Nakano (221 Dwelling Units)
City of Chula Vista
450 Block of Dennery Rd
December 1, 2023

City of San Diego PTS# 647766

Local Mobility Analysis Report

Prepared for:

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Nakano 221 Homes

The proposed project includes up to 221 residential dwelling units (mix of up to 67 detached condominiums, 84 duplexes and 70 multi-family units) on vacant land that is located at the 450 block of Dennery Road Chula Vista, California. Project access is proposed from a single private right-in/right-out driveway on Dennery Road (the existing driveway will be closed and replaced with full height curb and gutter). A new driveway is proposed approximately 40 feet southwest of the existing driveway that will be closed. No modification is proposed to the existing median on Dennery Road at the project access location. The two-lane project access will include Class II bike lanes and non-contiguous sidewalks on both sides. Project opening is forecasted to occur in 2025. As part of the project, the applicant is proposing an amendment to change the 23.8-acre parcel from an existing General Plan land use designation of Open Space (OS) to a General Plan land use designation of Residential High (RH). The project requires a change from existing zone A-8 Agricultural to a proposed zone R3P Residential.

This Local Mobility Analysis is based on the City of San Diego *Transportation Study Manual*, updated September 2022 because the project location is unique being located within the City of Chula Vista with sole access to City of San Diego roadways. Furthermore, and based on a SANDAG Select Zone Assignment, the project adds less than 10 peak hour trips to any City of Chula Vista surface streets or intersections within 2 miles of the project site. For these reasons and based on coordination with Chula Vista staff, the City of San Diego LMA criteria were applied because all the study roadways are located within the City of San Diego. The LMA includes the study of pedestrian, bicycle, transit, and traffic facilities. This LMA is to evaluate the effects of the proposed development project on mobility, access, circulation, and related safety elements in the proximate area of the project.

The **Pedestrian** facilities within the ½ mile walking shed along the study roadways did not have any observed missing sidewalk sections, curb ramps, or major obstructions. The project will incorporate sidewalks into the project site from Dennery Road. There is existing parkway and non-contiguous sidewalk along the project frontage on Dennery Road.

The **Bicycle** facilities within a ½ mile bicycling distance along the study roadways were consistent with the Class II bike lanes shown in the City of San Diego *Bicycle Master Plan Update* and the *Otay Mesa Community Plan Update*. No bicycle lane improvements are recommended as part of this project.

The **Transit** facilities within a ½ mile walking shed included four bus stops. The bus stops on Palm Ave are approximately 100 feet west of Dennery Road with the north side stop having a combined bench with open shelter and the south side stop having two benches. The bus stops on Dennery Road are located on the east and west sides of the street approximately 1,100 feet south of Palm Ave. The bus stop on the east side of Dennery Road has a bench. The bus stop on the west side of Dennery Road includes a combined bench with open shelter. The bus stops are all in good condition. No bus stop improvements are recommended as part of this project.

Systemic Safety Review: The City of San Diego Systemic Safety The Data-Driven Path to Vision Zero (April 2019) policy promotes safe roadway design with a goal toward preventing collisions. As part of that goal, a systemic safety review provides an assessment of hotspots and recommended countermeasures to align with Vision Zero. The systemic safety review identified the following locations that match the criteria for potential improvements:

1) Palm Ave at Dennery Road. Three countermeasures are proposed: 1) For the pedestrian criteria, the proposed countermeasure is for the owner/permittee to install audible countdown pedestrian timers for each pedestrian phase. 2) For the vehicle criteria (Footprint #2), the proposed countermeasure is for the owner/permittee to install backplates with retroreflective borders for better visibility, and 3) Upgrade the traffic controller to provide City of San Diego current 2070 signal controller including software update and communications equipment per current City of San Diego standards, to the satisfaction of the City of San Diego Engineer.
2) Dennery Rd at Red Fin Ln. For the bicycle criteria (Footprint #1), the proposed countermeasure is for the owner/permittee to upgrade bicycle loop detectors along Dennery Rd and install Type E Modified front loops on all approaches.

