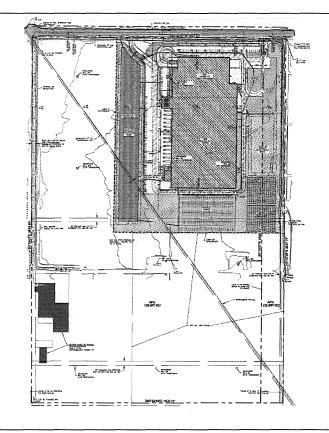
<u>Appendix</u> L

Traffic and VMT Studies

ARTIC COLD STORAGE & PACKING PROJECT COUNTY OF SANTA BARBARA, CALIFORNIA

REVISED TRAFFIC AND CIRCULATION STUDY



July 21, 2020

ATE Project #20014

Prepared for:

Fischer Construction Group 625 Fisher Lane Burlington WA, 98233



ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110-1686 • (805) 687-4418 • FAX (805) 682-8509



ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805)687-4418 • FAX (805)682-8509 • main@atesb.com

Since 1978

Richard L. Pool, P.E. Scott A. Schell

July 21, 2020

20014R03

Clayton Dragoo Fischer Construction Group 625 Fisher Lane Burlington WA, 98233

REVISED TRAFFIC AND CIRCULATION STUDY FOR THE ARCTIC COLD STORAGE & PACKING PROJECT - COUNTY OF SANTA BARBARA, CA

Associated Transportation Engineers (ATE) is providing this revised traffic and circulation study for the Arctic Cold Storage & Packing Project proposed in the Santa Barbara County just east of the City of Santa Maria. The study evaluates the potential traffic and circulation impacts associated with the project and identifies improvements where required. This revised study addresses the comments provided by County staff on the original study.

Associated Transportation Engineers

1 Scott A. Schell

Principal Transportation Planner

CONTENTS

| INTRODUCTION1 |
|---|
| PROJECT DESCRIPTION1 |
| EXISTING CONDITIONS1 |
| Street Network1 |
| Existing Roadway Operations5 |
| Existing Intersection Operations7 |
| THRESHOLDS OF SIGNIFICANCE |
| Santa Barbara County Thresholds8 |
| City of Santa Maria9 |
| Caltrans9 |
| PROJECT-SPECIFIC ANALYSIS10 |
| Trip Generation – Operational Data10 |
| Trip Generation – ITE Rates13 |
| Project Trip Distribution13 |
| Existing + Project Roadway Operations15 |
| Existing + Project Intersection Operations18 |
| CUMULATIVE ANALYSIS19 |
| Traffic Forecasts |
| Cumulative + Project Roadway Operations19 |
| Cumulative Intersection Operations22 |
| SITE ACCESS AND CIRCULATION23 |
| TRAFFIC ADDTIONS TO CITY OF SANTA MARIA INTERSECTIONS |
| MITIGATION MEASURES |
| Transportation Impact Mitigation Fees27 |
| Frontage Improvements27 |
| REFERENCES AND PERSONS CONTACTED |
| TECHNICAL APPENDIX |

TABLES

ŧ

| Existing Roadway Operations | .5 |
|---|--|
| Existing Intersection Operations | 8 |
| Project Trip Generation – Average Periods1 | 1 |
| Project Trip Generation – Peak Harvest Season1 | 2 |
| Project Trip Generation Peak Harvest Season – ITE Rates1 | 3 |
| Project Trip Distribution – Employees1 | 4 |
| Project Trip Distribution – Warehouse Trucks1 | 4 |
| Project Trip Distribution – Processing Semi Trcuks (40% = 30 trucks)1 | 4 |
| Project Trip Distribution – Processign Local Field Trucks (60% = 46 trucks) 1 | 4 |
| Existing + Project Roadway Operations1 | 5 |
| Existing + Project Levels of Service – AM Peak Hour1 | 8 |
| Existing + Project Levels of Service – PM Peak Hour1 | 8 |
| Cumulative + Project Roadway Operations1 | 9 |
| Cumulative + Project Levels of Service – AM Peak Hour2 | 2 |
| Cumulative + Project Levels of Service – PM Peak Hour2 | 2 |
| Cumulative + Project Levels of Service - Western Driveway2 | 5 |
| Cumulative + Project Levels of Service – Eastern Driveway | 6 |
| Cumulative + Project Levels of Service - Betteravia Road Corridor26 | 7 |
| | Existing Roadway Operations Existing Intersection Operations Project Trip Generation – Average Periods |

FIGURES

| Figure 1 | Project Site Location | 2 |
|----------|--|-----|
| Figure 2 | Project Site Plan | |
| Figure 3 | Existing Street Network | |
| Figure 4 | Existing Traffic Volumes | |
| Figure 5 | Project Trip Distribution and Assignment – Peak Harvest Season | .16 |
| Figure 6 | Existing + Project Traffic Volumes - Peak Harvest Season | .17 |
| Figure 7 | Cumulative Traffic Volumes | .20 |
| Figure 8 | Cumulative + Project Traffic Volumes – Peak Harvest Season | .21 |
| Figure 9 | Betteravia Road Frontage Improvements | 24 |

INTRODUCTION

The following report contains an analysis of the potential traffic and circulation impacts associated with the Arctic Cold Storage & Packing Project (the "Project"), located in Santa Barbara County. The report evaluates existing and future traffic operations within the Project study area and identifies potential impacts based on adopted thresholds. Mitigation measures are recommended where required. The roadways and intersections analyzed in the study were determined based on input provided by County staff. This revised study addresses the comments provided by County staff on the original study (ATE study dated March 25, 2020).

PROJECT DESCRIPTION

The Arctic Cold Storage & Packing Project is proposed on the southeast corner of the Betteravia Road/Rosemary Road intersection in the unincorporated Santa Barbara County area just east of the City of Santa Maria. Figure 1 shows the location of the Project site. The Project is proposing to develop a 436,647 SF food processing, cold storage and packaging facility. the facility includes a 120,098 SF food processor and a 316,549 SF freezer. The facility would process crops grown in the greater Santa Maria Valley area and from other regions throughout California and Baja. The plant would employ an estimated 153 employees during normal periods and 623 employees during peak harvest periods (in three shifts). Figure 2 presents the Project Site Plan. As shown, access to the Project site would be provided via two new driveways on Betteravia Road. The Project's frontage improvements include widening of Betteravia Road to provide a separate right-turn lane at both of the driveways. The driveway improvements have been planned pursuant to Santa Barbara County standards (see Site Access and Circulation section of the report).

EXISTING CONDITIONS

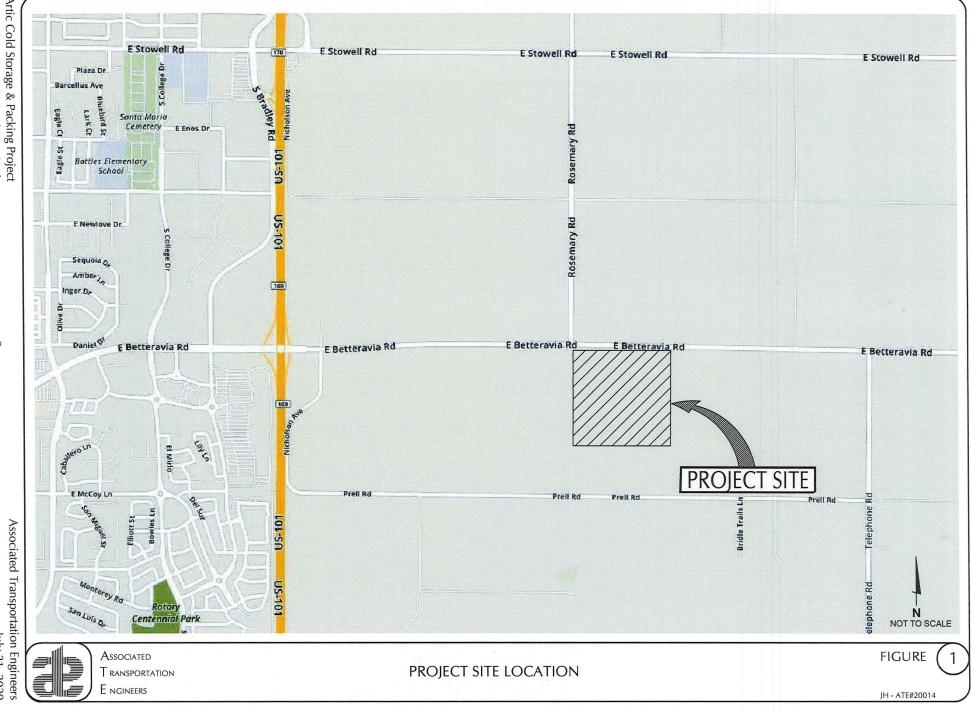
Street Network

As shown in Figure 3, the Project site is served by a network of highways, arterial roadways, and collector streets. The following text briefly describes the major components of the study-area street network.

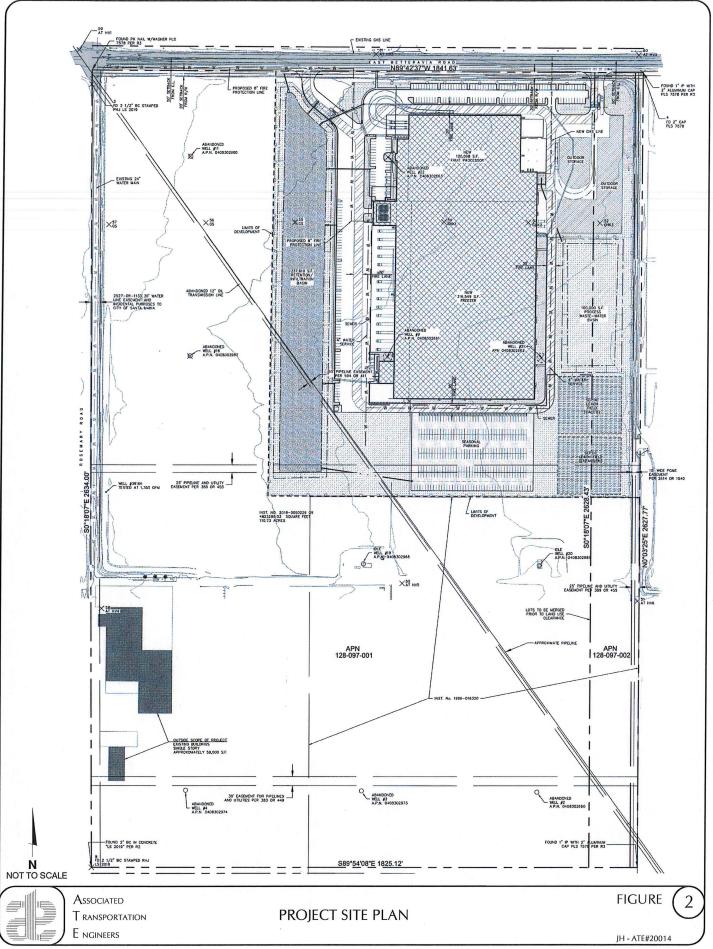
US 101, located west of the Project site, is a multi-lane interstate freeway serving the Pacific Coast. US 101 is the principal route between the City of Santa Maria and the Five-Cities area, and San Luis Obispo to the north; and Orcutt, Buellton and Santa Barbara to the south. Access to US 101 from the Project site is provided via the US 101/Betteravia Road interchange.

1

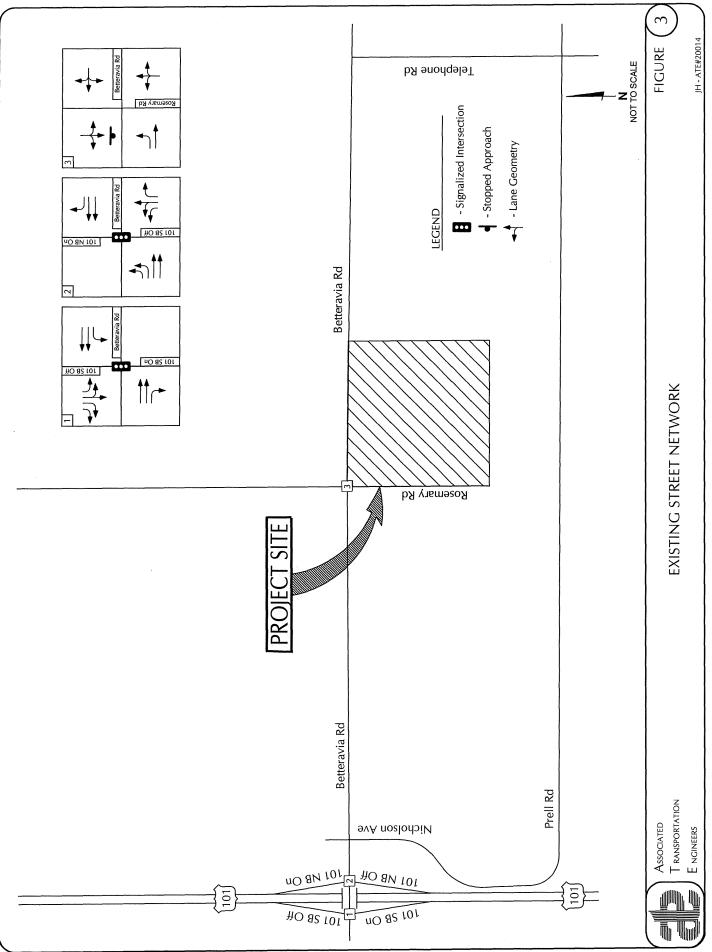




N



Artic Cold Storage & Packing Project Revised Traffic and Circulation Study



Betteravia Road is a 6-lane arterial road west of US 101, a 4-lane arterial road between US 101 and Nicholson Avenue just east of US 101, and a 2-lane arterial road between Nicholson Avenue and Rosemary Road. The 6-lane segment west of US 101 traverses the City of Santa Maria. The 4-lane segment east of US 101 serves a truck stop and service stations. The 2-lane segment between Nicholson Avenue and Rosemary Road serves mostly agricultural uses. Access to the Project site would be provided via two driveways on Betteravia Road.

Rosemary Road, located on the western boundary of the Project site, is s a 2-lane collector road that extends between Jones Street on the north to its terminus south of Betteravia Road. Rosemary Road serves mostly agricultural uses.

Existing Roadway Operations

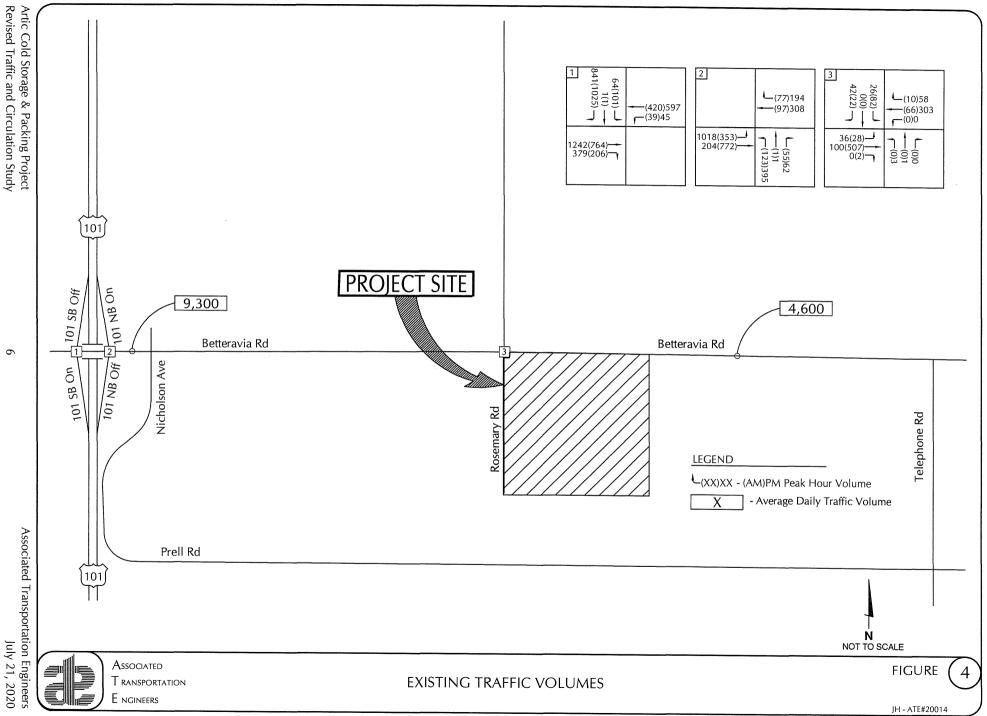
Existing average daily traffic (ADT) volumes for the study-area roadways were obtained from count data contained in the traffic and circulation study for the East Cat Canyon Oil Field Redevelopment Project.¹ The Existing ADT volumes are shown on Figure 4. The operational characteristics of the study-area roadways were analyzed based on the County's engineering roadway design capacities (roadway capacities are summarized in the Technical Appendix). Table 1 shows the Existing traffic volumes and levels of service (LOS) for the study-area roadways.

| Roadway | Segment | Geometry | Existing ADT | LOS |
|------------------|-------------------|----------|--------------|-------|
| Betteravia Road | e/o US 101 | 4 lanes | 9,300 | LOS A |
| Detteraria riota | e/o Rosemary Road | 2 lanes | 4,600 | LOS A |

Table 1Existing Roadway Operations

As shown, the study-area roadway segments currently operate in the LOS A range – which indicates good operations.

¹ <u>Traffic and Circulation Study for the East Cat Canyon Oil Field Redevelopment Project</u>, Associated Transportation Engineers, June 2019.



Existing Intersection Operations

Traffic flow on street networks is generally most constrained at intersections, therefore detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. "Levels of Service" (LOS) A through F are used to rate intersection operations, with LOS A indicating free flow operations and LOS F indicating congested operations (more complete definitions of levels of service are included in the Technical Appendix). The County of Santa Barbara and Caltrans consider LOS C as the minimum acceptable operating standard for intersections. The City of Santa Maria has established LOS D as the acceptable operating standard for intersections.

Figure 4 shows the existing AM and PM peak hour traffic volumes for the study-area intersections. Existing traffic volumes were collected at the study-area intersections in February of 2020 (see Technical Appendix for count data). Counts were conducted during the AM peak commuter period (6:00-9:00 AM) and PM peak commuter period (4:00-6:00 PM). The peak 1-hour volumes were then identified for the analysis.

Levels of service were calculated for the signalized intersections using the "Intersection Capacity Utilization" (ICU) methodology, which is a volume-to-capacity level of service method adopted by the County, the City and SBCAG. In addition, County staff requested that the levels of service for the US 101/Betteravia Road interchange be calculated using the methodology outlined in the Highway Capacity Manual² (HCM) since the interchange is also under Caltrans jurisdiction and the HCM method is preferred by Caltrans. The HCM levels of service are based on vehicles delays.

Levels of service for Betteravia Road/Rosemary Road intersection, which is controlled by Stopsigns, were calculated using the unsignalized methodology outlined in the HCM. Each movement required to stop or yield has a level of service rating and there is an overall level of service rating presented for the intersection. Pursuant to the HCM methods, levels of service were calculated and reported based on the average seconds of delay per vehicle for the stop and yield movements.

Table 2 lists the existing traffic controls and levels of service for the study-area intersections.

² <u>Highway Capacity Manual</u>, Transportation Research Board, 6th Edition, 2016.

| | | AM Peak Hour | | PM Peak Hour | |
|------------------------------------|-----------|-----------------|-------|-----------------|---------------------------------------|
| Intersection | Control | ICU or Delay | LOS | ICU or Delay | LOS |
| Betteravia Road/US 101 SB Ramps(a) | | | | | |
| ICU Method | Signal | 0.60 | LOS A | 0.65 | LOS C |
| HCM Method | | 11.5 Sec. | LOS B | 12.4 Sec. | LOS B |
| Betteravia Road/US 101 NB Ramps(a) | | | | | · · · · · · · · · · · · · · · · · · · |
| ICU Method | Signal | 0.38 | LOS A | 0.66 | LOS B |
| HCM Method | | 12.3 Sec. | LOS B | 35.1 Sec. | LOS C |
| Betteravia Road/Rosemary Road(b) | Stop Sign | 11.1 Sec. | LOS B | 8.7 Sec. | LOS A |

Table 2Existing Intersection Operations

(a) Intersection located within County, Caltrans, and City of Santa Maria jurisdictions.

(b) Intersection located within County jurisdiction.

The data presented in Table 2 show that the study-area intersections currently operate at LOS C or better during the AM and PM peak hours, which meet the adopted standards.

THRESHOLDS OF SIGNIFICANCE

The US 101/Betteravia Road interchange is located within the jurisdiction of the County, Caltrans, and the City of Santa Maria. The Betteravia Road/Rosemary Road intersection is located within the County's jurisdiction. The County, Caltrans, and City of Santa Maria traffic impact thresholds are outlined below.

Santa Barbara County Thresholds

A. The project will result in a significant impact on transportation and circulation if proposed project traffic increases the volume-to-capacity (V/C) ratio at local intersections by the values provided in the following table:

| Significant Changes | in Levels of Service |
|--|--|
| Intersection Level of Service (Including Project) | Increase in V/C or Trips Greater Than |
| LOS A | 0.20 |
| LOS B | 0.15 |
| LOS C | 0.10 |
| LOS D | 15 Trips |
| LOS E | 10 Trips |
| LOS F | 5 Trips |

- B. The project's access to a major road or arterial road would require access that would create an unsafe situation, a new traffic signal, or major revisions to an existing traffic signal.
- C. The project would add traffic to a roadway that has design features (e.g., narrow width, road-side ditches, sharp curves, poor sight distance, inadequate pavement structure) that would become a potential safety problem with the addition of project traffic.
- D. Project traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service, but with cumulative traffic would degrade to or approach LOS D (V/C 0.80) or lower. Substantial is defined as a minimum change of 0.03 for an intersection which would operate from 0.80 to 0.85, a change of 0.02 for an intersection which would operate from 0.86 to 0.90 and a change of 0.01 for an intersection which would operate greater than 0.90 (LOS E or worse).
- The roadway impact threshold defines a significant roadway impact if a project would increase traffic volumes by more than 1.0 percent (either project-specific or project contribution to cumulative impacts) on a roadway that currently exceeds its Acceptable Capacity or is forecast to exceed its Acceptable Capacity under cumulative conditions.

City of Santa Maria

The City of Santa Maria considers LOS D acceptable for roadway and intersection operations, with mitigations required for LOS E and F.

Caltrans

The Caltrans minimum standard for traffic operations is the cusp of LOS C/D (LOS C or better is considered acceptable). An impact is considered significant if the Project adds traffic to facilities that operate at LOS D, E and F.

PROJECT-SPECIFIC ANALYSIS

Trip Generation – Operational Data

Trip generation estimates were calculated for the Project using operational data provided by the applicant. The operational data includes the number of employees per shift and the number of trucks making inbound and outbound deliveries. The data was developed for both average periods and the peak harvest period (May-August).

The plant would employ an estimated 153 employees during normal periods and 623 employees during peak harvest periods (in three shifts). The site serves as a regional processing facility. Trucks that transport product for the processor come from two sources: semis delivering produce from Monterey and San Luis Obispo Counties and local field trucks from farms in the east and west Santa Maria Valley. Of the total trucks delivering produce approximately 40% of the daily fruit deliveries will arrive via refrigerated semi-trucks from the northern counties and approximately 60% of the daily fruit will arrive via local farm field trucks form the Santa Maria Valley. The processed products are shipped from the warehouse via semi-trucks. The truck operations are reviewed further below.

<u>Processing Semi-Trucks</u>: During peak harvest periods, approximately 30 semi-trucks per day arrive the at the facility from the northern counties and are evenly distributed through the day with scheduled arrival times. The first semi-trucks arrive between 6-7 AM and the final truck departure is between 5-6 PM. All semi-trucks travel on US Highway 101 and access the site via the Betteravia Road interchange.

<u>Processing Field Trucks</u>: During peak harvest periods, approximately 46 local field trucks are used daily to ferry produce to the site. Trucks are located in the field to load up produce then deliver to the processing facility. Once emptied the field truck is loaded with empty crates and returns to the field. Each field truck is anticipated to make three round trips per day.

<u>Warehouse Semi-Trucks</u>: During peak harvest periods, approximately 30 semi-trucks per day deliver processed products from the warehouse facility. The trucks are evenly distributed through the day with scheduled arrival times. The first semi-trucks depart the site between 6-7 AM and the final truck departure is at 6 PM. All semi-trucks travel on US Highway 101 and access the site via the Betteravia Road interchange.

Tables 3A and 3B present the Project trip generation estimates for the average and peak harvest periods (worksheets showing the calculations are contained in the Technical Appendix).

| | | E | mployees | | | |
|------------------------|-------|--------------|------------------|-----------|----------|----------|
| | | | | | AM Peak | PM Peak |
| Building Area & Use | Shift | Employees(a) | Shift Schedules | ADT | (7-8 AM) | (5-6 pm) |
| Warehouse | #1 | 18 | 6:00 AM-2:00 PM | 36 | 0 | 0 |
| | #2 | <u></u> | 2:30 PM-10:30 PM | <u>14</u> | <u>0</u> | <u>0</u> |
| Subtotal | | 25 | | 50 | 0 | 0 |
| Processing | #1 | 40 | 6:00 AM-4:00 PM | 80 | 0 | 0 |
| | | 20 Admin | 8:00 AM-5:00 PM | 40 | 20 | 20 |
| | #2 | 40 | 5:30 PM-3:00 AM | 80 | 0 | 40 |
| | | 8 Admin | 6:00 PM-3:00 AM | 16 | 0 | 8 |
| | #3 | <u>20</u> | 2:00 AM-5:00 AM | <u>40</u> | <u>0</u> | <u>0</u> |
| Subtotal | | 128 | | 256 | 20 | 68 |
| Total Employees | | 153 | | 306 | 20 | 68 |
| | L | | Trucks | | 1 | |
| | | | | | AM Peak | PM Peak |
| Building Area & Use | Tr | uck Type | Trucks Per Day | ADT | (7-8 AM) | (5-6 PM) |
| Warehouse | Sem | ni-Trucks(b) | 30 | 60 | 3 | 4 |
| Processing | | Semis(c) | 8 | 16 | 2 | 2 |
| | Fiel | d Trucks(d) | <u>12</u> | <u>72</u> | <u>7</u> | <u>7</u> |
| Subtotal | | | 20 | 88 | 9 | 9 |
| Total Trucks | | | 50 | 148 | 12 | 13 |
| Project Totals Non-Har | vest | ····· | · · · · · · | 454 | 32 | 81 |

Table 3AProject Trip Generation – Average Periods

(a) Trip generation assumes 100% drive alone (no carpools and no drop offs).

(b) ADT assumes 1 inbound + 1 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times.

(c) Semi trucks from the north. ADT assumes 1 inbound + 1 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times assuming 10% in peak hour.

(d) Field trucks from local areas. ADT assumes 3 inbound + 3 outbound trips per day. Peak hour trips based on operational data for arrival and departure times assuming 10% in peak hour.

Table 3A shows that the Project would generate 454 ADT during average periods, with 32 trips occurring during the AM peak hour and 81 trips occurring during the PM peak hour.

| | | | Employees | | | |
|------------------------|-------|--------------|------------------|------------|-----------|-----------|
| | | | | | AM Peak | PM Peak |
| Building Area & Use | Shift | Employees(a) | Shift Schedules | ADT | (6-7 AM) | (5-6 pm) |
| Warehouse | #1 | 18 | 6:00 AM-2:00 PM | 36 | 2 | 0 |
| | #2 | <u>7</u> | 2:30 PM-10:30 PM | <u>14</u> | <u>0</u> | <u>0</u> |
| Subtotal | | 25 | | 50 | 2 | 0 |
| Processing | #1 | 275 | 6:00 AM-4:00 PM | 550 | 28 | 0 |
| | | 20 Admin | 8:00 AM-5:00 PM | 40 | 0 | 20 |
| | #2 | 275 | 5:30 PM-3:00 AM | 550 | 0 | 275 |
| | | 8 Admin | 6:00 PM-3:00 AM | 16 | 0 | 8 |
| | #3 | <u>20</u> | 2:00 AM-5:00 AM | <u>40</u> | <u>0</u> | <u>0</u> |
| Subtotal | | 598 | | 1,196 | 28 | 303 |
| Total Employees | | 623 | | 1,246 | 30 | 303 |
| | | | Trucks | . | | |
| | | | | | AM Peak | PM Peak |
| Building Area & Use | Tr | uck Type | Trucks Per Day | ADT | (6-7 AM) | (5-6 PM) |
| Warehouse | Sem | ii-Trucks(b) | 30 | 60 | 3 | 4 |
| Processing | Sem | i-Trucks (c) | 30 | 60 | 6 | 6 |
| | Field | d Trucks(d) | <u>46</u> | <u>276</u> | <u>28</u> | <u>28</u> |
| Subtotal | | | 76 | 336 | 34 | 34 |
| Total Trucks | | | 106 | 396 | 37 | 38 |
| Project Totals Peak Ha | rvest | | | 1,642 | 67 | 341 |

Table 3BProject Trip Generation – Peak Harvest Season

(a) Trip generation assumes 100% drive alone (no carpools and no drop offs).

(b) ADT assumes 1 inbound + 1 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times.

(c) Semi trucks from the north. ADT assumes 1 inbound + 1 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times assuming 10% in the peak hour.

(d) Field trucks from local areas. ADT assumes 3 inbound + 3 outbound trips per day. Peak hour trips based on operational data for arrival and departure times assuming 10% in the peak hour.

Table 3B shows that the Project would generate 1,642 ADT during peak harvest periods, with 67 trips occurring during the AM peak hour and 341 trips occurring during the PM peak hour.

Trip Generation – ITE Rates

Project trip generation was also evaluated using the rates contained in the Institute of Transportation Engineers (ITE) Trip Generation manual.³ Table 4 presents the trip Project trip generation estimates based on the ITE rates for Warehouse and Manufacturing uses with the number of peak harvest employees used as the independent variable.

| | | ADT | | AM Peak Hour | | PM Peak Hour | |
|--------------------|----------|------|-------|--------------|-------|--------------|-------|
| Land Use | Size | Rate | Trips | Rate | Trips | Rate | Trips |
| Freezer(a) | 25 Emps | 5.05 | 126 | 0.61 | 26 | 0.66 | 17 |
| Food Processing(b) | 598 Emps | 2.47 | 1,477 | 0.37 | 221 | 0.33 | 197 |
| Totals | | | 1,603 | | 247 | L | 214 |

| l able 4 |
|---|
| Project Trip Generation Peak Harvest Season – ITE Rates |

(a) Trip generation based on ITE rates for Warehouse (ITE #150).

(b) Trip generation based on ITE rates for Manufacturing (ITE #140).

Table 4 shows that the Project would generate 1,603 ADT, with 247 trips occurring during the AM peak hour and 214 trips occurring during the PM peak hour – which are similar to the trip trip generation estimates developed using the operational data.

As a reasonable worst-case analysis, Project impacts are evaluated assuming the traffic levels that would be generated during peak harvest period (1,642 ADT, 67 AM peak hour trips, 341 PM peak hour trips – see Table 3B).

Project Trip Distribution

The trips generated by the Project were distributed to the study-area street network based on the percentages shown in Table 5. As shown, separate trip distribution models were developed for the employees, semis bringing produce from northern counties, field trucks bringing products from the local fields, and warehouse trucks transporting products to market.

Approximately 19 of the field trucks (40%) service fields daily in the eastern Valley utilizing ranch roads and the following public roads; Dominion Road, Telephone Road, and Philbrick Road to access East Betteravia Road. Approximately 9 field trucks (20%) service fields daily in the Valley and access the facility via Main Street and Highway 101 south to East Betteravia Road. Approximately 12 of the field trucks (25%) service fields daily in the western Valley

³ <u>Trip Generation</u>, Institute of Transportation Engineers, 10th Edition, 2017.

and utilize West Betteravia Road to access the facility. Approximately 6 of the field trucks (15%) service fields daily in the Valley via Clark Avenue and Highway 101 North to East Betteravia Road. All of the semi-trucks transporting product to the facility come from the north and use the Betteravia Road interchange. The semi-trucks transporting the processed product from the site are evenly split to the north (50%) and the south (50%)

| Employee | Trip Distribution Perc | centages |
|---------------------------|-------------------------------|------------|
| Origin/Destination | Direction | Percentage |
| | North | 45% |
| US 101 | South | 20% |
| Betteravia Road | West | 35% |

Table 5a Project Trip Distribution - Employees

| Table 5b |
|---|
| Project Trip Distribution - Warehouse Trucks |

| Warehouse Truck Trip Distribution Percentages | | | | |
|---|-------|-----|--|--|
| Origin/Destination Direction Percentage | | | | |
| | North | 50% | | |
| US 101 South 50% | | | | |

Table 5c

Project Trip Distribution – Processing Semi Trucks (40% = 30 trucks)

| Processing Semi Truck Distribution Percentages | | |
|--|-------|------|
| US 101 | North | 100% |

Table 5d

Project Trip Distribution – Processing Local Field Trucks (60% = 46 trucks)

| Processing Local Field Truck Distribution Percentages | | | |
|---|-------|------|--|
| | North | 20% | |
| US 101 | South | 15% | |
| Betteravia Road | East | 40% | |
| Delleravia Koau | 25% | | |
| Totals | | 100% | |

Figure 5 shows the assignment of Project traffic onto the study-area street network. It is noted that the impact analysis accounts larger trucks. Since trucks are larger and accelerate more slowly than passenger cars (and thus have a greater effect on traffic flow than passenger cars), the truck trips were converted to "Passenger Car Equivalents" (PCEs). As recommended in the Highway Capacity Manual, each truck trip was converted to 2 PCEs since the study-area roads are located in flat terrain.

