35.3%	SPLIT %	50.3%		49.7%						64.7%

DAILY TOTALS	NB	SB	EB		WB	Total
	5,353	5,275	0	0		10,628

AM Peak Hour	07:45	07:45			07:45	PM Peak Hour	14:45	15:15			14:45
AM Pk Volume	362	342			704	PM Pk Volume	530	523			1030
Pk Hr Factor	0.933	0.807			0.871	Pk Hr Factor	0.828	0.872			0.879
7 - 9 Volume	600	605	0	0	1205	4 - 6 Volume	853	866	0	0	1719
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	362	342	0	0	704	4 - 6 Pk Volume	448	440	0	0	887
Pk Hr Factor	0.933	0.807	0.000	0.000	0.871	Pk Hr Factor	0.982	0.902	0.000	0.000	0.960

VOLUME

Highland Springs Ave Bet. I-10 EB Ramps & 1st St

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_017

DAILY TOTALS				NB	SB					EB	WB	Total	
				10,637	15,123					0	0	25,760	

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	13		29						42	12:00	196		276						472
00:15	10		39						49	12:15	215		272						487
00:30	15		27						42	12:30	222		261						483
00:45	10	48	15	110					25 158	12:45	200	833	283	1092					483 1925
01:00	10		27						37	13:00	206		267						473
01:15	10		16						26	13:15	190		282						472
01:30	5		19						24	13:30	205		274						479
01:45	8	33	16	78					24 111	13:45	210	811	269	1092					479 1903
02:00	3		11						14	14:00	222		260						482
02:15	6		20						26	14:15	262		267						529
02:30	3		11						14	14:30	231		243						474
02:45	4	16	14	56					18 72	14:45	198	913	274	1044					472 1957
03:00	4		8						12	15:00	245		266						511
03:15	1		10						11	15:15	242		308						550
03:30	7		13						20	15:30	263		296						559
03:45	7	19	21	52					28 71	15:45	228	978	292	1162					520 2140
04:00	8		10						18	16:00	203		279						482
04:15	3		12						15	16:15	250		270						520
04:30	13		20						33	16:30	224		264						488
04:45	27	51	61	103					88 154	16:45	230	907	275	1088					505 1995
05:00	13		22						35	17:00	199		257						456
05:15	19		27						46	17:15	212		289						501
05:30	27		44						71	17:30	177		261						438
05:45	69	128	104	197					173 325	17:45	217	805	263	1070					480 1875
06:00	40		69						109	18:00	163		235						398
06:15	57		94						151	18:15	142		228						370
06:30	67		124						191	18:30	162		243						405
06:45	80	244	128	415					208 659	18:45	158	625	218	924					376 1549
07:00	77		126						203	19:00	123		220						343
07:15	95		134						229	19:15	119		194						313
07:30	95		161						256	19:30	115		159						274
07:45	137	404	209	630					346 1034	19:45	101	458	178	751					279 1209
08:00	128		196						324	20:00	102		154						256
08:15	121		188						309	20:15	94		157						251
08:30	133		238						371	20:30	68		129						197
08:45	158	540	236	858					394 1398	20:45	75	339	144	584					219 923
09:00	137		226						363	21:00	66		134						200
09:15	128		213						341	21:15	54		126						180
09:30	127		244						371	21:30	49		114						163
09:45	149	541	220	903					369 1444	21:45	35	204	85	459					120 663
10:00	167		247						414	22:00	33		59						92
10:15	191		241						432	22:15	33		55						88
10:30	190		264						454	22:30	34		48						82
10:45	194	742	260	1012					454 1754	22:45	18	118	43	205					61 323
11:00	206		274						480	23:00	22		32						54
11:15	178		258						436	23:15	21		30						51
11:30	209		284						493	23:30	14		25						39
11:45	213	806	311	1127					524 1933	23:45	17	74	24	111					41 185
TOTALS	3572		5541						9113	TOTALS	7065		9582						16647
SPLIT %	39.2%		60.8%						35.4%	SPLIT %	42.4%		57.6%						64.6%

DAILY TOTALS				NB	SB					EB	WB	Total	
				10,637	15,123					0	0	25,760	

AM Peak Hour	11:45	11:30			11:30	PM Peak Hour	15:00	15:15			15:00
AM Pk Volume	846	1143			1976	PM Pk Volume	978	1175			2140
Pk Hr Factor	0.953	0.919			0.943	Pk Hr Factor	0.930	0.954			0.957
7 - 9 Volume	944	1488	0	0	2432	4 - 6 Volume	1712	2158	0	0	3870
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	540	858	0	0	1398	4 - 6 Pk Volume	907	1088	0	0	1995
Pk Hr Factor	0.854	0.901	0.000	0.000	0.887	Pk Hr Factor	0.907	0.975	0.000	0.000	0.959

VOLUME

1st St Bet. Pennsylvania Ave & Highland Springs Ave

Day: Tuesday
Date: 5/8/2018

City: Beaumont
Project #: CA18_6060_018

DAILY TOTALS				NB	SB	EB				WB	Total
				0	0	6,221				6,680	12,901

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			11	25	36	12:00			134	131	265			
00:15			5	25	30	12:15			104	128	232			
00:30			5	16	21	12:30			132	120	252			
00:45			2	23	10	12:45			127	497	109	488	236	985
01:00			2	8	10	13:00			118	125	243			
01:15			5	10	15	13:15			120	125	245			
01:30			3	14	17	13:30			109	145	254			
01:45			2	12	8	13:45			112	459	126	521	238	980
02:00			0	6	6	14:00			124	123	247			
02:15			3	9	12	14:15			97	154	251			
02:30			2	6	8	14:30			113	131	244			
02:45			2	7	8	14:45			103	437	117	525	220	962
03:00			3	3	6	15:00			113	151	264			
03:15			1	1	2	15:15			122	130	252			
03:30			7	6	13	15:30			151	130	281			
03:45			9	20	4	15:45			116	502	118	529	234	1031
04:00			5	5	10	16:00			120	117	237			
04:15			5	4	9	16:15			114	150	264			
04:30			10	2	12	16:30			114	131	245			
04:45			15	35	15	16:45			113	461	148	546	261	1007
05:00			12	12	24	17:00			104	161	265			
05:15			13	5	18	17:15			81	129	210			
05:30			22	15	37	17:30			88	139	227			
05:45			39	86	15	17:45			104	377	117	546	221	923
06:00			33	17	50	18:00			109	107	216			
06:15			53	18	71	18:15			103	102	205			
06:30			58	32	90	18:30			100	82	182			
06:45			62	206	47	18:45			94	406	108	399	202	805
07:00			62	63	125	19:00			89	101	190			
07:15			85	46	131	19:15			63	92	155			
07:30			75	67	142	19:30			90	98	188			
07:45			97	319	72	19:45			77	319	87	378	164	697
08:00			83	65	148	20:00			67	76	143			
08:15			103	53	156	20:15			60	72	132			
08:30			83	68	151	20:30			46	66	112			
08:45			115	384	62	20:45			35	208	66	280	101	488
09:00			98	67	165	21:00			33	59	92			
09:15			86	91	177	21:15			31	59	90			
09:30			104	91	195	21:30			25	50	75			
09:45			87	375	107	21:45			26	115	47	215	73	330
10:00			92	97	189	22:00			19	48	67			
10:15			114	83	197	22:15			19	27	46			
10:30			93	99	192	22:30			9	32	41			
10:45			133	432	109	22:45			13	60	17	124	30	184
11:00			112	95	207	23:00			14	38	52			
11:15			96	108	204	23:15			9	17	26			
11:30			117	136	253	23:30			11	11	22			
11:45			118	443	121	23:45			4	38	17	83	21	121
TOTALS			2342	2046	4388	TOTALS			3879	4634	8513			
SPLIT %			53.4%	46.6%	34.0%	SPLIT %			45.6%	54.4%	66.0%			

DAILY TOTALS				NB	SB	EB				WB	Total
				0	0	6,221				6,680	12,901

AM Peak Hour			11:45	11:30	11:30	PM Peak Hour			15:15	16:15	16:15
AM Pk Volume			488	516	989	PM Pk Volume			509	590	1035
Pk Hr Factor			0.910	0.949	0.933	Pk Hr Factor			0.843	0.916	0.976
7 - 9 Volume	0	0	703	496	1199	4 - 6 Volume	0	0	838	1092	1930
7 - 9 Peak Hour			08:00	07:45	08:00	4 - 6 Peak Hour			16:00	16:15	16:15
7 - 9 Pk Volume	0	0	384	258	632	4 - 6 Pk Volume	0	0	461	590	1035
Pk Hr Factor	0.000	0.000	0.835	0.896	0.893	Pk Hr Factor	0.000	0.000	0.960	0.916	0.976

APPENDIX B: SYNCHRO REPORTS



SYNCRO ANALYSIS

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	8	11	9	8	13	6	350	13	10	484	21
Future Vol, veh/h	13	8	11	9	8	13	6	350	13	10	484	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	9	12	10	9	15	7	393	15	11	544	24

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	793	1000	284	714	1005	204	568	0	0	408	0	0
Stage 1	578	578	-	415	415	-	-	-	-	-	-	-
Stage 2	215	422	-	299	590	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	279	242	713	319	240	803	1000	-	-	1147	-	-
Stage 1	468	499	-	585	591	-	-	-	-	-	-	-
Stage 2	767	587	-	685	493	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	261	236	713	299	234	803	1000	-	-	1147	-	-
Mov Cap-2 Maneuver	261	236	-	299	234	-	-	-	-	-	-	-
Stage 1	464	492	-	580	586	-	-	-	-	-	-	-
Stage 2	735	582	-	652	486	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.5		15.6		0.1		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1000	-	-	323	373	1147	-
HCM Lane V/C Ratio	0.007	-	-	0.111	0.09	0.01	-
HCM Control Delay (s)	8.6	0	-	17.5	15.6	8.2	0.1
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0	-

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	62	22	43	58	45	17	280	29	60	391	41
Future Vol, veh/h	33	62	22	43	58	45	17	280	29	60	391	41
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	67	24	46	62	48	18	301	31	65	420	44
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

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	11.2	11.5	11.5	13.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	0%	28%	29%	23%	0%
Vol Thru, %	89%	83%	53%	40%	77%	83%
Vol Right, %	0%	17%	19%	31%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	169	117	146	256	237
LT Vol	17	0	33	43	60	0
Through Vol	140	140	62	58	196	196
RT Vol	0	29	22	45	0	41
Lane Flow Rate	169	182	126	157	275	254
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.292	0.305	0.221	0.27	0.463	0.411
Departure Headway (Hd)	6.227	6.05	6.337	6.187	6.063	5.821
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	576	592	564	578	593	618
Service Time	3.985	3.808	4.405	4.25	3.814	3.571
HCM Lane V/C Ratio	0.293	0.307	0.223	0.272	0.464	0.411
HCM Control Delay	11.6	11.5	11.2	11.5	14	12.6
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	1.2	1.3	0.8	1.1	2.4	2

HCM 6th Signalized Intersection Summary

3: California Ave & 6th St

Existing - AM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	212	95	53	296	18	326	88	65	54	98	8
Future Volume (veh/h)	7	212	95	53	296	18	326	88	65	54	98	8
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	230	103	58	322	20	354	96	71	59	107	9
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	19	370	313	101	456	386	444	304	225	102	191	16
Arrive On Green	0.01	0.20	0.20	0.06	0.24	0.24	0.25	0.30	0.30	0.06	0.11	0.11
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	999	739	1781	1701	143
Grp Volume(v), veh/h	8	230	103	58	322	20	354	0	167	59	0	116
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1737	1781	0	1845
Q Serve(g_s), s	0.2	5.3	2.6	1.5	7.4	0.5	8.7	0.0	3.5	1.5	0.0	2.8
Cycle Q Clear(g_c), s	0.2	5.3	2.6	1.5	7.4	0.5	8.7	0.0	3.5	1.5	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		0.08
Lane Grp Cap(c), veh/h	19	370	313	101	456	386	444	0	529	102	0	207
V/C Ratio(X)	0.43	0.62	0.33	0.58	0.71	0.05	0.80	0.00	0.32	0.58	0.00	0.56
Avail Cap(c_a), veh/h	190	1238	1049	361	1417	1201	1388	0	1928	361	0	984
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	17.2	16.1	21.6	16.2	13.6	16.5	0.0	12.5	21.5	0.0	19.7
Incr Delay (d2), s/veh	14.5	1.7	0.6	5.1	2.0	0.1	3.3	0.0	0.3	5.1	0.0	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	0.2	2.2	0.9	0.7	3.0	0.1	3.4	0.0	1.2	0.7	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	18.9	16.7	26.7	18.2	13.6	19.8	0.0	12.9	26.6	0.0	22.1
LnGrp LOS	D	B	B	C	B	B	B	A	B	C	A	C
Approach Vol, veh/h	341			400			521			175		
Approach Delay, s/veh	18.7			19.2			17.6			23.6		
Approach LOS	B			B			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	18.8	7.1	13.8	16.2	9.8	5.0	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	9.5	52.0	9.5	31.0	36.5	25.0	5.0	35.5				
Max Q Clear Time (g_c+I), s	13.5	5.5	3.5	7.3	10.7	4.8	2.2	9.4				
Green Ext Time (p_c), s	0.0	1.1	0.0	1.7	1.1	0.5	0.0	2.0				

Intersection Summary

HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

4: Beaumont Ave & 6th St

Existing - AM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	238	47	94	231	90	41	186	63	117	275	72
Future Volume (veh/h)	64	238	47	94	231	90	41	186	63	117	275	72
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	270	53	107	262	102	47	211	72	133	312	82
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	610	118	138	434	368	403	788	261	454	840	217
Arrive On Green	0.05	0.21	0.21	0.08	0.23	0.23	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	2970	574	1781	1870	1585	990	2622	869	1096	2794	723
Grp Volume(v), veh/h	73	160	163	107	262	102	47	141	142	133	197	197
Grp Sat Flow(s), veh/h/ln	1781	1777	1767	1781	1870	1585	990	1777	1714	1096	1777	1740
Q Serve(g_s), s	1.5	2.9	3.0	2.2	4.7	2.0	1.5	2.2	2.4	3.9	3.2	3.3
Cycle Q Clear(g_c), s	1.5	2.9	3.0	2.2	4.7	2.0	4.8	2.2	2.4	6.3	3.2	3.3
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.51	1.00		0.42
Lane Grp Cap(c), veh/h	91	365	363	138	434	368	403	534	515	454	534	523
V/C Ratio(X)	0.81	0.44	0.45	0.78	0.60	0.28	0.12	0.26	0.28	0.29	0.37	0.38
Avail Cap(c_a), veh/h	957	1910	1899	957	2011	1704	903	1433	1382	1008	1433	1403
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	17.5	12.9	12.9	16.9	12.8	11.7	12.2	9.9	9.9	12.3	10.2	10.3
Incr Delay (d2), s/veh	6.2	0.8	0.9	3.5	1.4	0.4	0.1	0.3	0.3	0.4	0.4	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	1.0	1.0	0.9	1.7	0.6	0.3	0.7	0.7	0.8	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.6	13.7	13.8	20.4	14.1	12.1	12.3	10.1	10.2	12.7	10.7	10.7
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h	396			471			330			527		
Approach Delay, s/veh	15.6			15.1			10.5			11.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	14.1		16.7	7.4	13.1		16.7				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I), s	13.5	6.7		6.8	4.2	5.0		8.3				
Green Ext Time (p_c), s	0.1	2.0		1.9	0.1	2.0		2.9				
Intersection Summary												
HCM 6th Ctrl Delay	13.1											
HCM 6th LOS	B											

HCM Signalized Intersection Capacity Analysis

5: 5th St & Beaumont Ave

Existing - AM
Beaumont GPU TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	10	21	36	6	8	40	262	13	4	341	2
Future Volume (vph)	8	10	21	36	6	8	40	262	13	4	341	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5		4.5		4.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00		0.99		0.95	1.00	
Satd. Flow (prot)		1824	1583		1786	1583		3495		1770	3536	
Flt Permitted		0.86	1.00		0.74	1.00		0.81		0.95	1.00	
Satd. Flow (perm)		1604	1583		1381	1583		2858		1770	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	11	22	38	6	8	42	276	14	4	359	2
RTOR Reduction (vph)	0	0	20	0	0	7	0	2	0	0	0	0
Lane Group Flow (vph)	0	19	2	0	44	1	0	330	0	4	361	0
Turn Type	custom	NA	custom	custom	NA	custom	custom	NA		Prot	NA	
Protected Phases										1!	6	
Permitted Phases	8	8	8	8	8	8	2 5 7	2 5 7!				
Actuated Green, G (s)		10.8	10.8		10.8	10.8		78.1		5.6	17.3	
Effective Green, g (s)		10.8	10.8		10.8	10.8		78.1		5.6	17.3	
Actuated g/C Ratio		0.11	0.11		0.11	0.11		0.78		0.06	0.17	
Clearance Time (s)		6.5	6.5		6.5	6.5				4.5	5.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0				2.0	2.0	
Lane Grp Cap (vph)		173	171		149	171		2234		99	612	
v/s Ratio Prot										0.00	c0.10	
v/s Ratio Perm		0.01	0.00		c0.03	0.00		c0.12				
v/c Ratio		0.11	0.01		0.30	0.01		0.15		0.04	0.59	
Uniform Delay, d1		40.2	39.8		41.0	39.8		2.7		44.6	38.0	
Progression Factor		1.00	1.00		1.00	1.00		0.26		1.00	1.00	
Incremental Delay, d2		0.1	0.0		0.4	0.0		0.0		0.1	0.9	
Delay (s)		40.3	39.8		41.4	39.8		0.7		44.7	39.0	
Level of Service		D	D		D	D		A		D	D	
Approach Delay (s)		40.0			41.2			0.7			39.0	
Approach LOS		D			D			A			D	
Intersection Summary												
HCM 2000 Control Delay			23.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			99.9				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			41.0%				ICU Level of Service			A		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM 6th TWSC
6: Orange Ave & 6th St