The **Traffic** facilities included the analysis of six (6) intersections, and five (5) roadway segments under opening day 2025 and horizon year conditions. The intersections included:

1) Palm Ave/I-805 SB Ramps
2) Palm Ave/I-805 NB Ramps
3) Palm Ave/Dennery Rd
4) Dennery Rd/Project Driveway
5) Dennery Rd/The Landing Driveway
6) Dennery Rd/Red Coral Ln/Red Fin Ln

The street segments included:

1) Palm Ave between I-805 SB Ramps and I-805 NB Ramps
2) Palm Ave between I-805 NB Ramps and Dennery Rd
3) Dennery Rd between Palm Ave and Regatta Ln
4) Dennery Rd between Regatta Ln and Project Driveway
5) Dennery Rd between Project Driveway and Red Coral Ln/Red Fin Ln

A horizon year analysis is included because the project requires a zone change. The project trip generation based on the City of San Diego *Trip Generation Manual*, May 2003 is expected to generate approximately 1,902 ADT with 153 AM peak hour trips (31 inbound and 122 outbound) and 190 PM peak hour trips (133 inbound and 57 outbound). Under opening day 2025 and horizon year conditions, the project would add more than 50 peak hour turn trips or more than 500 daily trips to the study locations forecasted to operate at LOS E/F; and/or has the potential to exceed the existing turn lane storage capacities at the following locations:

1) Intersection of Palm Ave/I-805 SB Ramps:
    a. Project would add 9 PM Westbound lefts under LOS E and continue to exceed existing storage under Opening Year 2025 plus Project conditions.
    b. No improvements are proposed because Caltrans has a circulated Environmental Document (MND/EA) and a Ready to List (RTL) date of August 2023. The scope of work and ultimate plan is as proposed in the MND/ED with details included in

Appendix S. Per ECP, Phase 1 (widening of the south side of the bridge on Palm Ave) is fully funded for design. Funding for construction has not been acquired. As of 4/14/2023, City was awarded a $24M federal grant. Per ECP, additional funding is needed for Phase 1 construction.

2) Intersection of Palm Ave/Dennery Rd.
   a. Project would add 25 AM & 109 PM Eastbound lefts under LOS F and exceed existing storage under Opening Year 2025 plus Project and Horizon Year 2062 plus Project conditions.
   b. Project would add 100 AM & 47 PM Southbound rights under LOS F and exceed existing storage under Opening Year 2025 plus Project and Horizon Year 2062 plus Project conditions.
   c. City criteria states if project adds traffic and causes the 95th percentile queue to exceed storage, then consider lengthening the pocket. The Owner/Permittee proposes the following improvements with conceptual designs to demonstrate feasibility included in Appendix O:
      i. Extend the eastbound dual left turn storage bay with 280 feet of storage per lane by an additional 85 feet of storage with appropriate taper for a total of 365 feet of storage per lane that will accommodate the highest forecasted 95th percentile queue of 361 feet.
      ii. Extend the southbound right turn lane with 95 feet of storage by an additional 50 feet of storage with appropriate taper for a total of 145 feet of storage to accommodate the highest forecasted 95th percentile queue of 141 feet.

3) Intersection of Dennery Rd/Red Coral Ln/Red Fin Ln:
   a. Project would add 130 PM peak hour EB u-turning vehicles and is forecasted to exceed the left turn storage bay of approximately 190 feet under Horizon Year 2062 plus Project conditions.
   b. City criteria states if project adds traffic and causes the 95th percentile queue to exceed storage, then consider lengthening the pocket. The Owner/Permittee proposes to extend the eastbound left turn lane of 190 feet of storage by an additional 50 feet of storage with appropriate taper for a total of 240 feet of storage to accommodate the highest forecasted 95th percentile queue of 207 feet (Conceptual design to demonstrate feasibility is included in Appendix O).

4) Segment of Palm Ave between I-805 SB Ramps and I-805 NB Ramps:
   a. Project adds 932 daily trips under forecasted LOS E conditions on the existing 4 lane roadway under Opening Year 2025 Plus Project conditions.
   b. Project adds 932 daily trips under forecasted LOS F conditions after the Caltrans bridge widening under Horizon Year 2062 Plus Project conditions.
   c. A fair share of 2.5% is proposed toward planned Caltrans Palm Ave bridge widening to a 5 Lane Major configuration anticipated to be completed after year 2024 (fair share calculations are included in Appendix P**).**
   d. No improvements are proposed because Caltrans has a circulated Environmental Document (MND/EA), and a Ready to List (RTL) date of August 2023. The scope of work and ultimate plan is as proposed in the MND/ED with details included in Appendix S. Per ECP, Phase 1 (widening of the south side of the bridge on Palm

Ave) is fully funded for design. Funding for construction has not been acquired. As of 4/14/2023, City was awarded a $24M federal grant. Per ECP, additional funding is needed for Phase 1 construction.