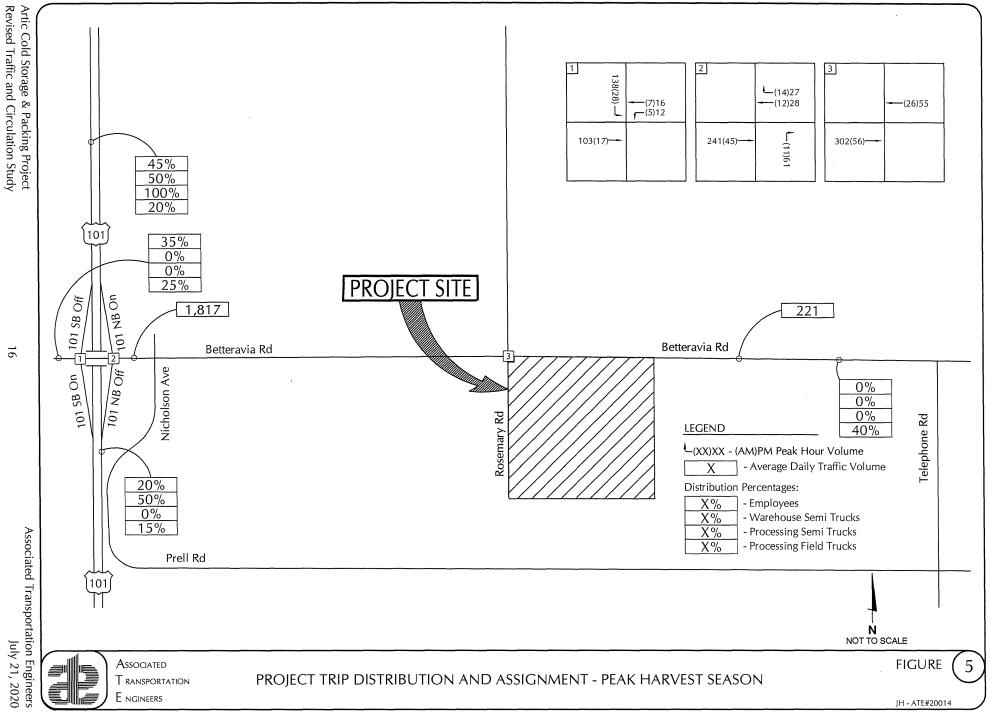
Existing + Project Roadway Operations

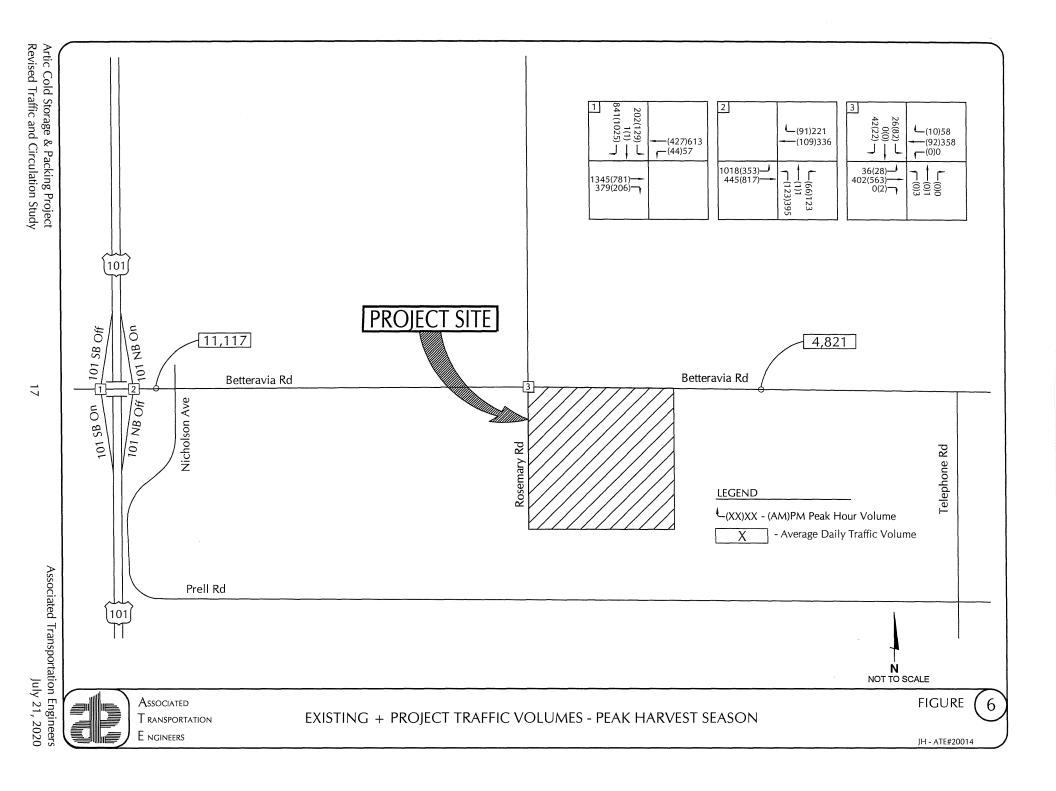
The Existing + Project roadway volumes are shown on Figure 6. Table 6 compares the Existing and Existing + Project roadway operations and identifies impacts based on the County's roadway capacity standards.

| | | Existing | Existing + | |
|-----------------|-------------------|----------|-------------|-------|
| Roadway | Segment | ADT | Project ADT | LOS |
| Betteravia Road | e/o US 101 | 9,300 | 11,117 | LOS A |
| | e/o Rosemary Road | 4,600 | 4,821 | LOS A |

Table 6Existing + Project Roadway Operations

The data presented in Table 6 show that the study-area roadways are forecast to continue to operate at LOS A under Existing + Project conditions. The Project would not significantly impact the study-area roadway segments based on adopted thresholds.





Existing + Project Intersection Operations

Levels of service were calculated for the study-area intersections assuming the Existing + Project traffic volumes shown on Figure 6. Tables 7 and 8 compare the Existing and Existing + Project levels of service and identify project-specific impacts based on adopted thresholds.

| | ICU or D | Project-Added | | |
|---------------------------------|-----------------|-----------------|----------|---------|
| | | Existing | | |
| Intersection | Existing | + Project | Trips(a) | Impact? |
| Betteravia Road/US 101 SB Ramps | | | | |
| ICU Method | 0.60/LOS A | 0.61/LOS B | 57 | No |
| HCM Method | 11.5 Sec./LOS B | 11.8 Sec./LOS B | | |
| Betteravia Road/US 101 NB Ramps | | | | |
| ICU Method | 0.38/LOS A | 0.39/LOS A | 82 | No |
| HCM Method | 12.3 Sec./LOS B | 13.9 Sec./LOS B | | |
| Betteravia Road/Rosemary Road | 11.1 Sec./LOS B | 12.0 Sec./LOS B | 82 | No |

Table 7Existing + Project Levels of Service – AM Peak Hour

Project Added Trips = PCEs (1 PCE for passenger vehicles and 2 PCEs for trucks).

| Table 8 | | |
|---|--|--|
| Existing + Project Levels of Service – PM Peak Hour | | |

| | ICU or Delay/LOS | | Project-Added | |
|---------------------------------|------------------|-----------------|---------------|---------|
| | | Existing | | |
| Intersection | Existing | + Project | Trips(a) | Impact? |
| Betteravia Road/US 101 SB Ramps | | | | |
| ICU Method | 0.65/LOS B | 0.67/LOS B | 269 | No |
| HCM Method | 12.4 Sec./LOS B | 14.5 Sec./LOS B | | |
| Betteravia Road/US 101 NB Ramps | | | | |
| ICU Method | 0.66/LOS B | 0.68/LOS B | 357 | No |
| HCM Method | 31.5 Sec./LOS C | 30.1 Sec./LOS C | | |
| Betteravia Road/Rosemary Road | 8.7 Sec./LOS A | 11.1 Sec./LOS B | 357 | No |

Project Added Trips = PCEs (1 PCE for passenger vehicles and 2 PCEs for trucks).

The data presented in Tables 7 and 8 show that the study-area intersections are forecast to operate at LOS C or better during the AM and PM peak hour periods with Existing + Project traffic. Thus, the Project would not significantly impact the study-area intersections based on adopted thresholds.

CUMULATIVE ANALYSIS

Traffic Forecasts

Cumulative conditions were forecast assuming the addition of traffic generated by the approved and pending development projects located in the Project study-area. The Santa Maria Traffic Model was used to forecast the Cumulative traffic increases for the City area west of US 101 and a list of County projects was used to forecast traffic increases for approved and pending development projects in the County area east of US 101 (cumulative project list contained in Technical Appendix for reference). The Cumulative traffic forecasts are shown in Figure 7 and Cumulative + Project forecasts are shown in Figure 8.

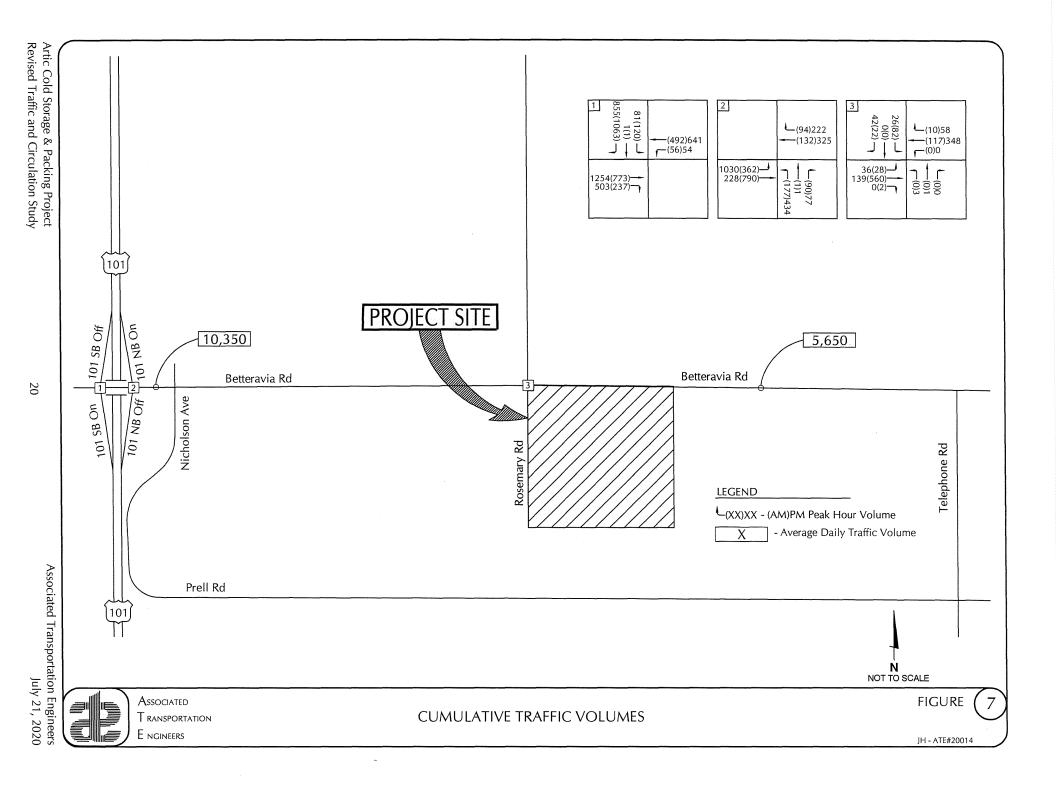
Cumulative + Project Roadway Operations

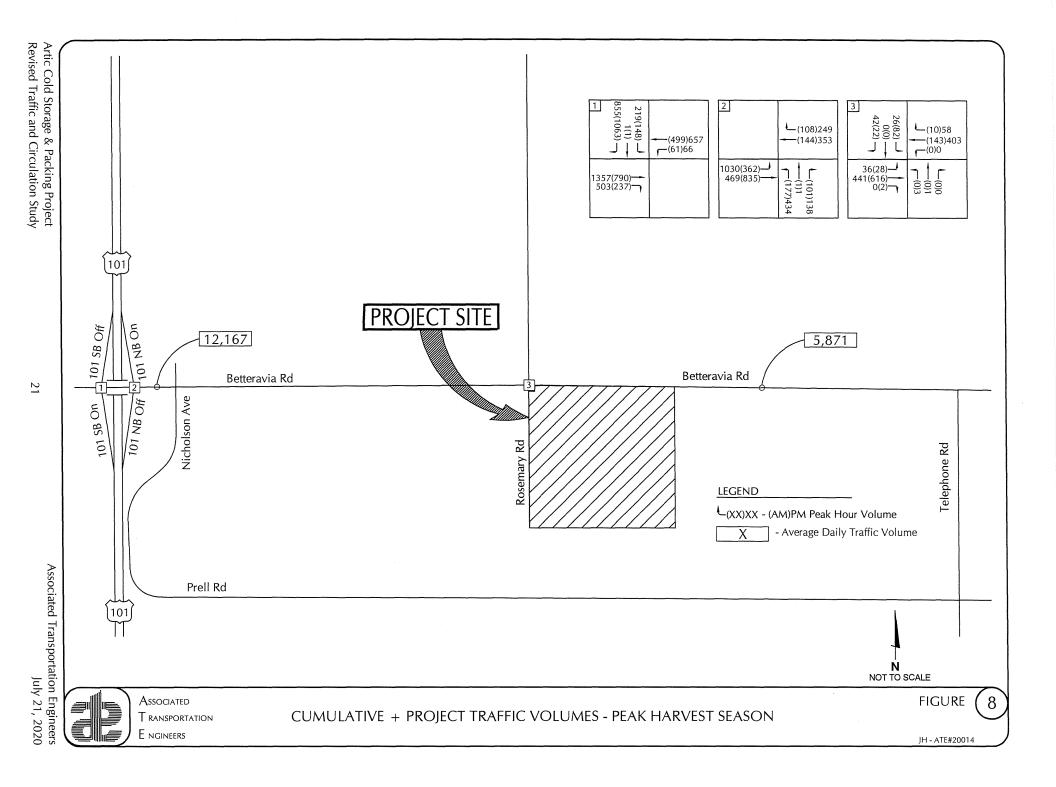
Cumulative + Project roadway volumes are shown on Figure 8. Table 9 compares the Cumulative and Cumulative + Project roadway volumes and identifies cumulative impacts based on the County's roadway capacity standards.

| | | Cumulative | Cumulative + | |
|-----------------|-------------------|------------|--------------|-------|
| Roadway | Segment | ADT | Project ADT | LOS |
| Betteravia Road | e/o US 101 | 10,350 | 12,617 | LOS A |
| | e/o Rosemary Road | 5,650 | 5,871 | LOS Á |

| Table 9 | | | |
|--------------|----------------------------|--|--|
| Cumulative + | Project Roadway Operations | | |

As shown in Table 9, the study-area roadways are forecast to operate at LOS A with Cumulative and Cumulative + Project traffic. The Project would therefore not contribute to significant cumulative roadway impacts based on adopted thresholds.





Cumulative Intersection Operations

Tables 10 and 11 compare the Cumulative and Cumulative + Project levels of service for the study-area intersections and identify the significance of cumulative impacts based on adopted thresholds.

| | ICU or D | Project Added | | |
|---------------------------------|-----------------|-----------------|----------|---------|
| | | Cumulative | | |
| Intersection | Cumulative | + Project | Trips(a) | Impact? |
| Betteravia Road/US 101 SB Ramps | | | | |
| ICU Method | 0.63/LOS B | 0.63/LOS B | 57 | No |
| HCM Method | 12.5 Sec./LOS B | 12.9 Sec./LOS B | | |
| Betteravia Road/US 101 NB Ramps | | | | |
| ICU Method | 0.40/LOS A | 0.42/LOS A | 82 | No |
| HCM Method | 22.3 Sec./LOS C | 22.4 Sec./LOS C | | |
| Betteravia Road/Rosemary Road | 12.3 Sec./LOS B | 13.1 Sec./LOS B | 82 | No |
| | | 1 | | |

Table 10Cumulative + Project Levels of Service – AM Peak Hour

Project Added Trips = PCEs (1 PCE for passenger vehicles and 2 PCEs for trucks).

Table 11Cumulative + Project Levels of Service – PM Peak Hour

| | ICU or D | Project Added | | |
|---------------------------------|-----------------|-----------------|----------|---------|
| | | Cumulative | | |
| Intersection | Cumulative | + Project | Trips(a) | Impact? |
| Betteravia Road/US 101 SB Ramps | | | | |
| ICU Method | 0.66/LOS B | 0.68/LOS B | 269 | No |
| HCM Method | 12.9 Sec./LOS B | 15.1 Sec./LOS B | | |
| Betteravia Road/US 101 NB Ramps | | <u>.</u> | | |
| ICU Method | 0.70/LOS B | 0.71/LOS C | 357 | No |
| HCM Method | 31.8 Sec./LOS C | 30.7 Sec./LOS C | | |
| Betteravia Road/Rosemary Road | 9.1 Sec./LOS A | 12.1 Sec./LOS B | 357 | No |

Project Added Trips = PCEs (1 PCE for passenger vehicles and 2 PCEs for trucks).

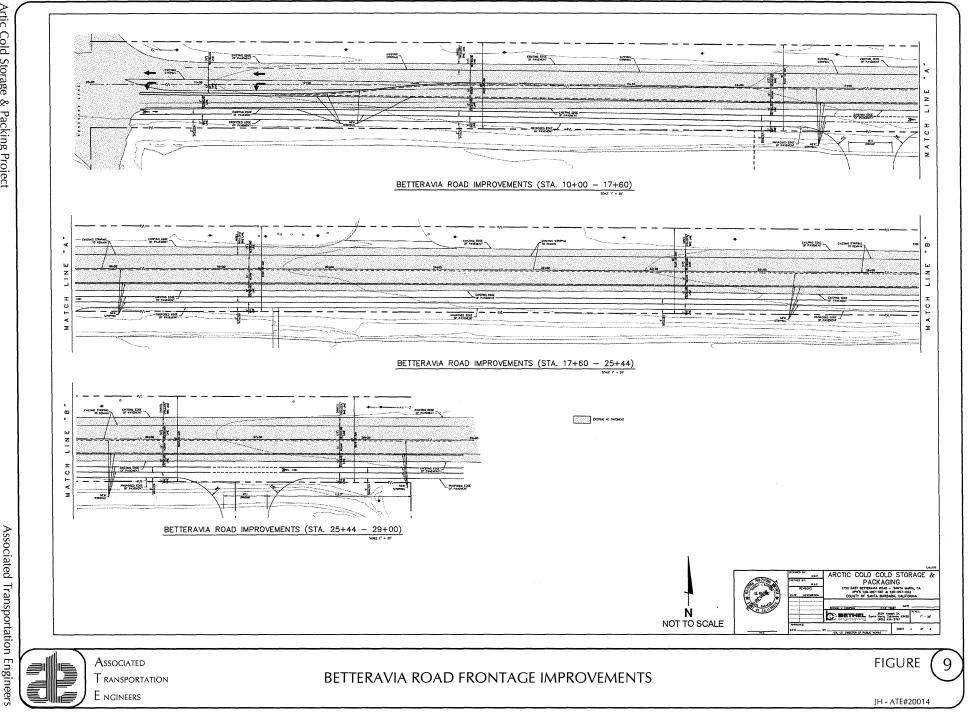
As shown in Tables 10 and 11, the study-area intersections are forecast to operate at LOS C or better Cumulative and Cumulative + Project traffic, which meet the adopted standards. The Project would therefore not contribute to significant cumulative impacts based on adopted thresholds.

SITE ACCESS AND CIRCULATION

As shown on the Project site plan (see Figure 2), vehicular access to the Project site is proposed via two driveways on Betteravia Road. The design of the driveways was developed based on input provided by County staff. Based on the direction provided, Betteravia Road will be widened and restriped to provide a 14-foot center left-turn lane along the entire site frontage to accommodate westbound left-turns into the site (as well eastbound left-turns into the parcels on the north side of Betteravia Road). Eastbound Betteravia Road will be widened and restriped to provide a 5-foot shoulder (10-foot total) along the site frontage to accommodate eastbound right-turns into the Project site. The proposed Betteravia Road frontage improvements are illustrated on Figure 9.

The need for turn lanes on Betteravia Road were evaluated using Santa Barbara County criteria and standards (worksheets are contained in the Technical Appendix). The results of the left-turn lane analysis show that a separate left-turn lanes are not warranted on Betteravia Road for turning into the Project driveways. The Project is forecast to generate 11 left-turns during the peak hour period as the only vehicles travelling westbound and turning left into the site would be field trucks originating from the east. The results of the right-turn lane analysis found that right-turn lanes are warranted on Betteravia Road at both driveways.

The following text reviews operations at the two driveways during the AM and PM peak hours assuming Cumulative + Project conditions. PM peak hour levels of service are forecasted for two peak periods: 1) the PM peak hour when employees are arriving at the site and 2) the PM peak hour when employees are leaving the site.



Artic Cold Storage & Packing Project Revised Traffic and Circulation Study

24

Associated Transportation Engineers July 21, 2020 **Western Driveway**. The western driveway proposed on Betteravia Road would serve employee parking areas and trucks transporting products to market. Traffic operations were forecast for the driveway assuming Cumulative + Project peak hour traffic conditions (driveway traffic volumes and level of service worksheets are contained in the Technical Appendix). Table 12 lists the delays and levels of service for turning to/from the driveway.

| | Delay/LOS | | | | |
|------------------------------|-----------------|-------------------------|-----------------------|--|--|
| Intersection / Movement | AM Peak Hour | PM Peak Hour (Start) | PM Peak Hour (End) | | |
| Betteravia/Western Driveway: | | | | | |
| Inbound Right Turns | 0.0 Sec./LOS A | 0.0 Sec./LOS A | 0.0 Sec./LOS A | | |
| Inbound Left Turns | 9.2 Sec./LOS A | 8.4 Sec./LOS A | 7.6 Sec./LOS A | | |
| Outbound Left + Right Turns | 17.1 Sec./LOS C | 17.7 Sec./LOS C | 22.4 Sec./LOS C | | |

Table 12Cumulative + Project Levels of Service – Western Driveway

As shown in Table 12, delays for turning to/from the western driveway equate to LOS C or better – indicating acceptable operations. The western driveway is located on a segment of Betteravia Road that is relatively flat and straight. Thus, good sight distances are available for turning to/from the driveway. The evaluation found no operational issues with the western driveway.

The western driveway has been relocated further to the west from the original design that was submitted to the County to provide the minimum 300-foot driveway spacing required in the County's design manual from the existing driveway located on the north side of Betteravia Road.

Eastern Driveway. The eastern driveway proposed on Betteravia Road would serve employee parking areas and trucks bringing products in from the fields. Traffic operations were forecast for the driveway assuming Cumulative + Project peak hour traffic conditions (level of service worksheet contained in the Technical Appendix show the traffic forecasts). Table 13 lists the delays and levels of service for turning to/from the driveway.

| | Delay/LOS | | |
|------------------------------|-----------------|-------------------------|-----------------------|
| Intersection / Movement | AM Peak Hour | PM Peak Hour (Start) | PM Peak Hour (End) |
| Betteravia/Eastern Driveway: | | | |
| Inbound Right Turns | 0.0 Sec./LOS A | 0.0 Sec./LOS A | 0.0 Sec./LOS A |
| Inbound Left Turns | 9.1 Sec./LOS A | 8.1 Sec./LOS A | 7.8 Sec./LOS A |
| Outbound Left + Right Turns | 16.0 Sec./LOS C | 15.0 Sec./LOS C | 24.3 Sec./LOS C |

Table 13Cumulative + Project Levels of Service – Eastern Driveway

As shown in Table 13, delays for turning to/from the eastern driveway equate to LOS C or better – indicating acceptable operations. The eastern driveway is located on a segment of Betteravia Road that is relatively flat and straight. Thus, good sight distances are available for turning to/from the driveway. The evaluation found no operational issues with the eastern driveway.

TRAFFIC ADDITONS TO CITY OF SANTA MARIA INTERSECTIONS

The Project is forecast to add 24 AM peak hour trips and 119 PM peak hour trips to the Betteravia Road corridor west of US 101, which lies within the City of Santa Maria. Cumulative + Project levels of service for the key intersections within the Betteravia Road corridor were derived from the traffic study prepared for the Enos Ranchos Specific Plan to evaluate potential impacts of the proposed Project. The Enos Ranch Specific Plan, which encompasses a large area located just west of the US 101/Betteravia Road interchange – generally bounded by Battles Road on the north, Betteravia Road on the south, US 101 on the east, and College Drive on the west. The Specific Plan area is currently being developed with commercial retail, auto dealerships, housing, and a school. Table 14 lists the Cumulative + Project levels of service for the key intersections within the Betteravia Road corridor assuming buildout of the Enos Rancho Specific Plan.

| | ICU/LOS(a) | |
|-------------------------------|--------------|--------------|
| Intersection | AM Peak Hour | PM Peak Hour |
| Betteravia Road/Bradley Road | 0.56/LOS A | 0.86/LOS D |
| Betteravia Road/College Drive | 0.59/LOS A | 0.76/LOS C |
| Betteravia Road/Miller Street | 0.48/LOS A | 0.75/LOS C |
| Betteravia Road/Broadway | 0.67/LOS B | 0.77/LOS C |

Table 14Cumulative + Project Levels of Service – Betteravia Road Corridor

(a) LOS assumed Enos Ranch SP planned improvements.

As shown, the key intersections within the Betteravia Road corridor are forecasts to operate at LOS A-B during the AM peak hour and LOS C-D during the PM peak hour assuming full development of the Enos Ranchos Specific Plan (as well as all other approved/pending development projects located in the City of Satna Maria) – which meets the City's LOS D standard. The key intersections are forecast to operate at LOS D or better with the additional traffic generated by the proposed Project. Thus, the Project would not significantly impact the Betteravia Road corridor based on City of Santa Maria standards.

MITIGATION MEASURES

Transportation Impact Mitigation Fees

The Project will be required to pay transportation impact mitigation fees to Santa Barbara County based on the number of PM peak hour trips generated (see Tables 3 and 4). The fees are used to implement the transportation improvements in the County required to accommodate future development.

Frontage Improvements

The Project will be required to implement frontage improvements along Betteravia Road pursuant to County standards. The frontage improvement requirements will be determined by County staff as part of the application review process.

REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

Scott A. Schell, Principal Transportation Planner Dan Dawson, Supervising Transportation Planner Jiho Ha, Transportation Engineer I

References

Trip Generation, Institute of Transportation Engineers, 10th Edition, 2018.

<u>Highway Capacity Manual</u>, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 6th Edition, 2018.

Persons Contacted

Robertson, William – County of Santa Barbara Shull, Robert – Eco Resource Management Systems

TECHNICAL APPENDIX

CONTENTS:

TRAFFIC COUNT DATA

SANTA BARBARA COUNTY ROADWAY DESIGN CAPACITIES

LEVEL OF SERVICE DEFINITIONS

PROJECT TRIP GENERATION CALCULATIONS

SANTA BARBARA COUNTY TURN LANE WARRANTS

PROJECT DRIVEWAY VOLUMES

CUMULATIVE PROJECT LIST

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

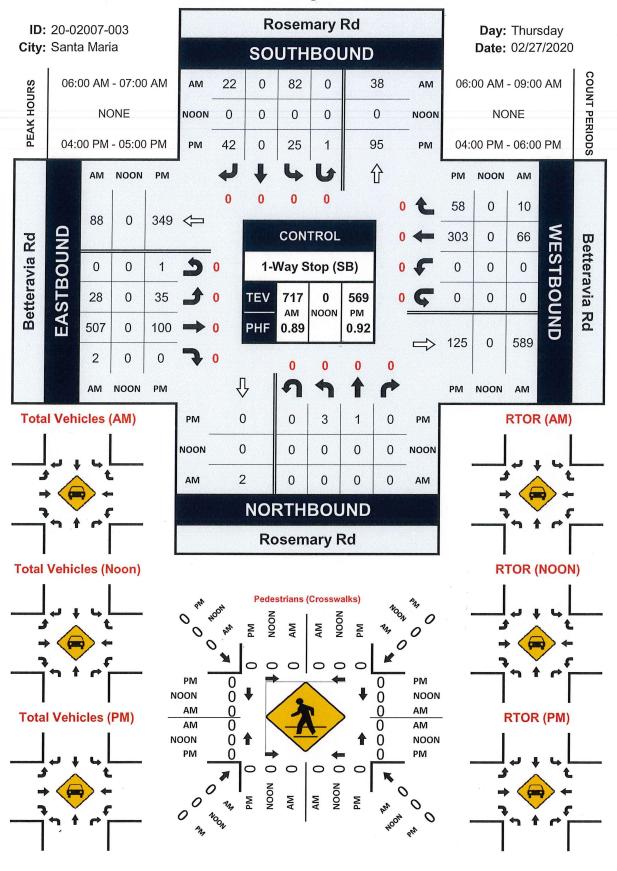
Reference 1 – Betteravia Road/US 101 SB Ramps Reference 2 – Betteravia Road/US 101 SB Ramps Reference 3 – Betteravia Road/Rosemary Road Betteravia Road/Western Driveway Betteravia Road/Eastern Driveway TRAFFIC COUNT DATA

IKAFFIC COUNT DATA

Prepared by National Data & Surveying Services

Rosemary Rd & Betteravia Rd

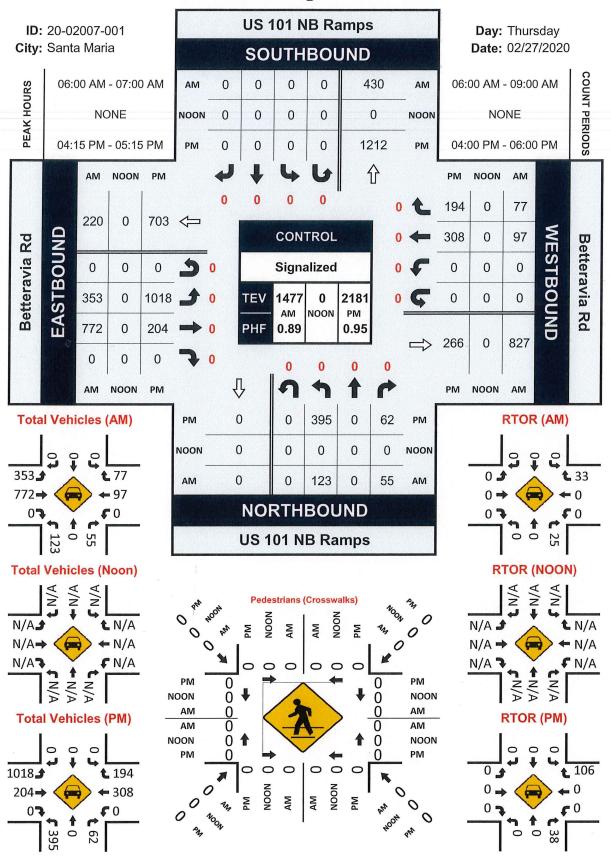
Peak Hour Turning Movement Count



Prepared by National Data & Surveying Services

US 101 NB Ramps & Betteravia Rd

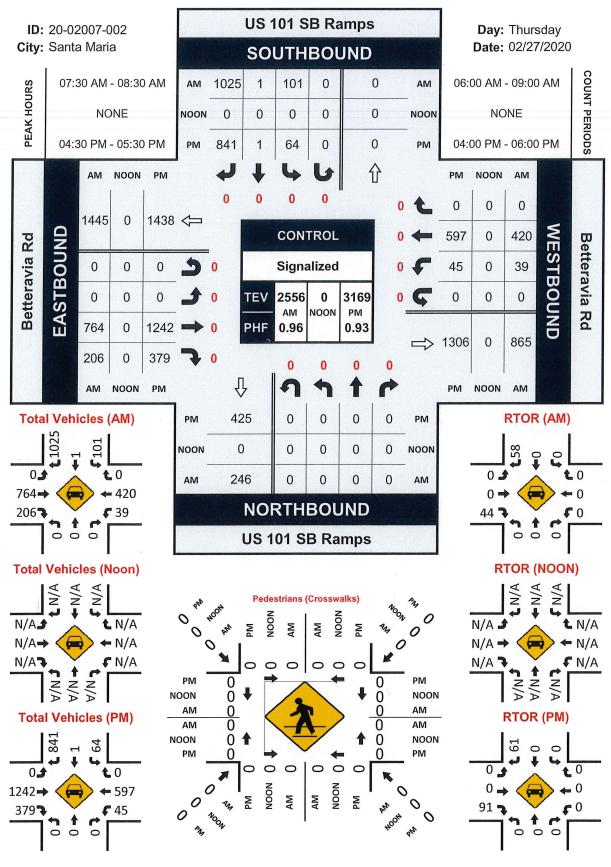
Peak Hour Turning Movement Count



Prepared by National Data & Surveying Services

US 101 SB Ramps & Betteravia Rd

Peak Hour Turning Movement Count



SANTA BARBARA COUNTY ROADWAY DESIGN CAPACITIES

SANTA BARBARA COUNTY PUBLIC WORKS DEPARTMENT ROADWAY DESIGN CAPACITIES

| TYPE OF # OF | | LOS A | | LOS B | | LOS C | | LOS D | | LOS E | |
|--------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| ROADWAY | LANES | Low | High |
| Arterial | 2 Lanes | 8,100 | 12,000 | 9,400 | 14,000 | 10,800 | 16,000 | 12,100 | 18,000 | 13,500 | 20,000 |
| Arterial | 4 Lanes | 16,100 | 23,900 | 18,900 | 27,900 | 21,600 | 31,900 | 24,300 | 35,900 | 27,000 | 39,900 |
| Major | 2 Lanes | 6,500 | 9,600 | 7,500 | 11,200 | 8,600 | 12,800 | 9,700 | 14,400 | 10,800 | 16,000 |
| Major | 4 Lanes | 12,900 | 19,200 | 15,100 | 22,300 | 17,200 | 25,500 | 19,400 | 28,700 | 21,600 | 31,900 |
| Collector | | 4,600 | 7,100 | 5,400 | 8,200 | 6,200 | 9,400 | 6,900 | 10,600 | 7,700 | 11,800 |

The roadway capacities listed above are "rule of thumb" figures only. Some factors which affect these capacities are intersections (numbers and configuration), degrees of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, level of truck and bus traffic and level of pedestrian and bicycle traffic.