Existing - AM
Beaumont GPU TIA

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	356	6	3	389	66	4	4	6	29	6	29
Future Vol, veh/h	43	356	6	3	389	66	4	4	6	29	6	29
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	50	-	-	100	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	405	7	3	442	75	5	5	7	33	7	33
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	517	0	0	412	0	0	1013	1030	206	751	958	442
Stage 1	-	-	-	-	-	-	507	507	-	448	448	-
Stage 2	-	-	-	-	-	-	506	523	-	303	510	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1047	-	-	1145	-	-	205	233	801	313	257	615
Stage 1	-	-	-	-	-	-	517	538	-	589	572	-
Stage 2	-	-	-	-	-	-	548	530	-	682	537	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1047	-	-	1145	-	-	183	221	801	294	244	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	183	221	-	294	244	-
Stage 1	-	-	-	-	-	-	493	513	-	561	570	-
Stage 2	-	-	-	-	-	-	511	528	-	639	512	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.1			17.9			16.9		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	295	1047	-	-	1145	-	-	376				
HCM Lane V/C Ratio	0.054	0.047	-	-	0.003	-	-	0.193				
HCM Control Delay (s)	17.9	8.6	-	-	8.2	-	-	16.9				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.7				

HCM 6th Signalized Intersection Summary

8: Pennsylvania Ave & 6th St

Existing - AM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	264	173	85	267	30	162	189	109	46	289	52
Future Volume (veh/h)	24	264	173	85	267	30	162	189	109	46	289	52
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	290	190	93	293	33	178	208	120	51	318	57
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	481	306	122	908	101	383	742	629	479	613	110
Arrive On Green	0.02	0.23	0.23	0.07	0.28	0.28	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1781	2082	1326	1781	3223	360	1008	1870	1585	1052	1544	277
Grp Volume(v), veh/h	26	246	234	93	160	166	178	208	120	51	0	375
Grp Sat Flow(s), veh/h/ln	1781	1777	1632	1781	1777	1806	1008	1870	1585	1052	0	1821
Q Serve(g_s), s	0.7	6.3	6.6	2.6	3.6	3.7	8.3	3.9	2.5	1.8	0.0	8.0
Cycle Q Clear(g_c), s	0.7	6.3	6.6	2.6	3.6	3.7	16.3	3.9	2.5	5.6	0.0	8.0
Prop In Lane	1.00		0.81	1.00		0.20	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	32	410	377	122	500	509	383	742	629	479	0	723
V/C Ratio(X)	0.81	0.60	0.62	0.76	0.32	0.33	0.46	0.28	0.19	0.11	0.00	0.52
Avail Cap(c_a), veh/h	697	1391	1277	697	1391	1414	575	1098	931	679	0	1069
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	25.0	17.5	17.6	23.4	14.5	14.5	17.9	10.5	10.1	12.4	0.0	11.7
Incr Delay (d2), s/veh	35.5	1.4	1.7	9.2	0.4	0.4	0.9	0.2	0.1	0.1	0.0	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	0.6	2.5	2.4	1.3	1.3	1.4	1.8	1.4	0.8	0.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.5	18.9	19.3	32.6	14.9	14.9	18.8	10.7	10.2	12.5	0.0	12.3
LnGrp LOS	E	B	B	C	B	B	B	B	B	B	A	B
Approach Vol, veh/h	506			419			506			426		
Approach Delay, s/veh	21.2			18.8			13.4			12.3		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	19.9		25.8	8.0	17.3		25.8				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+12.5), s	12.5	5.7		10.0	4.6	8.6		18.3				
Green Ext Time (p_c), s	0.0	2.0		2.5	0.2	3.2		2.0				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	308	2	2	245	45	1	0	1	126	0	125
Future Vol, veh/h	79	308	2	2	245	45	1	0	1	126	0	125
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	321	2	2	255	47	1	0	1	131	0	130
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.8	10.6	9.5	13.8
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	50%	100%	0%	0%	100%	0%	0%	50%
Vol Thru, %	0%	0%	100%	98%	0%	100%	64%	0%
Vol Right, %	50%	0%	0%	2%	0%	0%	36%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	79	205	105	2	163	127	251
LT Vol	1	79	0	0	2	0	0	126
Through Vol	0	0	205	103	0	163	82	0
RT Vol	1	0	0	2	0	0	45	125
Lane Flow Rate	2	82	214	109	2	170	132	261
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.004	0.145	0.346	0.176	0.004	0.282	0.209	0.446
Departure Headway (Hd)	6.688	6.333	5.826	5.812	6.469	5.961	5.708	6.145
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	567	618	618	554	604	629	586
Service Time	4.438	4.064	3.556	3.543	4.202	3.694	3.441	3.878
HCM Lane V/C Ratio	0.004	0.145	0.346	0.176	0.004	0.281	0.21	0.445
HCM Control Delay	9.5	10.1	11.6	9.8	9.2	11	10	13.8
HCM Lane LOS	A	B	B	A	A	B	A	B
HCM 95th-tile Q	0	0.5	1.5	0.6	0	1.2	0.8	2.3

HCM 6th Signalized Intersection Summary

10: Highland Springs Ave & 6th St

Existing - AM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	188	192	145	156	66	95	423	137	101	548	88
Future Volume (veh/h)	105	188	192	145	156	66	95	423	137	101	548	88
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	198	202	153	164	69	100	445	144	106	577	93
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	1593	711	186	1685	752	127	734	327	134	748	334
Arrive On Green	0.08	0.45	0.45	0.10	0.47	0.47	0.07	0.21	0.21	0.08	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	111	198	202	153	164	69	100	445	144	106	577	93
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.7	3.5	8.8	9.1	2.8	2.6	6.0	12.3	8.6	6.4	16.6	5.3
Cycle Q Clear(g_c), s	6.7	3.5	8.8	9.1	2.8	2.6	6.0	12.3	8.6	6.4	16.6	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	1593	711	186	1685	752	127	734	327	134	748	334
V/C Ratio(X)	0.80	0.12	0.28	0.82	0.10	0.09	0.79	0.61	0.44	0.79	0.77	0.28
Avail Cap(c_a), veh/h	303	1593	711	385	1685	752	287	1293	576	287	1293	576
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(l)	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	17.5	18.9	47.7	15.7	15.7	49.6	39.1	37.6	49.4	40.4	36.0
Incr Delay (d2), s/veh	9.8	0.0	0.2	8.8	0.1	0.2	10.3	0.8	0.9	10.0	1.7	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	8.3	1.5	3.2	4.5	1.1	1.0	3.0	5.4	3.4	3.2	7.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	17.5	19.2	56.5	15.9	15.9	59.9	39.9	38.5	59.4	42.1	36.4
LnGrp LOS	E	B	B	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h	511			386			689			776		
Approach Delay, s/veh	27.2			32.0			42.5			43.8		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	56.0	12.7	26.9	15.8	53.2	12.2	27.4				
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	51.5	17.5	39.5	23.5	46.5	17.5	39.5				
Max Q Clear Time (g_c+1), s	19.7	4.8	8.4	14.3	11.1	10.8	8.0	18.6				
Green Ext Time (p_c), s	0.2	1.3	0.1	3.6	0.3	2.0	0.1	4.2				

Intersection Summary

HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

HCM Signalized Intersection Capacity Analysis

11: I-10 WB On-Ramp/I-10 WB Off-Ramp

Existing - AM
Beaumont GPU TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	328	0	121	358	194	0	0	309	89
Future Volume (vph)	0	0	0	328	0	121	358	194	0	0	309	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.0	4.5			4.5	
Lane Util. Factor				0.95	0.95		1.00	0.95			0.95	
Frt				1.00	0.92		1.00	1.00			0.97	
Flt Protected				0.95	0.98		0.95	1.00			1.00	
Satd. Flow (prot)				1681	1586		1770	3539			3420	
Flt Permitted				0.95	0.98		0.95	1.00			1.00	
Satd. Flow (perm)				1681	1586		1770	3539			3420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	345	0	127	377	204	0	0	325	94
RTOR Reduction (vph)	0	0	0	0	96	0	0	0	0	0	23	0
Lane Group Flow (vph)	0	0	0	245	131	0	377	204	0	0	396	0
Turn Type				custom	NA		Prot	NA			NA	
Protected Phases							5!	2				
Permitted Phases				7	7						1 6 8!	
Actuated Green, G (s)				23.2	23.2		28.1	40.3			40.2	
Effective Green, g (s)				23.2	23.2		28.1	40.3			33.7	
Actuated g/C Ratio				0.23	0.23		0.28	0.40			0.34	
Clearance Time (s)				4.5	4.5		4.0	4.5				
Vehicle Extension (s)				3.0	3.0		2.0	2.0				
Lane Grp Cap (vph)				390	368		497	1427			1153	
v/s Ratio Prot							c0.21	0.06				
v/s Ratio Perm				c0.15	0.08						c0.12	
v/c Ratio				0.63	0.36		0.76	0.14			0.34	
Uniform Delay, d1				34.5	32.1		32.8	18.9			24.8	
Progression Factor				1.00	1.00		1.00	1.00			0.04	
Incremental Delay, d2				3.2	0.6		5.8	0.0			0.1	
Delay (s)				37.6	32.7		38.6	18.9			1.1	
Level of Service				D	C		D	B			A	
Approach Delay (s)		0.0			35.3			31.7			1.1	
Approach LOS		A			D			C			A	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			99.9			Sum of lost time (s)			20.5			
Intersection Capacity Utilization			54.8%			ICU Level of Service			A			
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	13	19	3	10	12	23	467	11	5	387	15
Future Vol, veh/h	16	13	19	3	10	12	23	467	11	5	387	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	15	21	3	11	13	26	525	12	6	435	17

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	776	1045	226	820	1047	269	452	0	0	537	0	0
Stage 1	456	456	-	583	583	-	-	-	-	-	-	-
Stage 2	320	589	-	237	464	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	287	227	777	267	227	729	1105	-	-	1027	-	-
Stage 1	554	567	-	465	497	-	-	-	-	-	-	-
Stage 2	666	494	-	745	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	262	217	777	238	217	729	1105	-	-	1027	-	-
Mov Cap-2 Maneuver	262	217	-	238	217	-	-	-	-	-	-	-
Stage 1	535	562	-	449	480	-	-	-	-	-	-	-
Stage 2	617	477	-	700	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18	16.8	0.5	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1105	-	-	330	333	1027	-
HCM Lane V/C Ratio	0.023	-	-	0.163	0.084	0.005	-
HCM Control Delay (s)	8.3	0.1	-	18	16.8	8.5	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.3	0	-

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	55	32	26	36	55	56	30	419	20	30	342	34
Future Vol, veh/h	55	32	26	36	55	56	30	419	20	30	342	34
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	34	28	39	59	60	32	451	22	32	368	37
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

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	11.7	13.3	12.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	13%	0%	49%	24%	15%	0%
Vol Thru, %	87%	91%	28%	37%	85%	83%
Vol Right, %	0%	9%	23%	38%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	230	113	147	201	205
LT Vol	30	0	55	36	30	0
Through Vol	210	210	32	55	171	171
RT Vol	0	20	26	56	0	34
Lane Flow Rate	258	247	122	158	216	220
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.439	0.412	0.22	0.275	0.374	0.37
Departure Headway (Hd)	6.134	6.009	6.505	6.267	6.233	6.04
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	585	597	549	571	575	593
Service Time	3.893	3.767	4.58	4.339	3.995	3.801
HCM Lane V/C Ratio	0.441	0.414	0.222	0.277	0.376	0.371
HCM Control Delay	13.6	13	11.4	11.7	12.7	12.3
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	2.2	2	0.8	1.1	1.7	1.7

HCM 6th Signalized Intersection Summary

3: California Ave & 6th St

Existing - PM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	395	167	57	269	21	259	79	82	22	60	9
Future Volume (veh/h)	10	395	167	57	269	21	259	79	82	22	60	9
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	429	182	62	292	23	282	86	89	24	65	10
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	25	571	484	101	650	551	358	224	232	50	148	23
Arrive On Green	0.01	0.31	0.31	0.06	0.35	0.35	0.20	0.27	0.27	0.03	0.09	0.09
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	842	871	1781	1583	244
Grp Volume(v), veh/h	11	429	182	62	292	23	282	0	175	24	0	75
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1714	1781	0	1827
Q Serve(g_s), s	0.3	10.8	4.7	1.8	6.3	0.5	7.9	0.0	4.4	0.7	0.0	2.0
Cycle Q Clear(g_c), s	0.3	10.8	4.7	1.8	6.3	0.5	7.9	0.0	4.4	0.7	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		0.13
Lane Grp Cap(c), veh/h	25	571	484	101	650	551	358	0	457	50	0	171
V/C Ratio(X)	0.44	0.75	0.38	0.61	0.45	0.04	0.79	0.00	0.38	0.48	0.00	0.44
Avail Cap(c_a), veh/h	170	1106	938	323	1267	1074	1241	0	1700	323	0	871
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	16.4	14.3	24.2	13.2	11.3	19.9	0.0	15.7	25.1	0.0	22.5
Incr Delay (d2), s/veh	11.5	2.0	0.5	5.9	0.5	0.0	3.9	0.0	0.5	6.9	0.0	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	0.2	4.3	1.5	0.9	2.4	0.2	3.3	0.0	1.6	0.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	18.4	14.8	30.1	13.7	11.3	23.7	0.0	16.2	32.0	0.0	24.2
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	C
Approach Vol, veh/h	622		377			457			99			
Approach Delay, s/veh	17.7		16.2			20.9			26.1			
Approach LOS	B		B			C			C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	18.5	7.5	20.5	15.0	9.4	5.2	22.7				
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	9.5	52.0	9.5	31.0	36.5	25.0	5.0	35.5				
Max Q Clear Time (g_c+I2), s	12.7	6.4	3.8	12.8	9.9	4.0	2.3	8.3				
Green Ext Time (p_c), s	0.0	1.2	0.0	3.2	0.8	0.3	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

4: Beaumont Ave & 6th St

Existing - PM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	364	40	127	269	132	50	234	103	141	263	45
Future Volume (veh/h)	94	364	40	127	269	132	50	234	103	141	263	45
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	414	45	144	306	150	57	266	117	160	299	51
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	723	78	188	470	398	423	802	343	404	1007	170
Arrive On Green	0.08	0.22	0.22	0.11	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3234	350	1781	1870	1585	1031	2423	1037	1000	3042	513
Grp Volume(v), veh/h	107	226	233	144	306	150	57	193	190	160	173	177
Grp Sat Flow(s), veh/h/ln	1781	1777	1807	1781	1870	1585	1031	1777	1684	1000	1777	1778
Q Serve(g_s), s	2.7	5.2	5.2	3.6	6.7	3.6	2.0	3.7	3.9	6.5	3.3	3.4
Cycle Q Clear(g_c), s	2.7	5.2	5.2	3.6	6.7	3.6	5.4	3.7	3.9	10.4	3.3	3.4
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.62	1.00		0.29
Lane Grp Cap(c), veh/h	139	397	404	188	470	398	423	588	557	404	588	588
V/C Ratio(X)	0.77	0.57	0.58	0.77	0.65	0.38	0.13	0.33	0.34	0.40	0.29	0.30
Avail Cap(c_a), veh/h	781	1559	1586	781	1641	1391	760	1169	1108	731	1169	1170
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	20.6	15.8	15.8	19.8	15.3	14.1	13.3	11.4	11.5	15.4	11.3	11.3
Incr Delay (d2), s/veh	3.4	1.3	1.3	2.5	1.5	0.6	0.1	0.3	0.4	0.6	0.3	0.3
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	1.9	2.0	1.4	2.6	1.2	0.4	1.3	1.3	1.3	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	17.0	17.1	22.3	16.8	14.7	13.5	11.8	11.9	16.1	11.6	11.6
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h	566			600			440			510		
Approach Delay, s/veh	18.4			17.6			12.0			13.0		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.9			20.6	9.3	15.7		20.6				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+14), s	8.7			7.4	5.6	7.2		12.4				
Green Ext Time (p_c), s	0.1	2.5		2.6	0.2	3.0		2.7				

Intersection Summary

HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

HCM Signalized Intersection Capacity Analysis

5: 5th St & Beaumont Ave

Existing - PM
Beaumont GPU TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	8	41	41	8	9	42	352	35	5	338	4
Future Volume (vph)	24	8	41	41	8	9	42	352	35	5	338	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5		4.5		4.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85		0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.96	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1795	1583		1787	1583		3479		1770	3533	
Flt Permitted		0.74	1.00		0.74	1.00		0.83		0.95	1.00	
Satd. Flow (perm)		1387	1583		1372	1583		2901		1770	3533	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	25	8	43	43	8	9	44	371	37	5	356	4
RTOR Reduction (vph)	0	0	38	0	0	8	0	4	0	0	1	0
Lane Group Flow (vph)	0	33	5	0	51	1	0	448	0	5	359	0
Turn Type	custom	NA	custom	custom	NA	custom	custom	NA		Prot	NA	
Protected Phases										1!	6	
Permitted Phases	8	8	8	8	8	8	2 5 7	2 5 7!				
Actuated Green, G (s)		12.2	12.2		12.2	12.2		87.5		5.5	17.5	
Effective Green, g (s)		12.2	12.2		12.2	12.2		87.5		5.5	17.5	
Actuated g/C Ratio		0.11	0.11		0.11	0.11		0.79		0.05	0.16	
Clearance Time (s)		6.5	6.5		6.5	6.5				4.5	5.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0				2.0	2.0	
Lane Grp Cap (vph)		152	174		151	174		2293		87	558	
v/s Ratio Prot										0.00	c0.10	
v/s Ratio Perm		0.02	0.00		c0.04	0.00		c0.15				
v/c Ratio		0.22	0.03		0.34	0.01		0.20		0.06	0.64	
Uniform Delay, d1		44.9	44.0		45.5	43.8		2.9		50.1	43.7	
Progression Factor		1.00	1.00		1.00	1.00		0.26		1.00	1.00	
Incremental Delay, d2		0.3	0.0		0.5	0.0		0.0		0.1	1.9	
Delay (s)		45.2	44.0		46.0	43.9		0.8		50.2	45.6	
Level of Service		D	D		D	D		A		D	D	
Approach Delay (s)		44.5			45.7			0.8			45.7	
Approach LOS		D			D			A			D	
Intersection Summary												
HCM 2000 Control Delay		24.3										
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		110.7								20.5		
Intersection Capacity Utilization		44.6%								A		
Analysis Period (min)		15										
! Phase conflict between lane groups.												
c Critical Lane Group												