Summary of off-site and frontage improvements to be implemented by Owner/Permittee:

1) Palm Ave/Dennery Road: Extend eastbound dual left turn bay by an additional 85 feet.
2) Palm Ave/Dennery Road: Extend southbound right turn lane by an additional 50 feet.
3) Palm Ave/Dennery Road: Install backplates with retroreflective borders on signal heads on all approaches.
4) Palm Ave/Dennery Road: Install audible countdown pedestrian heads for each pedestrian phase.
5) Palm Ave/Dennery Road: Upgrade the traffic controller to provide City of San Diego current 2070 signal controller including software update and communications equipment per current City of San Diego standards, to the satisfaction of the City of San Diego Engineer.
6) Dennery Road/Project Driveway: Replace existing driveway with full curb and gutter and construct new 25-foot wide driveway approximately 40 feet southwest of the existing driveway.
7) Dennery Rd/Red Fin Ln: Extend eastbound left turn lane by an additional 50 feet.
8) Dennery Rd/Red Fin Ln: Upgrade the existing bicycle loop detectors along Dennery Rd at Red Fin and install Type E Modified front loops per Standard Drawing SDE-104 on all approaches.
9) Palm Ave between I-805 SB and NB Ramps: Fair share of 2.5% toward bridge widening.

1.0 Introduction

The proposed project includes up to 221 residential dwelling units (anticipated mix with up to 67 detached condominiums, 84 duplexes and 70 multi-family units) on vacant land that is located at the 450 block of Dennery Road Chula Vista, California. The project would include 22 affordable units (11 low-income and 11 moderate-income affordable units). The overall project density is 9.3 dwelling units per acre. Project access is proposed from a single private right-in/right-out driveway on Dennery Road (the existing driveway will be closed and replaced with full height curb and gutter). A new 25-foot wide driveway is proposed approximately 40 feet southwest of the existing driveway that will be closed. Project opening is forecasted to occur in 2025. The project is in the City of Chula Vista and is proposed to be annexed into the City of San Diego. Therefore, this report is being submitted to both agencies.