LEVEL OF SERVICE DEFINITIONS

Intersection Level of Service Definition

LOS **A** is the highest level of service that can be achieved. Intersection approaches are open, turns are easily made, and nearly all drivers find freedom of operation. Average **delays are less than 10** seconds.

LOS **B** represents stable operation. At signalized intersections average **delays are 10 to 20 seconds**. At unsignalized (stop signs) intersections, **average delays are 10 to 15 seconds**.

LOS **C** still represents stable operation, but periodic backups of a few vehicles may develop. Most drivers begin to feel restricted. At signalized intersections, average **delays are 20 to 35 seconds**. At unsignalized intersections, average **delays are 15 to 25 seconds**.

LOS **D** represents increasing traffic restrictions. Delays may be substantial during short peaks but no excessive backups. At signalized intersections, average **delays are 35 to 55 seconds**. At unsignalized intersections, average **delays are 25 to 35 seconds**.

LOS **E** represents the highest operating capacity of the intersection. At signalized intersections, average **delays are 55 to 80 seconds**. At unsignalized intersections, average **delays are 35 to 50 seconds**.

LOS **F** represents jammed conditions, the intersection is over capacity and safe gaps in the traffic flow are minimal. At signalized intersections, **average delays exceed 80 seconds**. At unsignalized intersections, **average delays exceed 50 seconds**.

Signalized Intersection Level of Service Definitions

| LOS | Delay (a) | V/C Ratio | Definition |
|-----|-------------|-------------|--|
| A | < 10.0 | < 0.60 | Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all. |
| В | 10.1 - 20.0 | 0.61 - 0.70 | Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay. |
| С | 20.1 - 35.0 | 0.71 - 0.80 | Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping. |
| D | 35.1 - 55.0 | 0.81 - 0.90 | Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. |
| E | 55.1 - 80.0 | 0.91 - 1.00 | High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent |
| F | > 80.0 | > 1.00 | Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels. |

(a) Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM¹ uses control delay to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

| LOS | Control Delay Seconds per Vehicle |
|-----|--------------------------------------|
| А | < 10.0 |
| В | 10.1 - 15.0 |
| С | 15.1 - 25.0 |
| D | 25.1 - 35.0 |
| E | 35.1 - 50.0 |
| F | > 50.0 |

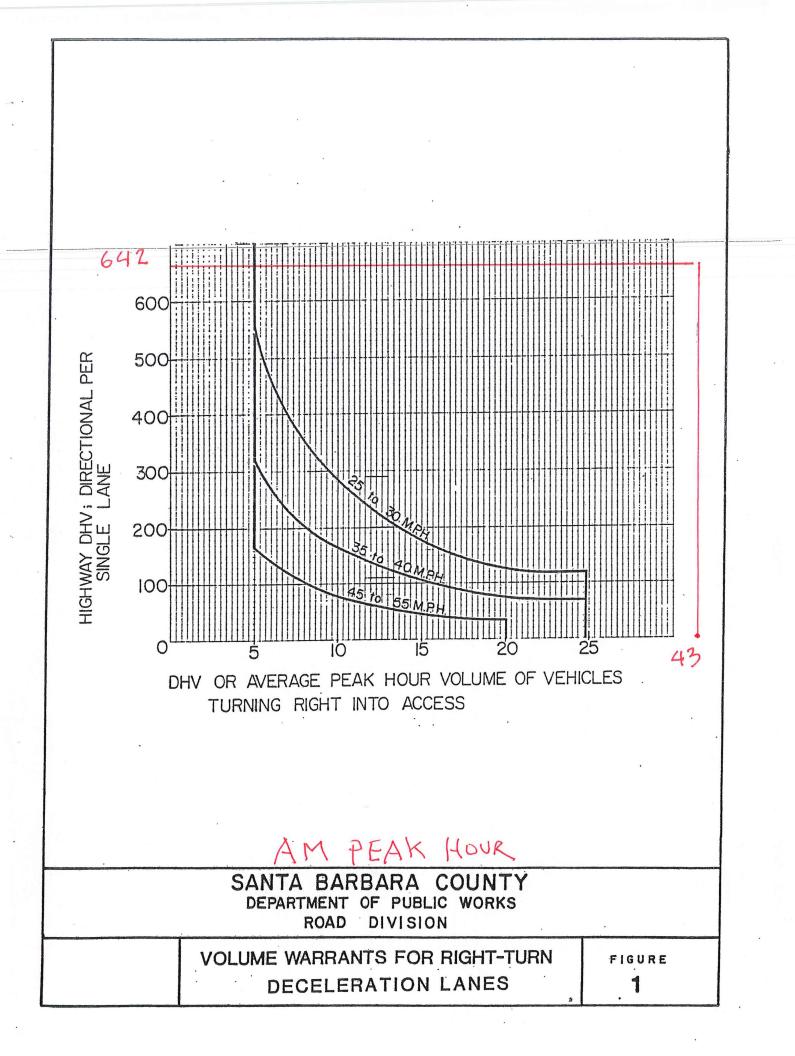
1 Highway Capacity Manual, National Research Board, 2016.

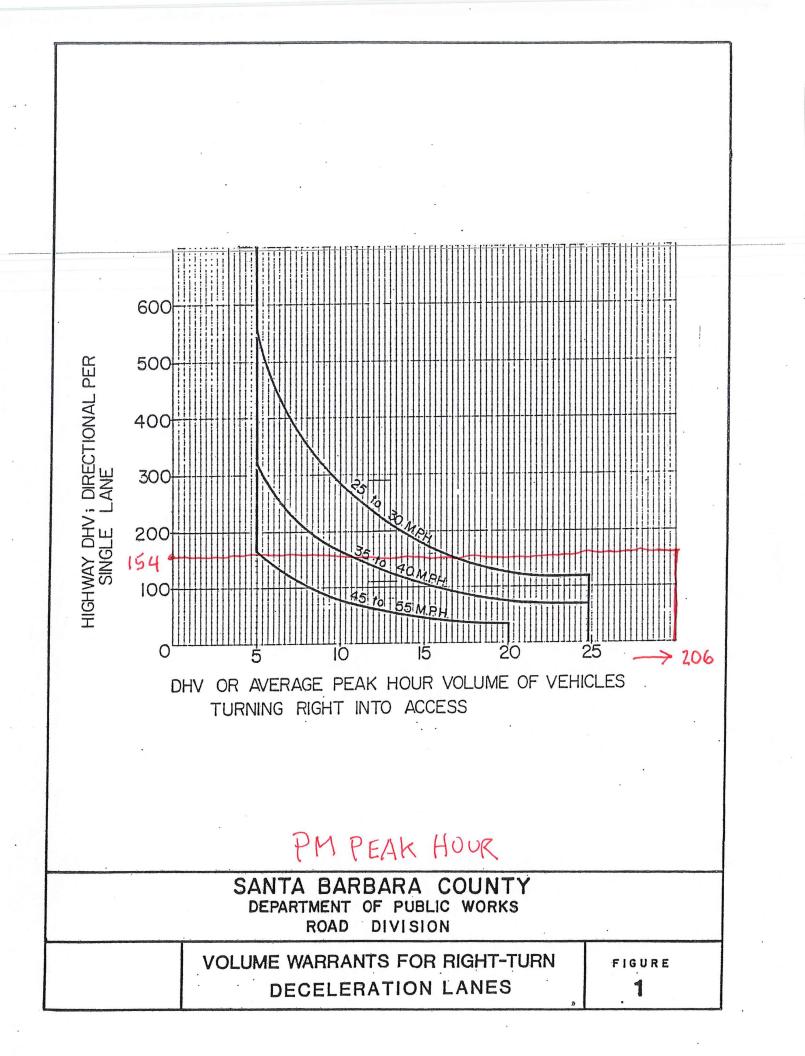


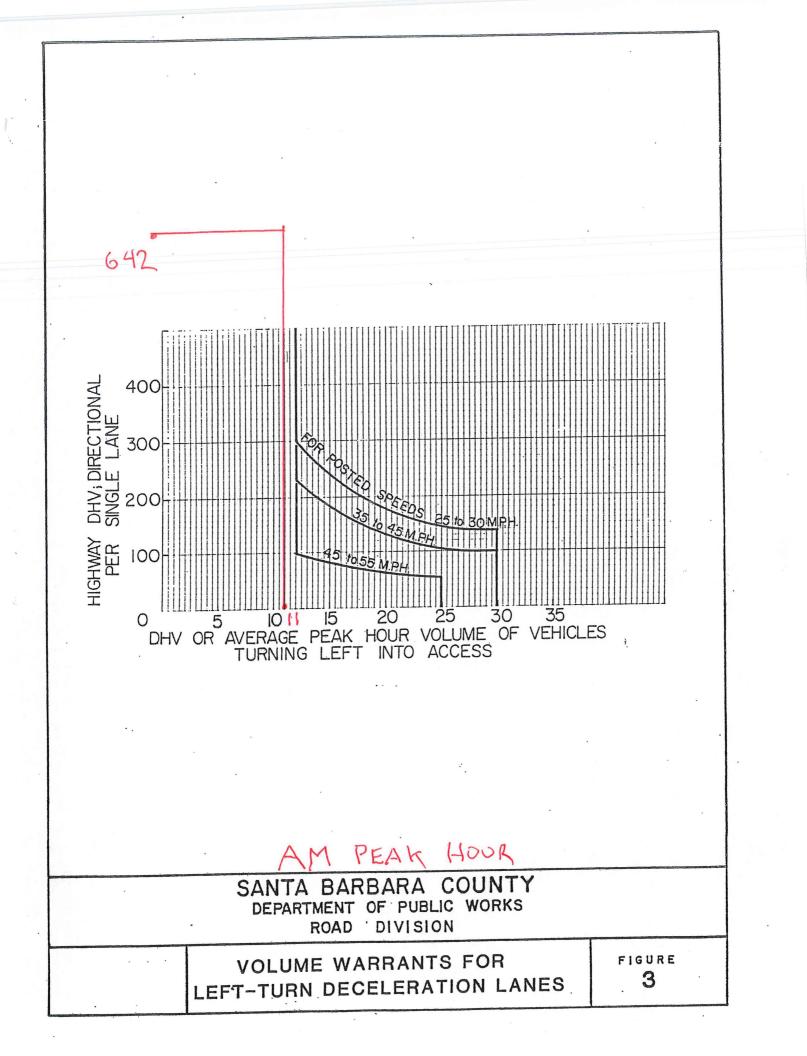
ASSOCIATED TRANSPORTATION ENGINEERS

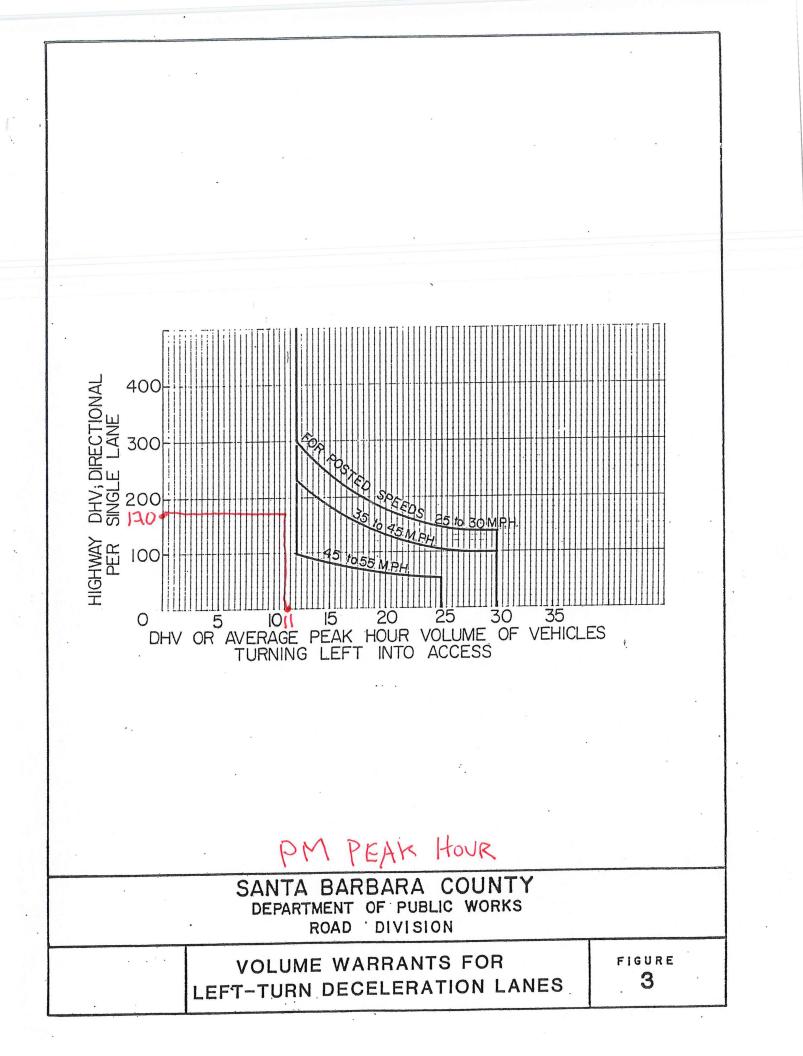
100 North Hope Avenue, Suite 4, Santa Barbara, CA 93110-1686 • (805) 687-4418 • FAX (805) 682-8509

SANTA BARBARA COUNTY TURN LANE WARRANTS

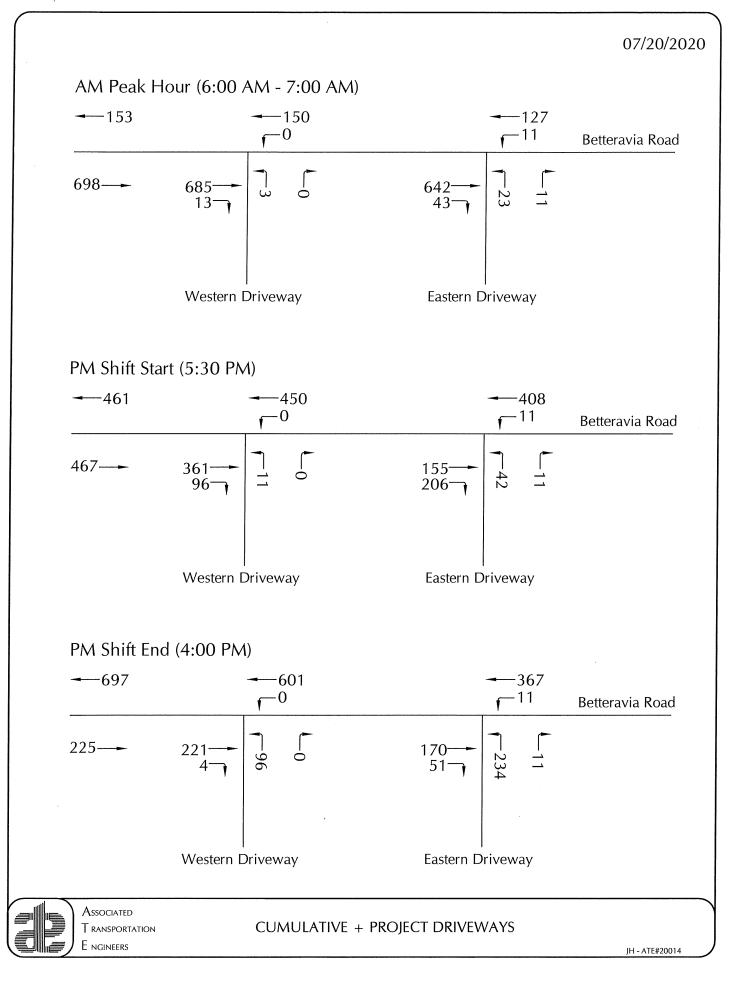








PROJECT DRIVEWAY VOLUMES



PROJECT TRIP GENERATION CALCULATIONS

ARTIC COLD STORAGE PROJECT

TRIP GENERATION FORECASTS - NON HARVEST SEASON

| | | | | AM Pe | ak (7-8) | PM Pea | ak (5-6) |
|-----------------------------|------------|--------------------|-----------|----------|----------|----------|----------|
| Project Component | Number/Day | Shift | ADT | In | Out | In | Out |
| EMPLOYEE FORECASTS | | | | | | | |
| <u></u> | | | | | | | |
| WAREHOUSE | | | | | | | |
| Shift #1 (a) | 18 | 6:00 AM - 2:00 PM | 36 | 0 | 0 | 0 | 0 |
| Shift #2 (a) | <u>7</u> | 2:30 PM - 10:30 PM | <u>14</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Subtotals: | 25 | | 50 | 0 | 0 | 0 | 0 |
| PROCESSING | | | | | | | |
| Shift #1 (a) | 40 | 6:00 AM - 4:00 PM | 80 | 0 | 0 | 0 | 0 |
| Shift #1 Admin(a) | 20 | 8:00 AM - 5:00 PM | 40 | 20 | 0 | 0 | 20 |
| Shift #2 (a) | 40 | 5:30 PM - 3:00 AM | 80 | 0 | 0 | 40 | 0 |
| Shift #2 Admin(a) | 8 | 6:00 PM -3:00 AM | 16 | 0 | 0 | 0 | 8 |
| Shift #3 (a) | <u>20</u> | 2:00 AM - 5:00 AM | <u>40</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Subtotals: | 128 | | 256 | 20 | 0 | 40 | 28 |
| Total Employees | 153 | | 306 | 20 | 0 | 40 | 28 |
| TRUCK FORECASTS | | | | | | | |
| WAREHOUSE SEMI-TRUCKS (b) | 30 | NA | 60 | 2 | 1 | 2 | 2 |
| PROCESSING VANS (b) | 8 | NA | 16 | 1 | 1 | 1 | 1 |
| PROCESSING FIELD TRUCKS (c) | 12 | NA | 72 | 3 | 4 | 3 | 4 |
| Total Trucks | 50 | | 148 | 6 | 6 | 6 | 7 |
| TOTAL PROJECT | | | 454 | 26 | 6 | 46 | 35 |

(a) Trip generation assumes no carpools for employees.

(b) ADT assumes 1 inbound + 1 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times.

(c) ADT assumes 3 inbound + 3 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times.

ARTIC COLD STORAGE PROJECT

TRIP GENERATION FORECASTS - PEAK HARVEST SEASON

| | | | | AM Peak (6-7) | | PM Pea | k (5-6) |
|-----------------------------|------------|--------------------|-----------|---------------|----------|----------|----------|
| Project Component | Number/Day | Shift | ADT | In | Out | In | Out |
| EMPLOYEE FORECASTS | | | | | | | |
| NAREHOUSE | | | | | | | |
| Shift #1 (a) | 18 | 6:00 AM - 2:00 PM | 36 | 2 | 0 | 0 | 0 |
| Shift #2 (a) | <u>7</u> | 2:30 PM - 10:30 PM | <u>14</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Subtotals: | 25 | | 50 | 2 | 0 | 0 | 0 |
| PROCESSING | | | | | | | |
| ;hift #1 (a) | 275 | 6:00 AM - 4:00 PM | 550 | 28 | 0 | 0 | 0 |
| Shift #1 Admin(a) | 20 | 8:00 AM - 5:00 PM | 40 | 0 | 0 | 0 | 20 |
| Shift #2 (a) | 275 | 5:30 PM - 3:00 AM | 550 | 0 | 0 | 275 | 0 |
| Shift #2 Admin(a) | 8 | 6:00 PM -3:00 AM | 16 | 0 | 0 | 0 | 8 |
| Shift #3 (a) | <u>20</u> | 2:00 AM - 5:00 AM | <u>40</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Subtotals: | 598 | | 1,196 | 28 | 0 | 275 | 28 |
| Total Employees | 623 | | 1,246 | 30 | 0 | 275 | 28 |
| TRUCK FORECASTS | | | | | | | |
| NAREHOUSE SEMI-TRUCKS (b) | 30 | NA | 60 | 2 | 1 | 2 | 2 |
| PROCESSING SEMI TRUCKS (b) | 30 | NA | 60 | 3 | 3 | 3 | 3 |
| PROCESSING FIELD TRUCKS (c) | 46 | NA | 276 | 14 | 14 | 14 | 14 |
| Total Trucks | 106 | | 396 | 19 | 18 | 19 | 19 |
| TOTAL PROJECT | | | 1,642 | 49 | 18 | 294 | 47 |

(a) Trip generation assumes no carpools for employees.

(b) ADT assumes 1 inbound + 1 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times.

(c) ADT assumes 3 inbound + 3 outbound trip per truck. Peak hour trips based on operational data for arrival and departure times.

CUMULATIVE PROJECT LIST

Printed on December 27, 2018 at 10:21 am

| | | | | | P | Not within a | | Santa Maria Valley continued itty/Specific Plan Area |
|-------------------------|--------------------------------|---|------------|----------------------|-------------------|---------------------|--------------------|--|
| Use Type | Case Number/ Assigned Staff | Project Name/ APN(s) | Status | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. | continued |
| Oil and Gas | 12DVP-00000-00005 | ERG OIL & GAS PIPELINE DEVELOPMENT | In Process | | | | | 2.9 Mile Oil Pipeline |
| | E. Briggs | PLAN | | | | | | |
| | | 129-080-006 | | | | | | |
| | | 129-080-007 | | | | | | |
| | | 129-090-016 | | | | | | |
| | | 129-090-021 | | | | | | |
| | | 129-090-032 | | | | | | |
| | | 129-090-033 | | | | | | |
| | | 129-090-037 | | | | | | |
| | | 129-090-038 | | | | | | |
| | | 129-100-014 | | 1 | | | | |
| | | 129-100-015 | | | | | | |
| | | 129-100-025 | | | | | | |
| | | 129-100-034 | | | | | | |
| | | 129-100-035 | | | | | | |
| | | 129-100-036 | | | | | | |
| | i . | 129-180-007 | | | | | | |
| | | 129-180-008 | | | | | | |
| | | 129-180-013 | | | | | | |
| | | 129-180-015 | | | | | | |
| Ag Development | 15CUP-00000-00011 | CURLETTI FARM EMPLOYE HOUSING | Approved | | | | 50,000 |) |
| (excluding wineries) | N. Campbell | 113-240-009 | | | | | | |
| Oil and Gas | 15PPP-00000-00001 K. Lehr | EAST CAT CANYON OIL FIELD REDEVELOPMENT 101-040-005 | Proposed | | | | | |

Note: To appear on this report, a CAP must have a primary parcel designated.

For specific information regarding each of these cases

Printed on December 27, 2018 at 10:21 am

Santa Maria Valley continued ... Not within a Community/Specific Plan Area continued ... Case Number/ Project Name/ # Res. Industr. Ag Dev. Commr. Use Type **Assigned Staff** APN(s) Status Units/Lots Sq. Ft. Sq. Ft. Sq. Ft. Misc Oil and Gas 15PPP-00000-00002 Proposed UCCB PRODUCTION PLAN J. Dargel 101-030-011 101-040-026 129-180-018 129-180-037 129-180-038 Oil and Gas 15TRM-00000-00003 Proposed EAST CAT CANYON OIL FIELD K. Lehr REDEVELOPMENT (TRM 14,813) 101-040-005 0 56 wells Oil and Gas 16AMD-00000-00010 Approved 0 0 0 NORTH GAREY OIL & GAS DRILLING K. Lehr PRODUCTION PLAN 129-180-007 Oil and Gas 18EIR-00000-00002 Proposed EAST CAT CANYON OIL FIELD K. Lehr REDEVELOPMENT (TRM 14,813) 101-040-005

Note: To appear on this report, a CAP must have a primary parcel designated.

For specific information regarding each of these cases

Printed on December 27, 2018 at 10:21 am

Santa Maria Valley

continued ...

Not within a Community/Specific Plan Area continued ... Project Name/ # Res. Ag Dev. Case Number/ Commr. Industr. Units/Lots **Assigned Staff** APN(s) Status Sq. Ft. Sq. Ft. Sq. Ft. Misc Use Type 2.9 Mile Oil Pipeline Oil and Gas 18ZCI-00000-00163 In Process **ERG OIL & GAS PIPELINE** N. Minick 129-040-010 129-040-015 129-080-006 129-080-007 129-090-016 129-090-021 129-090-032 129-090-033 129-090-037 129-090-038 129-100-015 129-100-025 129-100-036 129-180-007 129-180-008 129-180-015 129-180-039 129-180-040

| Not within a Community/Specific Plan Area Cumulative Status Summaries: | Status | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. |
|--|--------------------|----------------------|-------------------|---------------------|--------------------|
| | Proposed | | | | |
| | In Process | | | | |
| | Approved | 0 | 0 | 0 | 287,636 |
| | Under Construction | | | | |
| | Built | | | | |
| | Totals | 0 | 0 | 0 | 287,636 |

Old Town Orcutt & OCPlan

Note: To appear on this report, a CAP must have a primary parcel designated.

For specific information regarding each of these cases

Printed on December 27, 2018 at 10:21 am

| | | | | | | | | | - Old T | Continue Continue Cown Orcutt & OCI Continue | ued Plan |
|-----------------|----------------------------------|--|---|--------------------|----------------------|----------------------|---------------------|---------------------|--------------------|---|-------------|
| Use Type | Case Number/ Assigned Staff | Project Name/ APN(s) | S | tatus | U | # Res. nits/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. | | |
| Commercial | 16AMD-00000-00005 D. Eady | ORCUTT UNION PLAZA PHASE II AMENDMENT 105-121-006 | ······ | pproved | | 19 | 16,880 | 0 | | 0 | |
| Old Town Orcutt | & OCPIan Cumulative Statu | is Summaries: | Status | | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. | | | |
| | | | Proposed In Process Approved Under Cons Built | truction | 19 | 16,880 | 0 | 0 | | | |
| | | | Totals | | 19 | 16,880 | 0 | 0 | | | |
| Use Type | Case Number/ Assigned Staff | Project Name/ APN(s) | · . | Status | | # Res. Jnits/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev | Drcutt Community . Misc | ' Pla |
| Residential | 02TRM-00000-00010 K. Probert | ADDAMO WINERY/DIAMANTE [TM 14,6 129-151-042 | 516] | Under Construction | | 5 | 0 | 0 | (| 0 | |
| Residential | 03DVP-00000-00009 J. Zorovich | RICE RANCH DEVELOPMENT PLAN 101-010-013 101-020-004 105-140-016 | | Under Construction | | 725 | 0 | 0 | (|) | |
| Commercial | 09DVP-00000-00029 J. Gerber | CLARK AVENUE COMMERCIAL 103-750-038 | | Approved | | 0 | 12,875 | 0 | (| 0 0 | |
| Residential | 10DVP-00000-00002 D. Eady | KEY SITE 30 DEVELOPMENT PLAN 107-250-008 | | Approved | | 69 | 0 | 0 | ł | 0 0 | |

Note: To appear on this report, a CAP must have a primary parcel designated.

For specific information regarding each of these cases

Printed on December 27, 2018 at 10:21 am

| | | | | | | | | | continued continued munity Pla continued |
|-------------------------|-------------------------------------|---|-----------------------------------|----------------------|---------------------|---------------------|---------|---|---|
| las Truns | Case Number/ | Project Name/ | Status | # Res. Units/Lots | Commr. | Industr. | Ag Dev. | | |
| Jse Type Residential | Assigned Staff 10TRM-00000-00003 | | Approved | | <u>Sq. Ft.</u> 0 | Sq. Ft. 0 | Sq. Ft. | 0 | |
| Residential | D. Eady | TERRACE VILLAS TRACT MAP 14,770 129-300-001 | Approved | 10 | U | U | U | U | |
| | D. Eauy | 129-300-002 | | | | | | | |
| | | 129-300-002 | | | | | | | |
| | | 129-300-003 | | | | | | | |
| | | 129-300-004 | | | | | | | |
| | | 129-300-005 | | | | | | | |
| | | 129-300-008 | | | | | | | |
| | | 129-300-007 | | | | | | | |
| | | 129-300-008 | | | | | | | |
| | | 129-300-009 | | | | | | | |
| | | 129-300-011 | | | | | | | |
| | | 129-300-012 | | | | | | | |
| | | 129-300-013 | | | | | | | |
| | | 129-300-014 | | | | | | | |
| | | 129-300-015 | | | | | | | |
| | , | 129-300-016 | | | | | | | |
| | | 129-300-017 | | | | | | | |
| | | 129-300-018 | | | | | | | |
| | | 129-300-019 | | | | | | | |
| | | 129-300-020 | | | | | | | |
| | | 123-300-020 | | | | | | | |
| Residential | 13DVP-00000-00010 | KEY SITE 3 DEVELOPMENT PLANS | In Process | 0 | 0 | 0 | | 0 | |
| | D. Eady | 129-151-026 | | | | | | | |
| | | | | | | | | | |
| Commercial | 14GPA-00000-00020 | Oasis General Plan Amendment | | | 15,333 | | | | |
| | N. Campbell | 105-020-063 | | | | | | | |
| | | 105-020-064 | | | | | | | |
| Commercial | 15DVP-00000-00009 | ORCUTT PUBLIC MARKETPLACE | Proposed | 252 | 211,264 | | | | |
| Commercial | D. Eady | 129-120-024 | Toposed | 202 | 211,204 | | | | |
| | D. Lady | 129-120-024 | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Note: To appear | on this report, a CAP must have | a primary parcel designated. | | | | | | | |
| | ormation regarding each of the | | | | | | | | |
| | | se visit the Citizens Access site at: https://aca.sbo | countyplanning.org/CitizenAccess/ | | | | | | |
| , | ,,,, piou | | | | | | | | |

Printed on December 27, 2018 at 10:21 am

| | | | | | bicantergifeken and processing workposed and | | | laria Valley continued mmunity Plan |
|-------------|--------------------------------|---|--------------------|----------------------|--|---------------------|-------------------------|---|
| Use Type | Case Number/ Assigned Staff | Project Name/ APN(s) | Status | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. Misc | continued |
| Residential | 15ZCI-00000-00031 D. Eady | KEY SITE 30 MR-O APARTMENTS AND FINE GRADING 107-250-008 | Under Construction | 214 | | | | |
| Commercial | 16DVP-00000-00009 D. Eady | ORCUTT GATEWAY RETAIL CENTER (KEY SITE 2) 129-280-001 | In Process | | 49,921 | | | |
| Residential | 16SPP-00000-00001 D. Eady | THE NEIGHBORHOODS OF WILLOW CREEK & HIDDEN CANYON SPECIFIC PLAN 113-250-015 113-250-016 113-250-017 | Proposed | 146 | | | | |
| Residential | 16ZCI-00000-00002 D. Eady | KEY SITE 3 NEW MULTI-FAMILY RESIDENTIAL PROJECT 129-151-026 | In Process | 160 | | | | |

| Orcutt Community Plan Cumulative Status Summaries: | Status | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. |
|--|--------------------|----------------------|-------------------|---------------------|--------------------|
| | Proposed | 398 | 211,264 | | |
| | In Process | 160 | 49,921 | 0 | 0 |
| | Approved | 85 | 12,875 | 0 | 0 |
| | Under Construction | 944 | 0 | 0 | 0 |
| | Built | | | | |
| | Totals | 1,587 | 289,393 | 0 | 0 |

Note: To appear on this report, a CAP must have a primary parcel designated.

For specific information regarding each of these cases

Printed on December 27, 2018 at 10:21 am

| Santa Maria Valley Cumulative Status Summaries: | Status | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. | |
|---|--------------------|----------------------|-------------------|---------------------|--------------------|----------------|
| | Proposed | 398 | 211,264 | | | |
| | In Process | 160 | 49,921 | 0 | 0 | |
| | Approved | 104 | 29,755 | 0 | 287,636 | |
| | Under Construction | 944 | 0 | 0 | 0 | |
| | Built | | | | | |
| | Totals | 1,606 | 306,273 | 0 | 287,636 | |
| | | | | | Santa | Ynez Valle |
| | | | | | a Community/Sp | ecific Plan Ar |

| | Case Number/ | Project Name/ | | # Res. | Commr. | Industr. | Ag Dev. | |
|------------|-------------------|------------------------------|--------------------|------------|---------|----------|--------------|--|
| Use Type | Assigned Staff | APN(s) | Status | Units/Lots | Sq. Ft. | Sq. Ft. | Sq. Ft. Misc | |
| Commercial | 15DVP-00000-00012 | NOJOQUI RANCH TIER II WINERY | Under Construction | | 12,500 | | | |
| | J. Ritterbeck | 081-020-024 | | | | | | |

| Not within a Community/Specific Plan Area Cumulative Status Summaries: | Status | # Res. Units/Lots | Commr. Sq. Ft. | Industr. Sq. Ft. | Ag Dev. Sq. Ft. |
|--|--------------------|----------------------|-------------------|---------------------|--------------------|
| | Proposed | | | | |
| | In Process | | | | |
| | Approved | | | | × |
| | Under Construction | | 12,500 | | |
| | Built | | | | |
| | Totals | | 12,500 | | |
| | | | | | |

| | Case Number/ | Project Name/ | | # Res. | Commr. | Industr. | Santa Ynez Valley Plan Area Ag Dev. |
|----------|--------------------------------|---|------------|------------|---------|----------|--|
| Use Type | Assigned Staff | APN(s) | Status | Units/Lots | Sq. Ft. | Sq. Ft. | Sq. Ft. Misc |
| Mines | 03CUP-00001-00024 J. Dargel | GRANITE GARDNER RANCH MINING REVISIONS PROJECT 137-270-015 137-270-032 | In Process | 0 | 0 | · 0 | 0 250,000 tons/yr |

Note: To appear on this report, a CAP must have a primary parcel designated.