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	541	9	13	522	56	11	1	10	12	2	32
Future Vol, veh/h	66	541	9	13	522	56	11	1	10	12	2	32
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	50	-	-	100	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	615	10	15	593	64	13	1	11	14	2	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	657	0	0	625	0	0	1444	1457	313	1081	1398	593
Stage 1	-	-	-	-	-	-	770	770	-	623	623	-
Stage 2	-	-	-	-	-	-	674	687	-	458	775	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	928	-	-	954	-	-	101	129	684	183	140	505
Stage 1	-	-	-	-	-	-	360	409	-	473	477	-
Stage 2	-	-	-	-	-	-	443	446	-	553	407	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	928	-	-	954	-	-	86	117	684	166	127	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	117	-	166	127	-
Stage 1	-	-	-	-	-	-	331	376	-	435	469	-
Stage 2	-	-	-	-	-	-	403	439	-	498	374	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.2			34.7			19.3		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	146	928	-	-	954	-	-	304
HCM Lane V/C Ratio	0.171	0.081	-	-	0.015	-	-	0.172
HCM Control Delay (s)	34.7	9.2	-	-	8.8	-	-	19.3
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0	-	-	0.6

HCM 6th Signalized Intersection Summary

8: Pennsylvania Ave & 6th St

Existing - PM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	356	212	69	384	77	219	300	125	37	201	40
Future Volume (veh/h)	59	356	212	69	384	77	219	300	125	37	201	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	391	233	76	422	85	241	330	137	41	221	44
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	597	351	99	843	169	446	726	615	368	588	117
Arrive On Green	0.05	0.28	0.28	0.06	0.29	0.29	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	2153	1266	1781	2951	590	1114	1870	1585	926	1515	302
Grp Volume(v), veh/h	65	322	302	76	253	254	241	330	137	41	0	265
Grp Sat Flow(s), veh/h/ln	1781	1777	1642	1781	1777	1764	1114	1870	1585	926	0	1816
Q Serve(g_s), s	2.0	8.9	9.0	2.3	6.6	6.7	11.0	7.3	3.2	1.9	0.0	5.8
Cycle Q Clear(g_c), s	2.0	8.9	9.0	2.3	6.6	6.7	16.8	7.3	3.2	9.2	0.0	5.8
Prop In Lane	1.00		0.77	1.00		0.33	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	83	492	455	99	508	504	446	726	615	368	0	705
V/C Ratio(X)	0.78	0.65	0.66	0.77	0.50	0.50	0.54	0.45	0.22	0.11	0.00	0.38
Avail Cap(c_a), veh/h	642	1281	1184	642	1281	1272	616	1011	857	509	0	982
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	26.2	17.7	17.8	25.9	16.5	16.5	18.2	12.6	11.4	16.0	0.0	12.2
Incr Delay (d2), s/veh	14.3	1.5	1.7	11.7	0.8	0.8	1.0	0.4	0.2	0.1	0.0	0.3
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	3.4	3.3	1.2	2.5	2.5	2.6	2.7	1.0	0.4	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.5	19.2	19.4	37.6	17.3	17.3	19.2	13.1	11.6	16.2	0.0	12.5
LnGrp LOS	D	B	B	D	B	B	B	B	B	B	A	B
Approach Vol, veh/h	689			583			708			306		
Approach Delay, s/veh	21.3			19.9			14.9			13.0		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	21.4		27.0	7.6	20.9		27.0				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+14.0), s	14.0	8.7		11.2	4.3	11.0		18.8				
Green Ext Time (p_c), s	0.1	3.3		1.7	0.1	4.3		2.8				

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	132	347	2	3	416	103	0	1	1	63	0	82
Future Vol, veh/h	132	347	2	3	416	103	0	1	1	63	0	82
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	138	361	2	3	433	107	0	1	1	66	0	85
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	11.1	12.2	9.6	11.9
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	0%	100%	0%	0%	100%	0%	0%	43%
Vol Thru, %	50%	0%	100%	98%	0%	100%	57%	0%
Vol Right, %	50%	0%	0%	2%	0%	0%	43%	57%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	132	231	118	3	277	242	145
LT Vol	0	132	0	0	3	0	0	63
Through Vol	1	0	231	116	0	277	139	0
RT Vol	1	0	0	2	0	0	103	82
Lane Flow Rate	2	138	241	123	3	289	252	151
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.004	0.237	0.382	0.194	0.005	0.456	0.376	0.277
Departure Headway (Hd)	6.834	6.211	5.706	5.694	6.189	5.684	5.382	6.613
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	579	631	631	579	636	670	544
Service Time	4.582	3.939	3.434	3.422	3.916	3.411	3.109	4.349
HCM Lane V/C Ratio	0.004	0.238	0.382	0.195	0.005	0.454	0.376	0.278
HCM Control Delay	9.6	10.9	11.9	9.8	8.9	13.1	11.3	11.9
HCM Lane LOS	A	B	B	A	A	B	B	B
HCM 95th-tile Q	0	0.9	1.8	0.7	0	2.4	1.7	1.1

HCM 6th Signalized Intersection Summary

10: Highland Springs Ave & 6th St

Existing - PM
Beaumont GPU TIA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	254	198	261	285	81	175	625	164	85	507	112
Future Volume (veh/h)	201	254	198	261	285	81	175	625	164	85	507	112
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	267	208	275	300	85	184	658	173	89	534	118
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1341	598	302	1467	654	211	873	390	113	677	302
Arrive On Green	0.13	0.38	0.38	0.17	0.41	0.41	0.12	0.25	0.25	0.06	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	212	267	208	275	300	85	184	658	173	89	534	118
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.6	6.3	11.7	18.9	6.8	4.2	12.7	21.4	11.5	6.1	17.9	8.1
Cycle Q Clear(g_c), s	14.6	6.3	11.7	18.9	6.8	4.2	12.7	21.4	11.5	6.1	17.9	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	1341	598	302	1467	654	211	873	390	113	677	302
V/C Ratio(X)	0.89	0.20	0.35	0.91	0.20	0.13	0.87	0.75	0.44	0.79	0.79	0.39
Avail Cap(c_a), veh/h	264	1341	598	336	1467	654	250	1125	502	250	1125	502
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	53.1	26.1	27.8	50.9	23.5	22.7	54.1	43.5	39.8	57.6	48.1	44.2
Incr Delay (d2), s/veh	27.1	0.1	0.3	26.4	0.3	0.4	24.1	2.2	0.8	11.6	2.1	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/ln	8.3	2.7	4.5	10.6	2.9	1.6	7.1	9.6	4.6	3.1	8.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.2	26.2	28.2	77.3	23.8	23.1	78.1	45.7	40.6	69.2	50.2	45.0
LnGrp LOS	F	C	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h	687			660			1015			741		
Approach Delay, s/veh	43.5			46.0			50.7			51.6		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.2	56.0	12.4	35.2	25.6	51.6	19.3	28.3				
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	18.5	51.5	17.5	39.5	23.5	46.5	17.5	39.5				
Max Q Clear Time (g_c+10.6), s	10.6	8.8	8.1	23.4	20.9	13.7	14.7	19.9				
Green Ext Time (p_c), s	0.1	2.4	0.1	4.7	0.2	2.6	0.1	3.9				

Intersection Summary

HCM 6th Ctrl Delay 48.3
HCM 6th LOS D

HCM Signalized Intersection Capacity Analysis

11: I-10 WB On-Ramp/I-10 WB Off-Ramp

Existing - PM
Beaumont GPU TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	622	0	144	315	285	0	0	296	127
Future Volume (vph)	0	0	0	622	0	144	315	285	0	0	296	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.0	4.5			4.5	
Lane Util. Factor				0.95	0.95		1.00	0.95			0.95	
Frt				1.00	0.94		1.00	1.00			0.95	
Flt Protected				0.95	0.97		0.95	1.00			1.00	
Satd. Flow (prot)				1681	1618		1770	3539			3380	
Flt Permitted				0.95	0.97		0.95	1.00			1.00	
Satd. Flow (perm)				1681	1618		1770	3539			3380	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	655	0	152	332	300	0	0	312	134
RTOR Reduction (vph)	0	0	0	0	86	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	0	0	413	308	0	332	300	0	0	404	0
Turn Type				custom	NA		Prot	NA			NA	
Protected Phases							5!	2				
Permitted Phases				7	7						1 6 8!	
Actuated Green, G (s)				34.1	34.1		26.4	38.9			41.7	
Effective Green, g (s)				34.1	34.1		26.4	38.9			35.2	
Actuated g/C Ratio				0.31	0.31		0.24	0.35			0.32	
Clearance Time (s)				4.5	4.5		4.0	4.5				
Vehicle Extension (s)				3.0	3.0		2.0	2.0				
Lane Grp Cap (vph)				517	498		422	1243			1074	
v/s Ratio Prot							c0.19	0.08				
v/s Ratio Perm				c0.25	0.19						c0.12	
v/c Ratio				0.80	0.62		0.79	0.24			0.38	
Uniform Delay, d1				35.2	32.7		39.5	25.4			29.2	
Progression Factor				1.00	1.00		1.00	1.00			0.04	
Incremental Delay, d2				8.4	2.3		8.7	0.0			0.1	
Delay (s)				43.6	35.0		48.2	25.5			1.3	
Level of Service				D	D		D	C			A	
Approach Delay (s)		0.0			39.4			37.4			1.3	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay			29.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			110.7			Sum of lost time (s)			20.5			
Intersection Capacity Utilization			62.1%			ICU Level of Service			B			
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Beaumont Ave & 11th St /11 St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	10	100	170	10	20	30	600	60	20	770	40
Future Volume (veh/h)	20	10	100	170	10	20	30	600	60	20	770	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	11	112	191	11	22	34	674	67	22	865	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	49	265	408	15	30	310	1038	103	416	1092	57
Arrive On Green	0.21	0.21	0.20	0.21	0.21	0.20	0.62	0.62	0.61	0.62	0.62	0.61
Sat Flow, veh/h	143	234	1277	1272	74	147	613	1674	166	718	1762	92
Grp Volume(v), veh/h	145	0	0	224	0	0	34	0	741	22	0	910
Grp Sat Flow(s),veh/h/ln	1653	0	0	1493	0	0	613	0	1840	718	0	1854
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	0.0	2.0	0.0	11.9	0.9	0.0	17.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	6.0	0.0	0.0	19.0	0.0	11.9	12.8	0.0	17.0
Prop In Lane	0.15		0.77	0.85		0.10	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	433	0	0	454	0	0	310	0	1141	416	0	1149
V/C Ratio(X)	0.34	0.00	0.00	0.49	0.00	0.00	0.11	0.00	0.65	0.05	0.00	0.79
Avail Cap(c_a), veh/h	985	0	0	918	0	0	670	0	2221	838	0	2238
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	16.2	0.0	0.0	16.8	0.0	0.0	13.7	0.0	5.6	9.7	0.0	6.6
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.8	0.0	0.0	0.2	0.0	0.6	0.1	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	1.2	0.0	0.0	2.0	0.0	0.0	0.3	0.0	2.7	0.1	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	0.0	0.0	17.6	0.0	0.0	13.9	0.0	6.3	9.8	0.0	7.9
LnGrp LOS	B	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h	145			224			775			932		
Approach Delay, s/veh	16.6			17.6			6.6			7.9		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	32.8			13.6			32.8			13.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	55.5			25.5			55.5			25.5		
Max Q Clear Time (g_c+I1), s	21.0			5.6			19.0			8.0		
Green Ext Time (p_c), s	6.8			0.8			9.2			1.2		
Intersection Summary												
HCM 6th Ctrl Delay	9.1											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

2: Beaumont Ave & 8th St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	120	140	190	260	100	60	500	60	110	700	230
Future Volume (veh/h)	90	120	140	190	260	100	60	500	60	110	700	230
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	129	151	204	280	108	65	538	65	118	753	247
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	181	212	423	357	138	309	1080	482	407	1138	508
Arrive On Green	0.07	0.23	0.22	0.12	0.28	0.27	0.06	0.30	0.30	0.08	0.32	0.32
Sat Flow, veh/h	1781	785	919	1781	1285	496	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	97	0	280	204	0	388	65	538	65	118	753	247
Grp Sat Flow(s),veh/h/ln	1781	0	1705	1781	0	1781	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.4	0.0	9.2	5.0	0.0	12.2	1.5	7.5	1.8	2.7	11.1	7.6
Cycle Q Clear(g_c), s	2.4	0.0	9.2	5.0	0.0	12.2	1.5	7.5	1.8	2.7	11.1	7.6
Prop In Lane	1.00		0.54	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	0	393	423	0	495	309	1080	482	407	1138	508
V/C Ratio(X)	0.30	0.00	0.71	0.48	0.00	0.78	0.21	0.50	0.13	0.29	0.66	0.49
Avail Cap(c_a), veh/h	398	0	731	529	0	885	373	1618	722	542	1818	811
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	21.6	14.7	0.0	20.3	13.5	17.3	15.3	12.9	17.8	16.6
Incr Delay (d2), s/veh	0.5	0.0	2.4	0.9	0.0	2.8	0.3	0.4	0.1	0.4	0.7	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	0.9	0.0	3.7	1.9	0.0	5.0	0.5	2.8	0.6	1.0	4.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	0.0	24.0	15.6	0.0	23.0	13.9	17.7	15.4	13.3	18.4	17.3
LnGrp LOS	B	A	C	B	A	C	B	B	B	B	B	B
Approach Vol, veh/h		377			592			668			1118	
Approach Delay, s/veh		22.2			20.5			17.1			17.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	22.4	11.4	18.0	7.8	23.4	8.5	20.8				
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	8.9	27.1	10.5	25.5	5.5	30.5	6.4	29.6				
Max Q Clear Time (g_c+I1), s	4.7	9.5	7.0	11.2	3.5	13.1	4.4	14.2				
Green Ext Time (p_c), s	0.1	3.6	0.2	1.4	0.0	5.8	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

4: Beaumont Ave & 6th St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	320	50	140	350	140	70	410	100	140	800	90
Future Volume (veh/h)	80	320	50	140	350	140	70	410	100	140	800	90
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	364	57	159	398	159	80	466	114	159	909	102
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	747	116	213	541	458	244	1624	724	421	1471	165
Arrive On Green	0.07	0.24	0.22	0.12	0.29	0.29	0.46	0.46	0.46	0.46	0.46	0.43
Sat Flow, veh/h	1781	3082	479	1781	1870	1585	558	3554	1585	834	3221	361
Grp Volume(v), veh/h	91	208	213	159	398	159	80	466	114	159	501	510
Grp Sat Flow(s),veh/h/ln	1781	1777	1784	1781	1870	1585	558	1777	1585	834	1777	1805
Q Serve(g_s), s	3.3	6.7	6.8	5.7	12.7	5.3	8.4	5.4	2.8	9.8	14.1	14.2
Cycle Q Clear(g_c), s	3.3	6.7	6.8	5.7	12.7	5.3	22.6	5.4	2.8	15.2	14.1	14.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	130	430	432	213	541	458	244	1624	724	421	812	825
V/C Ratio(X)	0.70	0.48	0.49	0.75	0.74	0.35	0.33	0.29	0.16	0.38	0.62	0.62
Avail Cap(c_a), veh/h	221	708	711	473	1011	857	359	2361	1053	594	1180	1199
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	30.0	21.5	21.8	28.2	21.3	18.6	22.2	11.2	10.5	16.0	13.6	13.7
Incr Delay (d2), s/veh	2.6	0.8	0.9	1.9	2.0	0.5	0.8	0.1	0.1	0.6	0.8	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/ln	1.5	2.7	2.8	2.4	5.4	1.9	1.1	1.9	0.9	1.8	5.1	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	22.4	22.6	30.1	23.2	19.1	23.0	11.3	10.6	16.5	14.4	14.5
LnGrp LOS	C	C	C	C	C	B	C	B	B	B	B	B
Approach Vol, veh/h	512			716			660			1170		
Approach Delay, s/veh	24.3			23.8			12.6			14.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	23.1		34.3	11.9	20.0		34.3				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	7.7	34.3		42.5	17.1	24.9		42.5				
Max Q Clear Time (g_c+I1), s	5.3	14.7		24.6	7.7	8.8		17.2				
Green Ext Time (p_c), s	0.0	2.9		4.1	0.1	2.2		8.7				
Intersection Summary												
HCM 6th Ctrl Delay	18.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 6: Orange Ave & 6th St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	460	20	10	570	90	20	10	10	30	10	40
Future Volume (veh/h)	70	460	20	10	570	90	20	10	10	30	10	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	523	23	11	648	102	23	11	11	34	11	45
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	1058	47	583	939	148	253	108	64	222	57	130
Arrive On Green	0.59	0.59	0.58	0.59	0.59	0.58	0.17	0.17	0.15	0.17	0.17	0.15
Sat Flow, veh/h	712	1778	78	861	1577	248	544	657	389	442	346	788
Grp Volume(v), veh/h	80	0	546	11	0	750	45	0	0	90	0	0
Grp Sat Flow(s),veh/h/ln	712	0	1856	861	0	1826	1589	0	0	1576	0	0
Q Serve(g_s), s	2.9	0.0	5.6	0.2	0.0	9.4	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	12.3	0.0	5.6	5.9	0.0	9.4	0.7	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.51		0.24	0.38		0.50
Lane Grp Cap(c), veh/h	438	0	1104	583	0	1086	425	0	0	409	0	0
V/C Ratio(X)	0.18	0.00	0.49	0.02	0.00	0.69	0.11	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1339	0	3453	1672	0	3396	1080	0	0	1075	0	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)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.9	0.0	3.9	5.6	0.0	4.7	12.0	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.0	0.0	0.8	0.1	0.0	0.0	0.3	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	0.3	0.0	0.8	0.0	0.0	1.3	0.2	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	0.0	4.2	5.6	0.0	5.5	12.1	0.0	0.0	12.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h	626			761			45			90		
Approach Delay, s/veh	4.8			5.5			12.1			12.6		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	9.5			23.8			9.5			23.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			61.5			19.5			61.5		
Max Q Clear Time (g_c+I1), s	2.7			14.3			3.6			11.4		
Green Ext Time (p_c), s	0.1			5.0			0.3			6.9		
Intersection Summary												
HCM 6th Ctrl Delay	5.8											
HCM 6th LOS	A											