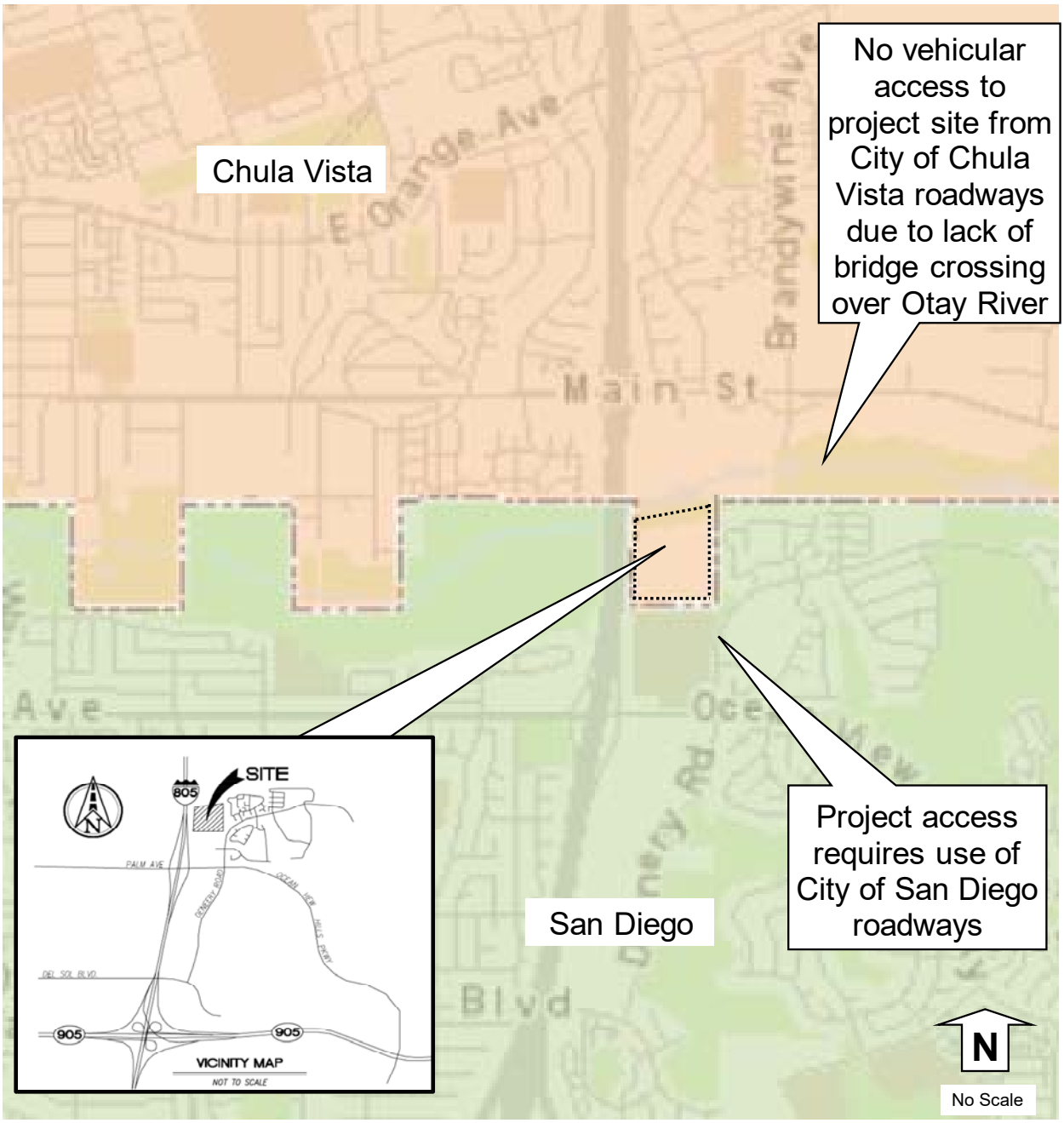
As part of the project, the applicant is proposing an amendment to change the 23.8-acre parcel from an existing General Plan land use designation of Open Space (OS) to a General Plan land use designation of Residential High (RH). The project requires a change from existing zone A-8 Agricultural to a proposed zone R3P Residential. The following discretionary approvals are required by the City of Chula Vista as part of the project:

1) Amendment to the Chula Vista General Plan to remove the Open Space designation and designate the project site as Residential High.
2) An Ordinance approving the Nakano Specific Plan. The Specific Plan would implement a new residential zone and apply site-specific policies and development standards.
3) Tentative Map.
4) Certification of the Final EIR including adoption of a Mitigation Monitoring and Reporting Program and approval of required CEQA findings.
5) Annexation Agreement.

The site of approximately 23.8 acres is bordered to the north by the Otay River, to the south by Kaiser Permanente medical center, to the east by Riveredge Terrace residential subdivision, and to the west by I-805. The location of the project is shown in **Figure 1** with a preliminary site plan shown in **Figure 2**. The format of this study includes the following chapters:

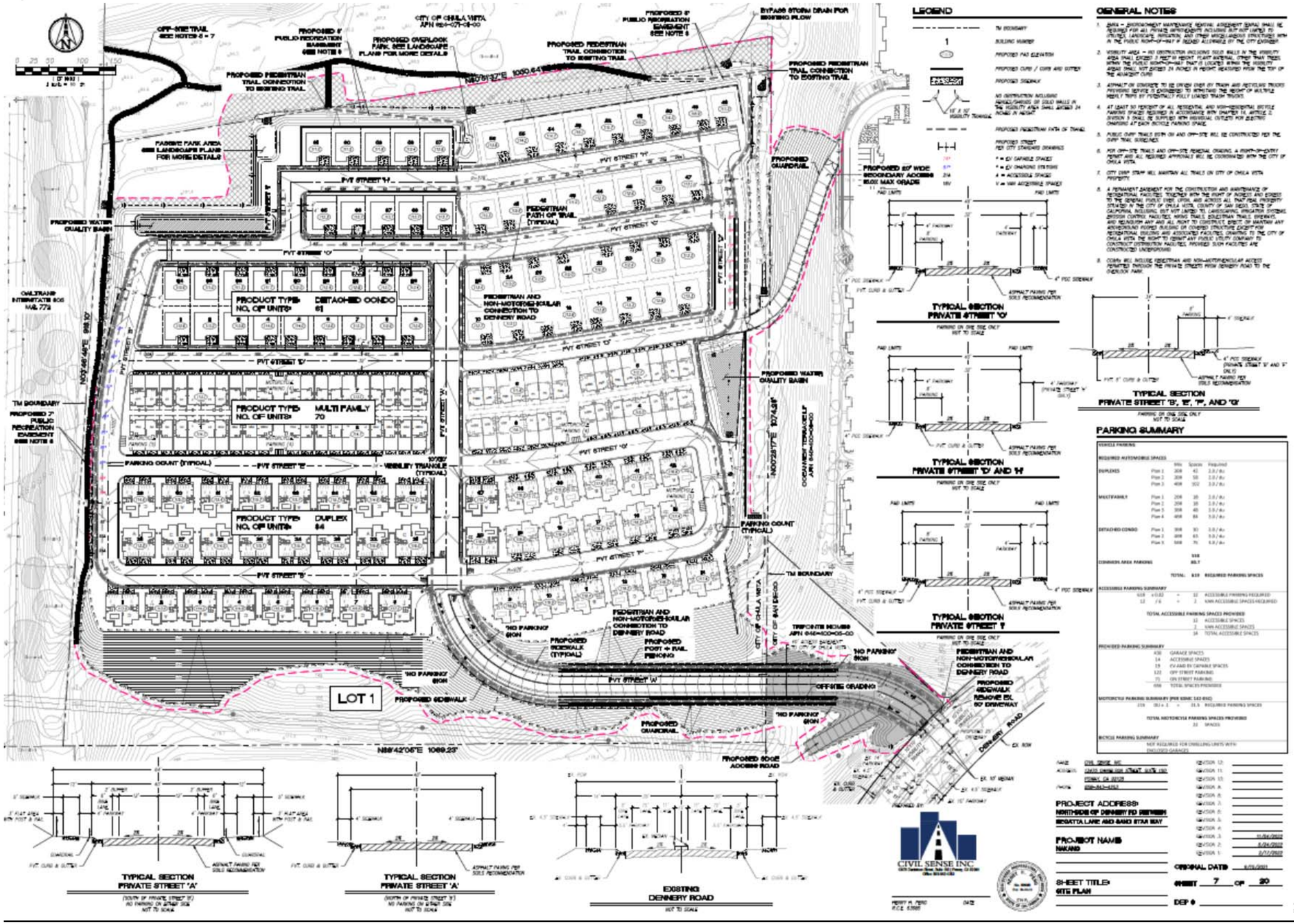
1.0 Introduction
2.0 Local Mobility Analysis Methodology
3.0 Pedestrian Local Mobility Analysis
4.0 Bicycle Local Mobility Analysis
5.0 Transit Local Mobility Analysis
6.0 Systemic Safety Review
7.0 Traffic Local Mobility Analysis

Figure 1: Project Location



Source: SANDAG

Figure 2: Site Plan



Source: Civil Sense, Inc.

2.0 Local Mobility Analysis Methodology

The project location is unique because it is located within the City of Chula Vista with sole access to City of San Diego roadways. Furthermore, and based on a SANDAG Select Zone Assignment, the project adds less than 10 peak hour trips to any City of Chula Vista surface streets or intersections within 2 miles of the project site. For these reasons and based on coordination with Chula Vista staff, the City of San Diego Local Mobility Analysis (LMA) criteria were applied because all the study roadways are located within the City of San Diego.

The City of San Diego *Transportation Study Manual*, September 2020 states that all projects must complete an LMA unless they meet the following trip generation screening criteria:

1) Land uses consistent with the Community Plan/Zoning Designation: Generate less than 1,000 daily unadjusted driveway vehicle trips,

2) Land uses inconsistent with the Community Plan/Zoning Designation: Generate less than 500 daily unadjusted driveway vehicle trips, or

3) Projects in the Downtown Community Planning Area that generate less than 2,400 daily unadjusted trips.

As shown in **Table 1**, the project is calculated to generate 1,902 unadjusted daily trips and requires a zone change; therefore, an LMA is required.

TABLE 1: PROJECT UNADJUSTED DAILY TRIP GENERATION

Proposed Land Use	Rate		Size & Units		ADT
Residential - Single Family	10	/DU	67	DU	670
Residential - Multi Family	8	/DU	154	DU	1,232
				Totals:	**1,902**

Source: City of San Diego *Trip Generation Manual*, May 2003.