For specific information regarding each of these cases

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1 – Betteravia Road/US 101 SB Ramps Reference 2 – Betteravia Road/US 101 SB Ramps Reference 3 – Betteravia Road/Rosemary Road Betteravia Road/Western Driveway Betteravia Road/Eastern Driveway

| | | | | | had a set | | | ntro | | | | | | | | |
|--|--------|---|---------------|------------------------------|-----------------------------|---|-------|---------------------------------------|------------|--------------------|----------------------------|-------------|----------|--------------------|--|-------------|
| General Information | | (bd., | | | | | Site | Infor | matio | n | | | | | | line and |
| Analyst | SAS | | | | | | Inter | section | | | BETT | ERAVIA/ | ROSEMAR | Υ | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SAN | TA BARB | ARA COUN | NTY | | |
| Date Performed | 5/12, | /2020 | | | of a long set of the second | | East/ | West Str | reet | | BETT | ERAVIA I | ROAD | | | |
| Analysis Year | | | | | | | Nort | n/South | Street | | ROS | EMARÝ R | OAD | | | |
| Time Analyzed | AM F | PEAK HO | DUR | len ong dit ne a ruta khilan | | | Peak | Hour Fa | ctor | | 0.92 | | | | | 1000200000 |
| Intersection Orientation | East- | West | | | | | Analy | sis Time | e Period (| (hrs) | 0.25 | | | | | |
| Project Description | EXIST | ring co | NDITIO | NS | | | | | | | | | | | | |
| Lanes | | | | | | | | | | | | | | | | |
| | | | | 1 4 4 Y 4 P 7 A | × × | ۲ مr Street: Ea | | 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | | | | | | | | |
| Vehicle Volumes and Adj | justme | nts | | | | a e | | | 15 | | | | | | | |
| Approach | | East | bound | | | West | oound | | | North | bound | | | South | bound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 10 | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 8 V | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 28 | 507 | 2 | | 0 | 66 | 10 | | 0 | 0 | 0 | | 82 | 0 | 22 |
| Percent Heavy Vehicles (%) | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| | | | 1 Contraction | | | | | | | | | | | | | |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | <u> </u> | | | | | | | | 0 | | | (|) | |
| Percent Grade (%) Right Turn Channelized | | | | | | | | | | | 0 | • | | (|) | |
| Percent Grade (%) Right Turn Channelized Median Type Storage | | | | Undi | ivided | | | | | | 0 | | | (|) | |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H | eadway | ys | | Undi | ivided | | | | | | | | | | | |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) | eadway | 4.1 | | Undi | ivided | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 6.5 | 6.5 | 6.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) | eadway | 4.1 4.20 | | Undi | ivided | 4.20 | | | | 7.1 7.20 | 6.5 6.60 | 6.30 | | 6.5 6.00 | 6.5 6.60 | 5.00 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | eadway | 4.1 4.20 2.2 | | Undi | ivided | 4.20 2.2 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | 4.1 4.20 2.2 2.29 | | | ivided | 4.20 | | | | 7.1 7.20 | 6.5 6.60 | 6.30 | | 6.5 6.00 | 6.5 6.60 | 5.00 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an | | 4.1 4.20 2.2 2.29 | ervice | | ivided | 4.20 2.2 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) | | 4.1 4.20 2.2 2.29 of S 30 | ervice | | ivided | 4.20 2.2 2.29 0 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 4.09 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | 4.1 4.20 2.2 2.29 of S 30 1465 | ervice | | ivided | 4.20 2.2 2.29 0 978 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 4.09 113 623 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio | | 4.1 4.20 2.2 2.29 of S 30 1465 0.02 | ervice | | ivided | 4.20 2.2 2.29 0 978 0.00 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 4.09 113 623 0.18 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 4.1 4.20 2.2 2.29 of So 30 1465 0.02 0.1 | ervice | | ivided | 4.20 2.2 2.29 0 978 0.00 0.0 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 4.09 113 623 0.18 0.7 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q₀₅ (veh) Control Delay (s/veh) | | 4.1 4.20 2.2 2.29 of S 30 1465 0.02 0.1 7.5 | ervice | | ivided | 4.20 2.2 2.29 0 978 0.00 0.0 8.7 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 4.09 113 623 0.18 0.7 12.0 | 5.00 3.5 |
| Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 4.1 4.20 2.29 0 of So 30 1465 0.02 0.1 7.5 A | | | ivided | 4.20 2.2 2.29 0 978 0.00 0.0 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 | 6.30 3.3 | | 6.5 6.00 3.5 | 6.5 6.60 4.0 4.09 113 623 0.18 0.7 12.0 B | 5.00 3.5 |

Copyright © 2020 University of Florida. All Rights Reserved. AwD = 11.1 SEC = LOS B

| | | ŀ | HCS7 | Two | -Wa | y Sto | p-Cc | ontro | l Rep | ort | | | | | | |
|---|---------------|------------------------|------------------------------|---------------|---------------------------|--------------------------|--|-------------------|------------------------------|--|-------|----------|---------------|-------|---|------|
| General Information | | | | | | | Site | Infor | matio | n | | | | | | |
| Analyst | SAS | | | | | | Inter | section | and the second second second | | BET | TERAVIA, | /ROSEM | ARY | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SAN | ITA BARE | BARA CO | UNTY | | |
| Date Performed | 5/12, | /2020 | inge die with yne die bestel | | nu novie Grifty privingen | | East/ | 'West Str | eet | n transfering and an | BET | TERAVIA | ROAD | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | ROS | EMARY I | ROAD | | | |
| Time Analyzed | AM F | PEAK HC | DUR | | | | Peak | Hour Fa | ctor | | 0.92 | | | | | |
| Intersection Orientation | East- | West | | | | Sec. 2 | Analy | ysis Time | Period | (hrs) | 0.25 | | | | | |
| Project Description | EXIST | ting + F | PROJECT | | | | | | | | | | | | | |
| Lanes | | | | | | | | | | | | | | | | |
| | | | | 1 4 4 7 4 P P | | ۰ ۲۰ or Street: Ea | t ter | 1 1 7 4 4 7 1 4 7 | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | IVIAJ | | ISC-WEST | | | | | | | | | |
| Approach | | East | oound | | | West | bound | | | North | bound | | | South | bound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | _ | | LTR | | | | LTR | |
| Volume (veh/h) | | 28 | 563 | 2 | | 0 | 92 | 10 | | 0 | 0 | 0 | | 82 | 0 | 22 |
| Percent Heavy Vehicles (%) | | 10 | ļ | | | 10 | - | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | 0 | | | | 0 | |
| Right Turn Channelized | | es libro i | | | | | | | | | | | | | | |
| Median Type Storage | No. 20 August | | | Undi | vided | | | | | | | | | | | |
| Critical and Follow-up H | eadway | ys | | | | | | | | | | | | | | |
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 6.5 | 6.5 | 6.5 |
| Critical Headway (sec) | | 4.20 | | | | 4.20 | | | | 7.20 | 6.60 | 6.30 | | 6.00 | 6.60 | 5.00 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.5 |
| Follow-Up Headway (sec) | | 2.29 | | | <u> </u> | 2.29 | | | | 3.59 | 4.09 | 3.39 | <u> </u> | 3.00 | 4.09 | 3.00 |
| Delay, Queue Length, an | d Leve | l of Se | ervice | | | | | | | | | | | | | |
| Flow Rate, v (veh/h) | | 30 | | | | 0 | | | | | 0 | | | | 113 | |
| Capacity, c (veh/h) | | 1431 | | | | 928 | | | | | | | | | 555 | |
| Capacity, C (Ven/11) | | 0.02 | | | | 0.00 | | | | | | | | | 0.20 | |
| v/c Ratio | | NAME OF TAXABLE PARTY. | | | | 0.0 | | | | | | | in the second | | 0.8 | |
| v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 0.1 | | | | | Contraction of the local of the | | | | | 1 | | 1 | and the second se | |
| v/c Ratio 95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) | | 0.1 7.6 | | | | 8.9 | | | | | | | | | 13.1 | |
| v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 7.6 A | .4 | | | 8.9 A | | | | | | | | 1: | В | |

Copyright © 2020 University of Florida. All Rights Reserved.

AWD = 11.95

HCSTM TWSC Version 7.8.5 03_AM_EX+PROJ.xtw Generated: 7/21/2020 8:56:49 AM

| | | ł | HCS7 | IWO | -vva | y Sto | p-Co | ntro | гкер | oort | | | | | | |
|------------------------------|--------|---------------------|---|------|-------------------|----------------------|------------------------------|---------------------------|--|--|---------------------------|----------|---|--|----------------------------|----------|
| General Information | | | | | | | Site | Infor | matic | n | | | | | | |
| Analyst | SAS | | | | | | Inter | section | | | BETT | ERAVIA/ | ROSEM | ARY | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SAN | TA BARB | ARA CO | UNTY | | |
| Date Performed | 5/12 | /2020 | | | | | East/ | West Str | reet | | BETT | ERAVIA I | ROAD | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | ROS | EMARY R | ROAD | | | |
| Time Analyzed | AM I | РЕАК НС | DUR | | | | Peak | Hour Fa | ctor | | 0.92 | | | | | |
| Intersection Orientation | East- | West | | | | | Analy | /sis Time | Period | (hrs) | 0.25 | | | | | |
| Project Description | CUM | IULATIV | E | | | | | | | | ada mananana | | | | | |
| Lanes | | | | | | | | | | | | | | | | |
| | | | | | 1 Maj | ior Street: Ea | st-West | 4 + X + F R U | | | | | | | | |
| Vehicle Volumes and Adj | justme | ents | | | | | | | | | | | | | | |
| Approach | | East | bound | | | West | bound | | | North | bound | | | South | bound | |
| Movement | U | L | T | R | U | L | Т | R | U | L | T | R | U | L | Т | R |
| Priority | 10 | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | | <u> </u> | LTR | | | | LTR | |
| Volume (veh/h) | | 28 | 560 | 2 | | 0 | 117 | 10 | | 0 | 0 | 0 | | 82 | 0 | 22 |
| Percent Heavy Vehicles (%) | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | <u> </u> |
| Percent Grade (%) | | | | | | | | | | | 0 | | | | 0 | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type Storage | | | | Undi | vided | | | | | | | | | | | |
| Critical and Follow-up H | eadwa | ys | | | | | | | | | | | | | | |
| Base Critical Headway (sec) | T | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 6.5 | 6.5 | 6.5 |
| Critical Headway (sec) | | 4.20 | | | | 4.20 | | | | 7.20 | 6.60 | 6.30 | | 6.00 | 6.60 | 5.00 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.5 |
| Follow-Up Headway (sec) | | 2.29 | | | | 2.29 | | | | 3.59 | 4.09 | 3.39 | | 3.00 | 4.09 | 3.00 |
| Delay, Queue Length, an | d Leve | l of S | ervice | | | | | | | | | | | | | |
| Flow Rate, v (veh/h) | 1 | 30 | T | | , | 0 | | | | | 0 | | | | 113 | |
| Capacity, c (veh/h) | | 1398 | | | | 930 | | | | | | | | | 538 | |
| v/c Ratio | | 0.02 | 1 | | | 0.00 | | | | | | | | | 0.21 | T |
| 95% Queue Length, Q95 (veh) | | 0.1 | | | | 0.0 | | | | | | | | | 0.8 | |
| Control Delay (s/veh) | | 7.6 | | | | 8.9 | 1997 CONTRACTOR (1997) | 24910917699[8758] | | | | | LONY DESCRIPTION | | 13.5 | |
| Level of Service (LOS) | | A | | | | Α | | | | | | | | | В | |
| | | | a service of the serv | | 12492033333333333 | - Anno-Antonolistiki | source and the states of the | gante and the ball (1984) | a ga | ana ana ang kabupatèn sa | ang ng ng ng hang bang ba | | esta a su a | and the second | a na ang kanang kalakan ka | |
| Approach Delay (s/veh) | | C |).4 | | | 0. | 0 | | | | | | | 13 | 8.5 | |

Copyright © 2020 University of Florida. All Rights Reserved. AUD = 12.3 SEC = LOS B

HCS咖 TWSC Version 7.8 03_AM_CUM.xtw

| | | | HCS7 | Iwc | o-Wa | y Sto | p-Cc | ontro | I Rep | port | | | | | | |
|---|---------|---------------------------------|--------------------------------------|--------------|------------------|------------------------|-----------------|-------------|----------|----------|---------|-----------------------|--------|--------|--------------------------------|------|
| General Information | | | | | | | Site | Infor | matic | n | | | | | | |
| Analyst | SAS | | | | | | Inter | section | | | BETT | reravia/ | ROSEM | ARY | | |
| Agency/Co. | ATE | | | | | Sector | Juris | diction | | | SAN | TA BARB | ARA CO | UNTY | | |
| Date Performed | 5/12 | /2020 | | | | | East/ | West St | reet | | BETT | ERAVIA | ROAD | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | ROS | EMARY F | ROAD | | | |
| Time Analyzed | AM F | PEAK HC | DUR | | | | Peak | Hour Fa | ictor | | 0.92 | | | | al comunities and decode agest | |
| Intersection Orientation | East- | West | | | | 6 44 A | Anal | ysis Time | e Period | (hrs) | 0.25 | | No. 1 | Sec. 1 | April Aven | |
| Project Description | CUM | IULATIVI | e + pro. | JECT | | | | | | | | | | | | |
| Lanes | | | | | | | | | | N. State | Sec. 24 | and the second second | | | | |
| | | | | 14 174 P C A | * * • • | ۲ ۲ or Street Ea | st-West | 174471 4 | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | | | | | | | | | | | | |
| Approach | Τ | East | bound | | Τ | West | bound | | | North | bound | | | South | bound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 10 | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 28 | 616 | 2 | | 0 | 143 | 10 | | 0 | 0 | 0 | | 82 | 0 | 22 |
| Percent Heavy Vehicles (%) | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | 0 | | | | 0 | |
| Right Turn Channelized | | | | | | | | | | | | - | | | | |
| Median Type Storage | | | | Undi | vided | | | | | | | | | | | |
| Critical and Follow-up H | eadway | ys | | | | | | | | | | | | | | |
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 6.5 | 6.5 | 6.5 |
| Critical Headway (sec) | | 4.20 | | | | 4.20 | | | | 7.20 | 6.60 | 6.30 | | 6.00 | 6.60 | 5.00 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.5 |
| | | 2.29 | <u> </u> | | | 2.29 | ather dents for | | | 3.59 | 4.09 | 3.39 | | 3.00 | 4.09 | 3.00 |
| Follow-Up Headway (sec) | d Level | l of Se | ervice | | | | | | | | | | | | | |
| Follow-Up Headway (sec) Delay, Queue Length, an | | 30 | | | | 0 | | | | | 0 | | | | 113 | |
| Delay, Queue Length, an Flow Rate, v (veh/h) | | 50 | Contraction of the local division of | | 1 March | 882 | | | | | | | | | 479 | |
| Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | 1364 | | | | | | | | | | | | | | |
| Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio | | 1364 0.02 | | | | 0.00 | | | | | | | | | 0.24 | |
| Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 1364 0.02 0.1 | | | | 0.0 | | | | | | | | | 0.9 | |
| Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q₃₅ (veh) Control Delay (s/veh) | | 1364 0.02 0.1 7.7 | | | | 0.0 9.1 | | | | | | | | | 0.9 14.8 | |
| Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 1364 0.02 0.1 7.7 A | .3 | | | 0.0 | | | | | | | | | 0.9 | - |

Copyright © 2020 University of Florida. All Rights Reserved.

AWD = 13.31

HCSTM TWSC Version 7.8.5 03_AM_CUM+PROJ.xtw Generated: 7/21/2020 8:58:48 AM

| | | ŀ | HCS7 | Twc | -Wa | y Sto | p-Cc | ontro | l Rep | ort | | | | | | |
|---|--------|-------------------|--------|--------------|---|------------------------|-----------|---------------|--|-------|------------------------------|----------|--|-------|----------|--------------------|
| General Information | | | | | | | Site | Infor | matio | n | | | | | | |
| Analyst | SAS | | | | | | Inter | section | | | BETT | reravia/ | ROSEM | ARY | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SAN | TA BARB | ARA CO | UNTY | | |
| Date Performed | 5/12 | /2020 | | | | | East/ | /West St | reet | | BETT | ERAVIA | ROAD | | | |
| Analysis Year | EX | | | | | | Nort | h/South | Street | | ROS | EMARY F | ROAD | | | |
| Time Analyzed | PM F | РЕАК НС | DUR | | | | Peak | Hour Fa | ctor | | 0.92 | | | | | |
| Intersection Orientation | East- | West | | | | | Anal | ysis Time | e Period | (hrs) | 0.25 | | | | | |
| Project Description | EXIS | TING CC | NDITIO | ٧S | teorie Assegnance Anero | | | | a new configuration of the second | | | | | | | |
| Lanes | | | | | | | | | | | | | | | | |
| | | | | 14 174 P C | , ; , , , , , , , , , , , | ۲ T or Street Ea | st-Was+ | 4 1 7 4 7 7 R | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | Iviaj | | 131-14631 | | | | | | | | | |
| Approach | 1.00 | East | bound | | T | West | bound | | | North | bound | | | South | bound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 36 | 100 | 0 | | 0 | 303 | 58 | | 3 | 1 | 0 | | 26 | 0 | 42 |
| Percent Heavy Vehicles (%) | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | 0 | | | | 0 | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type Storage | | | | Undi | vided | | | | | | | | | | | |
| Critical and Follow-up H | eadwa | ys | | | | | | | | | | | | _ | | |
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 7.1 | 6.5 | 6.3 |
| Critical Headway (sec) | | 4.20 | | | | 4.20 | | | | 7.20 | 6.60 | 6.30 | | 7.20 | 6.60 | 6.30 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.3 |
| Follow-Up Headway (sec) | | 2.29 | | L | | 2.29 | | L | | 3.59 | 4.09 | 3.39 | | 3.59 | 4.09 | 3.39 |
| Delay, Queue Length, an | d Leve | l of S | ervice | | | | | | | | | | | | | |
| Flow Rate, v (veh/h) | | 39 | | | | 0 | | | | | 4 | | | | 74 | |
| | | 1124 | | | | 1433 | | | | | 386 | | | | 1078 | |
| Capacity, c (veh/h) | 1 | 0.03 | | | | 0.00 | | | | | 0.01 | | | | 0.07 | |
| v/c Ratio | | all second second | | A CONTRACTOR | | 0.0 | | | | | 0.0 | | | | 0.2 | |
| v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 0.1 | | | | | - | | - | | and the second second second | 1 | and a state of the | | | Contraction of the |
| v/c Ratio 95% Queue Length, Q₃₅ (veh) Control Delay (s/veh) | | 8.3 | | | | 7.5 | | | | | 14.4 | | | | 8.6 | |
| v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 8.3 A | .2 | | | | | | | 14 | В | | | | 8.6 A | |

Copyright © 2020 University of Florida. All Rights Reserved. AwD = 8.75 EC = CO5 A

HCSTM TWSC Version 7.8 03_PM_EX.xtw Generated: 5/12/2020 7:40:02 AM

| | | l'and l' | HCS/ | Two | -Wa | y Sto | p-cc | ontro | l Rep | port | | | | | | |
|--|--------|---|---------|-----------------|-------|--|-------------------|---------------------------|----------|-----------------------------|---|----------------------|--------|------------------------------------|--|--------------------------|
| General Information | | | | | | | Site | Infor | matic | n | | | | | | |
| Analyst | SAS | | | | | | Inter | rsection | | | BET | reravia, | /ROSEM | ARY | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | | TA BARB | | | | |
| Date Performed | 5/12 | /2020 | | | | | East, | /West St | reet | | BETT | FERAVIA | ROAD | | | |
| Analysis Year | EX | | | | | | Nort | h/South | Street | | ROS | EMARY F | ROAD | | e. | |
| Time Analyzed | PM F | РЕАК НС | UR | | | initing spectra and a post | Peak | Hour Fa | actor | | 0.92 | | | ng Lang ang Property Name of State | | |
| Intersection Orientation | East- | West | | | | | Anal | ysis Tim | e Period | (hrs) | 0.25 | | | | | |
| Project Description | EXIST | TING + I | PROJECT | | | | allower and and | | | n de antes de rende a comme | | | | | | |
| Lanes | | | | | | | | | | | | | | | | |
| | | | | 1 4 1 7 4 P C D | | ۰ T jor Street: Ea | t ₽ ₹ ıst-West | 4 4 1 7 4 4 7 1 4 6 | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | | | | | 1 | | | | | | | |
| Approach | | East | bound | | | West | bound | | | North | nbound | | | South | nbound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 36 | 401 | 0 | | 0 | 358 | 58 | | 3 | 1 | 0 | | 26 | 0 | 42 |
| and the second | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| Percent Heavy Vehicles (%) | | - | 1 | | | | | | | | | A WELST AND THE REAL | | | | |
| Proportion Time Blocked | | | | | | | | | | | | | | | <u> </u> | |
| Proportion Time Blocked Percent Grade (%) | | | | | | | | | | | 0 | | | | 0 | <u> </u> |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized | | | | | | <u> </u> | | | | | 0 | | | | 0 | |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | | | | Undi | vided | | | | | | 0 | | | <u> </u> | 0 | I |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H | eadwa | ys | | Undi | vided | | | | | | | | | | 0 | |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) | eadway | ys 4.1 | | Undi | vided | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 7.1 | 6.5 | 6.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) | eadway | 4.1 4.20 | | Undi | vided | 4.20 | | | | 7.1 7.20 | 6.5 6.60 | 6.30 | | 7.1 7.20 | 6.5 6.60 | 6.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | eadway | 4.1 4.20 2.2 | | Undi | vided | 4.20 2.2 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | 4.1 4.20 2.2 2.29 | | | vided | 4.20 | | | | 7.1 7.20 | 6.5 6.60 | 6.30 | | 7.1 7.20 | 6.5 6.60 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | | 4.1 4.20 2.2 2.29 | ≥rvice | | vided | 4.20 2.2 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | 4.1 4.20 2.2 2.29 | ≥rvice | | vided | 4.20 2.2 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | 4.1 4.20 2.2 2.29 1 of Se 39 1067 | ≥rvice | | vided | 4.20 2.2 2.29 0 1083 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 4.213 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 74 602 | 6.3 6.3 3.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio | | 4.1 4.20 2.2 2.29 of Se 39 | ≥rvice | | vided | 4.20 2.2 2.29 0 1083 0.00 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 4.09 4.13 0.02 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 74 602 0.12 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 4.1 4.20 2.2 2.29 of Se 39 1067 0.04 0.1 | ≥rvice | | vided | 4.20 2.2 2.29 0 1083 0.00 0.0 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 4.213 0.02 0.1 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 74 602 0.12 0.4 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) | | 4.1 4.20 2.2 2.29 I of Se 39 1067 0.04 0.1 8.5 | 2rvice | | vided | 4.20 2.2 2.29 0 1083 0.00 0.0 8.3 | | | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 4.09 4.13 0.02 0.1 22.2 | 6.30 3.3 | | 7.1 7.20 3.5 | 6.5 6.60 4.0 4.09 74 602 0.12 0.4 11.8 | 6.3 3.3 |
| Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 4.1 4.20 2.2 2.29 1 of Se 39 1067 0.04 0.1 8.5 A | ervice | | vided | 4.20 2.2 2.29 0 1083 0.00 0.0 | | | | 7.1 7.20 3.5 3.59 | 6.5 6.60 4.0 4.09 4.213 0.02 0.1 | 6.30 3.3 | | 7.1 7.20 3.5 3.59 | 6.5 6.60 4.0 4.09 74 602 0.12 0.4 | 6.3 3.3 |

Copyright © 2020 University of Florida. All Rights Reserved.

HCSTM TWSC Version 7.8.5 03_PM_EX+PROJ.xtw Generated: 7/21/2020 8:57:49 AM

AWD = 11:06

| | | ŀ | ICS7 | Two | -Way | y Sto | р-Сс | ntro | l Rep | oort | | | | | | |
|---|--------|--|--------|-----------------------|--|---|------------------|--------------|-------------|---------------|--|-------------|-------------------------------------|-------|--|----------------------|
| General Information | | | | | | | Site | Infor | matio | n | | | | | | 1 |
| Analyst | SAS | | | | | | Inter | section | | | BETT | ERAVIA/ | ROSEMA | .RY | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | | | ARA COL | | | |
| Date Performed | 5/12, | /2020 | | | | | East/ | West St | reet | | BETT | ERAVIA I | ROAD | | | di anti di anti anti |
| Analysis Year | EX | | | | | | Nort | h/South | Street | | ROSI | EMARY R | ROAD | | | |
| Time Analyzed | PM P | EAK HC | UR | | ele alemais ani statute de la seconda de | | Peak | Hour Fa | octor | | 0.92 | | ele senset rando estato da distata. | | alita din ang kanalang kanala | |
| Intersection Orientation | East- | West | | | | | Analy | /sis Tim | e Period | (hrs) | 0.25 | | | | | |
| Project Description | CUM | ULATIVE | | 51 2.4 A & CONTRACTOR | | | | | | | | | - | | | |
| Lanes | | | | | | | | | Landren (he | | | | | | | |
| | | | | 2 4 1 Y 4 4 7 | | ۲ مr Street: Ea | t t č st-West | 1114 471 F F | | | | | | | | |
| Vehicle Volumes and Adj | justme | nts | | | | | | | | | | | | | | |
| Approach | Ι | Easth | bound | | | West | bound | | | North | bound | | | South | bound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 10 | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | L | | TR | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 36 | 139 | 0 | | 0 | 348 | 58 | | 3 | 1 | 0 | | 26 | 0 | 42 |
| Percent Heavy Vehicles (%) | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | 0 | | | (| 0 | |
| Right Turn Channelized | | | | | | | | | - | | | | | | | |
| and the second | | | | Undi | vided | | | | | | | | | | | |
| Median Type Storage | - | | | | | | | | | | | | | | | |
| Median Type Storage | eadway | ys | | | | | | | | | | | | 7.1 | 6.5 | 6.3 |
| Median Type Storage | eadway | ys 4.1 | | | | 4.1 | | | - | 7.1 | 6.5 | 6.2 | | | | 6.30 |
| Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) | eadway | | | | | 4.1 4.20 | | | | 7.1 7.20 | 6.5 6.60 | 6.2 6.30 | | 7.20 | 6.60 | |
| Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | eadway | 4.1 4.20 2.2 | | | | 4.20 2.2 | | | | 7.20 3.5 | 6.60 4.0 | 6.30 3.3 | | 3.5 | 4.0 | 3.3 |
| Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) | eadway | 4.1 4.20 | | | | 4.20 | | | | 7.20 | 6.60 | 6.30 | | | | |
| Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | | 4.1 4.20 2.2 2.29 | ervice | | | 4.20 2.2 | | | | 7.20 3.5 | 6.60 4.0 | 6.30 3.3 | | 3.5 | 4.0 | 3.3 |
| Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | 4.1 4.20 2.2 2.29 | ervice | | | 4.20 2.2 | | | | 7.20 3.5 | 6.60 4.0 | 6.30 3.3 | | 3.5 | 4.0 | 3.3 |
| Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an | | 4.1 4.20 2.2 2.29 of Se | ervice | | | 4.20 2.2 2.29 | | | | 7.20 3.5 | 6.60 4.0 4.09 | 6.30 3.3 | | 3.5 | 4.0 4.09 | 3.3 |
| Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) | | 4.1 4.20 2.2 2.29 of Se 39 | ervice | | | 4.20 2.2 2.29 0 | | | | 7.20 3.5 | 6.60 4.0 4.09 | 6.30 3.3 | | 3.5 | 4.0 4.09 74 | 3.3 |
| Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | 4.1 4.20 2.2 2.29 of Se 39 1077 | ervice | | | 4.20 2.2 2.29 0 1382 | | | | 7.20 3.5 | 6.60 4.0 4.09 4 335 | 6.30 3.3 | | 3.5 | 4.0 4.09 74 957 | 3.3 |
| Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio | | 4.1 4.20 2.2 2.29 of Se 39 1077 0.04 | ervice | | | 4.20 2.2 2.29 0 1382 0.00 | | | | 7.20 3.5 | 6.60 4.0 4.09 4 335 0.01 | 6.30 3.3 | | 3.5 | 4.0 4.09 74 957 0.08 | 3.3 |
| Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 4.1 4.20 2.2 2.29 of Se 39 1077 0.04 0.1 | | | | 4.20 2.2 2.29 0 1382 0.00 0.0 | | | | 7.20 3.5 3.59 | 6.60 4.0 4.09 4 335 0.01 0.0 | 6.30 3.3 | | 3.5 | 4.0 4.09 74 957 0.08 0.3 9.1 A | 3.3 |

Copyright © 2020 University of Florida. All Rights Reserved. AWD = 9.1 Sec = CP5 A