HCM Signalized Intersection Capacity Analysis

7: Palm Ct & 6th St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	450	20	10	590	60	10	10	20	90	10	70
Future Volume (vph)	40	450	20	10	590	60	10	10	20	90	10	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	10	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1851		1652	3257		1770	1863	1583	1770	1618	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1851		1652	3257		1770	1863	1583	1770	1618	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	500	22	11	656	67	11	11	22	100	11	78
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	20	0	67	0
Lane Group Flow (vph)	44	521	0	11	717	0	11	11	2	100	22	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.3	30.4		0.5	28.6		4.9	4.9	4.9	8.0	8.0	
Effective Green, g (s)	3.3	32.4		1.5	30.6		5.9	5.9	5.9	9.0	9.0	
Actuated g/C Ratio	0.05	0.50		0.02	0.47		0.09	0.09	0.09	0.14	0.14	
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	1.5	3.5		1.5	3.5		4.0	4.0	4.0	2.0	2.0	
Lane Grp Cap (vph)	90	925		38	1538		161	169	144	245	224	
v/s Ratio Prot	c0.02	c0.28		0.01	0.22		c0.01	0.01		c0.06	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.49	0.56		0.29	0.47		0.07	0.07	0.01	0.41	0.10	
Uniform Delay, d1	29.9	11.3		31.1	11.6		26.9	26.9	26.8	25.5	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.9		1.5	0.3		0.2	0.2	0.1	0.4	0.1	
Delay (s)	31.4	12.1		32.7	11.8		27.2	27.2	26.9	25.9	24.4	
Level of Service	C	B		C	B		C	C	C	C	C	
Approach Delay (s)		13.6			12.2			27.0			25.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			14.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			64.8			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			50.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

8: Pennsylvania Ave & 6th St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	340	180	250	390	110	200	220	230	130	390	80
Future Volume (veh/h)	40	340	180	250	390	110	200	220	230	130	390	80
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	374	198	275	429	121	220	242	253	143	429	88
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	501	261	314	992	277	315	901	763	437	725	149
Arrive On Green	0.04	0.22	0.21	0.18	0.36	0.35	0.48	0.48	0.48	0.48	0.48	0.47
Sat Flow, veh/h	1781	2258	1177	1781	2743	767	884	1870	1585	902	1506	309
Grp Volume(v), veh/h	44	293	279	275	277	273	220	242	253	143	0	517
Grp Sat Flow(s),veh/h/ln	1781	1777	1658	1781	1777	1732	884	1870	1585	902	0	1815
Q Serve(g_s), s	2.4	15.3	15.7	15.0	11.7	12.0	24.0	7.7	9.8	11.2	0.0	20.7
Cycle Q Clear(g_c), s	2.4	15.3	15.7	15.0	11.7	12.0	44.6	7.7	9.8	18.9	0.0	20.7
Prop In Lane	1.00		0.71	1.00		0.44	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	65	394	368	314	643	626	315	901	763	437	0	874
V/C Ratio(X)	0.68	0.74	0.76	0.88	0.43	0.44	0.70	0.27	0.33	0.33	0.00	0.59
Avail Cap(c_a), veh/h	182	561	524	331	709	692	315	901	763	437	0	874
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	47.4	36.1	36.8	40.0	24.1	24.4	34.9	15.4	15.9	21.0	0.0	18.8
Incr Delay (d2), s/veh	11.6	3.2	3.9	21.5	0.5	0.5	6.7	0.2	0.3	0.4	0.0	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	1.3	6.9	6.7	8.4	4.9	4.9	5.6	3.2	3.5	2.4	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	39.4	40.8	61.5	24.5	24.9	41.6	15.6	16.2	21.4	0.0	19.9
LnGrp LOS	E	D	D	E	C	C	D	B	B	C	A	B
Approach Vol, veh/h		616			825			715			660	
Approach Delay, s/veh		41.4			37.0			23.8			20.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	40.1		52.0	21.6	26.1		52.0				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	9.7	38.3		46.5	18.0	30.0		46.5				
Max Q Clear Time (g_c+I1), s	4.4	14.0		22.7	17.0	17.7		46.6				
Green Ext Time (p_c), s	0.0	3.5		4.5	0.1	2.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				30.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
9: 6th St & Xenia Ave

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	560	10	10	590	90	10	0	10	130	0	150
Future Volume (veh/h)	130	560	10	10	590	90	10	0	10	130	0	150
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	583	10	10	615	94	10	0	10	135	0	156
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	486	1504	26	466	1052	161	299	39	212	289	28	223
Arrive On Green	0.11	0.42	0.41	0.02	0.34	0.33	0.27	0.00	0.26	0.27	0.00	0.26
Sat Flow, veh/h	1781	3575	61	1781	3091	472	632	144	776	604	103	817
Grp Volume(v), veh/h	135	290	303	10	353	356	20	0	0	291	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1859	1781	1777	1785	1552	0	0	1523	0	0
Q Serve(g_s), s	1.8	4.8	4.8	0.2	7.0	7.0	0.0	0.0	0.0	5.7	0.0	0.0
Cycle Q Clear(g_c), s	1.8	4.8	4.8	0.2	7.0	7.0	0.4	0.0	0.0	7.3	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.26	0.50		0.50	0.46		0.54
Lane Grp Cap(c), veh/h	486	748	782	466	605	608	551	0	0	540	0	0
V/C Ratio(X)	0.28	0.39	0.39	0.02	0.58	0.59	0.04	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	528	1787	1870	651	1787	1796	1436	0	0	1496	0	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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.3	8.6	8.6	8.7	11.6	11.7	11.5	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.0	0.9	0.9	0.0	0.0	0.0	0.8	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	0.5	1.5	1.5	0.0	2.3	2.4	0.1	0.0	0.0	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	8.9	8.9	8.7	12.5	12.6	11.5	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	A	A	A	A	B	B	B	A	A	B	A	A
Approach Vol, veh/h	728			719			20			291		
Approach Delay, s/veh	8.7			12.5			11.5			14.8		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	15.7		5.1	22.0		15.7		8.5	18.6			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	38.5		5.0	42.5		38.5		5.0	42.5			
Max Q Clear Time (g_c+I1), s	2.4		2.2	6.8		9.3		3.8	9.0			
Green Ext Time (p_c), s	0.1		0.0	4.0		1.9		0.0	5.0			
Intersection Summary												
HCM 6th Ctrl Delay	11.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

10: Highland Springs Ave & 6th St

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	310	240	150	340	70	170	470	140	120	670	190
Future Volume (veh/h)	160	310	240	150	340	70	170	470	140	120	670	190
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	326	253	158	358	74	179	495	147	126	705	200
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	1603	815	214	1571	797	218	935	515	109	928	527
Arrive On Green	0.07	0.45	0.45	0.06	0.44	0.44	0.06	0.26	0.26	0.06	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	168	326	253	158	358	74	179	495	147	126	705	200
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.7	5.5	9.1	4.4	6.2	2.4	5.0	11.7	6.8	6.0	18.0	9.5
Cycle Q Clear(g_c), s	4.7	5.5	9.1	4.4	6.2	2.4	5.0	11.7	6.8	6.0	18.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	246	1603	815	214	1571	797	218	935	515	109	928	527
V/C Ratio(X)	0.68	0.20	0.31	0.74	0.23	0.09	0.82	0.53	0.29	1.16	0.76	0.38
Avail Cap(c_a), veh/h	246	1603	815	214	1571	797	218	1354	702	109	1347	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	44.6	16.3	13.8	45.4	17.0	12.7	45.6	31.0	24.7	46.2	33.5	25.1
Incr Delay (d2), s/veh	7.6	0.1	0.2	12.6	0.3	0.2	21.7	0.5	0.3	135.8	1.5	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/ln	2.2	2.2	3.2	2.3	2.5	0.9	2.8	5.0	2.6	6.7	7.8	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	16.4	14.0	57.9	17.4	13.0	67.2	31.5	25.0	182.0	35.0	25.6
LnGrp LOS	D	B	B	E	B	B	E	C	C	F	D	C
Approach Vol, veh/h	747			590			821			1031		
Approach Delay, s/veh	23.6			27.7			38.1			51.1		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	47.5	10.0	29.9	10.1	48.4	10.2	29.7				
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	6.5	43.0	5.5	37.0	5.6	43.9	5.7	36.8				
Max Q Clear Time (g_c+I1), s	6.7	8.2	8.0	13.7	6.4	11.1	7.0	20.0				
Green Ext Time (p_c), s	0.0	2.8	0.0	3.9	0.0	3.2	0.0	5.2				
Intersection Summary												
HCM 6th Ctrl Delay	37.0											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis

11: I-10 WB On-Ramp/I-10 WB Off-Ramp

Existing Plus Project AM Peak
Beaumont General Plan Update TIA

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	350	0	170	370	460	0	0	810	150
Future Volume (vph)	0	0	0	350	0	170	370	460	0	0	810	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0		4.0	4.0			5.0	
Lane Util. Factor				0.95	0.95		1.00	0.95			0.95	
Frt				1.00	0.89		1.00	1.00			0.98	
Flt Protected				0.95	0.99		0.95	1.00			1.00	
Satd. Flow (prot)				1681	1559		1770	3539			3456	
Flt Permitted				0.95	0.99		0.95	1.00			1.00	
Satd. Flow (perm)				1681	1559		1770	3539			3456	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	368	0	179	389	484	0	0	853	158
RTOR Reduction (vph)	0	0	0	0	87	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	294	166	0	389	484	0	0	995	0
Turn Type				Prot	NA		Prot	NA			NA	
Protected Phases				8			5	2				
Permitted Phases					8						6	
Actuated Green, G (s)				18.9	18.9		22.6	58.4			30.8	
Effective Green, g (s)				19.4	19.4		22.6	58.9			31.3	
Actuated g/C Ratio				0.22	0.22		0.26	0.68			0.36	
Clearance Time (s)				4.5	4.5		4.0	4.5			5.5	
Vehicle Extension (s)				3.0	3.0		2.0	2.0			2.0	
Lane Grp Cap (vph)				377	350		463	2415			1253	
v/s Ratio Prot				c0.17			c0.22	0.14				
v/s Ratio Perm					0.11						c0.29	
v/c Ratio				0.78	0.47		0.84	0.20			0.79	
Uniform Delay, d1				31.4	29.0		30.1	5.0			24.6	
Progression Factor				1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2				9.8	1.0		12.4	0.0			3.3	
Delay (s)				41.3	30.0		42.6	5.1			27.9	
Level of Service				D	C		D	A			C	
Approach Delay (s)		0.0			36.1			21.8			27.9	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			86.3			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			73.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Beaumont Ave & 11th St /11 St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	70	60	10	20	70	760	90	10	550	20
Future Volume (veh/h)	20	20	70	60	10	20	70	760	90	10	550	20
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	21	74	63	11	21	74	800	95	11	579	21
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	48	137	287	33	46	596	1082	128	397	1183	43
Arrive On Green	0.13	0.13	0.12	0.13	0.13	0.12	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	224	371	1048	993	256	354	819	1640	195	622	1794	65
Grp Volume(v), veh/h	116	0	0	95	0	0	74	0	895	11	0	600
Grp Sat Flow(s),veh/h/ln	1642	0	0	1604	0	0	819	0	1835	622	0	1859
Q Serve(g_s), s	0.6	0.0	0.0	0.0	0.0	0.0	1.9	0.0	12.4	0.5	0.0	6.2
Cycle Q Clear(g_c), s	2.4	0.0	0.0	1.8	0.0	0.0	8.1	0.0	12.4	12.8	0.0	6.2
Prop In Lane	0.18		0.64	0.66		0.22	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	326	0	0	366	0	0	596	0	1210	397	0	1226
V/C Ratio(X)	0.36	0.00	0.00	0.26	0.00	0.00	0.12	0.00	0.74	0.03	0.00	0.49
Avail Cap(c_a), veh/h	890	0	0	867	0	0	1637	0	3544	1188	0	3590
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	15.6	0.0	0.0	15.2	0.0	0.0	5.3	0.0	4.3	8.6	0.0	3.3
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.9	0.0	0.0	0.3
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	0.9	0.0	0.0	0.7	0.0	0.0	0.2	0.0	1.6	0.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	0.0	15.6	0.0	0.0	5.4	0.0	5.2	8.6	0.0	3.6
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		116			95			969			611	
Approach Delay, s/veh		16.3			15.6			5.2			3.7	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.1		9.0		29.1		9.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		73.0		18.0		73.0		18.0				
Max Q Clear Time (g_c+I1), s		14.4		4.4		14.8		3.8				
Green Ext Time (p_c), s		10.2		0.4		4.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

2: Beaumont Ave & 8th St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	180	90	120	150	110	100	600	100	70	480	80
Future Volume (veh/h)	180	180	90	120	150	110	100	600	100	70	480	80
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	189	95	126	158	116	105	632	105	74	505	84
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	299	150	415	223	164	410	1010	451	357	969	432
Arrive On Green	0.12	0.25	0.25	0.09	0.22	0.21	0.08	0.28	0.28	0.07	0.27	0.27
Sat Flow, veh/h	1781	1174	590	1781	1002	736	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	189	0	284	126	0	274	105	632	105	74	505	84
Grp Sat Flow(s),veh/h/ln	1781	0	1764	1781	0	1738	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.1	0.0	7.6	2.8	0.0	7.8	2.1	8.2	2.7	1.5	6.4	2.2
Cycle Q Clear(g_c), s	4.1	0.0	7.6	2.8	0.0	7.8	2.1	8.2	2.7	1.5	6.4	2.2
Prop In Lane	1.00		0.33	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	0	449	415	0	387	410	1010	451	357	969	432
V/C Ratio(X)	0.43	0.00	0.63	0.30	0.00	0.71	0.26	0.63	0.23	0.21	0.52	0.19
Avail Cap(c_a), veh/h	558	0	908	692	0	989	515	1869	834	416	1736	774
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	17.7	14.0	0.0	19.2	12.2	16.6	14.6	12.5	16.4	14.9
Incr Delay (d2), s/veh	0.7	0.0	1.5	0.4	0.0	2.4	0.3	0.6	0.3	0.3	0.4	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	1.5	0.0	2.9	1.0	0.0	3.1	0.8	3.1	0.9	0.6	2.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	0.0	19.2	14.4	0.0	21.6	12.5	17.2	14.9	12.8	16.8	15.1
LnGrp LOS	B	A	B	B	A	C	B	B	B	B	B	B
Approach Vol, veh/h		473			400			842			663	
Approach Delay, s/veh		17.2			19.3			16.3			16.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	19.1	8.7	17.6	8.4	18.5	10.4	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	5.1	27.5	12.5	26.9	7.1	25.5	9.6	29.8				
Max Q Clear Time (g_c+I1), s	3.5	10.2	4.8	9.6	4.1	8.4	6.1	9.8				
Green Ext Time (p_c), s	0.0	4.4	0.2	1.5	0.1	3.4	0.2	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			17.0									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

4: Beaumont Ave & 6th St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	440	40	180	410	180	90	560	180	160	540	70
Future Volume (veh/h)	110	440	40	180	410	180	90	560	180	160	540	70
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	463	42	189	432	189	95	589	189	168	568	74
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	837	76	242	563	477	355	1598	713	332	1422	185
Arrive On Green	0.09	0.25	0.23	0.14	0.30	0.30	0.45	0.45	0.45	0.45	0.45	0.43
Sat Flow, veh/h	1781	3296	298	1781	1870	1585	787	3554	1585	694	3162	411
Grp Volume(v), veh/h	116	249	256	189	432	189	95	589	189	168	319	323
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1781	1870	1585	787	1777	1585	694	1777	1796
Q Serve(g_s), s	4.7	9.1	9.2	7.7	15.7	7.1	6.9	8.2	5.6	15.8	9.0	9.1
Cycle Q Clear(g_c), s	4.7	9.1	9.2	7.7	15.7	7.1	16.0	8.2	5.6	23.9	9.0	9.1
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	159	451	462	242	563	477	355	1598	713	332	799	808
V/C Ratio(X)	0.73	0.55	0.55	0.78	0.77	0.40	0.27	0.37	0.27	0.51	0.40	0.40
Avail Cap(c_a), veh/h	238	665	680	500	975	826	622	2803	1250	568	1401	1417
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(l)	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	24.2	24.3	31.2	23.8	20.8	19.2	13.6	12.9	21.5	13.8	13.9
Incr Delay (d2), s/veh	2.4	1.1	1.0	2.1	2.2	0.5	0.4	0.1	0.2	1.2	0.3	0.3
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	2.1	3.8	3.9	3.3	6.9	2.6	1.2	3.1	1.9	2.5	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	25.3	25.4	33.3	26.0	21.3	19.6	13.7	13.1	22.7	14.1	14.3
LnGrp LOS	D	C	C	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		621			810			873			810	
Approach Delay, s/veh		27.2			26.6			14.2			16.0	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	26.5		37.6	14.2	23.0		37.6				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	37.5		57.5	20.5	26.5		57.5				
Max Q Clear Time (g_c+I1), s	6.7	17.7		18.0	9.7	11.2		25.9				
Green Ext Time (p_c), s	0.0	3.3		6.2	0.2	2.7		6.2				
Intersection Summary												
HCM 6th Ctrl Delay				20.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

6: Orange Ave & 6th St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	680	10	20	700	60	20	10	10	20	10	40
Future Volume (veh/h)	70	680	10	20	700	60	20	10	10	20	10	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	716	11	21	737	63	21	11	11	21	11	42
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	1160	18	485	1072	92	225	100	61	173	57	136
Arrive On Green	0.63	0.63	0.62	0.63	0.63	0.62	0.15	0.15	0.14	0.15	0.15	0.14
Sat Flow, veh/h	680	1837	28	728	1699	145	524	664	408	313	379	907
Grp Volume(v), veh/h	74	0	727	21	0	800	43	0	0	74	0	0
Grp Sat Flow(s),veh/h/ln	680	0	1865	728	0	1844	1596	0	0	1599	0	0
Q Serve(g_s), s	2.9	0.0	8.6	0.7	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.3	0.0	8.6	9.3	0.0	10.4	0.8	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.08	0.49		0.26	0.28		0.57
Lane Grp Cap(c), veh/h	433	0	1177	485	0	1164	386	0	0	366	0	0
V/C Ratio(X)	0.17	0.00	0.62	0.04	0.00	0.69	0.11	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	1360	0	3720	1476	0	3678	945	0	0	941	0	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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.7	0.0	4.1	6.9	0.0	4.4	13.6	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.0	0.0	0.7	0.1	0.0	0.0	0.3	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	0.3	0.0	1.2	0.1	0.0	1.4	0.3	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	0.0	4.6	6.9	0.0	5.1	13.7	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h	801			821			43			74		
Approach Delay, s/veh	5.0			5.2			13.7			14.2		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	9.5			27.1			9.5			27.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			72.5			18.5			72.5		
Max Q Clear Time (g_c+I1), s	2.8			15.3			3.4			12.4		
Green Ext Time (p_c), s	0.1			7.3			0.3			7.9		
Intersection Summary												
HCM 6th Ctrl Delay	5.7											
HCM 6th LOS	A											