The extent of the LMA is based on each mode as follows:

1) Pedestrian: Documentation of pedestrian facilities and basic deficiencies (missing sidewalk, curb ramps, and major obstructions) within ½ walking distance measures from each pedestrian access point to a public street.

2) Bicycle: Documentation of bicycle facilities and basic deficiencies (bike lane gaps, obstructions) within ½ mile bicycling distance measured from the center of the intersection formed by each project driveway.

3) Transit: Identification of the closest transit routes and stops to the project. If the transit stops are within ½ mile walking distance of each pedestrian access point, the condition of the stop amenities must be described/evaluated.

4) Systemic Safety Review: Identification of study area intersections that satisfy the systemic safety criteria.

5) Intersection Operations (projects with < 2,400 daily final driveway trips):

    a. Signalized intersections within ½ mile path of travel from the project driveway AND the project will add 50 or more peak hour trips to any TURNING movement.

    b. Un-signalized intersections within ½ mile path of travel from the project driveway AND the project will add 50 or more peak hour trips in EITHER direction.

    c. Freeway ramp intersections where a project adds 50 or more peak hour trips regardless of their distance from the project site.

6) Roadway Segments: The study area should include any roadway segments where the project adds > 1,000 daily final driveway trips if consistent with the Community Plan, or > 500 daily final driveway trips if inconsistent with the Community Plan AND: the segment has improvements identified in the Community Plan; OR the segment is not built to the Community Plan ultimate classification (including planned new circulation element roadways).

The study area is based on a ½ mile walking, biking, or driving distance from the project driveway on Dennery Rd. The limit of the ½ mile extent is included in **Appendix A**. The project does not conform to the community plan; therefore, the study area included:

Pedestrian Facilities

1) Dennery Rd from approximately 1,200 feet south of Palm Ave to approximately 250 feet east of Black Coral Way.
2) Palm Ave from I-805 NB Ramps to Dennery Rd.
3) Ocean View Parkway from Dennery Rd to approximately 500 feet east of Kentmere Terrace.

Bicycle Facilities

1) Dennery Rd from approximately 1,200 feet south of Palm Ave to approximately 250 feet east of Black Coral Way.
2) Palm Ave from I-805 NB Ramps to Dennery Rd.
3) Ocean View Parkway from Dennery Rd to approximately 500 feet east of Kentmere Terrace.

Transit Facilities

Metropolitan Transit System (MTS) lists Bus Routes 933 and 934 within ½ mile walking distance from the project access. There are four bus stops within the ½ mile walking distance of the project driveway with two on Palm Avenue and two on Dennery Road.

Systemic Safety Review Facilities

The study area included the following intersections:

1) Palm Ave/I-805 SB Ramps
2) Palm Ave/I-805 NB Ramps
3) Palm Ave/Dennery Rd
4) Dennery Rd/Project Driveway
5) Dennery Rd/The Landing Driveway
6) Dennery Rd/Red Coral Ln/Red Fin Ln

Vehicular Facilities

The study area included the following intersections:

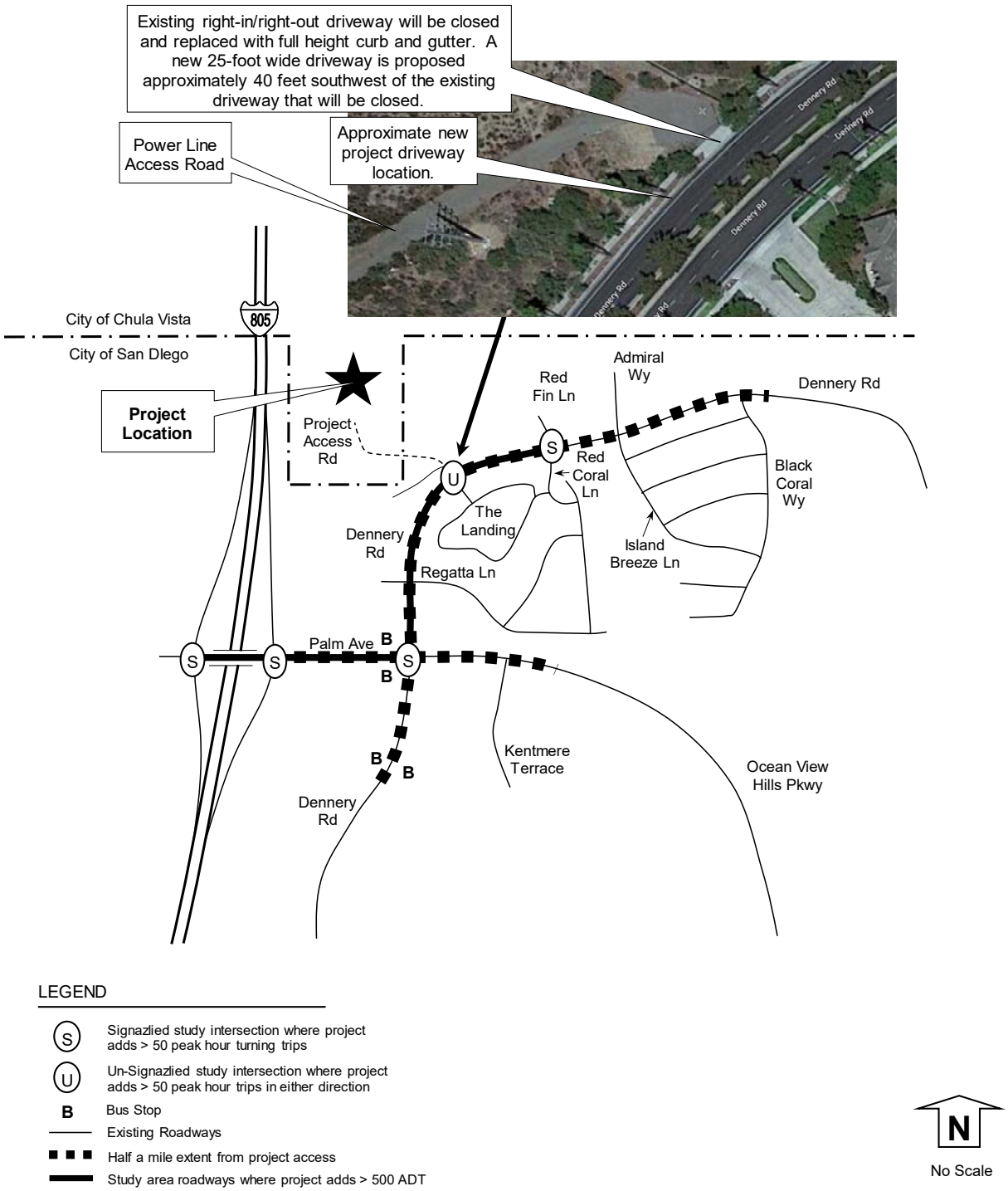
1) Palm Ave/I-805 SB Ramps (signalized with project adding > 50 peak hour turning movements)
2) Palm Ave/I-805 NB Ramps (signalized with project adding > 50 peak hour turning movements)
3) Palm Ave/Dennery Rd (signalized with project adding > 50 peak hour turning movements)
4) Dennery Rd/Project Driveway (un-signalized right-in/right-out only with project adding > 50 peak hour trips in either direction)
5) Dennery Rd/The Landing Driveway (un-signalized with project adding >50 peak hour trips along Dennery Rd)
6) Dennery Rd/Red Coral Ln/Red Fin Ln (signalized with project adding > 50 peak hour turning movements)

The study area included the following street segments because the project adds > 500 ADT:

1) Palm Ave between I-805 SB Ramps and I-805 NB Ramps
2) Palm Ave between I-805 NB Ramps and Dennery Rd
3) Dennery Rd between Palm Ave and Regatta Ln
4) Dennery Rd between Regatta Ln and Project Driveway
5) Dennery Rd between Project Driveway and Red Coral Ln/Red Fin Ln

The study area is shown in **Figure 3**.

Figure 3: LMA Study Area



3.0 Pedestrian Local Mobility Analysis

The pedestrian analysis consists of documenting existing pedestrian facilities and basic deficiencies such as missing sidewalk sections, curb ramps, and major obstructions within ½ mile walking from the project access along the study roadways.

Dennery Road from approximately 1,200 feet south of Palm Ave to approximately 250 feet east of Black Coral Way currently has either contiguous or non-contiguous sidewalks on both sides of the street and pedestrian curb ramps at intersections. There were no major sidewalk obstructions observed along this segment.

Palm Avenue from I-805 NB Ramps to Dennery Road currently has contiguous sidewalks on both sides of the street and pedestrian curb ramps at intersections. There were no major sidewalk obstructions observed along this segment.