HCSTM TWSC Version 7.8 03_PM_CUM.xtw Generated: 5/12/2020 7:42:22 AM

| ApproachImage: Selection of the | | | ŀ | ICS/ | IWO | -wa | y Sto | p-Cc | ontro | т кер | oort | | | | | | | |
|--|--|---------------------|---------|-------------|-------------|-----------------------|-------------------|-------------|-----------------------|----------------|-------|-------|----------|--------|------------|-------|---------------------------|--|
| Agency/Co.ATTEATTEJurikalicianSANTA BABABA COUNTYDate Performed5/12/203EXEarl/Vect StreetBETTERAM A ROJAnalysis YearPKPKPREAK HOURPrake More Retar0.02Interaction OrientationEarl-VecatFrake More Retar0.02Project DescriptionCUMULATIVE + PRDIETVecatNantysis Time Period (try)0.25Vecat <td col<="" th=""><th>General Information</th><th></th><th></th><th></th><th></th><th></th><th></th><th>Site</th><th>Infor</th><th>matio</th><th>n</th><th></th><th></th><th></th><th></th><th>·</th><th></th></td> | <th>General Information</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Site</th> <th>Infor</th> <th>matio</th> <th>n</th> <th></th> <th></th> <th></th> <th></th> <th>·</th> <th></th> | General Information | | | | | | | Site | Infor | matio | n | | | | | · | |
| Date Performed 5/12/2020 Est/West Street BETTERAVIA ROAD Analysis Yor EX North/South Street ROSEMAR RADU Time Analyzed PM PEAK HOUR 0.2 Immeration Orientation East-West Peak Hour Factor 0.2 Project Description CUMULATVE + PROJECT Versite Street North/South Street 0.2 Immeration Orientation East-West User Street Versite Street Versite Street South Street South Street Project Description CUMULATVE + PROJECT Versite Street Versite Street South Street South Street Approach East-West Versite Street Versite Street North/South Street South Street Movement U L T R U L T R U L T Northeorid U L T R U L T R U L T Movement U L T R U L T R U L T Moveno teams O 1 < | Analyst | SAS | | | | | | Inter | section | | | BET | reravia/ | ROSEM | ARY | | | |
| Analysis YoarPXVNorth/South StreetROSEMARY ROADTime AnalyzedPMFEAX HOUREast-WestPaek Hour Factor0.92UIntersection OrientationEast-WestVAnalysis Time Period (hrs)0.25UProject DescriptionCUMULATVE + PROJECTVVVVLanesVerified Colspan="4">Verified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetNorth/South StreetVerified Colspan="4">Verified Colspan="4">Verified Colspan="4">Verified Colspan="4">Verified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetVerified Colspan="4">Verified Colspan="4">Verified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetVerified Colspan="4">Verified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetVerified Colspan="4">Verified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetVerified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetNorth/South StreetVerified Colspan="4">North/South StreetNorth/South StreetNorth/South StreetNorth/South StreetApproachULTRULTSouth StreetN | Agency/Co. | ATE | | | | | | Juris | diction | | | SAN | TA BARB | ARA CO | UNTY | | | |
| Time Analyzed PM PEAK HOUR Peak Hour Factor 0.92 Intersection Orientation East-West Analysis Time Period (ins) 0.25 Project Description CUMULATIVE + PROJECT Vertex Novement 0.25 Lanes Vertex Novement U Vertex Novement Vertex Novement Vertex Novement Approach East-West Vertex Novement Novement 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 0 0 1 1 0 0 0 1 0 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 </td <td>Date Performed</td> <td>5/12,</td> <td>/2020</td> <td></td> <td></td> <td></td> <td></td> <td>East/</td> <td>West St</td> <td>reet</td> <td></td> <td>BETT</td> <td>ERAVIA</td> <td>ROAD</td> <td></td> <td></td> <td>solati hun Carpolycise va</td> | Date Performed | 5/12, | /2020 | | | | | East/ | West St | reet | | BETT | ERAVIA | ROAD | | | solati hun Carpolycise va | |
| Intersection Orientation East-West Analysis Time Period (hrs) 0.25 Project Description CUMULATIVE + PROJECT Summary Summar | Analysis Year | EX | | | | | 1997 2014 - 1 | Nort | h/South | Street | | ROS | EMARY F | ROAD | | | | |
| Project Description CUMULATIVE + PROJECT Lanes Project Description Project D | Time Analyzed | PM P | РЕАК НС | UR | | | | Peak | Hour Fa | ictor | | 0.92 | | | | | | |
| Ines Intervention of the set of the se | Intersection Orientation | East- | West | | 1 | | | Anal | ysis Time | e Period | (hrs) | 0.25 | | | 14 . A. M. | | | |
| Alian Series Alian Series< | Project Description | CUM | ULATIVE | E + PROJ | ECT | | | | | | | | | | | | | |
| Image: Section of the s | Lanes | | | | | | | | | | | | | | | | | |
| ApproachUExstustionUUUISubstrainSubstrainMovementULTRQLTRULTRULTPriority1U1U1234U4566I7889101011Number of Lanes0110001101010101010101011ConfigurationIII000110< | | | | | 1 4 1 7 4 P | | *** | | 4 4 1 7 4 4 7 1 | | | | | | | | | |
| MovementULTRUIII </td <td>Vehicle Volumes and Ad</td> <td>justme</td> <td>nts</td> <td></td> | Vehicle Volumes and Ad | justme | nts | | | | | | | | | | | | | | | |
| Priority1U1U1234U456C78901011Number of Lanes011001011001010010< | Approach | 14 | East | bound | | | West | bound | | | North | bound | | | South | bound | | |
| Number of Lanes01100010010010010011001101010101010101010101010101011010110101010 | Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R | |
| ConfigurationILITRIII< | | _ | | 2 | | | | | | | | 8 | | | | | 12 | |
| Volume (veh/h)Image: Normal and the state of | and the second | 0 | | 1 | 1 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| Percent Heavy Vehicles (%)10 </td <td></td> | | | | | | | | | | | | | | | | | | |
| Proportion Time BlockedII <t< td=""><td>- to the second s</td><td></td><td></td><td>440</td><td>0</td><td></td><td></td><td>403</td><td>58</td><td>10000</td><td></td><td></td><td></td><td></td><td></td><td>-</td><td>42</td></t<> | - to the second s | | | 440 | 0 | | | 403 | 58 | 10000 | | | | | | - | 42 | |
| Percent Grade (%) Image: Control Delay (| The second s | | 10 | | | | 10 | | | | 10 | 10 | 10 | | 10 | 10 | 10 | |
| Right Turn Channelized Image: Control of the contr | and the second | | | | | | | | | | | 0 | | | | | | |
| Median Type Storage Undivided Undivided State | the state of the s | | | | | | | | | | | 0 | | | | 0 | | |
| Critical and Follow-up Headway (sec) 4.1 4.1 7.1 6.5 6.2 7.1 6.5 Critical Headway (sec) 4.20 4.20 4.20 4.20 6.00 6.30 7.20 6.60 Base Critical Headway (sec) 2.2 4.20 4.20 2.2 6.00 6.30 7.20 6.60 Base Follow-Up Headway (sec) 2.29 2.29 2.29 2.20 3.55 4.00 3.33 3.55 4.00 Follow-Up Headway (sec) 2.29 2.29 2.29 2.20 3.55 4.09 3.39 3.59 4.09 Delay, Queue Length, and Leve reveree Flow Rate, v (veh/h) 39 0 0 0 4 4 0 0 74 Gapacity, c (veh/h) 1023 0 0.00 0 0 184 10 0.0 104 95% Queue Length, Q ₂₅ (veh) 0.1 0.1 0.1 0.1 0.1 0.1 0.1 10.1 10.1 10.1 10.1 10.1 10.1 10.1 10.1 10.1 10.1 | the line should be used to be the set of the bolt of the set of the | | | | Undi | vided | | | | | | | | | | | | |
| Base Critical Headway (sec) 4.1 4.1 7.1 6.5 6.2 7.1 6.5 Critical Headway (sec) 4.20 4.20 4.20 7.20 6.60 6.30 7.20 6.60 Base Follow-Up Headway (sec) 2.2 2.29 2.29 3.5 4.00 3.3 3.55 4.09 Follow-Up Headway (sec) 2.29 2.29 3.55 4.00 3.35 4.09 3.59 4.09 3.09 5.0 5.0 | | | | | Unu | videu | | | | | | | | | | | | |
| Critical Headway (sec) 4.20 4.20 4.20 7.20 6.60 6.30 7.20 6.60 Base Follow-Up Headway (sec) 2.2 2.2 2.2 3.5 4.0 3.3 3.5 4.0 Follow-Up Headway (sec) 2.29 2.29 2.29 3.59 4.09 3.39 3.59 4.09 Pelay, Queue Length, and Level of Service 0 0 4 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>41</td><td></td><td></td><td>1.000</td><td>71</td><td></td><td>62</td><td></td><td>71</td><td>C.F.</td><td>6.3</td></th<> | | | | | | | 41 | | | 1.000 | 71 | | 62 | | 71 | C.F. | 6.3 | |
| Base Follow-Up Headway (sec)2.222.22.23.54.03.33.54.0Follow-Up Headway (sec)2.292.292.293.594.093.393.594.09Delay, Queue Length, and Leve of ServiceFlow Rate, v (veh/h)39000104410104101074Capacity, c (veh/h)102301044104410101841010520v/c Ratio0.040.1100.00101010.110. | | | | Geographica | 1000 | and the second second | | and the set | and the second | | | | | | | | 6.30 | |
| Follow-Up Headway (sec)2.292.292.293.594.093.393.594.09Delay, Queue Length, and Leve of ServiceFlow Rate, v (veh/h)3900044074Capacity, c (veh/h)102301044041840520v/c Ratio0.04000.00000.02100.10.1495% Queue Length, Q ₉₅ (veh)0.10.100.00.00.00.10.10.5Control Delay (s/veh)8.708.4000025.00.013.1 | | | | | - | | | | | | | | | | | | 3.3 | |
| Pelay, Queue Length, and Level of Service Flow Rate, v (veh/h) 39 0 0 4 74 Capacity, c (veh/h) 1023 104 1044 184 104 520 v/c Ratio 0.04 1 0.00 1 10.02 10.0 1044 95% Queue Length, Q ₉₅ (veh) 0.1 1 0.00 1 1 0.01 0.01 0.05 Control Delay (s/veh) 8.7 1 8.4 1 25.0 1 13.1 | | | | | | | | | | | | | | | | | 3.39 | |
| Flow Rate, v (veh/h) 39 0 0 100 4 0 74 Capacity, c (veh/h) 1023 0 1044 0 184 0 520 v/c Ratio 0.04 0 0.00 0 0 0.02 0 0.1 0.14 95% Queue Length, Q ₉₅ (veh) 0.1 0 0.0 0 0 0.1 0.5 Control Delay (s/veh) 8.7 8.7 8.4 8.4 10 10 10 10.1 10.1 11.1 | | dlove | | | | Colores and | | | | Constanting of | 0.00 | L | 0.00 | | 0.00 | 1.05 | | |
| Capacity, c (veh/h) 1023 1023 1044 1044 1055 184 1055 520 v/c Ratio 0.04 0.04 0.00 0.00 0.00 0.02 0.02 0.00 0.14 95% Queue Length, Q ₉₅ (veh) 0.1 0.0 0.00 0.0 0.0 0.0 0.0 0.1 0.1 0.5 Control Delay (s/veh) 8.7 8.7 8.4 8.4 1.0 1.0 25.0 1.0 1.0 1.0 | | | | | | | | | | | | | | | - | 74 | | |
| v/c Ratio 0.04 0 0.00 0 0 0.02 0 0.14 95% Queue Length, Q ₉₅ (veh) 0.1 0 0.0 0 0 0.1 0.0 0.0 0.1 0.1 0.5 Control Delay (s/veh) 8.7 0 8.4 0 0 25.0 0 13.1 | | | | | | | | | | | | | | | | - | NOVEDU | |
| 95% Queue Length, Q ₉₅ (veh) 0.1 0.1 0.0 0.0 0.0 0.1 0.1 0.5 Control Delay (s/veh) 8.7 0 8.4 0 0 25.0 0 13.1 | | | | | | | | | | | | | | | | | | |
| Control Delay (s/veh) 8.7 8.4 25.0 13.1 | | | | | | 1.154.121 | | | | | | | | | | | - | |
| | and the second | | | | | | | | | | | | - | | | | | |
| | The second se | | | | | | Contra Palma Surf | | | | | | | | | | 1000 | |
| Approach Delay (s/veh) 0.7 0.0 25.0 13.1 | and all the state of the second state of the s | | | .7 | | | | 0 | | | 2 | 12000 | | | 13 | | | |

Copyright © 2020 University of Florida. All Rights Reserved.

HCS112 TWSC Version 7.8.5 03_PM_CUM+PROJ.xtw Generated: 7/21/2020 8:59:30 AM

AWD = 12.04

2: US 101 SB & Betteravia EXISTING AM PEAK HOUR

| | ۶ | - | 7 | 4 | - | * | 1 | 1 | 1 | 1 | ţ | 1 |
|---|--------------|------------|--------------|--------------|------------|--------------|------|------|-----|----------------------------|------------|------------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ካ | tttt | 1 | ሻ | ^ | | | | | ሻ | र्भ | 11 |
| Traffic Volume (veh/h) | 0 | 764 | 206 | 39 | 420 | 0 | 0 | 0 | 0 | 101 | 1 | 1025 |
| Future Volume (veh/h) | 0 | 764 | 206 | 39 | 420 | 0 | 0 | 0 | 0 | 101 | 1 | 1025 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 1.00 | 1 00 | 1.00 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | | | | 1.00 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj Work Zone On Approach | | 1.00 No | 1.00 | 1.00 | No | 1.00 | | | | 1.00 | No | 1.00 |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 0 | 796 | 215 | 41 | 438 | 0 | | | | 1020 | 0 | 1020 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | | | | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 0 | | | | 5 | 5 | 5 |
| Cap, veh/h | 1086 | 3725 | 1178 | 51 | 576 | 0 | | | | 265 | 0 | 2168 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.03 | 0.17 | 0.00 | | | | 0.08 | 0.00 | 0.08 |
| Sat Flow, veh/h | 1739 | 4893 | 1547 | 1739 | 3561 | 0 | | | | 3478 | 0 | 3095 |
| Grp Volume(v), veh/h | 0 | 796 | 215 | 41 | 438 | 0 | | | | 106 | 0 | 1068 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1223 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.1 | 10.8 | 0.0 | | | | 2.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.1 | 10.8 | 0.0 | | | | 2.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1086 | 3725 | 1178 | 51 | 576 | 0 | | | | 265 | 0 | 2168 |
| V/C Ratio(X) | 0.00 | 0.21 | 0.18 | 0.80 | 0.76 | 0.00 | | | | 0.40 | 0.00 | 0.49 |
| Avail Cap(c_a), veh/h | 1086 | 3725 | 1178 | 155 | 1002 | 0 | | | | 348 | 0 | 2242 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.91 | 0.91 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 43.4 | 35.8 | 0.0 | | | | 39.6 | 0.0 | 6.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.3 | 24.3 | 2.1 | 0.0 0.0 | | | | 1.0 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh %ile BackOfQ(50%),veh/ | 0.0 | 0.0 0.0 | 0.0 0.1 | 0.0 1.2 | 0.0 4.5 | 0.0 | | | | 0.0 1.1 | 0.0 0.0 | 0.0 3.3 |
| Unsig. Movement Delay, | | 0.0 | 0.1 | 1.2 | 4.5 | 0.0 | | | | 1.1 | 0.0 | 0.0 |
| LnGrp Delay(d),s/veh | 0.0 | 0.1 | 0.3 | 67.7 | 37.9 | 0.0 | | | | 40.6 | 0.0 | 6.3 |
| LnGrp LOS | A | A | A | E | D | A | | | | 40.0 D | A | A |
| Approach Vol, veh/h | | 1011 | | - | 479 | | | | | | 1174 | |
| Approach Delay, s/veh | | 0.2 | | | 40.5 | | | | | | 9.4 | |
| Approach LOS | | A | | | D | | | | | | A | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | ç | | 6.6 | 72.5 | | 10.9 | 60.2 | 19.0 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | | 8.0 | 61.0 | | 9.0 | 43.0 | 26.0 | | | | |
| Max Q Clear Time (g c+ | | | 4.1 | 2.0 | | 4.6 | 0.0 | 12.8 | | | | |
| Green Ext Time (p c), s | .,, - | | 0.0 | 6.9 | | 2.2 | 0.0 | 2.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 11.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| | 1 | | - | | | | | | | and a straight straight an | | |

Notes

User approved volume balancing among the lanes for turning movement.

2: US 101 SB & Betteravia EXISTING + PROJECT AM PEAK HOUR

| | ۶ | - | 7 | * | - | * | 1 | † | 1 | 1 | Ļ | 1 |
|--|----------------------|------------|------|------|------------|--------------------------|------------|---|-----|------|------------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ٦ | tttt | 1 | ٦ | ** | | | | | ሻ | र्भ | 11 |
| Traffic Volume (veh/h) | 0 | 781 | 206 | 44 | 427 | 0 | 0 | 0 | 0 | 129 | 1 | 1025 |
| Future Volume (veh/h) | 0 | 781 | 206 | 44 | 427 | 0 | 0 | 0 | 0 | 129 | 1 | 1025 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1 00 | 1.00 | 1.00 | 1 00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 No | 1.00 | 1.00 | 1.00 No | 1.00 | | | | 1.00 | 1.00 No | 1.00 |
| Work Zone On Approach | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Sat Flow, veh/h/ln Adj Flow Rate, veh/h | 0 | 814 | 215 | 46 | 445 | 0 | | | | 135 | 1020 | 1068 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | | | | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | | | | 0.90 | 0.90 | 0.90 |
| Cap, veh/h | 1060 | 3638 | 1150 | 58 | 581 | 0 | | | | 313 | 0 | 2164 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.03 | 0.17 | 0.00 | | | | 0.09 | 0.00 | 0.09 |
| Sat Flow, veh/h | 1739 | 4893 | 1547 | 1739 | 3561 | 0.00 | | | | 3478 | 0.00 | 3095 |
| Grp Volume(v), veh/h | 0 | 814 | 215 | 46 | 445 | 0 | | | | 135 | 0 | 1068 |
| Grp Sat Flow(s), veh/h/ln | | 1223 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.4 | 11.0 | 0.0 | | | | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.4 | 11.0 | 0.0 | | | | 3.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 0.0 | 1.00 | 1.00 | 11.0 | 0.00 | | | | 1.00 | 0.0 | 1.00 |
| Lane Grp Cap(c), veh/h | 1060 | 3638 | 1150 | 58 | 581 | 0 | | | | 313 | 0 | 2164 |
| V/C Ratio(X) | 0.00 | 0.22 | 0.19 | 0.80 | 0.77 | 0.00 | | | | 0.43 | 0.00 | 0.49 |
| Avail Cap(c_a), veh/h | 1060 | 3638 | 1150 | 155 | 964 | 0 | | | | 425 | 0 | 2264 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.91 | 0.91 | 0.99 | 0.99 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 43.2 | 35.8 | 0.0 | | | | 38.8 | 0.0 | 6.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.3 | 21.0 | 2.1 | 0.0 | | | | 0.9 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ | 'In 0.0 | 0.0 | 0.1 | 1.3 | 4.6 | 0.0 | | | | 1.4 | 0.0 | 3.3 |
| Unsig. Movement Delay, | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.1 | 0.3 | 64.2 | 37.9 | 0.0 | | | | 39.7 | 0.0 | 6.4 |
| LnGrp LOS | А | А | А | E | D | А | | | | D | А | А |
| Approach Vol, veh/h | | 1029 | | | 491 | and the second | | 5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | | | 1203 | 1000 |
| Approach Delay, s/veh | | 0.2 | | | 40.4 | | | | | | 10.1 | |
| Approach LOS | | А | | | D | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | S | | 7.0 | 70.9 | | 12.1 | 58.8 | 19.1 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | x), s | | 8.0 | 59.0 | | 11.0 | 42.0 | 25.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | | 4.4 | 2.0 | | 5.3 | 0.0 | 13.0 | | | | |
| Green Ext Time (p_c), s | | | 0.0 | 7.0 | | 2.8 | 0.0 | 2.0 | | | | |
| Intersection Summary | | | 1000 | | | | | | | | | |
| HCM 6th Ctrl Delay | and the second | | 11.8 | | | | | 1992 | | | | |
| HCM 6th LOS | | | В | | | | | | | | | |
| | A COLORED OF COLORED | | | | | Server and the server of | CHURCH THE | West Contractor | | | | |

Notes

User approved volume balancing among the lanes for turning movement.

2: US 101 SB & Betteravia CUMULATIVE AM PEAK HOUR

| | ۶ | - | 7 | 1 | + | * | 1 | 1 | 1 | 1 | ÷. | 4 |
|---------------------------|--------|------|------|------|----------|------|------|------|-----|--------------------------|------|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻ | tttt | 7 | ሻ | ^ | | | | | ሻ | र्भ | 77 |
| Traffic Volume (veh/h) | 0 | 773 | 237 | 56 | 492 | 0 | 0 | 0 | 0 | 120 | 1 | 1063 |
| Future Volume (veh/h) | 0 | 773 | 237 | 56 | 492 | 0 | 0 | 0 | 0 | 120 | 1 | 1063 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 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 | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 0 | 805 | 247 | 58 | 512 | 0 | | | | 126 | 0 | 1107 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | | | | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 0 | | | | 5 | 5 | 5 |
| Cap, veh/h | 1024 | 3597 | 1137 | 74 | 655 | 0 | | | | 310 | 0 | 2098 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.04 | 0.19 | 0.00 | | | | 0.09 | 0.00 | 0.09 |
| Sat Flow, veh/h | 1739 | 4893 | 1547 | 1739 | 3561 | 0 | | | | 3478 | 0 | 3095 |
| Grp Volume(v), veh/h | 0 | 805 | 247 | 58 | 512 | 0 | | | | 126 | 0 | 1107 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1223 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 3.0 | 12.6 | 0.0 | | | | 3.1 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 3.0 | 12.6 | 0.0 | | | | 3.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1024 | 3597 | 1137 | 74 | 655 | 0 | | | | 310 | 0 | 2098 |
| V/C Ratio(X) | 0.00 | 0.22 | 0.22 | 0.78 | 0.78 | 0.00 | | | | 0.41 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 1024 | 3597 | 1137 | 174 | 1002 | 0 | | | | 425 | 0 | 2201 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.91 | 0.91 | 0.99 | 0.99 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 42.7 | 34.7 | 0.0 | | | | 38.7 | 0.0 | 7.3 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.4 | 16.2 | 2.2 | 0.0 | | | | 0.9 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ | In 0.0 | 0.0 | 0.1 | 1.6 | 5.2 | 0.0 | | | | 1.3 | 0.0 | 3.9 |
| Unsig. Movement Delay, | s/veh | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.1 | 0.4 | 58.9 | 37.0 | 0.0 | | | | 39.6 | 0.0 | 7.5 |
| LnGrp LOS | А | А | А | E | D | А | | | | D | А | A |
| Approach Vol, veh/h | | 1052 | | | 570 | | | | | | 1233 | |
| Approach Delay, s/veh | | 0.2 | | | 39.2 | | | | | | 10.8 | |
| Approach LOS | | А | | | D | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | s | | 7.8 | 70.1 | | 12.0 | 57.0 | 21.0 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | x), s | | 9.0 | 58.0 | | 11.0 | 41.0 | 26.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | | 5.0 | 2.0 | | 5.1 | 0.0 | 14.6 | | | | |
| Green Ext Time (p_c), s | | | 0.0 | 7.1 | | 2.9 | 0.0 | 2.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 12.5 | | | | | | | | | |
| HCM 6th LOS | | | В | | | | | | | | | an a |
| | | | | | | | - | | | CONTRACT OF CASE OF CASE | | |

Notes

2: US 101 SB & Betteravia CUMULATIVE + PROJECT AM PEAK HOUR

| | ۶ | - | * | • | - | * | 1 | 1 | 1 | 1 | ţ | 1 |
|--|-----------|-------------|-------------|------------|------------|--------|-----------------------|------------------------------|--|-------------|--------------------|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ٦ | tttt | 1 | ٦ | ** | | | | | ሻ | 4 | 11 |
| Traffic Volume (veh/h) | 0 | 790 | 237 | 61 | 499 | 0 | 0 | 0 | 0 | 148 | 1 | 1063 |
| Future Volume (veh/h) | 0 | 790 | 237 | 61 | 499 | 0 | 0 | 0 | 0 | 148 | 1 | 1063 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1 00 | 1.00 | 1.00 | 1 00 | 1.00 | | | | 1.00 | 1 00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | 1000 | 1000 | No 1826 | 0 | | | | 1000 | No 1826 | 1826 |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 823 | 1826 247 | 1826 64 | 520 | 0 0 | | | | 1826 155 | 1020 | 1107 |
| Adj Flow Rate, veh/h Peak Hour Factor | 0 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | | | | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | | | | 0.90 | 0.90 | 0.90 |
| Cap, veh/h | 1003 | 3527 | 1115 | 82 | 663 | 0 | | | | 343 | 0 | 2091 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.05 | 0.19 | 0.00 | | | | 0.10 | 0.00 | 0.10 |
| Sat Flow, veh/h | 1739 | 4893 | 1547 | 1739 | 3561 | 0.00 | | | | 3478 | 0.00 | 3095 |
| | 0 | 823 | 247 | 64 | 520 | 0 | | | | 155 | 0 | 1107 |
| Grp Volume(v), veh/h Grp Sat Flow(s),veh/h/ln | | 1223 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| | 0.0 | 0.0 | 0.0 | 3.3 | 12.8 | 0.0 | | | | 3.8 | 0.0 | 0.0 |
| Q Serve(g_s), s Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 3.3 | 12.8 | 0.0 | | | | 3.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 0.0 | 1.00 | 1.00 | 12.0 | 0.0 | | | | 1.00 | 0.0 | 1.00 |
| Lane Grp Cap(c), veh/h | 1003 | 3527 | 1115 | 82 | 663 | 0.00 | | | | 343 | 0 | 2091 |
| V/C Ratio(X) | 0.00 | 0.23 | 0.22 | 0.78 | 0.78 | 0.00 | | | | 0.45 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 1003 | 3527 | 1115 | 213 | 1002 | 0.00 | | | | 464 | 0.00 | 2198 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.91 | 0.91 | 0.99 | 0.99 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 42.4 | 34.6 | 0.0 | | | | 38.3 | 0.0 | 7.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.4 | 14.5 | 2.3 | 0.0 | | | | 0.9 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ | | 0.0 | 0.1 | 1.7 | 5.3 | 0.0 | | | | 1.6 | 0.0 | 4.0 |
| Unsig. Movement Delay, | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.1 | 0.4 | 56.9 | 37.0 | 0.0 | | | | 39.2 | 0.0 | 7.6 |
| LnGrp LOS | А | А | А | Е | D | А | | | | D | А | А |
| Approach Vol, veh/h | | 1070 | The second | | 584 | | | | | THE LE | 1262 | |
| Approach Delay, s/veh | | 0.2 | | | 39.2 | | | | | | 11.5 | |
| Approach LOS | | А | | | D | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | S | | 8.2 | 68.9 | | 12.9 | 55.9 | 21.2 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | | 11.0 | 55.0 | | 12.0 | 40.0 | 26.0 | | | | |
| Max Q Clear Time (g c+l | | | 5.3 | 2.0 | | 5.8 | 0.0 | 14.8 | | | | |
| Green Ext Time (p_c), s | .,, - | | 0.0 | 7.3 | | 3.1 | 0.0 | 2.4 | | | | |
| Intersection Summary | | a como a | | | 1 1 2 A 4 | | | | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | | | |
| HCM 6th Ctrl Delay | | | 12.9 | | | | | | | | | |
| HCM 6th LOS | | | 12.5 B | | | | | | | | | |
| | | | | | | | and the second second | and the second second second | | | AND DESCRIPTION OF | No. of Street, |

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

INTERSECTION CAPACITY UTILIZATION WORKSHEETCOUNT DATE:02/27/2020TIME PERIOD:A.M. PEAK HOURN/S STREET:US 101 SB RAMPSE/W STREET:BETTERAVIA ROAD

CONTROL TYPE: SIGNAL

| | | | | | TR | AFFIC | VOLUN | IE SU | MMAR | Y | | | | |
|-----------------|----|------|--------|-----|-----|-------|-------|-------|--------|-----|----|----------|---|--|
| | | NORT | TH BOU | JND | SOU | TH BC | UND | EAS | ST BOU | ND | WE | ST BOUNI |) | |
| VOLUMES | l | L | Т | R | Ĺ | Т | R | L | Т | R | L | Т | R | |
| (A) EXISTING: | | 0 | 0 | 0 | 101 | 1 | 1025 | 0 | 764 | 206 | 39 | 420 | 0 | |
| (B) PROJECT-ADD | D: | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 17 | 0 | 5 | 7 | 0 | |
| (C) CUMULATIVE: | | 0 | 0 | 0 | 120 | 1 | 1063 | 0 | 773 | 237 | 56 | 492 | 0 | |

GEOMETRICS

| | NORTH BOUND | SOUTH BOUND | east bound |
|-----------------|-------------|-------------|------------|
| LANE GEOMETRICS | | L LT RR | TT R |

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES(A + B)

SCENARIO 3 = SHORT-TERM CUMULATIVE (C)

SCENARIO 4 = SHORT-TERM CUMULATIVE + PROJECT VOLUMES (B + C)

| | | | | LEVEL | OF SEI | RVICE CALCULATIO | ONS | | | | |
|---------|-------|----------|-----|-------|---------|------------------|------------|------------|------------|------------|--|
| MOVE- | # OF | | | SCE | NARIO V | OLUMES | | | SCENARIO | V/C RATIOS | |
| MENTS | LANES | CAPACITY | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| NBL | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | _ | |
| NBT | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| NBR | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| SBL | 0 | 0 | 101 | 129 | 120 | 148 | - | - | - | - | |
| SBT | 2 | 3200 | 1 | 1 | 1 | 1 | 0.032 | 0.041 | 0.038 | 0.047 | |
| SBR (a) | 2 | 3200 | 769 | 769 | 797 | 797 | 0.240 * | 0.240 * | 0.249 * | 0.249 * | |
| EBL | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| EBT | 2 | 3200 | 764 | 781 | 773 | 790 | 0.239 * | 0.244 * | 0.242 * | 0.247 * | |
| EBR (b) | 1 | 1600 | 144 | 144 | 166 | 166 | 0.090 | 0.090 | 0.104 | 0.104 | |
| WBL | 1 | 1600 | 39 | 44 | 56 | 61 | 0.024 * | 0.028 * | 0.035 * | 0.038 * | |
| WBT | 2 | 3200 | 420 | 427 | 492 | 499 | 0.131 | 0.133 | 0.154 | 0.156 | |
| WBR | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| | | | | | | LOST TIME: | 0.100 * | 0.100 * | 0.100 * | 0.100 * | |
| | | тот | | | | . OF SERVICE: | 0.603 A | 0.612 B | 0.626 B | 0.634 B | |

(b) 30%

Printed: 07/21/20

WEST BOUND

L TT

2: US 101 SB & Betteravia EXISTING PM PEAK HOUR

| | ٨ | - | * | • | - | * | 1 | 1 | 1 | 1 | ţ | 1 |
|---------------------------|-----------|---------------|------|------|----------|------|------|------|-----|------|------|----------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻ | tttt | 1 | ሻ | ^ | | | | | ሻ | र्भ | 77 |
| Traffic Volume (veh/h) | 0 | 1242 | 379 | 45 | 597 | 0 | 0 | 0 | 0 | 64 | 1 | 841 |
| Future Volume (veh/h) | 0 | 1242 | 379 | 45 | 597 | 0 | 0 | 0 | 0 | 64 | 1 | 841 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | 1000 | 1000 | No | 0 | | | | 1000 | No | 1000 |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 0 | 1335 | 408 | 48 | 642 | 0 | | | | 70 | 0 | 904 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 0 | | | | 5 | 5 | 5 |
| Cap, veh/h | 993 | 3262 | 1191 | 61 | 812 | 0 | | | | 215 | 0 | 1958 |
| Arrive On Green | 0.00 | 0.77 | 0.77 | 0.03 | 0.23 | 0.00 | | | | 0.06 | 0.00 | 0.06 |
| Sat Flow, veh/h | 1739 | 4236 | 1547 | 1739 | 3561 | 0 | | | | 3478 | 0 | 3095 |
| Grp Volume(v), veh/h | 0 | 1335 | 408 | 48 | 642 | 0 | | | | 70 | 0 | 904 |
| Grp Sat Flow(s),veh/h/ln | | 1059 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 9.5 | 7.4 | 2.5 | 15.7 | 0.0 | | | | 1.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 9.5 | 7.4 | 2.5 | 15.7 | 0.0 | | | | 1.7 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 0000 | 1.00 | 1.00 | 0.4.0 | 0.00 | | | | 1.00 | - | 1.00 |
| Lane Grp Cap(c), veh/h | 993 | 3262 | 1191 | 61 | 812 | 0 | | | + | 215 | 0 | 1958 |
| V/C Ratio(X) | 0.00 | 0.41 | 0.34 | 0.79 | 0.79 | 0.00 | | | | 0.33 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | 993 | 3262 | 1191 | 174 | 1233 | 0 | | | | 309 | 0 | 2042 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.62 | 0.62 | 0.88 | 0.88 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 3.5 | 3.2 | 43.1 | 32.4 | 0.0 | | | | 40.4 | 0.0 | 8.6 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 0.5 | 18.0 | 1.8 | 0.0 | | | | 0.9 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ | | 1.1 | 1.4 | 1.3 | 6.3 | 0.0 | | | | 0.8 | 0.0 | 3.6 |
| Unsig. Movement Delay, | | 07 | 07 | C1 1 | 24.0 | 0.0 | | | | 11.0 | 0.0 | 07 |
| LnGrp Delay(d),s/veh | 0.0 | 3.7 | 3.7 | 61.1 | 34.2 | 0.0 | | | | 41.3 | 0.0 | 8.7 |
| LnGrp LOS | A | A | A | E | C | A | | | | D | A | <u> </u> |
| Approach Vol, veh/h | | 1743 | | | 690 | | | | | | 974 | |
| Approach Delay, s/veh | | 3.7 | | | 36.1 | | | | | | 11.1 | |
| Approach LOS | | А | | | D | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | | | 7.1 | 73.3 | | 9.6 | 55.4 | 25.1 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | | 9.0 | 61.0 | | 8.0 | 38.0 | 32.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | | 4.5 | 11.5 | | 3.7 | 0.0 | 17.7 | | | | |
| Green Ext Time (p_c), s | | | 0.0 | 15.1 | | 1.8 | 0.0 | 3.4 | | | | |
| Intersection Summary | 19. A 19. | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 12.4 | | | 1.67 | | | | | | |
| HCM 6th LOS | | | В | | | | | | | | | |
| Notoo | | CH COLUMN ALL | | | | | | | | | | |

Notes

2: US 101 SB & Betteravia EXISTING + PROJECT PM PEAK HOUR

| | ۶ | - | * | • | - | * | 1 | 1 | 1 | 1 | Ļ | 4 |
|---------------------------|----------|------------------------|--------------------|----------------|--|------------|-------------|-----------------|----------------------|---------------------|------------|------------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻ | 1111 | 1 | ሻ | † † | | | | | ٦ | र्भ | 77 |
| Traffic Volume (veh/h) | 0 | 1345 | 379 | 57 | 613 | 0 | 0 | 0 | 0 | 202 | 1 | 841 |
| Future Volume (veh/h) | 0 | 1345 | 379 | 57 | 613 | Q | 0 | 0 | 0 | 202 | 1 | 841 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | 1 0 0 | 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 |
| Work Zone On Approach | | No | 1000 | 1000 | No | 0 | | | | 1000 | No | 1000 |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 0 | 1446 | 408 | 61 | 659 | 0 | | | | 218 | 0 | 904 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 0 | | | | 5 | 5 | 5 |
| Cap, veh/h | 888 | 2989 | 1092 | 78 | 833 | 0 | | | | 404 | 0 | 1939 |
| Arrive On Green | 0.00 | 0.71 | 0.71 | 0.04 | 0.24 | 0.00 | | | | 0.12 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1739 | 4236 | 1547 | 1739 | 3561 | 0 | | | | 3478 | 0 | 3095 |
| Grp Volume(v), veh/h | 0 | 1446 | 408 | 61 | 659 | 0 | | | | 218 | 0 | 904 |
| Grp Sat Flow(s),veh/h/ln | | 1059 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 13.7 | 9.5 | 3.1 | 16.0 | 0.0 | | | | 5.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 13.7 | 9.5 | 3.1 | 16.0 | 0.0 | | | | 5.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 0000 | 1.00 | 1.00 | 000 | 0.00 | | | | 1.00 | 0 | 1.00 |
| Lane Grp Cap(c), veh/h | 888 | 2989 | 1092 | 78 | 833 | 0 | | | | 404 | 0 | 1939 |
| V/C Ratio(X) | 0.00 | 0.48 | 0.37 | 0.78 | 0.79 | 0.00 | | | | 0.54 | 0.00 | 0.47 |
| Avail Cap(c_a), veh/h | 888 | 2989 | 1092 | 193 | 1272 | 0 | | | | 580 | 0 | 2095 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.62 | 0.62 | 0.87 | 0.87 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 5.9 | 5.3 | 42.5 | 32.1 1.7 | 0.0 | | | | 37.5 1.1 | 0.0 | 8.9 0.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 0.0 | 0.6 | 13.6 0.0 | 0.0 | 0.0 0.0 | | | | 0.0 | 0.0 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 2.2 | 0.0 | 1.6 | 6.5 | 0.0 | | | | 2.3 | 0.0 | 3.7 |
| %ile BackOfQ(50%),veh/ | | 2.2 | 2.3 | 1.0 | 0.0 | 0.0 | | | | 2.3 | 0.0 | 3.1 |
| Unsig. Movement Delay, | | 6.3 | 5.9 | 56.2 | 33.8 | 0.0 | | | | 38.6 | 0.0 | 9.0 |
| LnGrp Delay(d),s/veh | 0.0 A | 0.3 A | 5.9 A | 50.2 E | 33.0 C | 0.0 A | | | | 30.0 D | 0.0 A | 9.0 A |
| LnGrp LOS | A | | A | | the second s | <u> </u> | | Sector Standard | | | 1122 | <u> </u> |
| Approach Vol, veh/h | | 1854 | | | 720 | | | | | | | |
| Approach Delay, s/veh | | 6.2 | | | 35.7 D | | | | | | 14.8 | |
| Approach LOS | | А | | | U | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | | | 8.0 | 67.5 | | 14.5 | 49.9 | 25.6 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | - |
| Max Green Setting (Gma | | | 10.0 | 53.0 | | 15.0 | 30.0 | 33.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | | 5.1 | 15.7 | | 7.3 | 0.0 | 18.0 | | | | |
| Green Ext Time (p_c), s | | | 0.0 | 15.5 | | 3.1 | 0.0 | 3.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 14.5 | | | | | | | | | |
| HCM 6th LOS | | | В | | , | | | | | | | |
| | | the state of the state | Martin Contraction | Statistica and | and an open states | | CHECK COLOR | | HE REAL PROPERTY AND | uter and the second | | |