HCM Signalized Intersection Capacity Analysis

7: Palm Ct & 6th St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	630	20	10	720	80	10	10	20	80	10	50
Future Volume (vph)	80	630	20	10	720	80	10	10	20	80	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	10	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1854		1652	3254		1770	1863	1583	1770	1631	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1854		1652	3254		1770	1863	1583	1770	1631	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	663	21	11	758	84	11	11	21	84	11	53
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	19	0	47	0
Lane Group Flow (vph)	84	683	0	11	836	0	11	11	2	84	17	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	7.7	45.2		0.5	38.0		5.3	5.3	5.3	8.2	8.2	
Effective Green, g (s)	8.7	47.2		1.5	40.0		6.3	6.3	6.3	9.2	9.2	
Actuated g/C Ratio	0.11	0.59		0.02	0.50		0.08	0.08	0.08	0.11	0.11	
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	1.5	3.5		1.5	3.5		4.0	4.0	4.0	2.0	2.0	
Lane Grp Cap (vph)	192	1091		30	1622		139	146	124	203	187	
v/s Ratio Prot	c0.05	c0.37		0.01	0.26		c0.01	0.01		c0.05	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.44	0.63		0.37	0.52		0.08	0.08	0.01	0.41	0.09	
Uniform Delay, d1	33.5	10.8		38.9	13.6		34.3	34.3	34.1	33.0	31.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	1.2		2.8	0.3		0.3	0.3	0.1	0.5	0.1	
Delay (s)	34.0	11.9		41.6	13.9		34.6	34.6	34.1	33.5	31.8	
Level of Service	C	B		D	B		C	C	C	C	C	
Approach Delay (s)		14.4			14.2			34.4			32.8	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			16.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			80.2			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			59.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

8: Pennsylvania Ave & 6th St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	460	220	210	530	140	250	390	330	120	240	50
Future Volume (veh/h)	70	460	220	210	530	140	250	390	330	120	240	50
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	484	232	221	558	147	263	411	347	126	253	53
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	670	319	267	1052	276	414	796	675	269	638	134
Arrive On Green	0.06	0.29	0.27	0.15	0.38	0.36	0.43	0.43	0.43	0.43	0.43	0.41
Sat Flow, veh/h	1781	2334	1113	1781	2785	731	1073	1870	1585	707	1500	314
Grp Volume(v), veh/h	74	368	348	221	355	350	263	411	347	126	0	306
Grp Sat Flow(s),veh/h/ln	1781	1777	1670	1781	1777	1739	1073	1870	1585	707	0	1814
Q Serve(g_s), s	3.6	16.3	16.5	10.5	13.6	13.8	19.6	14.1	14.1	14.0	0.0	10.2
Cycle Q Clear(g_c), s	3.6	16.3	16.5	10.5	13.6	13.8	29.8	14.1	14.1	28.1	0.0	10.2
Prop In Lane	1.00		0.67	1.00		0.42	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	106	510	479	267	671	657	414	796	675	269	0	772
V/C Ratio(X)	0.70	0.72	0.73	0.83	0.53	0.53	0.64	0.52	0.51	0.47	0.00	0.40
Avail Cap(c_a), veh/h	247	984	925	318	1055	1032	497	941	798	324	0	913
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	28.0	28.6	36.0	21.2	21.5	27.7	18.5	18.5	28.8	0.0	17.4
Incr Delay (d2), s/veh	8.1	1.9	2.1	14.2	0.7	0.7	2.0	0.5	0.6	1.3	0.0	0.3
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	7.0	6.7	5.5	5.6	5.6	5.1	5.9	5.0	2.4	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	30.0	30.7	50.2	21.8	22.1	29.6	19.0	19.1	30.1	0.0	17.8
LnGrp LOS	D	C	C	D	C	C	C	B	B	C	A	B
Approach Vol, veh/h		790			926			1021			432	
Approach Delay, s/veh		32.0			28.7			21.8			21.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	37.0		41.2	17.1	29.1		41.2				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	11.6	50.4		42.5	15.1	46.9		42.5				
Max Q Clear Time (g_c+I1), s	5.6	15.8		30.1	12.5	18.5		31.8				
Green Ext Time (p_c), s	0.1	5.1		2.3	0.2	5.1		3.9				
Intersection Summary												
HCM 6th Ctrl Delay				26.3								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
9: 6th St & Xenia Ave

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	710	10	10	780	140	0	10	10	110	0	90
Future Volume (veh/h)	190	710	10	10	780	140	0	10	10	110	0	90
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	747	11	11	821	147	0	11	11	116	0	95
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	475	1838	27	472	1286	230	0	175	175	268	20	137
Arrive On Green	0.11	0.51	0.50	0.03	0.43	0.42	0.00	0.20	0.19	0.20	0.00	0.19
Sat Flow, veh/h	1781	3585	53	1781	3011	539	0	858	858	727	96	674
Grp Volume(v), veh/h	200	370	388	11	484	484	0	0	22	211	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1773	0	0	1716	1497	0	0
Q Serve(g_s), s	2.5	5.9	5.9	0.2	10.0	10.0	0.0	0.0	0.5	5.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	5.9	5.9	0.2	10.0	10.0	0.0	0.0	0.5	6.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.30	0.00		0.50	0.55		0.45
Lane Grp Cap(c), veh/h	475	911	954	472	759	758	0	0	349	425	0	0
V/C Ratio(X)	0.42	0.41	0.41	0.02	0.64	0.64	0.00	0.00	0.06	0.50	0.00	0.00
Avail Cap(c_a), veh/h	893	1971	2064	642	1572	1569	0	0	778	792	0	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(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.0	7.0	7.0	7.0	10.5	10.5	0.0	0.0	15.0	17.1	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.3	0.3	0.0	0.9	0.9	0.0	0.0	0.1	0.9	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	0.6	1.7	1.7	0.0	3.2	3.2	0.0	0.0	0.2	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	7.2	7.2	7.1	11.4	11.4	0.0	0.0	15.1	18.0	0.0	0.0
LnGrp LOS	A	A	A	A	B	B	A	A	B	B	A	A
Approach Vol, veh/h	958			979			22			211		
Approach Delay, s/veh	7.3			11.3			15.1			18.0		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.4		5.2	27.8		13.4	9.1	23.8				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5		5.1	50.9		20.5	15.5	40.5				
Max Q Clear Time (g_c+I1), s	2.5		2.2	7.9		8.0	4.5	12.0				
Green Ext Time (p_c), s	0.0		0.0	5.5		0.9	0.4	7.3				
Intersection Summary												
HCM 6th Ctrl Delay	10.2											
HCM 6th LOS	B											

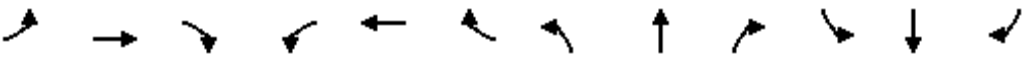
HCM 6th Signalized Intersection Summary 10: Highland Springs Ave & 6th St

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	350	210	270	590	90	180	670	170	90	620	160
Future Volume (veh/h)	250	350	210	270	590	90	180	670	170	90	620	160
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	368	221	284	621	95	189	705	179	95	653	168
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	1393	815	370	1414	739	218	1010	620	122	819	526
Arrive On Green	0.10	0.39	0.39	0.11	0.40	0.40	0.12	0.28	0.28	0.07	0.23	0.23
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	263	368	221	284	621	95	189	705	179	95	653	168
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.0	7.6	8.5	8.6	13.8	3.7	11.3	19.1	8.4	5.7	18.7	8.6
Cycle Q Clear(g_c), s	8.0	7.6	8.5	8.6	13.8	3.7	11.3	19.1	8.4	5.7	18.7	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	350	1393	815	370	1414	739	218	1010	620	122	819	526
V/C Ratio(X)	0.75	0.26	0.27	0.77	0.44	0.13	0.87	0.70	0.29	0.78	0.80	0.32
Avail Cap(c_a), veh/h	515	1418	826	512	1414	739	218	1233	720	122	1043	625
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	47.2	22.3	14.8	46.9	23.7	16.4	46.6	34.5	22.6	49.5	39.2	27.0
Incr Delay (d2), s/veh	3.5	0.1	0.2	4.6	1.0	0.4	29.1	1.3	0.3	26.7	3.4	0.3
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	3.6	3.2	3.0	3.9	5.9	1.4	6.7	8.4	3.1	3.4	8.5	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	22.4	15.0	51.6	24.7	16.7	75.6	35.9	22.8	76.2	42.6	27.3
LnGrp LOS	D	C	B	D	C	B	E	D	C	E	D	C
Approach Vol, veh/h	852			1000			1073			916		
Approach Delay, s/veh	29.2			31.6			40.7			43.3		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	47.0	11.4	34.7	15.6	46.4	17.2	28.9				
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	15.6	42.5	6.9	37.0	15.5	42.6	12.7	31.2				
Max Q Clear Time (g_c+I1), s	10.0	15.8	7.7	21.1	10.6	10.5	13.3	20.7				
Green Ext Time (p_c), s	0.4	4.9	0.0	5.0	0.4	3.4	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay	36.4											
HCM 6th LOS	D											

HCM Signalized Intersection Capacity Analysis 11: I-10 WB On-Ramp/I-10 WB Off-Ramp

Existing Plus Project PM Peak
Beaumont 6th Street TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	640	0	200	330	730	0	0	650	170
Future Volume (vph)	0	0	0	640	0	200	330	730	0	0	650	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0		4.0	4.0			5.0	
Lane Util. Factor				0.95	0.95		0.97	0.95			0.95	
Frt				1.00	0.93		1.00	1.00			0.97	
Flt Protected				0.95	0.98		0.95	1.00			1.00	
Satd. Flow (prot)				1681	1598		3433	3539			3429	
Flt Permitted				0.95	0.98		0.95	1.00			1.00	
Satd. Flow (perm)				1681	1598		3433	3539			3429	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	674	0	211	347	768	0	0	684	179
RTOR Reduction (vph)	0	0	0	0	46	0	0	0	0	0	28	0
Lane Group Flow (vph)	0	0	0	458	381	0	347	768	0	0	835	0
Turn Type				custom	NA		Prot	NA			NA	
Protected Phases							5	2			6	
Permitted Phases				8	8							
Actuated Green, G (s)				27.0	27.0		11.4	41.3			24.9	
Effective Green, g (s)				27.5	27.5		11.4	41.8			25.4	
Actuated g/C Ratio				0.36	0.36		0.15	0.54			0.33	
Clearance Time (s)				4.5	4.5		4.0	4.5			5.5	
Vehicle Extension (s)				3.0	3.0		2.0	2.0			2.0	
Lane Grp Cap (vph)				598	568		506	1913			1126	
v/s Ratio Prot							c0.10	0.22			c0.24	
v/s Ratio Perm				c0.27	0.24							
v/c Ratio				0.77	0.67		0.69	0.40			0.74	
Uniform Delay, d1				22.0	21.1		31.3	10.4			23.0	
Progression Factor				1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2				5.8	3.1		3.1	0.1			2.3	
Delay (s)				27.9	24.2		34.3	10.5			25.4	
Level of Service				C	C		C	B			C	
Approach Delay (s)		0.0			26.1			17.9			25.4	
Approach LOS		A			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			22.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			77.3			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			67.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Beaumont Ave & 11th St /11 St

Future - AM

Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	10	120	190	10	20	40	600	70	20	870	40
Future Volume (veh/h)	20	10	120	190	10	20	40	600	70	20	870	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	11	135	213	11	22	45	674	79	22	978	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	50	320	364	14	27	221	1055	124	389	1140	52
Arrive On Green	0.24	0.24	0.23	0.24	0.24	0.23	0.64	0.64	0.63	0.64	0.64	0.63
Sat Flow, veh/h	121	210	1354	1109	57	115	551	1643	193	710	1774	82
Grp Volume(v), veh/h	168	0	0	246	0	0	45	0	753	22	0	1023
Grp Sat Flow(s),veh/h/ln	1686	0	0	1281	0	0	551	0	1836	710	0	1856
Q Serve(g_s), s	0.0	0.0	0.0	6.2	0.0	0.0	4.7	0.0	16.4	1.3	0.0	28.9
Cycle Q Clear(g_c), s	5.8	0.0	0.0	12.0	0.0	0.0	33.6	0.0	16.4	17.7	0.0	28.9
Prop In Lane	0.13		0.80	0.87		0.09	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	460	0	0	404	0	0	221	0	1179	389	0	1192
V/C Ratio(X)	0.37	0.00	0.00	0.61	0.00	0.00	0.20	0.00	0.64	0.06	0.00	0.86
Avail Cap(c_a), veh/h	685	0	0	589	0	0	344	0	1590	547	0	1607
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	21.6	0.0	0.0	23.8	0.0	0.0	22.8	0.0	7.2	12.5	0.0	9.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.5	0.0	0.0	0.4	0.0	0.6	0.1	0.0	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/ln	2.2	0.0	0.0	3.5	0.0	0.0	0.6	0.0	4.9	0.2	0.0	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	0.0	0.0	25.3	0.0	0.0	23.2	0.0	7.7	12.6	0.0	13.1
LnGrp LOS	C	A	A	C	A	A	C	A	A	B	A	B
Approach Vol, veh/h	168			246			798			1045		
Approach Delay, s/veh	22.1			25.3			8.6			13.1		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	46.3			19.5			46.3			19.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	56.5			24.5			56.5			24.5		
Max Q Clear Time (g_c+I1), s	35.6			7.8			30.9			14.0		
Green Ext Time (p_c), s	6.2			0.8			10.1			1.1		
Intersection Summary												
HCM 6th Ctrl Delay	13.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Beaumont Ave & 8th St

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	190	170	200	310	100	100	520	110	140	800	240
Future Volume (veh/h)	90	190	170	200	310	100	100	520	110	140	800	240
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	204	183	215	333	108	108	559	118	151	860	258
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	242	217	362	429	139	278	1094	488	392	1165	519
Arrive On Green	0.07	0.27	0.26	0.12	0.32	0.31	0.07	0.31	0.31	0.09	0.33	0.33
Sat Flow, veh/h	1781	909	815	1781	1353	439	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	97	0	387	215	0	441	108	559	118	151	860	258
Grp Sat Flow(s),veh/h/ln	1781	0	1724	1781	0	1791	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.8	0.0	15.4	5.9	0.0	16.2	2.9	9.4	4.0	4.1	15.6	9.5
Cycle Q Clear(g_c), s	2.8	0.0	15.4	5.9	0.0	16.2	2.9	9.4	4.0	4.1	15.6	9.5
Prop In Lane	1.00		0.47	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	0	459	362	0	569	278	1094	488	392	1165	519
V/C Ratio(X)	0.32	0.00	0.84	0.59	0.00	0.78	0.39	0.51	0.24	0.39	0.74	0.50
Avail Cap(c_a), veh/h	326	0	595	448	0	776	304	1348	601	469	1520	678
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	25.3	17.1	0.0	22.5	16.8	20.6	18.8	15.2	21.6	19.6
Incr Delay (d2), s/veh	0.6	0.0	8.5	1.6	0.0	3.4	0.9	0.4	0.3	0.6	1.4	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	1.1	0.0	7.0	2.4	0.0	6.9	1.2	3.7	1.4	1.6	6.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	0.0	33.8	18.6	0.0	25.9	17.7	21.0	19.0	15.8	23.0	20.3
LnGrp LOS	B	A	C	B	A	C	B	C	B	B	C	C
Approach Vol, veh/h		484			656			785			1269	
Approach Delay, s/veh		30.8			23.5			20.2			21.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	26.3	12.5	23.3	8.9	27.8	8.8	27.0				
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	9.0	27.0	11.5	24.5	5.5	30.5	5.1	30.9				
Max Q Clear Time (g_c+I1), s	6.1	11.4	7.9	17.4	4.9	17.6	4.8	18.2				
Green Ext Time (p_c), s	0.1	3.8	0.2	1.4	0.0	5.7	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

4: Beaumont Ave & 6th St

Future - AM

Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	510	50	280	550	130	110	510	190	220	810	140
Future Volume (veh/h)	90	510	50	280	550	130	110	510	190	220	810	140
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	580	57	318	625	148	125	580	216	250	920	159
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	775	76	322	651	552	190	1642	732	316	1400	242
Arrive On Green	0.07	0.24	0.22	0.18	0.35	0.35	0.46	0.46	0.46	0.46	0.46	0.45
Sat Flow, veh/h	1781	3269	321	1781	1870	1585	523	3554	1585	682	3030	523
Grp Volume(v), veh/h	102	315	322	318	625	148	125	580	216	250	539	540
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	1870	1585	523	1777	1585	682	1777	1776
Q Serve(g_s), s	5.6	16.4	16.5	17.8	32.7	6.7	22.6	10.5	8.5	35.7	23.5	23.6
Cycle Q Clear(g_c), s	5.6	16.4	16.5	17.8	32.7	6.7	46.2	10.5	8.5	46.2	23.5	23.6
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	125	421	430	322	651	552	190	1642	732	316	821	821
V/C Ratio(X)	0.82	0.75	0.75	0.99	0.96	0.27	0.66	0.35	0.29	0.79	0.66	0.66
Avail Cap(c_a), veh/h	125	421	430	322	651	552	190	1642	732	316	821	821
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	45.9	35.4	35.5	40.8	31.9	23.4	39.3	17.3	16.8	32.6	20.8	21.0
Incr Delay (d2), s/veh	31.2	7.2	7.2	46.2	25.7	0.3	7.9	0.1	0.2	12.9	1.9	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/ln	3.6	7.8	8.0	11.8	18.9	2.5	3.5	4.2	3.1	7.0	9.8	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	42.6	42.7	87.0	57.6	23.7	47.2	17.4	17.0	45.5	22.7	22.9
LnGrp LOS	E	D	D	F	E	C	D	B	B	D	C	C
Approach Vol, veh/h	739				1091				921			
Approach Delay, s/veh	47.4				61.6				21.4			
Approach LOS	D				E				C			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	38.8		50.2	22.1	27.7		50.2				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	6.5	33.3		44.7	17.6	22.2		44.7				
Max Q Clear Time (g_c+I1), s	7.6	34.7		48.2	19.8	18.5		48.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	1.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	38.7											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 6: Orange Ave & 6th St