Notes

2: US 101 SB & Betteravia CUMULATIVE PM PEAK HOUR

| | ۶ | - | 7 | • | - | * | 1 | 1 | 1 | 1 | Ļ | 4 |
|---------------------------|-------|------|------|------|----------|------|------|------|-----|------|------|----------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ٦ | tttt | 7 | ሻ | ^ | | | | | ሻ | र्भ | 77 |
| Traffic Volume (veh/h) | 0 | 1254 | 503 | 54 | 641 | 0 | 0 | 0 | 0 | 81 | 1 | 855 |
| Future Volume (veh/h) | 0 | 1254 | 503 | 54 | 641 | 0 | 0 | 0 | 0 | 81 | 1 | 855 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 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 | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 0 | 1348 | 541 | 58 | 689 | 0 | | | | 88 | 0 | 919 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 0 | | | | 5 | 5 | 5 |
| Cap, veh/h | 951 | 3197 | 1168 | 74 | 868 | 0 | | | | 242 | 0 | 1908 |
| Arrive On Green | 0.00 | 0.75 | 0.75 | 0.04 | 0.25 | 0.00 | | | | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1739 | 4236 | 1547 | 1739 | 3561 | 0 | | | | 3478 | 0 | 3095 |
| Grp Volume(v), veh/h | 0 | 1348 | 541 | 58 | 689 | 0 | | | | 88 | 0 | 919 |
| Grp Sat Flow(s),veh/h/ln | | 1059 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 10.3 | 11.9 | 3.0 | 16.7 | 0.0 | | | | 2.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 10.3 | 11.9 | 3.0 | 16.7 | 0.0 | | | | 2.2 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 951 | 3197 | 1168 | 74 | 868 | 0 | | | | 242 | 0 | 1908 |
| V/C Ratio(X) | 0.00 | 0.42 | 0.46 | 0.78 | 0.79 | 0.00 | | | | 0.36 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | 951 | 3197 | 1168 | 174 | 1311 | 0 | | | | 348 | 0 | 2003 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.62 | 0.62 | 0.86 | 0.86 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 4.0 | 4.2 | 42.7 | 31.6 | 0.0 | | | | 40.0 | 0.0 | 9.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.8 | 14.3 | 1.7 | 0.0 | | | | 0.9 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ | | 1.3 | 2.4 | 1.5 | 6.7 | 0.0 | | | | 1.0 | 0.0 | 4.0 |
| Unsig. Movement Delay, | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 4.2 | 5.0 | 57.0 | 33.3 | 0.0 | | | | 40.9 | 0.0 | 9.6 |
| LnGrp LOS | A | A | A | E | С | A | | | | D | A | <u> </u> |
| Approach Vol, veh/h | | 1889 | | | 747 | | | | | | 1007 | |
| Approach Delay, s/veh | | 4.4 | | | 35.1 | | | | | | 12.3 | |
| Approach LOS | | А | | | D | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | S | | 7.8 | 71.9 | | 10.3 | 53.2 | 26.5 | | | | |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | | 9.0 | 60.0 | | 9.0 | 35.0 | 34.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | | 5.0 | 13.9 | | 4.2 | 0.0 | 18.7 | | | | |
| Green Ext Time (p_c), s | | | 0.0 | 16.4 | | 2.1 | 0.0 | 3.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 12.9 | | | | | | | | | |
| HCM 6th LOS | | | В | | | | | | | | | |
| Natas | | | | | | | | | | | | |

Notes

2: US 101 SB & Betteravia CUMULATIVE + PROJECT PM PEAK HOUR

| | ۶ | - | 7 | • | + | * | 1 | 1 | 1 | 1 | Ļ | 1 |
|---------------------------|---------------------------------------|---------------|------|-------------|------------|----------|------------------|------------|-----|-----------------|------|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻ | tttt | 7 | ሻ | † † | | | | | ٦ | र्भ | 77 |
| Traffic Volume (veh/h) | 0 | 1357 | 503 | 66 | 657 | 0 | 0 | 0 | 0 | 219 | 1 | 855 |
| Future Volume (veh/h) | 0 | 1357 | 503 | 66 | 657 | 0 | 0 | 0 | 0 | 219 | 1 | 855 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | 1000 | 1000 | No | 2 | | | | 1000 | No | 1000 |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 0 | | | | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 0 | 1459 | 541 | 71 | 706 | 0 | | | | 236 | 0 | 919 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 0 | | | | 5 | 5 | 5 |
| Cap, veh/h | 853 | 2938 | 1073 | 91 | 886 | 0 | | | | 420 | 0 | 1892 |
| Arrive On Green | 0.00 | 0.69 | 0.69 | 0.05 | 0.26 | 0.00 | | | | 0.12 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1739 | 4236 | 1547 | 1739 | 3561 | 0 | | | | 3478 | 0 | 3095 |
| Grp Volume(v), veh/h | 0 | 1459 | 541 | 71 | 706 | 0 | | | | 236 | 0 | 919 |
| Grp Sat Flow(s),veh/h/ln | | 1059 | 1547 | 1739 | 1735 | 0 | | | | 1739 | 0 | 1547 |
| Q Serve(g_s), s | 0.0 | 14.5 | 14.8 | 3.6 | 17.1 | 0.0 | | | | 5.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 14.5 | 14.8 | 3.6 | 17.1 | 0.0 | | | | 5.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 853 | 2938 | 1073 | 91 | 886 | 0 | | | | 420 | 0 | 1892 |
| V/C Ratio(X) | 0.00 | 0.50 | 0.50 | 0.78 | 0.80 | 0.00 | | | | 0.56 | 0.00 | 0.49 |
| Avail Cap(c_a), veh/h | 853 | 2938 | 1073 | 213 | 1311 | 0 | | | | 580 | 0 | 2034 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.62 | 0.62 | 0.85 | 0.85 | 0.00 | | | | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 6.4 | 6.5 | 42.1 | 31.3 | 0.0 | | | | 37.3 | 0.0 | 9.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.4 | 1.1 | 11.5 | 1.8 | 0.0 | | | | 1.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ | | 2.3 | 3.7 | 1.8 | 6.9 | 0.0 | | | | 2.5 | 0.0 | 4.1 |
| Unsig. Movement Delay, | A A A A A A A A A A A A A A A A A A A | 0.0 | 70 | 50.0 | 00.0 | 0.0 | | | | 00 F | 0.0 | 0.0 |
| LnGrp Delay(d),s/veh | 0.0 | 6.8 | 7.6 | 53.6 | 33.2 | 0.0 | | | | 38.5 | 0.0 | 9.9 |
| LnGrp LOS | A | A | A | D | C | <u> </u> | el anter anter a | | | D | A | <u> </u> |
| Approach Vol, veh/h | | 2000 | | | 777 | | | | | | 1155 | No and |
| Approach Delay, s/veh | | 7.0 | | | 35.0 | | | | | | 15.7 | SCHOOL SHOL |
| Approach LOS | | А | | The Manager | D | | | | | | В | |
| Timer - Assigned Phs | | | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | | | 8.7 | 66.4 | | 14.9 | 48.2 | 27.0 | | | | Same State |
| Change Period (Y+Rc), s | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | and the state of the |
| Max Green Setting (Gma | | | 11.0 | 52.0 | | 15.0 | 29.0 | 34.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | | 5.6 | 16.8 | | 7.8 | 0.0 | 19.1 | | | | |
| Green Ext Time (p_c), s | | | 0.1 | 16.4 | | 3.1 | 0.0 | 3.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 15.1 | | | | | Real Parts | | | | |
| HCM 6th LOS | | | В | | | | | | | | | |
| N1 | THE REAL PROPERTY. | and subsected | | TTARGET ST | | | Charles and | - | - | A REAL PROPERTY | | |

Notes

| | ATE: OD: | 02/27/2020 P.M. PEAK HOUR | | | | | | | | | | | | |
|---|--|--|---|--|--|---|-------------------|-------------|--|---|---|---|---------------|--|
| N/S STREE | T: | US 101 SB RAMPS | 5 | | | | | | | | | | | |
| e/W STREE | | BETTERAVIA ROA | D | | | | | | | | | | | |
| CONTROL | . TYPE: | SIGNAL | | | | | | | | | | | | |
| | | | | | | VOLUM | | | | | | | | |
| VOLUMES | | | h bound t R | SOU L | TH BOI T | UND R | EAS L | T BOUI T | ND R | L | ST BOUND T |) R | | |
| (A) EXISTI | | 0 | 0 0 | 64 | 1 | 841 | 0 | 1242 | 379 | 45 | 597 | 0 | | |
| | CT-ADDED: | 0 | 0 0 | 138 | 0 | 0 | 0 | 103 | 0 | 12 | 16 | 0 | | |
| (C) CUMI | JLATIVE: | 0 | 0 0 | 81 | 1 | 855 | 0 | 1254 | 503 | 54 | 641 | 0 | | |
| | | | | | G | GEOMET | RICS | | | | | | | |
| | | NORTH | h bound | SOU | TH BOI | | | T BOUI | ND | WES | T BOUND |) | | |
| lane geo | METRICS | | | L | LT RI | R | | TT R | | | TT | | | |
| | | | | | TRAF | FIC SCE | NARIO | DS . | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | LEVE | . OF SE | RVICE C | CALCU | LATIO | NS | | | | | |
| MOVE- | # OF | CAPACITY | 1 | <u>SCE</u> | NARIO | VOLUME | | LATIO | | | SCENARIO | | | |
| MENTS | LANES | CAPACITY | 1 | <u>SCE</u> 2 | NARIO 3 | VOLUME 4 | | | NS1 | 2 | SCENARIO | V/C RATIOS | <u>.</u> T | |
| MENTS NBL | | CAPACITY 0 0 | 1 0 0 | <u>SCE</u> | NARIO | VOLUME | | | 1 | 2 | | | | |
| MENTS NBL NBT | LANES 0 | 0 | 0 | <u>SCE</u> 2 0 | NARIO 3 0 | VOLUME 4 0 | | | 1 | 2 | | 4 | | |
| MOVE- MENTS NBL NBT NBR SBL | LANES 0 0 | 0 0 | 0 | <u>SCE</u> 2 0 0 | NARIO 3 0 0 | VOLUME 4 0 0 | | | | 2 | 3 | 4 | | |
| MENTS NBL NBT NBR SBL SBL | LANES 0 0 0 0 2 | 0 0 0 3200 | 0 0 0 64 1 | <u>SCE</u> 2 0 0 0 202 1 | NARIO V 3 0 0 0 81 1 | VOLUME 4 0 0 0 219 1 | | | 1 - - - 0.020 | 2 - 0.063 | 3 - - - 0.026 | 4 - - - 0.069 | | |
| MENTS NBL NBT NBR SBL SBL | LANES 0 0 0 0 0 0 | 0 0 0 0 | 0 0 0 64 | <u>SCE</u> 2 0 0 0 202 | NARIO V 3 0 0 0 0 81 | VOLUME 4 0 0 0 219 | | | 1 - - - | 2 | 3 | 4 | | |
| MENTS NBL NBT SBL SBT SBR (a) | LANES 0 0 0 0 2 | 0 0 0 3200 | 0 0 0 64 1 | <u>SCE</u> 2 0 0 202 1 370 | NARIO V 3 0 0 0 81 1 | VOLUME 4 0 0 0 219 1 376 | | | 1 - - 0.020 0.132 * | 2 - - 0.063 0.116 * - | 3 | 4 - - 0.069 0.118 * - | | |
| MENTS NBL NBT SBL SBT SBR (a) EBL EBT | LANES 0 0 0 0 2 2 0 0 2 2 0 2 0 2 0 0 2 0 | 0 0 0 3200 3200 0 3200 | 0 0 64 1 421 0 1242 | <u>SCE</u> 0 0 202 1 370 0 1345 | NARIO V 3 0 0 0 81 1 428 0 1254 | VOLUME 4 0 0 0 219 1 376 0 1357 | | | 1 - 0.020 0.132 * - 0.388 * | 2 - 0.063 0.116 * - 0.420 * | 3 | 4 | | |
| MENTS NBL NBT SBL SBT SBR (a) EBL EBT | LANES 0 0 0 0 2 2 0 0 | 0 0 0 3200 3200 0 | 0 0 0 64 1 421 0 | <u>SCE</u> 2 0 0 202 1 370 0 | NARIO V 3 0 0 0 81 1 428 0 | VOLUME 4 0 0 0 219 1 376 0 | | | 1 - - 0.020 0.132 * | 2 - - 0.063 0.116 * - | 3 | 4 - - 0.069 0.118 * - | | |
| MENTS NBL NBT SBL SBL SBR (a) EBL EBT EBR (b) WBL | LANES 0 0 0 0 2 2 0 0 2 1 1 1 | 0 0 0 3200 3200 3200 1600 1600 | 0 0 64 1 421 0 1242 265 45 | SCE 2 0 0 202 1 370 0 1345 265 57 | NARIO V 3 0 0 0 81 1 428 0 1254 352 54 | VOLUME 4 0 0 0 219 1 376 0 1357 352 66 | | LATIO | 1 0.020 0.132 * 0.388 * 0.166 0.028 * | 2 | 3 | 4 | | |
| MENTS NBL NBT SBL SBT SBR (a) EBL EBT EBR (b) WBL WBL | LANES 0 0 0 2 2 2 0 2 1 1 1 2 | 0 0 0 3200 3200 3200 0 3200 1600 1600 3200 | 0 0 64 1 421 0 1242 265 45 597 | SCE 2 0 0 202 1 370 0 1345 265 57 613 | NARIO V 3 0 0 0 0 81 1 428 0 1254 352 54 641 | VOLUME 4 0 0 0 219 1 376 0 1357 352 66 657 | | | 1 | 2 | 3 | 4 | | |
| MENTS NBL NBT SBL SBT SBR (a) EBL EBT EBR (b) WBL WBL | LANES 0 0 0 0 2 2 0 0 2 1 1 1 | 0 0 0 3200 3200 3200 1600 1600 | 0 0 64 1 421 0 1242 265 45 | SCE 2 0 0 202 1 370 0 1345 265 57 | NARIO V 3 0 0 0 81 1 428 0 1254 352 54 | VOLUME 4 0 0 0 219 1 376 0 1357 352 66 | | | 1 0.020 0.132 * 0.388 * 0.166 0.028 * | 2 | 3 | 4 | | |
| MENTS NBL NBT SBL SBT SBR (a) SBR (b) VBL VBL | LANES 0 0 0 2 2 2 0 2 1 1 1 2 | 0 0 0 3200 3200 3200 0 3200 1600 1600 3200 | 0 0 64 1 421 0 1242 265 45 597 | SCE 2 0 0 202 1 370 0 1345 265 57 613 | NARIO V 3 0 0 0 0 81 1 428 0 1254 352 54 641 | VOLUME 4 0 0 0 219 1 376 0 1357 352 66 657 0 | | | 1 | 2 | 3 | 4 | | |
| MENTS NBL NBT NBR | LANES 0 0 0 2 2 2 0 2 1 1 1 2 | 0 0 0 3200 3200 3200 0 3200 1600 1600 3200 | 0 0 0 64 1 421 0 1242 265 45 597 0 0 | SCE 2 0 0 202 1 370 0 1345 265 57 613 0 | NARIO V 3 0 0 0 81 1 428 0 1254 352 54 641 0 N CAPAC | VOLUME 4 0 0 219 1 376 0 1357 352 66 657 0 LOST | <u>S</u> TIME: | | 1 | 2 | 3 - - 0.026 0.134 * - 0.392 * 0.220 0.034 * 0.200 - | 4 | | |
| MENTS NBL NBT SBL SBT SBR (a) SBR (b) VBL VBL | LANES 0 0 0 2 2 2 0 2 1 1 2 0 2 1 1 2 0 | 0 0 0 3200 3200 3200 0 3200 1600 1600 3200 | 0 0 0 64 1 421 0 1242 265 45 597 0 7 0 | SCE 2 0 0 202 1 370 0 1345 265 57 613 0 \$SECTION SCENAR | NARIO V 3 0 0 0 81 1 428 0 1254 352 54 641 0 N CAPAC IO LEVEL | VOLUME 4 0 0 219 1 376 0 1357 352 66 657 0 LOST CITY UTII L OF SER | <u>S</u> TIME: | | 1 | 2 - - 0.063 0.116 * - 0.420 * 0.166 0.036 * 0.192 - 0.100 * 0.672 | 3 - - 0.026 0.134 * - 0.392 * 0.220 0.034 * 0.200 - 0.100 * 0.660 | 4 - - 0.069 0.118 * - 0.424 * 0.220 0.041 * 0.205 - 0.100 * 0.683 | | |

3: US 101 NB & Betteravia EXISTING AM PEAK HOUR

| | ۶ | - | 7 | - | + | * | 1 | 1 | r | 1 | ÷. | ~ |
|--|-------------|-------------|-----------|------------------|-------------|------------|-------------|---------------------------|------------|-----|-----|-----|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | ** | | | ** | 1 | ٦ | र्भ | 7 | | | |
| Traffic Volume (veh/h) | 353 | 772 | 0 | 0 | 97 | 77 | 123 | 0 | 55 | 0 | 0 | 0 |
| Future Volume (veh/h) | 353 | 772 | 0 | 0 | 97 | 77 | 123 | 0 | 55 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | 0 | 0 | No | 1000 | 1000 | No | 1000 | | | |
| Adj Sat Flow, veh/h/ln | 1826 397 | 1826 867 | 0 0 | 0 0 | 1826 109 | 1826 87 | 1826 138 | 1826 | 1826 62 | | | |
| Adj Flow Rate, veh/h Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0 0.89 | 0.89 | | | |
| Percent Heavy Veh, % | 0.89 | 0.09 | 0.89 | 0.09 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | | | |
| Cap, veh/h | 946 | 2930 | 0 | 0 | 1803 | 804 | 232 | 0 | 103 | | | |
| Arrive On Green | 0.37 | 1.00 | 0.00 | 0.00 | 0.52 | 0.52 | 0.07 | 0.00 | 0.07 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | | | |
| Grp Volume(v), veh/h | 397 | 867 | 0 | 0 | 109 | 87 | 138 | 0 | 62 | | | |
| Grp Sat Flow(s), veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 7.9 | 0.0 | 0.0 | 0.0 | 1.4 | 2.6 | 3.5 | 0.0 | 3.5 | | | |
| Cycle Q Clear(g_c), s | 7.9 | 0.0 | 0.0 | 0.0 | 1.4 | 2.6 | 3.5 | 0.0 | 3.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 946 | 2930 | 0 | 0 | 1803 | 804 | 232 | 0 | 103 | | | |
| V/C Ratio(X) | 0.42 | 0.30 | 0.00 | 0.00 | 0.06 | 0.11 | 0.60 | 0.00 | 0.60 | | | |
| Avail Cap(c_a), veh/h | 1349 | 2930 | 0 | 0 | 1803 | 804 | 773 | 0 | 344 | | | |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.98 | 0.98 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | | 0.0 | 0.0 | 0.0 | 10.7 | 11.0 | 40.8 | 0.0 | 40.8 | | | |
| Incr Delay (d2), s/veh | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 2.4 | 0.0 | 5.5 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ | | 0.1 | 0.0 | 0.0 | 0.5 | 0.8 | 1.5 | 0.0 | 1.5 | | | |
| Unsig. Movement Delay, | | 0.0 | 0.0 | 0.0 | 107 | 44.4 | 40.0 | 0.0 | 10.1 | | | |
| LnGrp Delay(d),s/veh | 23.1 C | 0.3 | 0.0 | 0.0 | 10.7 B | 11.1 В | 43.3 D | 0.0 A | 46.4 D | | | |
| LnGrp LOS | <u> </u> | A 1264 | <u>A</u> | <u> </u> | 196 | D | | 200 | D | | | |
| Approach Vol, veh/h Approach Delay, s/veh | | 7.4 | | | 10.9 | | | 44.2 | | | | |
| Approach LOS | | A | | | но.э В | | | 44.2 D | | | | |
| | | | | | U | | -7 | | | | 1 | |
| Timer - Assigned Phs Phs Duration (G+Y+Rc), | | 2 10.0 | | <u>4</u> 80.0 | | | 29.2 | 8 50.8 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 20.0 | | 62.0 | | | 36.0 | 22.0 | | | | |
| Max Q Clear Time (g_c+l | | 5.5 | | 2.0 | | | 9.9 | 4.6 | | | | |
| Green Ext Time (p_c), s | 11), 3 | 0.5 | | 6.7 | | | 1.4 | 0.7 | | | | |
| Intersection Summary | | | | | - | | | | | | | |
| HCM 6th Ctrl Delay | | | 12.3 | | | | | Contraction of the second | | | | |
| HCM 6th LOS | | | 12.5 B | | | | | | | | | |
| | | | _ | | | | | | | | | |

Notes

3: US 101 NB & Betteravia EXISTING + PROJECT AM PEAK HOUR

| | ۶ | - | 7 | * | - | * | 1 | 1 | 1 | 5 | ¥. | ~ |
|---------------------------|-------|------------------|-------------|----------|----------|--------------|------|--------------------|------|----------------|-----------------------------|-----|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | †† | | | ^ | 7 | ٦ | র্ন | 7 | | | |
| Traffic Volume (veh/h) | 353 | 817 | 0 | 0 | 109 | 91 | 123 | 0 | 66 | 0 | 0 | 0 |
| Future Volume (veh/h) | 353 | 817 | 0 | 0 | 109 | 91 | 123 | 0 | 66 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 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 | | | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 0 | 0 | 1826 | 1826 | 1826 | 1826 | 1826 | | | |
| Adj Flow Rate, veh/h | 397 | 918 | 0 | 0 | 122 | 102 | 138 | 0 | 74 | | | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | | | |
| Percent Heavy Veh, % | 5 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | | | |
| Cap, veh/h | 914 | 2903 | 0 | 0 | 1808 | 807 | 258 | 0 | 115 | | | |
| Arrive On Green | 0.27 | 0.84 | 0.00 | 0.00 | 0.52 | 0.52 | 0.07 | 0.00 | 0.07 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | 1.0.154.14 | | |
| Grp Volume(v), veh/h | 397 | 918 | 0 | 0 | 122 | 102 | 138 | 0 | 74 | | | |
| Grp Sat Flow(s),veh/h/In | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 8.8 | 5.3 | 0.0 | 0.0 | 1.6 | 3.0 | 3.4 | 0.0 | 4.2 | | | |
| Cycle Q Clear(g_c), s | 8.8 | 5.3 | 0.0 | 0.0 | 1.6 | 3.0 | 3.4 | 0.0 | 4.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 914 | 2903 | 0 | 0 | 1808 | 807 | 258 | 0 | 115 | | | |
| V/C Ratio(X) | 0.43 | 0.32 | 0.00 | 0.00 | 0.07 | 0.13 | 0.53 | 0.00 | 0.64 | | | |
| Avail Cap(c_a), veh/h | 1274 | 2903 | 0 | 0 | 1808 | 807 | 734 | 0 | 327 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.98 | 0.98 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | | 1.6 | 0.0 | 0.0 | 10.7 | 11.0 | 40.2 | 0.0 | 40.5 | | | |
| Incr Delay (d2), s/veh | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 1.7 | 0.0 | 5.9 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ | | 0.4 | 0.0 | 0.0 | 0.5 | 0.9 | 1.5 | 0.0 | 1.8 | | | |
| Unsig. Movement Delay, | | 10 | 0.0 | 0.0 | 10.7 | | 44.0 | 0.0 | 10.1 | | | |
| LnGrp Delay(d),s/veh | 27.4 | 1.9 | 0.0 | 0.0 | 10.7 | 11.1 | 41.9 | 0.0 | 46.4 | | | |
| LnGrp LOS | С | A | A | <u> </u> | B | В | D | A | D | | | |
| Approach Vol, veh/h | | 1315 | | | 224 | | | 212 | | | | |
| Approach Delay, s/veh | | 9.6 | | | 10.9 | | | 43.4 | | | | |
| Approach LOS | | А | | | В | | | D | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | | 10.7 | | 79.3 | | | 28.4 | 50.9 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 19.0 | | 63.0 | | | 34.0 | 25.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | 6.2 | | 7.3 | | | 10.8 | 5.0 | | | | |
| Green Ext Time (p_c), s | | 0.5 | | 7.2 | | | 1.3 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 13.9 | | | | | and a | | and the second | | |
| HCM 6th LOS | | | В | | | | | | | | | |
| Notos | | S. C. A. S. LASS | REAL STREET | | | AND MANAGERS | | 1.1.1.1.2.1.1.1.1. | | Constantingen | In the second second second | |

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: US 101 NB & Betteravia CUMULATIVE AM PEAK HOUR

| | ۶ | - | 7 | 4 | - | * | 1 | 1 | r | 1 | Ŧ | 1 |
|--|---|------------|--|---------------------------|-----------|---------------------------|------------------------------------|-----------|-----------|-----------------------------------|------------------------------|--------------------------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ካካ | † † | | | ^ | 1 | ሻ | र्भ | 7 | | | |
| Traffic Volume (veh/h) | 362 | 790 | 0 | 0 | 132 | 94 | 177 | 0 | 90 | 0 | 0 | 0 |
| Future Volume (veh/h) | 362 | 790 | 0 | 0 | 132 | 94 | 177 | 0 | 90 | • 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | 0 | 0 | No | 1000 | 1000 | No | 1000 | | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 0 | 0 | 1826 | 1826 | 1826 | 1826 | 1826 | | | |
| Adj Flow Rate, veh/h | 407 | 888 | 0 | 0 | 148 | 106 | 199 | 0 | 101 | | | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | | | |
| Percent Heavy Veh, % | 5 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | | | |
| Cap, veh/h | 978 | 2832 | 0 | 0 | 1673 | 746 | 329 | 0 | 147 | | | |
| Arrive On Green | 0.10 | 0.27 | 0.00 | 0.00 | 0.48 | 0.48 | 0.09 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | | | |
| Grp Volume(v), veh/h | 407 | 888 | 0 | 0 | 148 | 106 | 199 | 0 | 101 | | | |
| Grp Sat Flow(s),veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 10.2 | 18.4 | 0.0 | 0.0 | 2.1 | 3.4 | 4.9 | 0.0 | 5.7 | | | |
| Cycle Q Clear(g_c), s | 10.2 | 18.4 | 0.0 | 0.0 | 2.1 | 3.4 | 4.9 | 0.0 | 5.7 | | | |
| Prop In Lane | 1.00 | 0000 | 0.00 | 0.00 | 1070 | 1.00 | 1.00 | 0 | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 978 | 2832 | 0 | 0 | 1673 | 746 | 329 | 0 | 147 | | | |
| V/C Ratio(X) | 0.42 | 0.31 | 0.00 | 0.00 | 0.09 | 0.14 | 0.60 | 0.00 | 0.69 | | | |
| Avail Cap(c_a), veh/h | 1349 | 2832 | 0 | 0 | 1673 | 746 | 812 | 0 | 361 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.98 | 0.98 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | | 12.8 | 0.0 | 0.0 | 12.6 | 13.0 | 39.1 | 0.0 | 39.5 | | | |
| Incr Delay (d2), s/veh | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 1.8 | 0.0 | 5.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ Unsig. Movement Delay, | | 8.4 | 0.0 | 0.0 | 0.7 | 1.1 | 2.2 | 0.0 | 2.4 | | | |
| An experimental and the experimental second and the second s | | 13.0 | 0.0 | 0.0 | 12.6 | 13.0 | 40.9 | 0.0 | 45.1 | | | |
| LnGrp Delay(d),s/veh LnGrp LOS | 33.8 C | 13.0 B | 0.0 A | 0.0 A | 12.0 B | 13.0 B | 40.9 D | 0.0 A | 45.1 D | | | |
| the second se | <u>U</u> | 1295 | A | A | 254 | D | | 300 | <u>D</u> | | | |
| Approach Vol, veh/h Approach Delay, s/veh | | 1295 | | | 12.8 | | | 42.3 | | | | |
| Approach LOS | | 19.0 B | | | 12.0 B | | | 42.3 D | | | | |
| | | | | | D | | | | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 7 | 8 | | | 1.4 | |
| Phs Duration (G+Y+Rc), | | 12.5 | | 77.5 | | | 30.1 | 47.4 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 21.0 | | 61.0 | | | 36.0 | 21.0 | | | | |
| Max Q Clear Time (g_c+l | 11), S | 7.7 | | 20.4 | | | 12.2 | 5.4 | | | | |
| Green Ext Time (p_c), s | | 0.8 | | 6.7 | | | 1.4 | 1.0 | | | | |
| Intersection Summary | 22.2.2.2 | | | | | | a and a south | | | | | |
| HCM 6th Ctrl Delay | | | 22.3 | | | | | | | | | |
| HCM 6th LOS | | | С | | | | | | | | | |
| | And the second se | | Contraction of the local division of the loc | Concernance of the second | | a new grant of a grant of | a france have been a france of the | | | Contraction of the local distance | and the second second second | Contractor in the second |

Notes

3: US 101 NB & Betteravia CUMULATIVE + PROJECT AM PEAK HOUR

| | ۶ | - | * | 1 | - | × | 1 | † | r | 4 | ŧ | 1 |
|---------------------------|-------|----------|------|-----------------------|----------------------------|-------------------------|-----------------------|-----------------------|----------|-----------------------|-----|-----------------------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ኘካ | ^ | | | † † | 7 | ካ | - 4 | 7 | | | |
| Traffic Volume (veh/h) | 362 | 835 | 0 | 0 | 144 | 108 | 177 | 0 | 101 | 0 | 0 | 0 |
| Future Volume (veh/h) | 362 | 835 | 0 | 0 | 144 | 108 | 177 | 0 | 101 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | Mathematical Street Street | 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 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 0 | 0 | 1826 | 1826 | 1826 | 1826 | 1826 | | | |
| Adj Flow Rate, veh/h | 407 | 938 | 0 | 0 | 162 | 121 | 199 | 0 | 113 | | | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | | | |
| Percent Heavy Veh, % | 5 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | | | |
| Cap, veh/h | 951 | 2806 | 0 | 0 | 1673 | 746 | 356 | 0 | 158 | | | |
| Arrive On Green | 0.09 | 0.27 | 0.00 | 0.00 | 0.48 | 0.48 | 0.10 | 0.00 | 0.10 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | | | |
| Grp Volume(v), veh/h | 407 | 938 | 0 | 0 | 162 | 121 | 199 | 0 | 113 | | | |
| Grp Sat Flow(s),veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 10.3 | 19.6 | 0.0 | 0.0 | 2.3 | 4.0 | 4.9 | 0.0 | 6.4 | | | |
| Cycle Q Clear(g_c), s | 10.3 | 19.6 | 0.0 | 0.0 | 2.3 | 4.0 | 4.9 | 0.0 | 6.4 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | 1070 | 1.00 | 1.00 | _ | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 951 | 2806 | 0 | 0 | 1673 | 746 | 356 | 0 | 158 | | | |
| V/C Ratio(X) | 0.43 | 0.33 | 0.00 | 0.00 | 0.10 | 0.16 | 0.56 | 0.00 | 0.71 | | | |
| Avail Cap(c_a), veh/h | 1237 | 2806 | 0 | 0 | 1673 | 746 | 812 | 0 | 361 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | and the second second |
| Upstream Filter(I) | 0.98 | 0.98 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | | 13.5 | 0.0 | 0.0 | 12.7 | 13.1 | 38.5 | 0.0 | 39.1 | | | |
| Incr Delay (d2), s/veh | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 1.4 | 0.0 | 5.8 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ | | 9.0 | 0.0 | 0.0 | 0.8 | 1.3 | 2.1 | 0.0 | 2.6 | | | |
| Unsig. Movement Delay, | | 40.0 | 0.0 | 0.0 | 107 | 40.0 | 00.0 | 0.0 | 44.0 | | | |
| LnGrp Delay(d),s/veh | 34.3 | 13.8 | 0.0 | 0.0 | 12.7 | 13.2 | 39.8 | 0.0 | 44.9 | | | |
| LnGrp LOS | С | B | A | Α | B | В | D | A | D | | | |
| Approach Vol, veh/h | | 1345 | | | 283 | | | 312 | | | | |
| Approach Delay, s/veh | | 20.0 | | | 12.9 | | | 41.7 | | | | |
| Approach LOS | | В | | | В | | | D | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 7 | 8 | 1. A. 1. | | | |
| Phs Duration (G+Y+Rc), | | 13.2 | | 76.8 | | | 29.4 | 47.4 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 21.0 | | 61.0 | | | 33.0 | 24.0 | | | | 62.53 |
| Max Q Clear Time (g_c+l | 1), s | 8.4 | | 21.6 | | | 12.3 | 6.0 | | | | |
| Green Ext Time (p_c), s | | 0.9 | | 7.2 | | | 1.3 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 22.4 | | | | | | | | | |
| HCM 6th LOS | | | С | | | | | | | | | |
| NI I | | | - | and the second second | | UTT IN A STATE OF STATE | and the second second | and the second second | - | and the second second | | |