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	810	30	20	900	80	10	10	15	35	10	50
Future Volume (veh/h)	70	810	30	20	900	80	10	10	15	35	10	50
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	920	34	23	1023	91	11	11	17	40	11	57
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	1333	49	405	1259	112	114	77	85	140	32	95
Arrive On Green	0.74	0.74	0.74	0.74	0.74	0.74	0.12	0.12	0.11	0.12	0.12	0.11
Sat Flow, veh/h	506	1792	66	588	1693	151	283	665	732	462	274	823
Grp Volume(v), veh/h	80	0	954	23	0	1114	39	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	506	0	1858	588	0	1843	1680	0	0	1559	0	0
Q Serve(g_s), s	6.9	0.0	15.4	1.2	0.0	22.3	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	29.3	0.0	15.4	16.6	0.0	22.3	1.2	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.08	0.28		0.44	0.37		0.53
Lane Grp Cap(c), veh/h	304	0	1383	405	0	1371	275	0	0	267	0	0
V/C Ratio(X)	0.26	0.00	0.69	0.06	0.00	0.81	0.14	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	478	0	2020	607	0	2003	644	0	0	625	0	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)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	3.8	8.2	0.0	4.7	22.9	0.0	0.0	24.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.1	0.0	1.7	0.2	0.0	0.0	1.0	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	0.7	0.0	2.6	0.1	0.0	4.0	0.5	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	4.5	8.3	0.0	6.4	23.1	0.0	0.0	25.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h	1034			1137			39			108		
Approach Delay, s/veh	5.3			6.5			23.1			25.0		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	10.6			46.4			10.6			46.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			61.5			19.5			61.5		
Max Q Clear Time (g_c+I1), s	3.2			31.3			5.7			24.3		
Green Ext Time (p_c), s	0.1			10.7			0.4			13.9		
Intersection Summary												
HCM 6th Ctrl Delay	7.1											
HCM 6th LOS	A											

HCM Signalized Intersection Capacity Analysis

7: Palm Ct & 6th St

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	790	20	20	920	70	10	10	30	90	10	70
Future Volume (vph)	50	790	20	20	920	70	10	10	30	90	10	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	10	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1856		1652	3268		1770	1863	1583	1770	1618	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1856		1652	3268		1770	1863	1583	1770	1618	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	878	22	22	1022	78	11	11	33	100	11	78
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	30	0	68	0
Lane Group Flow (vph)	56	900	0	22	1096	0	11	11	3	100	21	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	4.0	50.6		1.6	48.2		6.1	6.1	6.1	10.6	10.6	
Effective Green, g (s)	5.0	52.6		2.6	50.2		7.1	7.1	7.1	11.6	11.6	
Actuated g/C Ratio	0.06	0.59		0.03	0.56		0.08	0.08	0.08	0.13	0.13	
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	1.5	3.5		1.5	3.5		4.0	4.0	4.0	2.0	2.0	
Lane Grp Cap (vph)	98	1085		47	1824		139	147	125	228	208	
v/s Ratio Prot	c0.03	c0.48		0.01	0.34		c0.01	0.01		c0.06	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.57	0.83		0.47	0.60		0.08	0.07	0.02	0.44	0.10	
Uniform Delay, d1	41.4	15.0		43.0	13.2		38.4	38.4	38.2	36.1	34.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.9	5.5		2.7	0.6		0.3	0.3	0.1	0.5	0.1	
Delay (s)	46.3	20.5		45.6	13.8		38.7	38.7	38.3	36.6	34.6	
Level of Service	D	C		D	B		D	D	D	D	C	
Approach Delay (s)		22.0			14.4			38.4			35.7	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			19.9			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			89.9			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			62.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

8: Pennsylvania Ave & 6th St

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	640	200	270	730	30	200	230	290	120	450	80
Future Volume (veh/h)	70	640	200	270	730	30	200	230	290	120	450	80
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	703	220	297	802	33	220	253	319	132	495	88
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	746	233	267	1286	53	230	842	713	378	696	124
Arrive On Green	0.06	0.28	0.26	0.15	0.37	0.35	0.45	0.45	0.45	0.45	0.45	0.44
Sat Flow, veh/h	1781	2664	833	1781	3478	143	832	1870	1585	840	1546	275
Grp Volume(v), veh/h	77	469	454	297	410	425	220	253	319	132	0	583
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1845	832	1870	1585	840	0	1821
Q Serve(g_s), s	4.2	25.8	25.8	15.0	18.9	18.9	19.1	8.6	13.9	11.9	0.0	25.9
Cycle Q Clear(g_c), s	4.2	25.8	25.8	15.0	18.9	18.9	45.0	8.6	13.9	20.5	0.0	25.9
Prop In Lane	1.00		0.48	1.00		0.08	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	107	498	482	267	657	682	230	842	713	378	0	819
V/C Ratio(X)	0.72	0.94	0.94	1.11	0.62	0.62	0.95	0.30	0.45	0.35	0.00	0.71
Avail Cap(c_a), veh/h	135	498	482	267	657	682	230	842	713	378	0	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(l)	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	46.2	35.2	35.6	42.5	25.8	25.9	43.1	17.5	18.9	24.0	0.0	22.4
Incr Delay (d2), s/veh	12.6	26.6	27.2	88.3	1.8	1.8	46.5	0.2	0.4	0.6	0.0	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	2.2	14.6	14.3	13.1	8.1	8.4	8.4	3.7	5.0	2.4	0.0	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	61.8	62.8	130.8	27.6	27.6	89.7	17.7	19.4	24.5	0.0	25.3
LnGrp LOS	E	E	E	F	C	C	F	B	B	C	A	C
Approach Vol, veh/h		1000			1132			792			715	
Approach Delay, s/veh		62.0			54.7			38.4			25.1	
Approach LOS		E			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	41.0		49.0	19.0	32.0		49.0				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	7.1	33.9		43.5	14.5	26.5		43.5				
Max Q Clear Time (g_c+I1), s	6.2	20.9		27.9	17.0	27.8		47.0				
Green Ext Time (p_c), s	0.0	4.4		4.3	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				47.4								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

9: 6th St & Xenia Ave

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	930	10	10	860	70	10	0	10	190	0	160
Future Volume (veh/h)	80	930	10	10	860	70	10	0	10	190	0	160
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	969	10	10	896	73	10	0	10	198	0	167
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	364	1612	17	311	1314	107	292	31	225	338	17	213
Arrive On Green	0.07	0.45	0.44	0.02	0.39	0.39	0.31	0.00	0.30	0.31	0.00	0.30
Sat Flow, veh/h	1781	3603	37	1781	3327	271	620	100	720	758	53	684
Grp Volume(v), veh/h	83	478	501	10	478	491	20	0	0	365	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1822	1440	0	0	1496	0	0
Q Serve(g_s), s	1.4	11.1	11.1	0.2	12.2	12.2	0.0	0.0	0.0	11.2	0.0	0.0
Cycle Q Clear(g_c), s	1.4	11.1	11.1	0.2	12.2	12.2	0.4	0.0	0.0	12.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.15	0.50		0.50	0.54		0.46
Lane Grp Cap(c), veh/h	364	795	834	311	702	719	548	0	0	568	0	0
V/C Ratio(X)	0.23	0.60	0.60	0.03	0.68	0.68	0.04	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	491	1335	1400	460	1264	1296	1136	0	0	1200	0	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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.4	11.5	11.5	10.0	13.7	13.8	13.2	0.0	0.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.7	0.7	0.0	1.2	1.2	0.0	0.0	0.0	1.2	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	0.5	3.8	4.0	0.1	4.4	4.5	0.2	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.8	12.2	12.2	10.1	14.9	14.9	13.3	0.0	0.0	18.4	0.0	0.0
LnGrp LOS	A	B	B	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h	1062			979			20			365		
Approach Delay, s/veh	12.0			14.9			13.3			18.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	21.1		5.2	28.5		21.1	8.1	25.7				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	40.0		5.3	40.7		40.0	7.5	38.5				
Max Q Clear Time (g_c+I1), s	2.4		2.2	13.1		14.1	3.4	14.2				
Green Ext Time (p_c), s	0.1		0.0	7.2		2.5	0.1	6.9				
Intersection Summary												
HCM 6th Ctrl Delay	14.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

10: Highland Springs Ave & 6th St

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	650	280	150	560	80	120	690	140	130	930	260
Future Volume (veh/h)	240	650	280	150	560	80	120	690	140	130	930	260
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	684	295	158	589	84	126	726	147	137	979	274
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	1496	759	178	1480	749	200	1143	591	100	1137	596
Arrive On Green	0.06	0.42	0.42	0.05	0.42	0.42	0.06	0.32	0.32	0.06	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	253	684	295	158	589	84	126	726	147	137	979	274
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.0	14.7	12.7	4.9	12.4	3.2	3.8	18.6	6.8	6.0	27.6	13.9
Cycle Q Clear(g_c), s	6.0	14.7	12.7	4.9	12.4	3.2	3.8	18.6	6.8	6.0	27.6	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	1496	759	178	1480	749	200	1143	591	100	1137	596
V/C Ratio(X)	1.30	0.46	0.39	0.89	0.40	0.11	0.63	0.64	0.25	1.37	0.86	0.46
Avail Cap(c_a), veh/h	194	1496	759	178	1480	749	213	1247	638	100	1227	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	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	50.4	22.2	17.8	50.4	21.8	15.7	49.2	30.9	23.1	50.4	34.1	25.2
Incr Delay (d2), s/veh	169.0	0.2	0.3	37.9	0.8	0.3	5.3	0.9	0.2	217.5	6.1	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	7.1	6.1	4.6	3.0	5.3	1.2	1.8	8.0	2.6	8.7	12.6	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	219.5	22.4	18.2	88.3	22.6	16.0	54.6	31.8	23.4	267.9	40.2	25.7
LnGrp LOS	F	C	B	F	C	B	D	C	C	F	D	C
Approach Vol, veh/h		1232			831			999			1390	
Approach Delay, s/veh		61.8			34.4			33.5			59.8	
Approach LOS		E			C			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	48.5	10.0	38.4	9.5	49.0	10.2	38.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	44.0	5.5	37.0	5.0	44.5	6.1	36.4				
Max Q Clear Time (g_c+I1), s	8.0	14.4	8.0	20.6	6.9	16.7	5.8	29.6				
Green Ext Time (p_c), s	0.0	4.7	0.0	5.1	0.0	6.4	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									

HCM Signalized Intersection Capacity Analysis

11: Beaumont Ave & I-10 WB Ramps

Future - AM
Beaumont General Plan Update TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	360	0	200	380	640	0	0	990	140
Future Volume (vph)	0	0	0	360	0	200	380	640	0	0	990	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0		4.0	4.0			5.0	
Lane Util. Factor				0.95	0.95		1.00	0.95			0.95	
Frt				1.00	0.89		1.00	1.00			0.98	
Flt Protected				0.95	0.99		0.95	1.00			1.00	
Satd. Flow (prot)				1681	1554		1770	3539			3474	
Flt Permitted				0.95	0.99		0.95	1.00			1.00	
Satd. Flow (perm)				1681	1554		1770	3539			3474	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	379	0	211	400	674	0	0	1042	147
RTOR Reduction (vph)	0	0	0	0	100	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	303	187	0	400	674	0	0	1178	0
Turn Type				Prot	NA		Prot	NA			NA	
Protected Phases				8			5	2				
Permitted Phases					8						6	
Actuated Green, G (s)				19.9	19.9		23.5	64.4			35.9	
Effective Green, g (s)				20.4	20.4		23.5	64.9			36.4	
Actuated g/C Ratio				0.22	0.22		0.25	0.70			0.39	
Clearance Time (s)				4.5	4.5		4.0	4.5			5.5	
Vehicle Extension (s)				3.0	3.0		2.0	2.0			2.0	
Lane Grp Cap (vph)				367	339		445	2461			1355	
v/s Ratio Prot				c0.18			c0.23	0.19				
v/s Ratio Perm					0.12						c0.34	
v/c Ratio				0.83	0.55		0.90	0.27			0.87	
Uniform Delay, d1				34.8	32.4		33.8	5.3			26.3	
Progression Factor				1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2				14.0	1.9		20.0	0.0			6.0	
Delay (s)				48.8	34.3		53.8	5.4			32.3	
Level of Service				D	C		D	A			C	
Approach Delay (s)		0.0			41.7			23.4			32.3	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			93.3			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			79.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Beaumont Ave & 11th St /11 St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	90	100	10	20	120	1050	190	10	800	20
Future Volume (veh/h)	20	20	90	100	10	20	120	1050	190	10	800	20
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	21	95	105	11	21	126	1105	200	11	842	21
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	48	158	204	20	27	454	1193	216	168	1406	35
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	167	358	1188	974	151	204	641	1541	279	422	1817	45
Grp Volume(v), veh/h	137	0	0	137	0	0	126	0	1305	11	0	863
Grp Sat Flow(s),veh/h/ln	1714	0	0	1329	0	0	641	0	1820	422	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	0.0	8.9	0.0	49.4	1.8	0.0	16.8
Cycle Q Clear(g_c), s	6.5	0.0	0.0	8.6	0.0	0.0	25.7	0.0	49.4	51.3	0.0	16.8
Prop In Lane	0.15		0.69	0.77		0.15	1.00		0.15	1.00		0.02
Lane Grp Cap(c), veh/h	277	0	0	251	0	0	454	0	1408	168	0	1441
V/C Ratio(X)	0.50	0.00	0.00	0.55	0.00	0.00	0.28	0.00	0.93	0.07	0.00	0.60
Avail Cap(c_a), veh/h	406	0	0	361	0	0	505	0	1552	201	0	1588
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	35.4	0.0	0.0	36.1	0.0	0.0	9.5	0.0	7.8	28.3	0.0	4.1
Incr Delay (d2), s/veh	1.4	0.0	0.0	1.8	0.0	0.0	0.3	0.0	9.4	0.2	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	2.8	0.0	0.0	2.9	0.0	0.0	1.2	0.0	15.4	0.2	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	0.0	38.0	0.0	0.0	9.9	0.0	17.2	28.5	0.0	4.6
LnGrp LOS	D	A	A	D	A	A	A	A	B	C	A	A
Approach Vol, veh/h	137			137			1431			874		
Approach Delay, s/veh	36.8			38.0			16.6			4.9		
Approach LOS	D			D			B			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	70.7			15.5			70.7			15.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	73.0			18.0			73.0			18.0		
Max Q Clear Time (g_c+I1), s	51.4			8.5			53.3			10.6		
Green Ext Time (p_c), s	14.8			0.4			6.8			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	14.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Beaumont Ave & 8th St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	410	190	300	380	220	200	880	170	140	710	140
Future Volume (veh/h)	260	410	190	300	380	220	200	880	170	140	710	140
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	274	432	200	316	400	232	211	926	179	147	747	147
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	405	187	327	394	228	283	1018	454	209	907	405
Arrive On Green	0.12	0.33	0.33	0.14	0.35	0.35	0.09	0.29	0.29	0.06	0.26	0.26
Sat Flow, veh/h	1781	1210	560	1781	1110	644	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	274	0	632	316	0	632	211	926	179	147	747	147
Grp Sat Flow(s),veh/h/ln	1781	0	1770	1781	0	1754	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.6	0.0	30.0	11.8	0.0	31.8	7.7	22.6	8.1	5.5	17.8	6.8
Cycle Q Clear(g_c), s	9.6	0.0	30.0	11.8	0.0	31.8	7.7	22.6	8.1	5.5	17.8	6.8
Prop In Lane	1.00		0.32	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	291	0	592	327	0	622	283	1018	454	209	907	405
V/C Ratio(X)	0.94	0.00	1.07	0.97	0.00	1.02	0.75	0.91	0.39	0.70	0.82	0.36
Avail Cap(c_a), veh/h	291	0	592	327	0	622	283	1030	459	209	919	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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	29.9	24.9	0.0	29.0	23.7	30.9	25.7	25.5	31.5	27.4
Incr Delay (d2), s/veh	37.6	0.0	56.4	41.0	0.0	40.2	10.4	11.6	0.6	10.1	6.1	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	6.8	0.0	21.5	8.4	0.0	19.7	3.9	11.0	3.1	2.8	8.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	0.0	86.3	65.9	0.0	69.2	34.1	42.5	26.3	35.5	37.6	28.0
LnGrp LOS	E	A	F	E	A	F	C	D	C	D	D	C
Approach Vol, veh/h		906			948			1316			1041	
Approach Delay, s/veh		78.6			68.1			39.0			35.9	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	29.7	16.4	34.0	12.4	26.9	14.6	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	5.1	25.5	11.9	29.5	7.9	22.7	10.1	31.3				
Max Q Clear Time (g_c+I1), s	7.5	24.6	13.8	32.0	9.7	19.8	11.6	33.8				
Green Ext Time (p_c), s	0.0	0.6	0.0	0.0	0.0	1.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.3									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

4: Beaumont Ave & 6th St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	650	40	330	570	260	110	830	470	260	820	120
Future Volume (veh/h)	160	650	40	330	570	260	110	830	470	260	820	120
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	684	42	347	600	274	116	874	495	274	863	126
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	765	47	282	577	489	248	1836	819	202	1607	235
Arrive On Green	0.08	0.22	0.21	0.16	0.31	0.31	0.52	0.52	0.52	0.52	0.52	0.50
Sat Flow, veh/h	1781	3401	209	1781	1870	1585	569	3554	1585	397	3111	454
Grp Volume(v), veh/h	168	357	369	347	600	274	116	874	495	274	493	496
Grp Sat Flow(s),veh/h/ln	1781	1777	1833	1781	1870	1585	569	1777	1585	397	1777	1789
Q Serve(g_s), s	9.0	23.4	23.4	19.0	37.0	17.3	20.6	18.9	26.3	43.1	22.3	22.4
Cycle Q Clear(g_c), s	9.0	23.4	23.4	19.0	37.0	17.3	42.9	18.9	26.3	62.0	22.3	22.4
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	134	400	412	282	577	489	248	1836	819	202	918	924
V/C Ratio(X)	1.26	0.89	0.89	1.23	1.04	0.56	0.47	0.48	0.60	1.35	0.54	0.54
Avail Cap(c_a), veh/h	134	400	412	282	577	489	248	1836	819	202	918	924
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	55.5	45.1	45.2	50.5	41.5	34.7	33.8	18.6	20.4	44.8	19.4	19.5
Incr Delay (d2), s/veh	162.7	21.6	21.3	130.7	48.4	1.5	1.4	0.2	1.3	187.8	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	10.1	12.7	13.0	18.7	24.6	6.9	2.9	7.7	9.8	16.7	9.2	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	218.2	66.7	66.5	181.2	89.9	36.2	35.2	18.8	21.6	232.7	20.0	20.2
LnGrp LOS	F	E	E	F	F	D	D	B	C	F	C	C
Approach Vol, veh/h		894			1221			1485			1263	
Approach Delay, s/veh		95.1			103.8			21.0			66.2	
Approach LOS		F			F			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	41.0		66.0	23.0	31.0		66.0				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	8.5	35.5		60.5	18.5	25.5		60.5				
Max Q Clear Time (g_c+I1), s	11.0	39.0		44.9	21.0	25.4		64.0				
Green Ext Time (p_c), s	0.0	0.0		8.3	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				67.2								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary

6: Orange Ave & 6th St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1240	30	50	1100	110	20	10	30	40	10	40
Future Volume (veh/h)	100	1240	30	50	1100	110	20	10	30	40	10	40
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	1305	32	53	1158	116	21	11	32	42	11	42
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1482	36	228	1363	137	93	39	75	117	25	63
Arrive On Green	0.82	0.82	0.81	0.82	0.82	0.81	0.09	0.09	0.08	0.09	0.09	0.08
Sat Flow, veh/h	434	1818	45	409	1673	168	404	441	845	618	285	716
Grp Volume(v), veh/h	105	0	1337	53	0	1274	64	0	0	95	0	0
Grp Sat Flow(s),veh/h/ln	434	0	1862	409	0	1840	1691	0	0	1619	0	0
Q Serve(g_s), s	15.9	0.0	39.0	8.1	0.0	34.5	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	50.4	0.0	39.0	47.0	0.0	34.5	2.9	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.09	0.33		0.50	0.44		0.44
Lane Grp Cap(c), veh/h	260	0	1518	228	0	1500	207	0	0	206	0	0
V/C Ratio(X)	0.40	0.00	0.88	0.23	0.00	0.85	0.31	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	289	0	1642	255	0	1623	424	0	0	418	0	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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.8	0.0	5.0	20.4	0.0	4.6	35.8	0.0	0.0	36.5	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	5.6	0.5	0.0	4.2	0.8	0.0	0.0	1.6	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	0.0	8.9	0.8	0.0	7.5	1.3	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	10.6	21.0	0.0	8.8	36.7	0.0	0.0	38.1	0.0	0.0
LnGrp LOS	C	A	B	C	A	A	D	A	A	D	A	A
Approach Vol, veh/h	1442		1327			64		95				
Approach Delay, s/veh	11.4		9.3			36.7		38.1				
Approach LOS	B		A			D		D				
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	11.3		71.5		11.3		71.5					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.5		72.5		18.5		72.5					
Max Q Clear Time (g_c+I1), s	4.9		52.4		6.5		49.0					
Green Ext Time (p_c), s	0.2		14.6		0.3		14.8					
Intersection Summary												
HCM 6th Ctrl Delay	11.9											
HCM 6th LOS	B											

HCM Signalized Intersection Capacity Analysis

7: Palm Ct & 6th St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	1190	30	50	1200	130	10	10	20	80	10	50
Future Volume (vph)	100	1190	30	50	1200	130	10	10	20	80	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	10	10	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1856		1652	3255		1770	1863	1583	1770	1631	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1856		1652	3255		1770	1863	1583	1770	1631	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	1253	32	53	1263	137	11	11	21	84	11	53
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	20	0	48	0
Lane Group Flow (vph)	105	1285	0	53	1396	0	11	11	1	84	16	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	9.8	79.3		5.1	74.6		6.7	6.7	6.7	11.3	11.3	
Effective Green, g (s)	10.8	81.3		6.1	76.6		7.7	7.7	7.7	12.3	12.3	
Actuated g/C Ratio	0.09	0.66		0.05	0.62		0.06	0.06	0.06	0.10	0.10	
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	1.5	3.5		1.5	3.5		4.0	4.0	4.0	2.0	2.0	
Lane Grp Cap (vph)	154	1222		81	2020		110	116	98	176	162	
v/s Ratio Prot	c0.06	c0.69		0.03	0.43		c0.01	0.01		c0.05	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.68	1.05		0.65	0.69		0.10	0.09	0.01	0.48	0.10	
Uniform Delay, d1	54.6	21.1		57.6	15.5		54.6	54.6	54.3	52.5	50.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.5	40.3		13.5	1.1		0.5	0.5	0.1	0.7	0.1	
Delay (s)	64.1	61.4		71.2	16.6		55.1	55.1	54.4	53.3	50.6	
Level of Service	E	E		E	B		E	E	D	D	D	
Approach Delay (s)		61.6			18.6			54.7			52.1	
Approach LOS		E			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.5			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			123.4			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			89.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

8: Pennsylvania Ave & 6th St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	990	220	230	1030	100	270	470	440	110	280	80
Future Volume (veh/h)	140	990	220	230	1030	100	270	470	440	110	280	80
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	1042	232	242	1084	105	284	495	463	116	295	84
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1060	235	252	1333	129	290	733	621	161	548	156
Arrive On Green	0.10	0.37	0.35	0.14	0.41	0.39	0.39	0.39	0.39	0.39	0.39	0.38
Sat Flow, veh/h	1781	2891	641	1781	3273	317	1004	1870	1585	586	1400	399
Grp Volume(v), veh/h	147	639	635	242	588	601	284	495	463	116	0	379
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1813	1004	1870	1585	586	0	1799
Q Serve(g_s), s	9.7	42.7	43.1	16.2	35.2	35.3	27.5	26.3	30.1	20.7	0.0	19.5
Cycle Q Clear(g_c), s	9.7	42.7	43.1	16.2	35.2	35.3	47.0	26.3	30.1	47.0	0.0	19.5
Prop In Lane	1.00		0.37	1.00		0.17	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	180	652	643	252	724	739	290	733	621	161	0	704
V/C Ratio(X)	0.82	0.98	0.99	0.96	0.81	0.81	0.98	0.68	0.75	0.72	0.00	0.54
Avail Cap(c_a), veh/h	181	652	643	252	724	739	290	733	621	161	0	704
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	52.9	37.6	38.0	51.2	31.5	31.6	48.9	30.2	31.4	51.0	0.0	28.3
Incr Delay (d2), s/veh	24.3	30.4	32.0	45.2	7.0	7.0	47.3	2.5	4.9	14.4	0.0	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/ln	5.6	23.7	23.9	10.4	16.2	16.6	12.4	12.2	12.2	4.2	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	67.9	70.0	96.4	38.5	38.6	96.2	32.7	36.3	65.4	0.0	29.1
LnGrp LOS	E	E	E	F	D	D	F	C	D	E	A	C
Approach Vol, veh/h	1421				1431				1242			
Approach Delay, s/veh	69.8				48.3				48.5			
Approach LOS	E				D				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.1	52.9		51.0	21.0	48.0		51.0				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s	11.7	47.3		45.5	16.5	42.5		45.5				
Max Q Clear Time (g_c+I1), s	11.7	37.3		49.0	18.2	45.1		49.0				
Green Ext Time (p_c), s	0.0	5.5		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	53.9											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

9: 6th St & Xenia Ave

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	1190	10	10	1210	180	0	10	10	120	0	150
Future Volume (veh/h)	300	1190	10	10	1210	180	0	10	10	120	0	150
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	316	1253	11	11	1274	189	0	11	11	126	0	158
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	2163	19	300	1519	224	0	191	191	204	13	187
Arrive On Green	0.13	0.60	0.59	0.02	0.49	0.48	0.00	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	1781	3610	32	1781	3107	458	0	858	858	609	60	839
Grp Volume(v), veh/h	316	617	647	11	725	738	0	0	22	284	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1788	0	0	1716	1508	0	0
Q Serve(g_s), s	6.9	16.2	16.2	0.2	26.7	27.3	0.0	0.0	0.8	12.3	0.0	0.0
Cycle Q Clear(g_c), s	6.9	16.2	16.2	0.2	26.7	27.3	0.0	0.0	0.8	13.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.26	0.00		0.50	0.44		0.56
Lane Grp Cap(c), veh/h	375	1065	1117	300	869	874	0	0	381	404	0	0
V/C Ratio(X)	0.84	0.58	0.58	0.04	0.83	0.84	0.00	0.00	0.06	0.70	0.00	0.00
Avail Cap(c_a), veh/h	517	1204	1263	396	960	966	0	0	475	485	0	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(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	9.3	9.3	9.6	16.7	16.9	0.0	0.0	23.3	28.3	0.0	0.0
Incr Delay (d2), s/veh	9.0	0.5	0.5	0.0	6.0	6.4	0.0	0.0	0.1	3.6	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	3.5	5.4	5.7	0.1	11.1	11.5	0.0	0.0	0.3	5.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	9.9	9.9	9.7	22.7	23.4	0.0	0.0	23.4	31.9	0.0	0.0
LnGrp LOS	C	A	A	A	C	C	A	A	C	C	A	A
Approach Vol, veh/h	1580			1474			22			284		
Approach Delay, s/veh	13.1			23.0			23.4			31.9		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	20.9		5.5	49.5		20.9	13.9	41.1				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5		5.1	50.9		20.5	15.5	40.5				
Max Q Clear Time (g_c+I1), s	2.8		2.2	18.2		15.7	8.9	29.3				
Green Ext Time (p_c), s	0.0		0.0	10.9		0.7	0.5	7.3				
Intersection Summary												
HCM 6th Ctrl Delay	19.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

10: Highland Springs Ave & 6th St

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	690	210	270	1120	90	180	820	170	100	920	170
Future Volume (veh/h)	450	690	210	270	1120	90	180	820	170	100	920	170
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	474	726	221	284	1179	95	189	863	179	105	968	179
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	1380	781	360	1265	683	186	1063	639	134	959	645
Arrive On Green	0.14	0.39	0.39	0.10	0.36	0.36	0.10	0.30	0.30	0.07	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	474	726	221	284	1179	95	189	863	179	105	968	179
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.4	18.8	9.9	9.6	38.4	4.4	12.5	27.0	9.1	7.0	32.4	9.1
Cycle Q Clear(g_c), s	16.4	18.8	9.9	9.6	38.4	4.4	12.5	27.0	9.1	7.0	32.4	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	472	1380	781	360	1265	683	186	1063	639	134	959	645
V/C Ratio(X)	1.00	0.53	0.28	0.79	0.93	0.14	1.02	0.81	0.28	0.79	1.01	0.28
Avail Cap(c_a), veh/h	472	1380	781	461	1265	683	186	1063	639	134	959	645
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	51.8	28.2	17.9	52.5	37.3	20.7	53.8	38.9	24.1	54.6	43.8	23.8
Incr Delay (d2), s/veh	42.3	0.4	0.2	7.0	13.6	0.4	71.0	4.9	0.2	25.9	31.2	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	9.9	8.0	3.6	4.5	18.8	1.7	9.3	12.4	3.5	4.1	18.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.1	28.6	18.1	59.5	50.8	21.1	124.7	43.8	24.3	80.5	75.0	24.0
LnGrp LOS	F	C	B	E	D	C	F	D	C	F	F	C
Approach Vol, veh/h	1421		1558				1231		1252			
Approach Delay, s/veh	48.8		50.6				53.4		68.2			
Approach LOS	D		D				D		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.4	46.7	13.0	39.9	16.5	50.6	16.5	36.4				
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	15.9	42.2	8.5	35.4	15.5	42.6	12.0	31.9				
Max Q Clear Time (g_c+I1), s	18.4	40.4	9.0	29.0	11.6	20.8	14.5	34.4				
Green Ext Time (p_c), s	0.0	1.3	0.0	3.4	0.4	6.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	54.8											
HCM 6th LOS	D											

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

11: I-10 WB On-Ramp/I-10 WB Off-Ramp

Future - PM
Beaumont General Plan TIA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	650	0	180	340	1270	0	0	1100	170
Future Volume (vph)	0	0	0	650	0	180	340	1270	0	0	1100	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0		4.0	4.0			5.0	
Lane Util. Factor				0.95	0.95		0.97	0.95			0.95	
Frt				1.00	0.93		1.00	1.00			0.98	
Flt Protected				0.95	0.97		0.95	1.00			1.00	
Satd. Flow (prot)				1681	1608		3433	3539			3468	
Flt Permitted				0.95	0.97		0.95	1.00			1.00	
Satd. Flow (perm)				1681	1608		3433	3539			3468	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	684	0	189	358	1337	0	0	1158	179
RTOR Reduction (vph)	0	0	0	0	49	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	445	379	0	358	1337	0	0	1324	0
Turn Type				custom	NA		Prot	NA			NA	
Protected Phases							5	2			6	
Permitted Phases				8	8							
Actuated Green, G (s)				28.7	28.7		11.7	56.4			39.7	
Effective Green, g (s)				29.2	29.2		11.7	56.9			40.2	
Actuated g/C Ratio				0.31	0.31		0.12	0.60			0.43	
Clearance Time (s)				4.5	4.5		4.0	4.5			5.5	
Vehicle Extension (s)				3.0	3.0		2.0	2.0			2.0	
Lane Grp Cap (vph)				521	498		426	2139			1481	
v/s Ratio Prot							c0.10	0.38			c0.38	
v/s Ratio Perm				c0.26	0.24							
v/c Ratio				0.85	0.76		0.84	0.63			0.89	
Uniform Delay, d1				30.5	29.3		40.3	11.8			25.0	
Progression Factor				1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2				12.9	6.8		13.4	0.4			7.2	
Delay (s)				43.3	36.1		53.6	12.2			32.1	
Level of Service				D	D		D	B			C	
Approach Delay (s)		0.0			39.8			21.0			32.1	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			29.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			94.1			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			79.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

SIDRA ANALYSIS

LANE LEVEL OF SERVICE

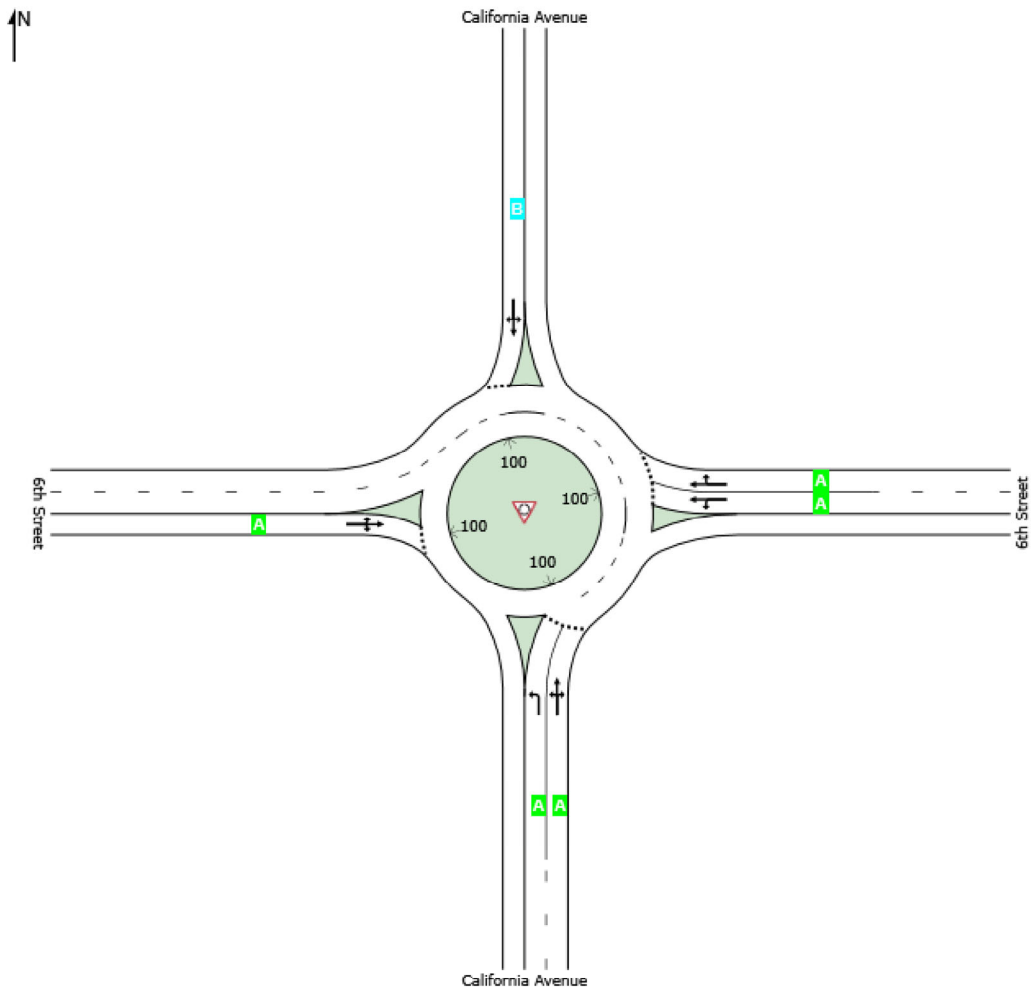
Lane Level of Service

 **Site: 3 [California Ave/6th St - EX-PP AM]**

Beaumont 6th Street Analysis
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY



Site: 3 [California Ave/6th St - EX-PP AM]

Beaumont 6th Street Analysis
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: California Avenue											
3	L2	500	3.0	0.359	7.7	LOS A	1.7	43.3	0.55	0.49	31.3
8	T1	98	3.0	0.359	7.7	LOS A	1.7	43.3	0.55	0.49	32.1
18	R2	87	3.0	0.359	7.7	LOS A	1.7	43.3	0.55	0.49	31.3
Approach		685	3.0	0.359	7.7	LOS A	1.7	43.3	0.55	0.49	31.4
East: 6th Street											
1	L2	141	3.0	0.359	9.4	LOS A	1.6	41.3	0.63	0.65	31.1
6	T1	380	3.0	0.359	8.9	LOS A	1.6	41.3	0.61	0.64	32.1
16	R2	33	3.0	0.359	8.7	LOS A	1.6	40.5	0.61	0.63	31.7
Approach		554	3.0	0.359	9.0	LOS A	1.6	41.3	0.62	0.64	31.9
North: California Avenue											
7	L2	76	3.0	0.424	13.1	LOS B	1.9	49.7	0.71	0.80	30.0
4	T1	152	3.0	0.424	13.1	LOS B	1.9	49.7	0.71	0.80	30.1
14	R2	11	3.0	0.424	13.1	LOS B	1.9	49.7	0.71	0.80	29.4
Approach		239	3.0	0.424	13.1	LOS B	1.9	49.7	0.71	0.80	30.0
West: 6th Street											
5	L2	11	3.0	0.463	9.7	LOS A	2.9	74.6	0.64	0.61	32.0
2	T1	305	3.0	0.463	9.7	LOS A	2.9	74.6	0.64	0.61	32.1
12	R2	105	3.0	0.463	9.7	LOS A	2.9	74.6	0.64	0.61	31.4
Approach		421	3.0	0.463	9.7	LOS A	2.9	74.6	0.64	0.61	31.9
All Vehicles		1899	3.0	0.463	9.2	LOS A	2.9	74.6	0.61	0.60	31.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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LANE LEVEL OF SERVICE

Lane Level of Service

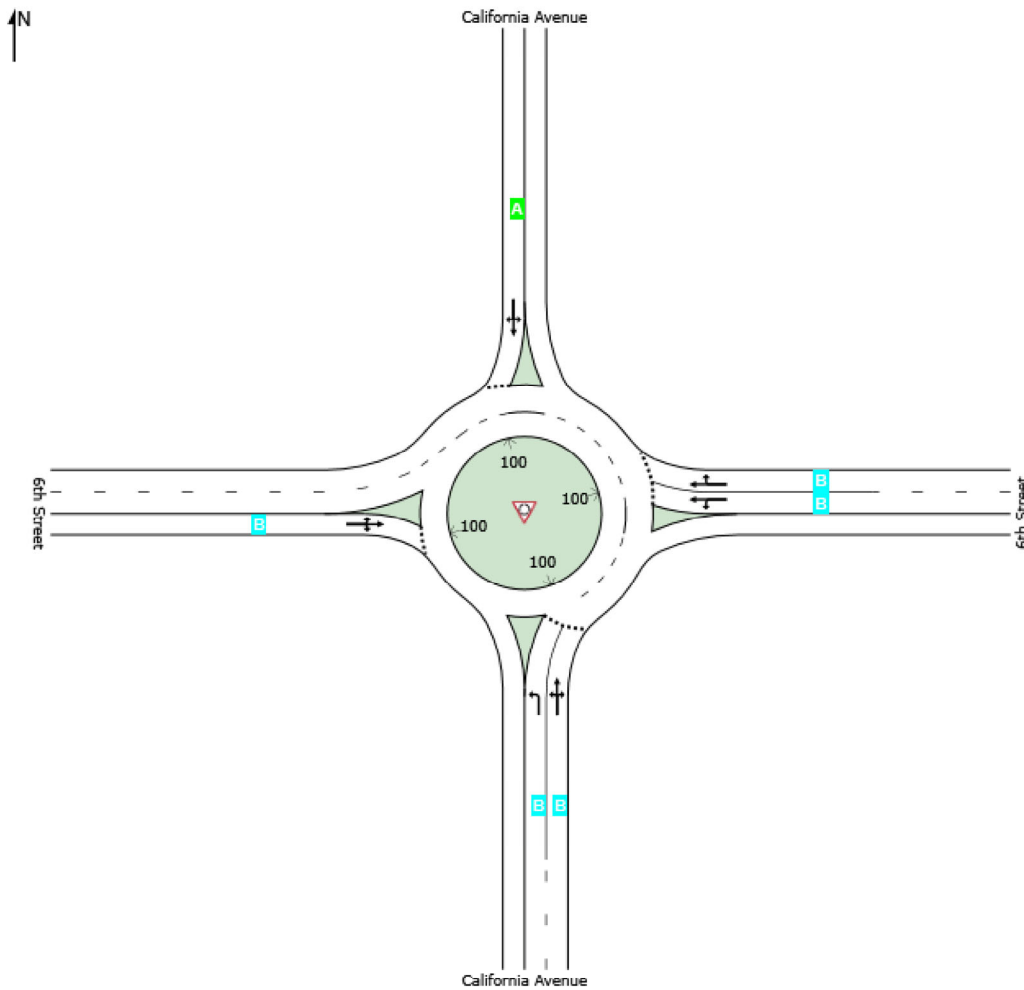


Site: 3 [California Ave/6th St - EX-PP PM]

Beaumont 6th Street Analysis
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	B	B	A	B	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: 3 [California Ave/6th St - EX-PP PM]

Beaumont 6th Street Analysis
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: California Avenue											
3	L2	565	3.0	0.469	10.2	LOS B	2.9	74.7	0.66	0.73	30.3
8	T1	109	3.0	0.469	10.2	LOS B	2.9	74.7	0.66	0.73	31.1
18	R2	130	3.0	0.469	10.2	LOS B	2.9	74.7	0.66	0.73	30.3
Approach		804	3.0	0.469	10.2	LOS B	2.9	74.7	0.66	0.73	30.4
East: 6th Street											
1	L2	98	3.0	0.414	11.0	LOS B	2.1	53.5	0.67	0.74	30.8
6	T1	446	3.0	0.414	10.5	LOS B	2.1	53.5	0.66	0.73	31.5
16	R2	54	3.0	0.414	10.2	LOS B	2.1	53.4	0.65	0.72	31.1
Approach		598	3.0	0.414	10.6	LOS B	2.1	53.5	0.66	0.73	31.3
North: California Avenue											
7	L2	33	3.0	0.208	9.7	LOS A	0.7	18.1	0.67	0.67	31.5
4	T1	65	3.0	0.208	9.7	LOS A	0.7	18.1	0.67	0.67	31.5
14	R2	11	3.0	0.208	9.7	LOS A	0.7	18.1	0.67	0.67	30.8
Approach		109	3.0	0.208	9.7	LOS A	0.7	18.1	0.67	0.67	31.4
West: 6th Street											
5	L2	11	3.0	0.598	11.1	LOS B	4.6	116.9	0.61	0.45	31.4
2	T1	463	3.0	0.598	11.1	LOS B	4.6	116.9	0.61	0.45	31.5
12	R2	179	3.0	0.598	11.1	LOS B	4.6	116.9	0.61	0.45	30.8
Approach		653	3.0	0.598	11.1	LOS B	4.6	116.9	0.61	0.45	31.3
All Vehicles		2164	3.0	0.598	10.5	LOS B	4.6	116.9	0.64	0.64	31.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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LANE LEVEL OF SERVICE

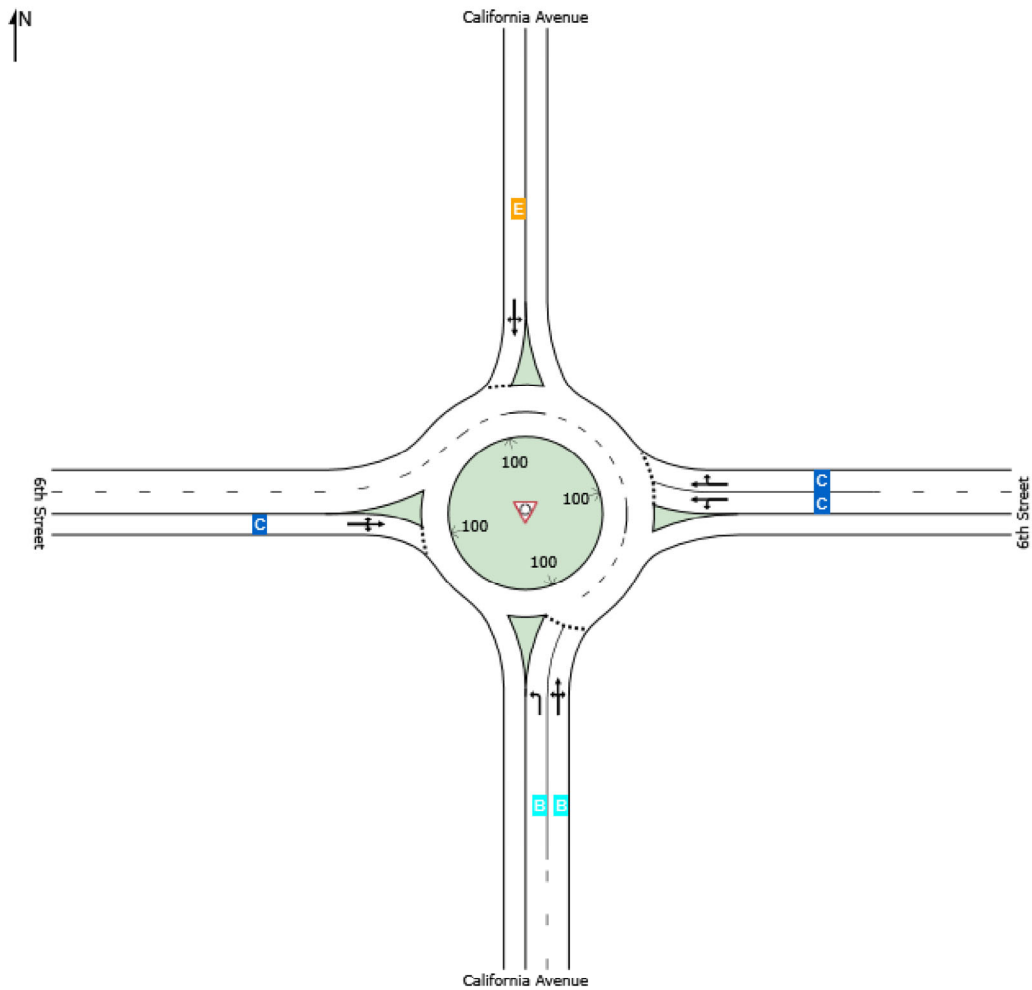
Lane Level of Service

 **Site: 3 [California Ave/6th St - FY AM]**

Beaumont 6th Street Analysis
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	B	C	E	C	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 **Site: 3 [California Ave/6th St - FY AM]**

Beaumont 6th Street Analysis
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: California Avenue											
3	L2	772	3.0	0.622	13.6	LOS B	6.1	155.1	0.74	0.94	29.0
8	T1	98	3.0	0.622	13.6	LOS B	6.1	155.1	0.74	0.94	29.7
18	R2	239	3.0	0.622	13.6	LOS B	6.1	155.1	0.74	0.94	29.0
Approach		1109	3.0	0.622	13.6	LOS B	6.1	155.1	0.74	0.94	29.0
East: 6th Street											
1	L2	348	3.0	0.720	24.5	LOS C	5.8	149.5	0.83	1.12	25.5
6	T1	500	3.0	0.720	22.7	LOS C	6.1	155.2	0.83	1.12	27.0
16	R2	22	3.0	0.720	22.4	LOS C	6.1	155.2	0.83	1.12	26.6
Approach		870	3.0	0.720	23.4	LOS C	6.1	155.2	0.83	1.12	26.3
North: California Avenue											
7	L2	87	3.0	0.814	48.5	LOS E	5.2	134.0	0.94	1.30	20.5
4	T1	174	3.0	0.814	48.5	LOS E	5.2	134.0	0.94	1.30	20.5
14	R2	11	3.0	0.814	48.5	LOS E	5.2	134.0	0.94	1.30	20.2
Approach		272	3.0	0.814	48.5	LOS E	5.2	134.0	0.94	1.30	20.5
West: 6th Street											
5	L2	11	3.0	0.685	18.8	LOS C	6.8	173.3	0.84	1.11	28.4
2	T1	368	3.0	0.685	18.8	LOS C	6.8	173.3	0.84	1.11	28.4
12	R2	105	3.0	0.685	18.8	LOS C	6.8	173.3	0.84	1.11	27.8
Approach		484	3.0	0.685	18.8	LOS C	6.8	173.3	0.84	1.11	28.3
All Vehicles		2734	3.0	0.814	21.1	LOS C	6.8	173.3	0.81	1.06	26.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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LANE LEVEL OF SERVICE

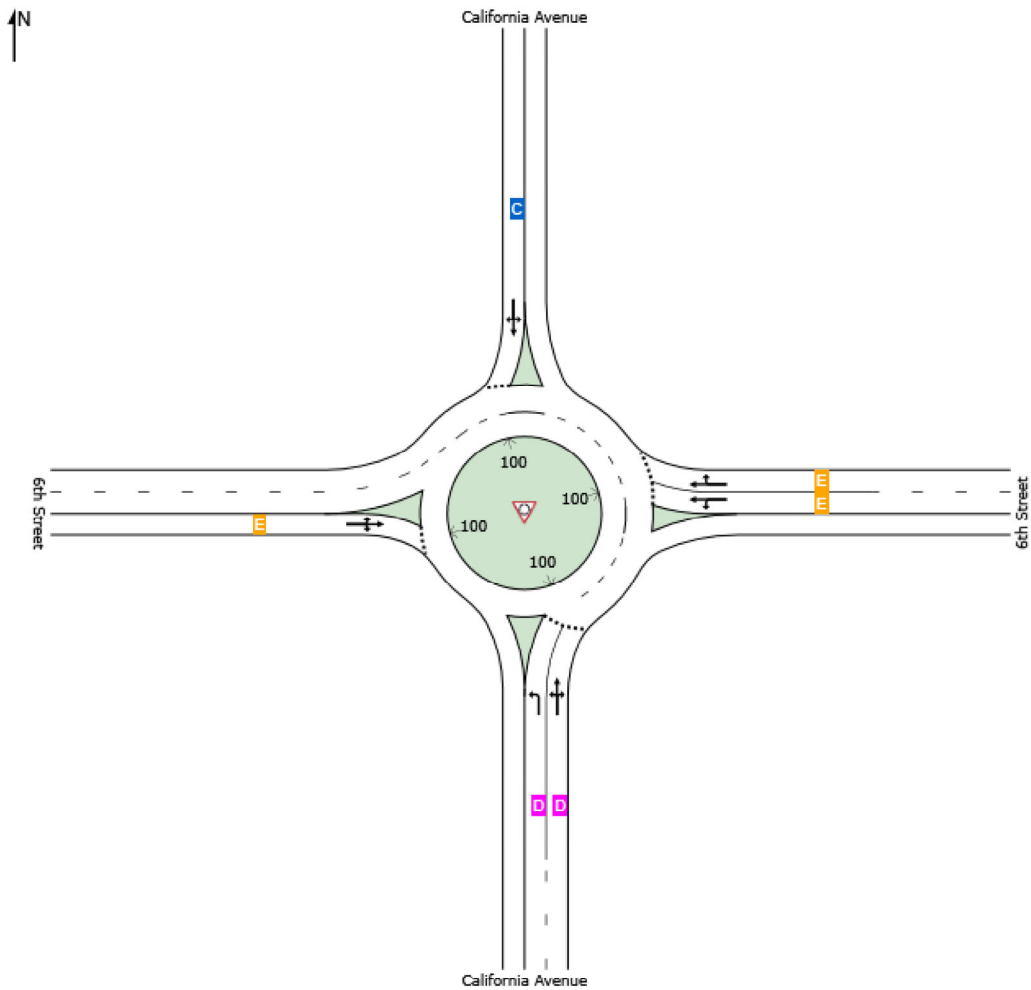
Lane Level of Service

 **Site: 3 [California Ave/6th St - FY PM]**

Beaumont 6th Street Analysis
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	D	E	C	E	D



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 **Site: 3 [California Ave/6th St - FY PM]**

Beaumont 6th Street Analysis
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: California Avenue											
3	L2	891	3.0	0.849	27.0	LOS D	16.2	415.4	0.97	1.53	24.7
8	T1	152	3.0	0.849	27.0	LOS D	16.2	415.4	0.97	1.53	25.4
18	R2	413	3.0	0.849	27.0	LOS D	16.2	415.4	0.97	1.53	24.9
Approach		1457	3.0	0.849	27.0	LOS D	16.2	415.4	0.97	1.53	24.9
East: 6th Street											
1	L2	467	3.0	0.853	37.9	LOS E	9.0	229.4	0.90	1.40	22.0
6	T1	348	3.0	0.833	38.9	LOS E	7.8	199.4	0.90	1.34	22.7
16	R2	54	3.0	0.833	38.9	LOS E	7.8	199.4	0.90	1.34	22.3
Approach		870	3.0	0.853	38.4	LOS E	9.0	229.4	0.90	1.37	22.3
North: California Avenue											
7	L2	33	3.0	0.386	20.7	LOS C	1.4	35.6	0.85	0.93	27.3
4	T1	76	3.0	0.386	20.7	LOS C	1.4	35.6	0.85	0.93	27.4
14	R2	11	3.0	0.386	20.7	LOS C	1.4	35.6	0.85	0.93	26.9
Approach		120	3.0	0.386	20.7	LOS C	1.4	35.6	0.85	0.93	27.3
West: 6th Street											
5	L2	11	3.0	0.892	35.8	LOS E	17.5	447.3	1.00	1.67	23.4
2	T1	463	3.0	0.892	35.8	LOS E	17.5	447.3	1.00	1.67	23.4
12	R2	179	3.0	0.892	35.8	LOS E	17.5	447.3	1.00	1.67	23.0
Approach		653	3.0	0.892	35.8	LOS E	17.5	447.3	1.00	1.67	23.3
All Vehicles		3098	3.0	0.892	31.8	LOS D	17.5	447.3	0.95	1.49	23.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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APPENDIX C: VMT ANALYSIS



VEHICLE MILES TRAVELED

Future Year 2040 VMT

Time Period	Area	Full Accounting	Half Accounting
AM	City	782,386	412,031
	SOI Only	207,934	104,986
MD	City	1,157,932	617,622
	SOI Only	341,453	173,007
PM	City	1,312,201	693,137
	SOI Only	373,706	188,879
NT	City	623,197	330,864
	SOI Only	173,255	87,713
Total	City	3,875,716	2,053,655
	SOI Only	1,096,347	554,585

Source: Fehr & Peers, 2019

Base Year 2016 VMT

Time Period	Area	Full Accounting	Half Accounting
AM	City	266,041	137,720
	SOI Only	32,178	16,152
MD	City	392,406	204,970
	SOI Only	51,903	26,068
PM	City	213,534	110,998
	SOI Only	27,341	13,738
NT	City	213,534	110,998
	SOI Only	27,341	13,738
Total	City	1,085,515	564,685
	SOI Only	138,764	69,695

Source: Fehr & Peers, 2019

Interpolated Year 2018 VMT

Time Period	Area	Full Accounting	Half Accounting
AM	City	309,070	160,579
	SOI Only	46,824	23,555
MD	City	456,200	239,358
	SOI Only	76,032	38,313
PM	City	305,090	159,510
	SOI Only	56,205	28,333
NT	City	247,673	129,320
	SOI Only	39,500	19,903
Total	City	1,318,032	688,766
	SOI Only	218,563	110,103

Source: Fehr & Peers, 2019