Notes

| | | 02/27/2020 A.M. PEAK HOUR | | | | | | | | | | | | |
|--|--|---|---|--|---|---|----------|---------------|--|--|---|--|---|---|
| N/S STREET: | | US 101 NB RAMPS | | | | | | | | | | | | |
| E/W STREET: | | BETTERAVIA ROAD | | | | | | | | | | | | |
| CONTROL T | YPE: | SIGNAL | | | | | | | | | | | | |
| | | NORTH | | | FFIC VO | | | MARY T BOU | | \\//ES | ST BOUND | | | |
| VOLUMES | | L T | | 500 L | Т | R | L | T T | R | L | T | , R | | |
| (A) EXIST | ING: | 123 1 | 55 | 0 | 0 | 0 | 353 | 772 | 0 | 0 | 97 | 77 | | |
| | CT-ADDED: | 0 0 | | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 12 | 14 | | |
| (C) CUM | JLATIVE: | 177 1 | 90 | 0 | 0 | 0 | 362 | 790 | 0 | 0 | 132 | 94 | | |
| | | | | | GE | OMETI | RICS | | | | | | | |
| | | NORTH | | SOU | TH BOL | JND | EAS | t Bou | | | t bound | | | |
| lane geom | ETRICS | L LT | R | | | | | LL TT | | · T | r R | | | |
| | | | | | TRAFF | C SCE | NARIO | s | | | | | | |
| | | | | LEVEL | OF SER | VICE C | ALCUL | ATION | S | | | | | |
| MOVE- | # OF | | | SCE | NARIO V | /OLUM | ES | | | | SCENARIO | V/C RATIOS | 5 | |
| | LANES | CAPACITY | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | T | |
| MENTS | | | | 123 | 177 | 177 | | | 0.038 * | 0.038 * | 0.055 * | 0.055 * | | |
| NBL | 2 | 3200 | 123 | | | | | | - | - | - | | | 1 |
| NBL NBT | 0 | 0 | 1 | 1 | 1 50 | 1 56 | | | | | 0.031 | - 0.035 | | |
| MENTS NBL NBT NBR (a) | | | | | 1 50 | 1 56 | | | 0.019 | 0.023 | 0.031 | - 0.035 | | |
| NBL NBT NBR (a) SBL | 0 1 0 | 0 1600 0 | 1 30 0 | 1 36 0 | 50 0 | 56 0 | | | 0.019 - | 0.023 | - | - | | |
| NBL NBT NBR (a) SBL SBT | 0 1 0 0 | 0 1600 0 0 | 1 30 | 1 36 0 0 | 50 0 0 | 56 0 0 | | | 0.019 | 0.023 | | | | |
| NBL NBT | 0 1 0 | 0 1600 0 | 1 30 0 0 | 1 36 0 | 50 0 | 56 0 | | | 0.019 - - | 0.023 - - | - | - | | |
| NBL NBT NBR (a) 58L 58T 58R 58R | 0 1 0 0 0 0 2 | 0 1600 0 0 3200 | 1 30 0 0 0 353 | 1 36 0 0 0 353 | 50 0 0 0 362 | 56 0 0 0 362 | | | 0.019 - - - 0.110 | 0.023 - - 0.110 | - - - 0.113 | | | |
| NBL NBT NBR (a) SBL SBT | 0 1 0 0 0 | 0 1600 0 0 0 | 1 30 0 0 0 | 1 36 0 0 0 | 50 0 0 0 | 56 0 0 0 | | | 0.019 - - - | 0.023 - - - | - - | - - | | |
| NBL NBT NBR (a) 58L 58T 58R 58R 58R 58R 58R 58R 58R | 0 1 0 0 0 2 2 2 0 | 0 1600 0 0 3200 3200 0 | 1 30 0 0 353 772 0 | 1 36 0 0 353 817 0 | 50 0 0 362 790 0 | 56 0 0 362 835 0 | | | 0.019 - - 0.110 0.241 * | 0.023 - - 0.110 0.255 * | - - 0.113 0.247 * | - - 0.113 0.261 * | | |
| NBL NBT NBR (a) 58L 58T 58R 58R 58R 58R 58R 58R 58R | 0 1 0 0 0 2 2 2 0 | 0 1600 0 0 3200 3200 0 | 1 30 0 0 353 772 0 0 | 1 36 0 0 353 817 0 | 50 0 0 362 790 0 | 56 0 0 362 835 0 0 | | | 0.019 - - 0.110 0.241 * - | 0.023 - - 0.110 0.255 * - - | - - 0.113 0.247 * - | - - 0.113 0.261 * - | | |
| NBL NBT NBR (a) SBL SBT SBR SBR SBR SBR SBL SBT SBR | 0 1 0 0 0 2 2 2 0 | 0 1600 0 0 3200 3200 0 | 1 30 0 0 353 772 0 | 1 36 0 0 353 817 0 | 50 0 0 362 790 0 | 56 0 0 362 835 0 | | | 0.019 - - 0.110 0.241 * - | 0.023 - - 0.110 0.255 * - | - - 0.113 0.247 * - | - - 0.113 0.261 * - | | |
| NBL NBT NBR (a) SBL SBT SBR SBR SBL SBR VBL VBL VBL | 0 1 0 0 0 2 2 2 0 0 0 2 | 0 1600 0 0 3200 3200 0 0 3200 | 1 30 0 0 353 772 0 0 97 | 1 36 0 0 353 817 0 0 109 | 50 0 0 362 790 0 0 132 | 56 0 0 362 835 0 0 144 108 | T TIME: | | 0.019 - - 0.110 0.241 * - - 0.030 | 0.023 - - 0.110 0.255 * - - 0.034 | - - 0.113 0.247 * - - 0.041 | - - 0.113 0.261 * - 0.045 | | |
| NBL NBT (a) SBL SBT SBR SBR SBL SBR VBL VBL VBL | 0 1 0 0 0 2 2 2 0 0 0 2 | 0 1600 0 0 3200 3200 0 3200 0 3200 1600 | 1 30 0 0 353 772 0 0 97 77 77 0 0 | 1 36 0 0 353 817 0 0 109 91 | 50 0 0 362 790 0 0 132 94 | 56 0 0 362 835 0 144 108 <i>LOS</i> | ILIZATIO | ON: | 0.019 - - 0.110 0.241 * - 0.030 0.048 | 0.023 - - 0.110 0.255 * - 0.034 0.057 | - - - 0.113 0.247 * - - 0.041 0.059 | - - 0.113 0.261 * - 0.045 0.068 | | |
| NBL NBT NBR (a) BL BT BR BR VBL VBL | 0 1 0 0 2 2 2 0 0 2 1 | 0 1600 0 0 3200 3200 0 3200 0 3200 1600 | 1 30 0 0 353 772 0 0 97 77 77 0 0 | 1 36 0 0 353 817 0 109 91 SECTION | 50 0 0 362 790 0 0 132 94 | 56 0 0 362 835 0 144 108 <i>LOS</i> | ILIZATIO | ON: | 0.019 - - 0.110 0.241 * - 0.030 0.048 0.100 * 0.379 | 0.023 - - 0.110 0.255 * - 0.034 0.057 0.100 * 0.393 | - - 0.113 0.247 * - - 0.041 0.059 0.100 * 0.402 | - - - 0.113 0.261 * - - 0.045 0.068 0.100 * 0.416 | | |

3: US 101 NB & Betteravia EXISTING PM PEAK HOUR

| | ۶ | - | 7 | * | - | * | 1 | 1 | 1 | 1 | ¥ | ~ |
|--|--|------------|--------|--------|-----------------------------|-------------|-------------|-----------|----------------|----------------|-----|-----|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | ** | | | ** | 7 | ሻ | र्भ | 1 | | | |
| Traffic Volume (veh/h) | 1018 | 204 | 0 | 0 | 308 | 194 | 395 | 0 | 62 | 0 | 0 | 0 |
| Future Volume (veh/h) | 1018 | 204 | 0 | 0 | 308 | 194 | 395 | 0 | 62 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 4.00 | 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 | | | |
| Work Zone On Approach | | No 1826 | 0 | 0 | No | 1006 | 1006 | No | 1000 | | | |
| Adj Sat Flow, veh/h/ln Adj Flow Rate, veh/h | 1826 1072 | 215 | 0 0 | 0 0 | 1826 324 | 1826 204 | 1826 416 | 1826 0 | 1826 65 | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | | | |
| Percent Heavy Veh, % | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | | | |
| Cap, veh/h | 1485 | 2640 | 0 | 0 | 959 | 428 | 522 | 0 | 232 | | | |
| Arrive On Green | 0.15 | 0.25 | 0.00 | 0.00 | 0.28 | 0.28 | 0.15 | 0.00 | 0.15 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0.00 | 0.00 | 3561 | 1547 | 3478 | 0.00 | 1547 | | | |
| Grp Volume(v), veh/h | 1072 | 215 | 0 | 0 | 324 | 204 | 416 | 0 | 65 | | | |
| Grp Sat Flow(s), veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 27.3 | 4.3 | 0.0 | 0.0 | 6.7 | 9.9 | 10.4 | 0.0 | 3.4 | | | |
| Cycle Q Clear(g_c), s | 27.3 | 4.3 | 0.0 | 0.0 | 6.7 | 9.9 | 10.4 | 0.0 | 3.4 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 1485 | 2640 | 0 | 0 | 959 | 428 | 522 | 0 | 232 | | | |
| V/C Ratio(X) | 0.72 | 0.08 | 0.00 | 0.00 | 0.34 | 0.48 | 0.80 | 0.00 | 0.28 | | | |
| Avail Cap(c_a), veh/h | 1649 | 2640 | 0 | 0 | 959 | 428 | 773 | 0 | 344 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.93 | 0.93 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 33.2 | 9.7 | 0.0 | 0.0 | 26.0 | 27.1 | 36.9 | 0.0 | 33.9 | | | |
| Incr Delay (d2), s/veh | 1.3 | 0.1 | 0.0 | 0.0 | 0.2 | 0.8 | 3.6 | 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 | | | |
| %ile BackOfQ(50%),veh/ | | 1.0 | 0.0 | 0.0 | 2.6 | 3.5 | 4.6 | 0.0 | 1.3 | | | |
| Unsig. Movement Delay, | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.5 | 9.7 | 0.0 | 0.0 | 26.2 | 28.0 | 40.5 | 0.0 | 34.6 | | | |
| LnGrp LOS | С | A | A | A | С | С | D | A | С | SERVICE STATES | | - |
| Approach Vol, veh/h | | 1287 | | | 528 | | | 481 | | | | |
| Approach Delay, s/veh | | 30.4 | | | 26.9 | | | 39.7 | | | | |
| Approach LOS | | С | | | С | | | D | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | 1.1.1.2. | 7 | 8 | and the second | | | |
| Phs Duration (G+Y+Rc), | | 17.5 | | 72.5 | | | 43.6 | 28.9 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 20.0 | | 62.0 | | | 44.0 | 14.0 | | | | |
| Max Q Clear Time (g_c+l | 1), s | 12.4 | | 6.3 | | | 29.3 | 11.9 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | 1.3 | | | 3.8 | 0.6 | | | | |
| Intersection Summary | | | | | | _ | | | | | | |
| HCM 6th Ctrl Delay | | | 31.5 | | | | | | | | | |
| HCM 6th LOS | | | С | | | | | | | | | |
| | 1. | | | | a state of the state of the | | | | | | | |

Notes

3: US 101 NB & Betteravia EXISTING + PROJECT PM PEAK HOUR

| | ۶ | - | * | * | - | * | 1 | † | r | 1 | Ŧ | 1 |
|--|-------------|------------|------------|------------|--------------------------|----------------|---------------------|------------|-------------------|-------|-----|----------------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | ** | | | †† | 1 | ٦ | र्भ | 7 | | | |
| Traffic Volume (veh/h) | 1018 | 445 | 0 | 0 | 336 | 221 | 395 | 0 | 123 | 0 | 0 | 0 |
| Future Volume (veh/h) | 1018 | 445 | 0 | 0 | 336 | 221 | 395 | 0 | 123 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | 1.00 | 1 00 | 1.00 | 1.00 | 1 00 | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 No | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach Adj Sat Flow, veh/h/ln | 1826 | 1826 | 0 | 0 | No 1826 | 1826 | 1826 | No 1826 | 1826 | | | |
| Adj Flow Rate, veh/h | 1072 | 468 | 0 | 0 | 354 | 233 | 416 | 0 | 129 | | | 20112 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | | | |
| Percent Heavy Veh, % | 5 | 5 | 0.00 | 0.00 | 5 | 5 | 5 | 5 | 5 | | | |
| Cap, veh/h | 1476 | 2634 | 0 | 0 | 962 | 429 | 528 | 0 | 235 | | | |
| Arrive On Green | 0.14 | 0.25 | 0.00 | 0.00 | 0.28 | 0.28 | 0.15 | 0.00 | 0.15 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | | | |
| Grp Volume(v), veh/h | 1072 | 468 | 0 | 0 | 354 | 233 | 416 | 0 | 129 | 1 | | |
| Grp Sat Flow(s),veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 27.3 | 9.5 | 0.0 | 0.0 | 7.4 | 11.5 | 10.4 | 0.0 | 6.9 | | | |
| Cycle Q Clear(g_c), s | 27.3 | 9.5 | 0.0 | 0.0 | 7.4 | 11.5 | 10.4 | 0.0 | 6.9 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 1476 | 2634 | 0 | 0 | 962 | 429 | 528 | 0 | 235 | | | |
| V/C Ratio(X) | 0.73 | 0.18 | 0.00 | 0.00 | 0.37 | 0.54 | 0.79 | 0.00 | 0.55 | | | |
| Avail Cap(c_a), veh/h | 1612 | 2634 | 0 | 0 | 962 | 429 | 773 | 0 | 344 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.86 | 0.86 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | and the second |
| Uniform Delay (d), s/veh | | 11.7 | 0.0 | 0.0 | 26.2 | 27.7 | 36.8 | 0.0 | 35.3 | | | |
| Incr Delay (d2), s/veh | 1.3 | 0.1 | 0.0 | 0.0 | 0.2 | 1.4 | 3.4 | 0.0 | 2.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 3.1 | 0.0 0.0 | 0.0 0.0 | 0.0 2.9 | 0.0 4.1 | 0.0 4.6 | 0.0 0.0 | 0.0 2.7 | | | States and |
| %ile BackOfQ(50%),veh/ Unsig. Movement Delay, | | 5.1 | 0.0 | 0.0 | 2.9 | 4.1 | 4.0 | 0.0 | 2.1 | | | |
| LnGrp Delay(d),s/veh | 34.6 | 11.8 | 0.0 | 0.0 | 26.4 | 29.1 | 40.1 | 0.0 | 37.3 | | | |
| LnGrp LOS | 04.0 C | B | A | A | 20.4 C | C | -0.1 D | A | D | | | |
| Approach Vol, veh/h | | 1540 | 1 | Sanda | 587 | <u> </u> | - | 545 | | | | |
| Approach Delay, s/veh | | 27.7 | | | 27.5 | | | 39.5 | | | | |
| Approach LOS | | С | | | C | | | D | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 7 | 8 | | | | Newser |
| Phs Duration (G+Y+Rc), | 9 | 17.7 | | 72.3 | and the store | | 43.4 | 28.9 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 20.0 | | 62.0 | | | 43.0 | 15.0 | | | | |
| Max Q Clear Time (g_c+l | | 12.4 | | 11.5 | | | 29.3 | 13.5 | | | | |
| Green Ext Time (p_c), s | ,, - | 1.3 | | 3.1 | | | 3.7 | 0.5 | | | | 1999 B |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 30.1 | | a series | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| | | | | | Carlo Carlo Carlo Carlos | and the second | and the subminister | | and the second of | ' | | |

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: US 101 NB & Betteravia CUMULATIVE PM PEAK HOUR

| | ۶ | - | 7 | * | - | * | 1 | 1 | r | 1 | Ŧ | ~ |
|--|------|------------|------|------|------------|------------|------|------------|------|---|-----|-----|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | ^ | | | † † | 7 | ሻ | र्स | 7 | | | |
| Traffic Volume (veh/h) | 1030 | 228 | 0 | 0 | 325 | 222 | 434 | 0 | 77 | 0 | 0 | 0 |
| Future Volume (veh/h) | 1030 | 228 | 0 | 0 | 325 | 222 | 434 | 0 | 77 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1 00 | 1.00 | 1.00 | 1 00 | 1.00 | 1.00 | 1 00 | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach Adj Sat Flow, veh/h/ln | 1826 | No 1826 | 0 | 0 | No 1826 | 1826 | 1826 | No 1826 | 1826 | | | |
| Adj Flow Rate, veh/h | 1020 | 240 | 0 | 0 | 342 | 234 | 457 | 0 | 81 | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | | | |
| Percent Heavy Veh, % | 5 | 5 | 0.00 | 0.00 | 5 | 5 | 5 | 5 | 5 | | | |
| Cap, veh/h | 1510 | 2592 | 0 | 0 | 884 | 395 | 570 | 0 | 254 | | | |
| Arrive On Green | 0.15 | 0.25 | 0.00 | 0.00 | 0.25 | 0.25 | 0.16 | 0.00 | 0.16 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | | | |
| Grp Volume(v), veh/h | 1084 | 240 | 0 | 0 | 342 | 234 | 457 | 0 | 81 | and the second se | | |
| Grp Sat Flow(s),veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 27.6 | 4.8 | 0.0 | 0.0 | 7.3 | 11.9 | 11.4 | 0.0 | 4.2 | | | |
| Cycle Q Clear(g_c), s | 27.6 | 4.8 | 0.0 | 0.0 | 7.3 | 11.9 | 11.4 | 0.0 | 4.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 1510 | 2592 | 0 | 0 | 884 | 395 | 570 | 0 | 254 | | | |
| V/C Ratio(X) | 0.72 | 0.09 | 0.00 | 0.00 | 0.39 | 0.59 | 0.80 | 0.00 | 0.32 | | | |
| Avail Cap(c_a), veh/h | 1537 | 2592 | 0 | 0 | 884 | 395 | 850 | 0 | 378 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.91 | 0.91 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | | 10.4 | 0.0 | 0.0 | 27.7 | 29.4 | 36.2 | 0.0 | 33.2 | | | |
| Incr Delay (d2), s/veh | 1.5 | 0.1 | 0.0 | 0.0 | 0.3 | 2.4 | 3.4 | 0.0 | 0.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 4.4 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ Unsig. Movement Delay, | | 1.3 | 0.0 | 0.0 | 2.9 | 4.4 | 5.0 | 0.0 | 1.6 | | | |
| LnGrp Delay(d),s/veh | 34.4 | 10.4 | 0.0 | 0.0 | 28.0 | 31.8 | 39.6 | 0.0 | 33.9 | | | |
| LnGrp LOS | С | B | A | A | 20.0 C | C | D | A | C | | | |
| Approach Vol, veh/h | | 1324 | | | 576 | | | 538 | | | | |
| Approach Delay, s/veh | | 30.1 | | | 29.5 | | | 38.7 | | | | |
| Approach LOS | | С | | | C | | | D | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), | ç | 18.8 | | 71.2 | | | 44.3 | 26.9 | | | | |
| Change Period (Y+Rc), s | | 4.0 | | 4.0 | | | 4.0 | 4.0 | | | | |
| Max Green Setting (Gma | | 22.0 | | 60.0 | | | 41.0 | 15.0 | | | | |
| Max Q Clear Time (g c+l | | 13.4 | | 6.8 | | | 29.6 | 13.9 | | | | |
| Green Ext Time (p_c), s | | 1.4 | | 1.5 | | | 3.5 | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 31.8 | | | | | | | | | |
| HCM 6th LOS | | | С | | | | | | | | | |
| | | | | | | | | | | | | |

Notes

3: US 101 NB & Betteravia CUMULATIVE + PROJECT PM PEAK HOUR

| | ۶ | - | 7 | * | + | * | 1 | 1 | r | 1 | ¥ | ~ |
|--|--------------|---------------------|-------------------|-------------|--------------|--|--------------|-----------------------------------|--------------|-----|-----|--------------------------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | ^ | | | ^ | 7 | ٦ | र्भ | 7 | | | |
| Traffic Volume (veh/h) | 1030 | 469 | 0 | 0 | 353 | 249 | 434 | 0 | 138 | 0 | 0 | 0 |
| Future Volume (veh/h) | 1030 | 469 | 0 | 0 | 353 | 249 | 434 | 0 | 138 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | and a second second | 1.00 | | | Na channa ainte channais |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | 0 | | No | 1000 | 1000 | No | 1000 | | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 0 | 0 | 1826 | 1826 | 1826 | 1826 | 1826 | | | |
| Adj Flow Rate, veh/h | 1084 | 494 | 0 | 0 | 372 | 262 | 457 | 0 | 145 | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | | | |
| Percent Heavy Veh, % | 5 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | | | |
| Cap, veh/h | 1505 | 2586 | 0 | 0 | 884 | 394 | 576 | 0 | 256 | | | |
| Arrive On Green | 0.15 | 0.25 | 0.00 | 0.00 | 0.25 | 0.25 | 0.17 | 0.00 | 0.17 | | | |
| Sat Flow, veh/h | 3374 | 3561 | 0 | 0 | 3561 | 1547 | 3478 | 0 | 1547 | | | |
| Grp Volume(v), veh/h | 1084 | 494 | 0 | 0 | 372 | 262 | 457 | 0 | 145 | | | |
| Grp Sat Flow(s),veh/h/ln | | 1735 | 0 | 0 | 1735 | 1547 | 1739 | 0 | 1547 | | | |
| Q Serve(g_s), s | 27.6 | 10.1 | 0.0 | 0.0 | 8.1 | 13.7 | 11.4 | 0.0 | 7.8 | | | |
| Cycle Q Clear(g_c), s | 27.6 | 10.1 | 0.0 | 0.0 | 8.1 | 13.7 | 11.4 | 0.0 | 7.8 | | | |
| Prop In Lane | 1.00 | 0500 | 0.00 | 0.00 | 004 | 1.00 | 1.00 | 0 | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 1505 | 2586 | 0 | 0 | 884 | 394 | 576 | 0 | 256 | | | |
| V/C Ratio(X) | 0.72 | 0.19 | 0.00 | 0.00 | 0.42 | 0.66 | 0.79 | 0.00 | 0.57 | | | |
| Avail Cap(c_a), veh/h | 1537 | 2586 | 0 | 0 | 884 | 394 | 850 | 0 | 378 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.85 33.0 | 0.85 12.5 | 0.00 0.0 | 0.00 0.0 | 1.00 28.0 | 1.00 30.1 | 1.00 36.1 | 0.00 | 1.00 34.6 | | | |
| Uniform Delay (d), s/veh Incr Delay (d2), s/veh | 1.4 | 0.1 | 0.0 | 0.0 | 0.3 | 4.2 | 30.1 | 0.0 | 2.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 4.2 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ | | 3.6 | 0.0 | 0.0 | 3.2 | 5.2 | 5.0 | 0.0 | 3.0 | | | |
| Unsig. Movement Delay, | | 5.0 | 0.0 | 0.0 | 0.2 | 5.2 | 5.0 | 0.0 | 5.0 | | | |
| LnGrp Delay(d),s/veh | 34.4 | 12.6 | 0.0 | 0.0 | 28.3 | 34.3 | 39.2 | 0.0 | 36.5 | | | |
| LnGrp LOS | С | 12.0 B | A | A | 20.0 C | 04.0 C | D | A | D | | | |
| Approach Vol, veh/h | 0 | 1578 | The second second | | 634 | | | 602 | | | | |
| Approach Delay, s/veh | | 27.6 | | | 30.8 | | | 38.6 | | | | |
| Approach LOS | | C | | | 50.0 C | | | D | | | | |
| | | | | | U | | -7 | | | | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 110 | 8 | | | | |
| Phs Duration (G+Y+Rc), Change Period (Y+Rc), s | | 18.9 4.0 | | 71.1 4.0 | | | 44.2 4.0 | 26.9 4.0 | | | | |
| Max Green Setting (Gma | | 22.0 | | 60.0 | | | 41.0 | 15.0 | | | | 0.000 |
| Max Q Clear Time (g_c+l | | 13.4 | | 12.1 | | | 29.6 | 15.7 | | | | |
| Green Ext Time (p c), s | 11), 5 | 1.6 | | 3.3 | | | 3.5 | 0.0 | | | | 15 dentes |
| | | 1.0 | | 0.0 | | | 0.0 | 0.0 | | | | |
| Intersection Summary | | | 20.7 | | | - All and a second | | | | | | |
| HCM 6th Ctrl Delay | | | 30.7 | | | | | | | | | |
| HCM 6th LOS | | Contraction and the | С | 1000 | | 100-100-10-10-10-10-10-10-10-10-10-10-10 | | and set and particular de parties | | | | |

Notes

#20014 ARCTIC COLD STORAGE PROJECT

INTERSECTION CAPACITY UTILIZATION WORKSHEETCOUNT DATE:02/27/2020TIME PERIOD:P.M. PEAK HOURN/S STREET:US 101 NB RAMPSE/W STREET:BETTERAVIA ROADCONTROL TYPE:SIGNAL

| | | | | | | | | | | | And the second | | | Alexandra and a second s |
|-----|----------------|-----|--------|-----|-----|---------|------|--------|-------|----|----------------|----------|-----|---|
| | | | | | TRA | AFFIC V | OLUN | IE SUM | MARY | | | | | |
| | | NOF | RTH BC | UND | SOL | JTH BO | UND | EAS | t bou | ND | W | EST BOUN | D | |
| VOL | UMES | L | Т | R | L | Т | R | L | Т | R | L | Т | R | |
| (A) | EXISTING: | 395 | 1 | 62 | 0 | 0 | 0 | 1018 | 204 | 0 | 0 | 308 | 194 | |
| (B) | PROJECT-ADDED: | 0 | 0 | 61 | 0 | 0 | 0 | 0 | 241 | 0 | 0 | 28 | 27 | |
| (C) | CUMULATIVE: | 434 | 1 | 77 | 0 | 0 | 0 | 1030 | 228 | 0 | 0 | 325 | 222 | |
| | | | | | | | | | | | | | | |

GEOMETRICS

LANE GEOMETRICS

SOUTH BOUND EAST BOUND LL TT

WEST BOUND TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A) SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B) SCENARIO 3 = SHORT-TERM CUMULATIVE (C) SCENARIO 4 = SHORT-TERM CUMULATIVE + PROJECT VOLUMES (B+C)

NORTH BOUND

L LT R

| | | · · · · · · · · · · · · · · · · · · · | | LEVEL | OF SER | VICE CALCULATION | NS | | | | |
|---------|-------|---------------------------------------|-----------|--------|----------|-------------------|---------|---------|------------|------------|------|
| MOVE- | # OF | | | SCE | NARIO | /OLUMES | | | SCENARIO ' | V/C RATIOS | |
| MENTS | LANES | CAPACITY | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| NBL | 2 | 3200 | 395 | 395 | 434 | 434 | 0.123 * | 0.123 * | 0.136 * | 0.136 * | |
| NBT | 0 | 0 | 1 | 1 | 1 | 1 | - | - | - | - | |
| NBR (a) | 1 | 1600 | 35 | 70 | 44 | 79 | 0.022 | 0.044 | 0.028 | 0.049 | |
| SBL | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| SBT | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| SBR | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| EBL | 2 | 3200 | 1018 | 1018 | 1030 | 1030 | 0.318 * | 0.318 * | 0.322 * | 0.322 * | |
| EBT | 2 | 3200 | 204 | 445 | 228 | 469 | 0.064 | 0.139 | 0.071 | 0,147 | |
| EBR | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| WBL | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | |
| WBT | 2 | 3200 | 308 | 336 | 325 | 353 | 0.096 | 0.105 | 0.102 | 0.110 | |
| WBR (b) | 1 | 1600 | 194 | 221 | 222 | 249 | 0.121 * | 0.138 * | 0.139 * | 0.156 * | л |
| | | | | | | LOST TIME: | 0.100 * | 0.100 * | 0.100 * | 0.100 * | |
| | | то | TAL INTER | SECTIO | N CAPAC | CITY UTILIZATION: | 0.662 | 0.679 | 0.697 | 0.714 | |
| | | | | SCENAR | IO LEVEI | OF SERVICE: | В | В | В | С | |
| NOTES: | DTO D | () (20) | | | | | | | | | |
| | | (a) 43% (b) 55% | | | | | | | | | |

Printed: 07/21/20

| | | | HCS7 | Two | -Wa | y Sto | p-Cc | ontro | l Rep | oort | | | | | | |
|---|---|---|---------------------------|-------------------------------|-------------------------------------|------------------------|--|--|----------|--|--------------------------|------------------------------|---|--|---------------------|---|
| General Information | | | | | | | Site | Infor | matio | n | | | | | | |
| Analyst | DLD | | | | | | Inter | section | | | BETT | ERAVIA/ | WESTER | N DWY | | |
| Agency/Co. | ATE | and the second | | | No. Constant | | Juris | diction | | | SB C | OUNTY | | | | |
| Date Performed | 5/12/ | /2020 | | | | | East/ | West Str | reet | | 1 | | | | | |
| Analysis Year | | | Stand St. | | | | Nort | h/South | Street | | | | | | | |
| Time Analyzed | CUM | + PRO | JECT - AI | M PEAK | | | Peak | Hour Fa | ctor | | 0.92 | | | | | |
| Intersection Orientation | East- | West | | | | | Anal | /sis Time | e Period | (hrs) | 0.25 | and the | a. 99 | | | |
| Project Description | BETT | ERAVIA | /WESTER | N DRIVE | WAY | | | | | | | | | | | |
| Lanes | | | | | | | | 1 | | | | | an an a | | | |
| | | | | | | | | | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | | | | | | | | | | | | |
| Approach | | East | bound | | | West | bound | | | North | bound | | as. | South | bound | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | F |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 1 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | 0 | 1 | 0 | | 0 | 0 | (|
| Configuration | Present Subject Sub | | | | | | | | | | | | | | | |
| Volume (veh/h) | | | 685 | 13 | | 0 | 150 | | | 3 | | 0 | | | | |
| Percent Heavy Vehicles (%) | | | | | | 3 | | | | 3 | | 3 | | | | |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | 0 | | | | | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type Storage | | | | Undi | vided | | | | | | | | | | | |
| Critical and Follow-up H | eadway | ys | | | | | | | | | | | | | | |
| Base Critical Headway (sec) | | | | | | 4.1 | | | | 7.1 | | 6.2 | | | | Τ |
| Critical Headway (sec) | | | | C.C. | | 4.13 | | | | 6.43 | | 6.23 | | | 93 S., | Γ |
| Base Follow-Up Headway (sec) | | | | | | 2.2 | | | | 3.5 | | 3.3 | | | | I |
| Follow-Up Headway (sec) | | | | | | 2.23 | | | | 3.53 | | 3.33 | | | | |
| Delay, Queue Length, an | d Level | l of S | ervice | | | | | | | | | | | | | |
| Flow Rate, v (veh/h) | | | | [| | 0 | | | | | 3 | | | | | Γ |
| Capacity, c (veh/h) | | | | | | 848 | | | | | 302 | | | | | T |
| v/c Ratio | | | | | | 0.00 | | | | | 0.01 | | | | | Τ |
| 95% Queue Length, Q ₉₅ (veh) | | | | | | 0.0 | | | | | 0.0 | | | | | |
| Control Delay (s/veh) | | | | | | 9.2 | | | | | 17.1 | | | | | |
| Level of Service (LOS) | | | | | | А | | | | | С | | a ^{tr} ange | | | |
| Approach Delay (s/veh) | | | | - Persita Directorian | | 0 | .0 | | | 17 | 7.1 | | | | | |
| | | and the second se | CONTRACTOR AND ADDRESS OF | CONTRACTOR DESCRIPTION OF THE | Conversion of the local division of | CONTRACTOR DESCRIPTION | Contraction of the local division of the loc | Contraction of the local division of the loc | | Contraction of the local division of the loc | the second second second | COLUMN TWO IS NOT THE OWNER. | A DESCRIPTION OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER | Contraction of the local division of the loc | THE PARTY OF STREET | |

HCS TW TWSC Version 7.8.5 WESTERN DRIVEWAY AM PEAK.xtw Generated: 7/21/2020 9:19:21 AM

| | | ŀ | HCS7 | Two | -Wa | y Sto | р-Сс | ontrc | ol Rep | oort | | | | | | |
|---|---|---------------------------------|--------------------|----------------------------|------|--|------------------|--|---|-------------------------|-----------------------------|---------------------------------------|---------|---------|---------|--------------|
| General Information | | | | | | | Site | Infor | matic | on | | | | | | |
| Analyst | DLD | <u>Allacatrati</u> | | | | | Inter | section | | | BET | TERAVIA | /WESTEF | RN DWY | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SB C | OUNTY | | | | |
| Date Performed | 5/12, | /2020 | | | | | East/ | West St | reet | | | | | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | | | | | | |
| Time Analyzed | CUM | + PRO. | JECT - PN | M PEAK | | | Peak | Hour Fa | actor | | 0.92 | | | | | |
| Intersection Orientation | East- | West | | | | | Analy | sis Tim | e Period | (hrs) | 0.25 | | Sec. 14 | | | |
| Project Description | BETT | ERAVIA, | /WESTER | N DRIVI | EWAY | | | | | | | | | | | |
| Lanes | | | | | | | | a dinana | | anter arts | | | | | | |
| | | | | 14 1 Y 4 P P | | T T jor Street: Ea | st-West | 1 1 1 4 4 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | | | | | | | | | | | | |
| | The second se | Contraction and and and and and | | | | | | | | | | | | | | |
| Approach | | - | bound | 1 | | 1 | bound | | | 1 | bound | | | South | 1 | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | |
| Movement Priority | 1U | L 1 | Т 2 | 3 | 4U | L 4 | T 5 | 6 | U | L 7 | Т 8 | 9 | U | L 10 | T 11 | 1. |
| Movement Priority Number of Lanes | | L | Т | 3 0 | | L 4 1 | T 5 1 | | U | L | T 8 1 | | U | L | Т | 1 |
| Movement Priority Number of Lanes Configuration | 1U | L 1 | T 2 1 | 3 0 TR | 4U | L 4 1 L | T 5 1 T | 6 | U | L 7 0 | Т 8 | 9 | U | L 10 | T 11 | 12 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) | 1U | L 1 | Т 2 | 3 0 | 4U | L 4 1 L 0 | T 5 1 | 6 | U | L 7 0 11 | T 8 1 | 9 0 0 | U | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) | 1U | L 1 | T 2 1 | 3 0 TR | 4U | L 4 1 L | T 5 1 T | 6 | | L 7 0 | T 8 1 | 9 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked | 1U | L 1 | T 2 1 | 3 0 TR | 4U | L 4 1 L 0 | T 5 1 T | 6 | | L 7 0 11 3 | T 8 1 LR | 9 0 0 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) | 1U | L 1 | T 2 1 | 3 0 TR | 4U | L 4 1 L 0 | T 5 1 T | 6 | | L 7 0 11 3 | T 8 1 | 9 0 0 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized | 1U | L 1 | T 2 1 | 3 0 TR 96 | 4U 0 | L 4 1 L 0 | T 5 1 T | 6 | | L 7 0 11 3 | T 8 1 LR | 9 0 0 | | L 10 | T 11 | 1. |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | | L 1 0 | T 2 1 | 3 0 TR 96 | 4U | L 4 1 L 0 | T 5 1 T | 6 | | L 7 0 11 3 | T 8 1 LR | 9 0 0 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | | L 1 0 | T 2 1 | 3 0 TR 96 | 4U 0 | L 4 1 L 0 | T 5 1 T | 6 | | L 7 0 11 3 | T 8 1 LR | 9 0 0 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Here | | L 1 0 | T 2 1 | 3 0 TR 96 | 4U 0 | L 4 1 L 0 3 | T 5 1 T | 6 | | L 7 0 11 3 | T 8 1 LR | 9 0 0 3 | | L 10 | T 11 | R 12 0 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) | | L 1 0 | T 2 1 | 3 0 TR 96 | 4U 0 | L 4 1 L 0 3 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR | 9 0 3 6.2 | | L 10 | T 11 | 12 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) | | L 1 0 | T 2 1 | 3 0 TR 96 | 4U 0 | L 4 1 0 3 3 4.1 4.13 | T 5 1 T | 6 | U U I | L 7 0 11 3 | T 8 1 LR | 9 0 3 3 6.2 6.23 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4.1 4.13 2.2 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1. |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4.1 4.13 2.2 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1. |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4.1 4.13 2.2 2.23 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR 0 | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4.1 4.13 2.2 2.23 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR 0 | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow Rate, v (veh/h) Capacity, c (veh/h) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4.1 4.13 2.2 2.23 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR 0 | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1 |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4 1 4.13 2.2 2.23 0 1062 0.00 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR 0 | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1. |
| Movement Priority Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | 1U 0 | L 1 0 | T 2 1 361 | 3 0 TR 96 Undi | 4U 0 | L 4 1 0 3 3 4.1 4.1 4.13 2.2 2.23 2.23 | T 5 1 T | 6 | | L 7 0 111 3 | T 8 1 LR 0 0 | 9 0 3 3 6.2 6.2 3.3 | | L 10 | T 11 | 1 |

HCSTM TWSC Version 7.8.5 WESTERN DRIVEWAY PM PEAK.xtw Generated: 7/21/2020 11:09:49 AM

| | | | HCS7 | Two | -Wa | y Sto | p-Cc | ontro | l Rep | oort | | | | | | | |
|---|-------|--------|----------|-----------|-------|---|-------------|---------------|----------|-------------------------|--|-------------------------|------------|----------------|------------|----|--|
| General Information | | | | | | | Site | Infor | matio | n | | | | | | | |
| Analyst | DLD | | | | | | Inter | section | | | BETT | ERAVIA | /WESTEF | RN DWY | | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SB C | OUNTY | | | | | |
| Date Performed | 5/12, | /2020 | | | | | East, | 'West St | reet | | | | | | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | | | | | | | |
| Time Analyzed | СЛМ | + PRO. | J - 4 PM | PEAK | | 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - | Peak | Hour Fa | actor | | 0.92 | | | | | | |
| Intersection Orientation | East- | West | | | | | Anal | ysis Tim | e Period | (hrs) | 0.25 | 1. Q. | e.c.A | Sec. | | | |
| Project Description | BETT | ERAVIA | /WESTER | | EWAY | | darenanenan | | | | 4 | SISHOLMOUS AND | | | | | |
| Lanes | | | | | | | | | | | | | | | | 1 | |
| Vehicle Volumes and Adju | ustme | | bound | 1144717 | | T ior Street Ed | st-West | 1 4 4 4 4 4 V | | North | bound | | 1 | South | bound | | |
| Approach | | 1 | bound | | 1000 | West | | | | 1 | bound | <u> </u> | Southbound | | | | |
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | F | |
| Priority | 10 | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 13 | |
| | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | 0 | 1 | 0 | | 0 | 0 | C | |
| Number of Lanes | | | | TR | | L | Т | | 1 | | LR | | | | | | |
| Configuration | | | 221 | | | 0 | 601 | aleren beren | | 06 | | | 1-10-10-00 | A State States | LANGE STOR | | |
| Configuration Volume (veh/h) | | | 221 | 4 | | 0 | 601 | | - | 96 | | 0 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) | | | 221 | | | 0 3 | 601 | | | 96 3 | | 0 3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked | | | 221 | | | | 601 | | | 3 | | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) | | | 221 | | | | 601 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized | | | 221 | 4 | vided | | 601 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | | | 221 | 4 | vided | | 601 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Heave | | ys | 221 | 4 | vided | 3 | 601 | | | 3 | 0 | 3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Heat Base Critical Headway (sec) | | ys | 221 | 4 | vided | 3 | 601 | | | 3 | 0 | 3 6.2 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) | | ys | 221 | 4 | vided | 3 4.1 4.13 | 601 | | | 3 7.1 6.43 | 0 | 3 6.2 6.23 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | | ys | 221 | 4 | vided | 3 4.1 4.13 2.2 | 601 | | | 3 7.1 6.43 3.5 | 0 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | adway | | | 4 Undi | vided | 3 4.1 4.13 | 601 | | | 3 7.1 6.43 | 0 | 3 6.2 6.23 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and | adway | | | 4 Undi | vided | 3 4.1 4.13 2.2 2.23 | 601 | | | 3 7.1 6.43 3.5 | | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) | adway | | | 4 Undi | vided | 3 4.1 4.13 2.2 2.23 | 601 | | | 3 7.1 6.43 3.5 | 104 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) | adway | | | 4 Undi | | 3 4.1 4.13 2.2 2.23 0 1316 | 601 | | | 3 7.1 6.43 3.5 | 104 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) | adway | | | 4 Undi | Vided | 3 4.1 4.13 2.2 2.23 0 1316 0.00 | 601 | | | 3 7.1 6.43 3.5 | 104 310 0.34 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | adway | | | 4 Undi | | 3 4.1 4.13 2.2 2.23 0 1316 0.00 0.0 | 601 | | | 3 7.1 6.43 3.5 | 104 310 0.34 1.4 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) V/c Ratio 95% Queue Length, Q ₉₅ (veh) | adway | | | 4 Undi | | 3 4.1 4.13 2.2 2.23 0 1316 0.00 0.00 7.7 | 601 | | | 3 7.1 6.43 3.5 | 104 310 0.34 1.4 22.4 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Hea Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | adway | | | 4 Undi | | 3 4.1 4.13 2.2 2.23 0 1316 0.00 0.0 | | | | 3 7.1 6.43 3.5 | 104 310 0.34 1.4 22.4 C | 3 6.2 6.23 3.3 | | | | | |

HCS 100 TWSC Version 7.8.5 WESTERN DRIVEWAY PM PEAK 4 pm.xtw

Generated: 7/21/2020 9:24:51 AM

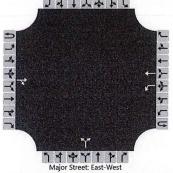
| | | | | | | , 2.0 | | | ы кер | port | | | | | | | |
|--|--------------------|---------|----------------------------|---------|-------------------|--|-----------------------------|-----------------|----------|-------------------------|--------------------------|-------------------------|---------|------------------------------|--------------|-------------------------|--|
| General Information | | | | | | | Site | Infor | matic | on | | | | | | | |
| Analyst | DLD | | | | | | Inter | section | | | BET | TERAVIA, | /EASTER | N DWY | | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | SB C | COUNTY | | | | | |
| Date Performed | 5/12, | /2020 | ethal biescriebheids erich | | Setting-entry and | anda autoperiorente enterferenciente | East, | /West St | reet | | | | | and any set of a constant of | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | | | | | | | |
| Time Analyzed | CUM | + PRO. | JECT - AN | M PEAK | | | Peak | Hour Fa | actor | | 0.92 | | | | | | |
| Intersection Orientation | East- | West | | | | | Anal | ysis Tim | e Period | (hrs) | 0.25 | | | | | 1.10 | |
| Project Description | BETT | ERAVIA, | /EASTERI | N DRIVE | WAY | | | | | | | | | | | | |
| Lanes | | 1. A. | | | | | | | | - 4 Ca | | | | | | | |
| | | | | 7417471 | ۲ Ma | ۲۲ t ۲۲ jor Street: Ea | t t r st-West | 1 7 4 4 7 1 4 7 | 2 | | | | | | | | |
| Vehicle Volumes and Ad | justme | nts | | | | | | | | | | | | | | | |
| Approach | Eastbound Westbour | | | | bound | | Northbound | | | | Southbound | | | | | | |
| Movement | U | L | Т | R | U | L | Т | R | UL | | | R U L T | | | Т | R | |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 | |
| | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 0 | C | |
| Number of Lanes | | | Т | R | | LT | | | | | LR | | | | | | |
| Number of Lanes Configuration | | | - | | | | A REAL PROPERTY AND ADDRESS | | | | | | | | 1 (ED 344 3 | and a subsection of the | |
| | | | 642 | 30 | | 1 | 127 | | | 11 | | 1 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) | | | 642 | 30 | | 1 3 | 127 | | | 11 3 | | 1 3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked | | | 642 | 30 | | | 127 | | | | | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) | | | | 30 | | | 127 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized | | | 642 | | | | 127 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | | | | | vided | | 127 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | eadway | | | | vided | | 127 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | eadway | | | | vided | | 127 | | | 3 | 0 | | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H | eadway | | | | vided | 3 | 127 | | | 3 | 0 | 3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) | eadway | | | | vided | 3 | 127 | | | 7.1 | 0 | 6.2 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) | eadway | | | | vided | 3 4.1 4.13 | 127 | | | 3 7.1 6.43 | | 3 6.2 6.23 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | ys | | Undi | vided | 3 4.1 4.13 2.2 | 127 | | | 3 7.1 6.43 3.5 | 0 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an | | ys | | Undi | vided | 3 4.1 4.13 2.2 | 127 | | | 3 7.1 6.43 3.5 | 0 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an | | ys | | Undi | vided | 3 4.1 4.13 2.2 2.23 | 127 | | | 3 7.1 6.43 3.5 | | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | ys | | Undi | | 3 4.1 4.13 2.2 2.23 | 127 | | | 3 7.1 6.43 3.5 | 13 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) | | ys | | Undi | | 3 4.1 4.13 2.2 2.23 1 869 | 127 | | | 3 7.1 6.43 3.5 | 13 341 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | ys | | Undi | | 3 4.1 4.13 2.2 2.23 1 869 0.00 | | | | 3 7.1 6.43 3.5 | 13 341 0.04 | 3 6.2 6.23 3.3 | | | | | |
| Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | ys | | Undi | | 3 4.1 4.13 2.2 2.23 1 869 0.00 0.0 | | | | 3 7.1 6.43 3.5 | 13 341 0.04 0.1 | 3 6.2 6.23 3.3 | | | | | |

HCS TM TWSC Version 7.8.5 EASTERN DRIVEWAY AM PEAK.xtw Generated: 7/21/2020 10:04:10 AM

| | | ŀ | HCS7 | ' Two | o-Wa | y Sto | р-Сс | ontro | l Rep | oort | | | | | | | | |
|--|---------|--------|--------------------------------|-----------|--|--|----------------------------|---------------------------------------|------------|------------------|---|------------------------------|------------|-------|----|---------|--|--|
| General Information | | | | | | | Site | Infor | matio | on | | | | | | | | |
| Analyst | DLD | | | | | | Inter | section | | | BETT | ERAVIA, | /EASTER | N DWY | | | | |
| Agency/Co. | ATE | | | | | | Juris | diction | | | + | OUNTY | | | | | | |
| Date Performed | 5/12/ | /2020 | Andreas and an or other states | | personal personal de la companya de | | East/ | West St | reet | | | | | | | | | |
| Analysis Year | | | | | | | Nort | h/South | Street | | | | | | | | | |
| Time Analyzed | CUM | + PRO. | ECT - PI | M PEAK | | | Peak | Hour Fa | actor | | 0.92 | | | | | | | |
| Intersection Orientation | East- | West | | | | | Analysis Time Period (hrs) | | | | | 0.25 | | | | | | |
| Project Description | BETT | ERAVIA | 'EASTER | N DRIVE | WAY | | | | | | | | | | | | | |
| Lanes | | | | | | | | | | | | | | | | | | |
| | | | | 2414420 | t Ma | ۲ ۲ or Street: Ea | t t sst-West | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | |
| Vehicle Volumes and Adj | justme | nts | | | | | | | | | | | | | | | | |
| Approach | | East | oound | | | West | bound | | Northbound | | | | Southbound | | | | | |
| Movement | U | L | Т | R | U | L | TRUL | | | Т | R | U | L | Т | R | | | |
| | | | 2 | 3 | 4U | 4 | 5 | 6 | | - | 8 | | 1 | 10 | 11 | | | |
| Priority | 1U | 1 | | - | | | | 0 | | 7 | 0 | 9 | | 10 | L | 12 | | |
| Priority Number of Lanes | 1U 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | 0 | 0 1 | 0 | | 0 | 0 | | | |
| Number of Lanes Configuration | | | | 0 TR | 0 | 1 L | | | | 0 | | 0 | | | | 12 0 | | |
| Number of Lanes Configuration Volume (veh/h) | | | | | 0 | | 1 | | | | 1 | | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) | | | 1 | TR | 0 | L | 1 T | | | 0 | 1 | 0 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked | | | 1 | TR | 0 | L 11 | 1 T | | | 0 42 3 | 1 LR | 0 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) | | | 1 | TR | 0 | L 11 | 1 T | | | 0 42 3 | 1 | 0 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized | | | 1 | TR 206 | | L 11 | 1 T | | | 0 42 3 | 1 LR | 0 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage | 0 | 0 | 1 | TR 206 | 0 | L 11 | 1 T | | | 0 42 3 | 1 LR | 0 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up Heave | 0 | 0 | 1 | TR 206 | | L 11 | 1 T | | | 0 42 3 | 1 LR | 0 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) | 0 | 0 | 1 | TR 206 | | L 11 | 1 T | | | 0 42 3 7.1 | 1 LR | 0 111 3 6.2 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) | 0 | 0 | 1 | TR 206 | | L 11 3 4.1 4.13 | 1 T | | | 0 42 3 | 1 LR | 0 111 3 6.2 6.23 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H e Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | 0 | 0 | 1 | TR 206 | | L 11 3 4.1 4.1 2.2 | 1 T | | | 0 42 3 | 1 LR | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.13 | 1 T | | | 0 42 3 | 1 LR | 0 111 3 6.2 6.23 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H e Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.1 2.2 | 1 T | | | 0 42 3 | 1 LR | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.1 2.2 | 1 T | | | 0 42 3 | 1 LR | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.13 2.2 2.23 | 1 T | | | 0 42 3 | 1 LR 0 | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.13 2.2 2.23 12 1161 0.01 | 1 T | | | 0 42 3 | 1 LR 0 | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.1 2.2 2.23 12 1161 0.01 0.0 | 1 T | | | 0 42 3 | 1 LR 0 0 | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up H Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.13 2.2 2.23 12 1161 0.01 0.0 8.1 | 1 T | | | 0 42 3 | 1 LR J J J J J J J J J J J J J J J J J J | 0 111 3 | | | | | | |
| Number of Lanes Configuration Volume (veh/h) Percent Heavy Vehicles (%) Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Critical and Follow-up He Base Critical Headway (sec) Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio | | 0 | 1 155 | TR 206 | | L 11 3 4.1 4.1 4.13 2.2 2.23 12 1161 0.01 0.0 8.1 A | 1 T | | | 0 42 3 | 1 LR 0 0 | 0 111 3 | | | | | | |

HCS TM TWSC Version 7.8.5 EASTERN DRIVEWAY PM PEAK.xtw Generated: 7/21/2020 11:10:58 AM

| General Information | | Site Information | |
|--------------------------|-----------------------------|----------------------------|------------------------|
| Analyst | DLD | Intersection | BETTERAVIA/EASTERN DWY |
| Agency/Co. | ATE | Jurisdiction | SB COUNTY |
| Date Performed | 5/12/2020 | East/West Street | |
| Analysis Year | | North/South Street | |
| Time Analyzed | CUM + PROJ 4 PM PEAK | Peak Hour Factor | 0.92 |
| Intersection Orientation | East-West | Analysis Time Period (hrs) | 0.25 |
| Project Description | BETTERAVIA/EASTERN DRIVEWAY | | |



| Approach | | East | bound | | | West | bound | | | North | bound | | | South | bound | |
|---|---------|-------|----------|--------|----------------|------|---------------------|--|---|-------|-------|------|-----------------|---------|-------|----|
| Movement | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 |
| Configuration | | | | TR | | L | Т | | | | LR | | | | | |
| Volume (veh/h) | | | 170 | 51 | | 11 | 367 | | | 234 | | 11 | | | | |
| Percent Heavy Vehicles (%) | | | | | | 3 | | | | 3 | | 3 | | | | |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | Arrest Arrest Cover | | | | 0 | | | | | |
| Right Turn Channelized | | | | | | | | 1 | | | | | | | | |
| Median Type Storage | | | | Undi | vided | | | | | | | | | | | |
| Critical and Follow-up H | eadway | /s | | | | | | | | | | | | | | |
| Base Critical Headway (sec) | | | | | | 4.1 | | | | 7.1 | 1 | 6.2 | | | | |
| Critical Headway (sec) | | | | | | 4.13 | | | | 6.43 | | 6.23 | | | | |
| Base Follow-Up Headway (sec) | | | | | | 2.2 | | | | 3.5 | | 3.3 | | | | |
| Follow-Up Headway (sec) | | | | | | 2.23 | and a second | | | 3.53 | | 3.33 | | | | |
| Delay, Queue Length, an | d Level | of Se | ervice | | | | | | | | | | | | | |
| Flow Rate, v (veh/h) | T | | | | | 12 | | | | | 266 | | | | | |
| Capacity, c (veh/h) | | | | 1 m 19 | | 1321 | 100 M 1 | | | | 446 | | | Sec. 35 | | |
| v/c Ratio | | | | | | 0.01 | | | | | 0.60 | | | | | |
| 95% Queue Length, Q ₉₅ (veh) | | | Sign (C) | | | 0.0 | | na na sin Na si | | | 3.8 | | 10 - 11 - 1 | | | |
| Control Delay (s/veh) | | | | | | 7.8 | | | | | 24.3 | | | | | |
| Level of Service (LOS) | | Se de | | | | А | | | | | C | | | | | |
| Approach Delay (s/veh) | | | | | | 0 | .2 | | | 24 | l.3 | | | | | |
| Approach LOS | | | | | S. S. Marcelly | | | | | (| 2 | | 100 | | | |

HCS TW TWSC Version 7.8.5 EASTERN DRIVEWAY PM PEAK 4 PM.xtw Generated: 7/21/2020 9:16:32 AM

ASSOCIATED TRANSPORTATION ENGINEERS 100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805)687-4418 • FAX (805)682-8509 • main@atesb.com

Since 1978

Richard L. Pool, P.E. Scott A. Schell

August 10, 2020

20014L03

Clayton Dragoo Fischer Construction Group 625 Fisher Lane Burlington WA, 98233

UPDATED VMT ANALYSIS FOR THE ARTIC COLD STORAGE & PACKING PROJECT – COUNTY OF SANTA BARBARA

Associated Transportation Engineers (ATE) has prepared the following updated Vehicles Miles Travelled (VMT) study for Arctic Cold Storage & Packing Project (the "Project") proposed in the Santa Barbara County area east of the City of Santa Maria. The updated study incorporates the VMT threshold information presented in the draft Transportation Analysis Updates in Santa Barbara County published by the Planning and Development Department and Fehr & Peers (July 2020). It is our understanding that this analysis will be submitted to the County as part of the Project's application package to assist County staff in reviewing the development.

PROJECT DESCRIPTION

The Arctic Cold Storage & Packing Project site located east of the Betteravia Road/Rosemary Road intersection in the unincorporated Santa Barbara County area just east of the City of Santa Maria. The Project is proposing to develop a 449,248 SF food processing, cold storage and packaging facility. The facility includes a 127,546 SF food processor and a 321,702 SF freezer. The plant would employ an estimated 153 employees during normal periods and 623 employees during peak harvest periods.

VMT ANALYSIS

The County of Santa Barbara's adopted Traffic Impact Thresholds were previously used to evaluate whether a project has a significant traffic impact under the California Environmental Quality Act (CEQA). Recent legislation, Senate Bill 743, is moving away from the Level of Service (LOS) metric to a Vehicle Miles Traveled (VMT) metric to evaluate whether a project results in a significant traffic impact. Cities and Counties were required to implement Senate Bill 743 by July 1, 2020. It is anticipated that LOS will still remain as a policy consistency issue, though not as an impact metric under CEQA environmental review.

Per the State's Natural Resource Agency Updated Guidelines for the Implementation of the CEQA adopted in 2018, VMT has been designated as the most appropriate measure of transportation impacts. "Vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. For land use projects, vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Santa Barbara County has not adopted VMT thresholds of significance or analysis methodologies at this time.

As noted, Santa Barbara County has recently published a draft "Transportation Analysis Updates in Santa Barbara County" document that contains recommendations for VMT thresholds of significance and screening maps. The County's recommended thresholds generally follow the new State guidelines, which are reviewed below

<u>CEQA Guidelines</u>. The California Governor's Office of Planning and Research (OPR) published a technical advisory that includes recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.¹ The recommended VMT impact threshold for employment centers such as offices and manufacturing facilities is as follows:

"Recommended threshold for office projects: A proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact.

Office projects that would generate vehicle travel exceeding 15 percent below existing VMT per employee for the region may indicate a significant transportation impact. In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live. Office VMT screening maps can be developed using tour-based data, considering either total employee VMT or employee work tour

^{1 &}lt;u>Technical Advisory on Evaluating Transportation Impacts in CEQA</u>, Governor's Office of Planning and Research, December 2018.

VMT. Similarly, tour-based analysis of office project VMT could consider either total employee VMT or employee work tour VMT. Where tour-based information is unavailable for threshold determination, project assessment, or assessment of mitigation, home-based work trip VMT should be used throughout all steps of the analysis to maintain an "apples-to-apples" comparison."

The County's draft guidelines recommend that VMT impact threshold of significance for new employment developments be 15% lower than the County-wide home-based work VMT per employee.

<u>VMT Calculations</u>. The County has not released a VMT calculator tool at this time. The Project's home-based work VMT per employee was therefore calculated using anticipated employee residence locations data as well as the CalEEMod air quality model, as reviewed below.

It is anticipated that the majority of the employees working at the Project site would reside in the City of Santa Maria and the adjacent community of Orcutt, as these areas contain a significant percentage of the County's housing for employees in the agricultural industry. The average home-to-work travel distances from the Project site to the primary housing areas in Santa Maria and Orcutt range from 4 to 6 miles. The CalEEMod air quality model trip length factor for the Project's employees is 6.6 miles. Based on this data, the Project would be expected to generate between 10.0 and 13.2 home-based work VMT/employee assuming all employees drove in single occupant vehicles. This would equate to total of 1,530 to 2,020 VMT during normal periods and 6,230 to 8,224 VMT during peak harvest periods.

As noted, the County's draft guidelines indicate that a project's VMT generation would be less than significant if it does not exceed a level of 15% below existing regional VMT/employee. The draft guidelines indicate that the current County-wide average is 15.9 VMT per employee. The Project's estimated VMT of 10.0 to 13.2 VMT/employee is 17% to 37% less than the County average. Based on this analysis, the Project's VMT generation would be less than significant as it does not exceed a level of 15 percent below existing regional VMT per employee. Table 1 summarizes the VMT data.

Table 1Project VMT Comparison to County Average

| Project VMT Estimate | County Average VMT | Percent Less Than Average |
|-------------------------|--------------------|---------------------------|
| 10.0–13.2 VMT/ Employee | 15.9 VMT/Employee | 17%-37% |

Clayton Dragoo

Page 4

VMT REDUCTION STRATEGIES

The VMT analysis completed for the Project assumed that all employees would drive single occupant vehicles to the Project site. Based on observations conducted at similar agricultural production facilities in the Santa Maria region, it is anticipated that a significant portion of the Project's employees would carpool to the site or would share rides with other workers in the area. It is estimated that 25% of the site employees would carpool to the site and 10% would share rides with other workers in the area. This would reduce the estimated Project VMT to 6.5-8.6 VMT/employee which would be well below the County average of 15.9 VMT/employee.

Associated Transportation Engineers,

111 D Scott A. Schell

Principal Transportation Planner

Fehr / Peers

Technical Memorandum

| Date: | February 22, 2021 |
|----------|-----------------------------------|
| To: | Fisher Construction Group, Inc. |
| From: | Ethan Yue Sun & Sarah Brandenberg |
| Subject: | Arctic Cold VMT Analysis |

LA21-3259

This technical memorandum documents the Vehicle Miles Traveled (VMT) analysis for the Arctic Cold project located in unincorporated Santa Barbara County at 1750 East Betteravia Road approximately one mile east of the City of Santa Maria. The property is bound by Rosemary Road on the west, East Betteravia Road on the north, and Prell Road on the south. The project is located in a rural area of the County that is zoned for agricultural uses. The project would develop a 449,248 square-foot (sf) gross floor area agricultural processor and freezer facility.

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law, which initiated a process to change transportation impact analyses completed in support of CEQA documentation. SB 743 eliminates level of service (LOS) as a basis for determining significant transportation impacts under CEQA and provides a new performance metric, VMT. As a result, the State is shifting from measuring a project's impact to drivers (LOS) to measuring the impact of driving (VMT) as it relates to achieving State goals of reducing greenhouse gas (GHG) emissions, encouraging infill development, and improving public health through active transportation.

In response to SB 743, the County of Santa Barbara adopted new transportation impact thresholds to adhere to CEQA requirements as described in their *Environmental Thresholds and Guidelines Manual*¹ (County Guidelines). The VMT analysis for the proposed project is based on the County's new guidance for transportation impacts. The methodology and VMT analysis findings are presented below.

¹ County of Santa Barbara Planning and Development, Environmental Thresholds and Guidelines Manual. (Planning and Development, January 2021). https://cosantabarbara.app.box.com/s/vtxutffe2n52jme97lgmv66os7pp3lm5

Arctic Cold VMT Analysis February 22, 2021 Page 2 of 4



VMT Methodology Overview

The VMT methodology applied to the proposed project is consistent with the methodology used to determine the County's baseline VMT for employment projects and the corresponding impact threshold. The County's baseline VMT is calculated using the Santa Barbara County Association of Governments' (SBCAG) Regional Travel Demand Model (RTDM). The latest version of the SBCAG RTDM was developed for the *Fast Forward 2040: SBCAG Regional Transportation Plan and Sustainable Communities Strategy* (SBCAG RTP/SCS) (SBCAG, 2017) and was utilized for the project analysis.

The County's baseline VMT is defined by the geography of the unincorporated areas of the county (excluding incorporated cities). The County's baseline VMT is referred to as "county VMT" in the County Guidelines. County VMT reflects all vehicle-trips that start and/or end in the unincorporated areas of Santa Barbara County.

The SBCAG RTDM estimates VMT for 2010 and 2040. Since environmental documents must typically analyze projects under baseline conditions, VMT estimates for baseline conditions can be developed by interpolating between the 2010 base year and 2040 future year. For the proposed project, VMT estimates were calculated for the current year of 2021.

VMT Metrics for Employment Projects

According to County Guidelines, employment projects should analyze VMT using an efficiency metric (i.e., on a per employee basis) rather than based on absolute VMT. Using an efficiency metric allows the project to be compared to other employment uses in the county to determine if the project VMT is higher or lower than a typical employment use. The following VMT calculation is completed for employment projects using the SBCAG RTDM:

 Home-based work VMT per Employee: VMT generated from travel between employees' homes and work for a project site divided by the number of employees at the project site. Home-based work VMT per employee reflects all passenger vehicles (cars and light duty trucks) assigned on the roadway network.

The SBCAG RTDM is used to estimate Home-based work VMT by tracking all commute trips between the project site and employee residences and calculating the number of trips and length of those trips to estimate the VMT generated per employee.

VMT Impact Thresholds

The County's VMT thresholds compare the existing, or baseline, county VMT (i.e., preconstruction) to a project's VMT. For an employment project, a VMT impact would occur if:



• Project VMT exceeds a level of 15 percent below existing county VMT for Home-based work VMT per employee.

The county VMT and VMT impact thresholds for employment projects in Santa Barbara County are presented in **Table 1**.

Table 1: County VMT and VMT Impact Threshold for Employment Projects

| | rea | r 2021 |
|----------------------------------|------------|--------------------------|
| VMT Metrics | County VMT | VMT Impact Threshold* |
| Home-Based Work VMT per Employee | 15.8 | 13.4 |

* The VMT Impact Threshold for is 15% below the County VMT.

Project VMT Analysis

The SBCAG RTDM was updated to reflect the employment levels anticipated for the project site. Employment at the project site would vary by season as follows:

- During the non-harvest season (August to May), the project would require approximately 153 employees.
- During the harvest season (May to August), the project would require approximately 623 employees.

To account for peak employment activity, the 623 employees that would work at the facility during harvest season were used for the VMT analysis. However, on a per employee basis, the VMT trends are expected to be similar during non-harvest season.

The traffic analysis zone (TAZ) encompassing the project site was updated to reflect the 623 project employees. Both the 2010 RTDM and 2040 RTDM were updated to reflect the proposed project employment growth, model runs were conducted, and the Home-based work VMT per employee metrics were calculated for the project TAZ. **Table 2** presents the project VMT estimate. **Appendix A** contains the SBCAG RTDM inputs and outputs for the project TAZ.

| Table 2: Arctic Colo | l Project VMT |
|----------------------|---------------|
|----------------------|---------------|

| VMT Metrics | Project VMT |
|--|-------------|
| Year 2010 Home-Based Work VMT per Employee | 10.0 |
| Year 2040 Home-Based Work VMT per Employee | 8.1 |
| Baseline 2021 Home-Based Work VMT per Employee | 9.3 |



Project VMT Impact Findings

The project VMT was compared to the County's VMT threshold for employment projects. As shown in **Table 3**, the project VMT is less than the County's VMT impact threshold. Therefore, the project was found to have a less than significant VMT impact.

Table 3: Arctic Cold VMT Impact Findings

| VMT Metrics | Project VMT | County VMT Impact Threshold | Significant VMT Impact? |
|---|-------------|-----------------------------------|----------------------------|
| Home-Based Work VMT per Employee (Baseline 2021) | 9.3 | 13.4 | No |

Cumulative Conditions

For cumulative conditions, a project that is below the VMT impact thresholds and does not have a VMT impact under baseline conditions would also typically not have a cumulative impact as long as it is aligned with long-term State environmental goals, such as reducing GHG emissions, and relevant plans, such as the SBCAG RTP/SCS².

Since the Home-based work VMT per employee generated by the project is less than the County's VMT impact threshold for employment projects under baseline conditions, the project would also have a less than significant cumulative impact. In addition, the project would add employment to the northern portion of Santa Barbara County which is aligned with the goals of the SBCAG RTP/SCS.

Conclusions

This technical memorandum documents the process to determine the potential VMT impacts of the proposed Arctic Cold project in Santa Barbara County. The following summarizes the results of the VMT analysis:

The Arctic Cold project site generates 9.3 Home-based work VMT per employee in comparison to the County's impact threshold of 13.4. Therefore, the project site is more VMT efficient than the average Home-based work VMT for employment land uses in the unincorporated area of the county and was found to have a less than significant VMT impact.

² Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, 2018.

Appendix A - SBCAG RTDM Model Inputs and Outputs

| | | Project TAZ | | | | | | | |
|-------------------|------------|-------------|------------|--|--|--|--|--|--|
| Year | Population | Households | Employment | | | | | | |
| 2010 No Build | 2 | 1 | 0 | | | | | | |
| 2010 plus Project | 2 | 1 | 623 | | | | | | |
| 2040 No Build | 2 | 1 | 0 | | | | | | |
| 2040 plus Project | 2 | 1 | 623 | | | | | | |

Model Inputs - Land Use/Socio-Economic Data for 2010 and 2040 Model Runs

Model Outputs - Home-Based Work VMT for 2010 and 2040 Model Runs

| | Project TAZ | | |
|-----------------------------|---------------------------|------------|-----------------|
| | Total Home- Based Work | | Home-Based Work |
| Year | VMT | Employment | VMT/Employee |
| 2010 plus Project | 6,235 | 623 | 10.01 |
| 2040 plus Project | 5,053 | 623 | 8.11 |
| 2021 Baseline Interpolation | 5,802 | 623 | 9.31 |