Ocean View Hills Parkway from Dennery Road to approximately 500 feet east of Kentmere Terrace currently has either contiguous or non-contiguous sidewalks on both sides of the street and pedestrian curb ramps at intersections. There were no major sidewalk obstructions observed along this segment.

The pedestrian facilities within the ½ mile walking shed along the study roadways did not have any observed missing sidewalk sections, curb ramps, or major obstructions. The project will incorporate sidewalks into the project site from Dennery Road. There is existing parkway and non-contiguous sidewalk along the project frontage on Dennery Road.

4.0 Bicycle Local Mobility Analysis

The bicycle analysis consists of documenting existing bicycle facilities and basic deficiencies such bike lane gaps or obstructions within a ½ mile bicycling distance from the project access along the study roadways.

Dennery Road from approximately 1,200 feet south of Palm Ave to approximately 250 feet east of Black Coral Way currently has Class II bike lanes on both sides of the roadway. There were no observed bike lane gaps nor major obstructions along this segment. The observed Class II bike lane is consistent with what is shown in the City of San Diego *Bicycle Master Plan Update* and the *Otay Mesa Community Plan Update.*

Palm Avenue from I-805 NB Ramps to Dennery Road currently has Class II bike lanes on both sides of the roadway. There were no observed bike lane gaps nor major obstructions along this segment. The observed Class II bike lane is consistent with what is shown in the City of San Diego *Bicycle Master Plan Update* and the *Otay Mesa Community Plan Update.*

Ocean View Hills Parkway from Dennery Road to approximately 500 feet east of Kentmere Terrace currently has Class II bike lanes on both sides of the roadway. There were no observed bike lane gaps nor major obstructions along this segment. The observed Class II bike lane is consistent with what is shown in the City of San Diego *Bicycle Master Plan Update* and the *Otay Mesa Community Plan Update.*

Excerpts from the City of San Diego *Bicycle Master Plan Update* and the *Otay Mesa Community Plan Update* are included in **Appendix B**. The Class II bicycle facilities within a ½ mile bicycling distance along the study roadways are consistent with what is shown in the City of San Diego *Bicycle Master Plan Update* and the *Otay Mesa Community Plan Update.* No bicycle lane improvements are recommended as part of this project.

5.0 Transit Local Mobility Analysis

The transit analysis includes identifying the closest transit routes and stops to the project. If the stops are within ½ mile walking distance of the project access, the condition of the stop amenities must be describe/evaluated. The project location is technically within ½ mile (as a crow flies) of Transit Priority Area (TPA) that is located within the City of Chula Vista. However, there is no short nor easy path to reach the bus stops on Main Street; therefore, the project is not considered to have reasonable access to a TPA.

Metropolitan Transit System (MTS) lists Bus Routes 933 and 934 within ½ mile walking distance from the project access. There are four bus stops within the ½ mile walking distance of the project driveway. Two are on Palm Avenue and two are on Dennery Road as shown on page 7 on Figure 3.

The bus stops on Palm Ave are located on the north and south sides of the street approximately 100 feet west of Dennery Road. The bus stop on the north side of the roadway includes a combined bench with open air shelter. The bus stop on the south side of the roadway includes two benches. The bus stops are in good condition.

The bus stops on Dennery Road are located on the east and west sides of the street approximately 1,100 feet south of Palm Ave. The bus stop on the east side of the roadway has a bench. The bus stop on the west side of the roadway includes a combined bench with open air shelter. The bus stops are in good condition. No bus stop improvements are recommended as part of this project.

A summary of the service times is shown in **Table 2** for weekdays and **Table 3** for weekend days. A map showing the nearby transit routes and bus schedules are included in **Appendix C**.

TABLE 2: WEEKDAY BUS SERVICE OPERATIONS AND FREQUENCY

Bus Route	Weekday (Mon-Fri) Service Operations (Off-Peak Service Frequency Range)	7-9 AM Peak Hour Service Frequency	4-6 PM Peak Hour Service Frequency
Route 933-934	≈ 4:40 AM to ≈ 12:30 AM (≈ 20-30 minutes)	20 minutes	20 minutes

TABLE 3: WEEKEND BUS SERVICE OPERATIONS AND FREQUENCY

Bus Route	Saturday Service Operations (Service Frequency Range)	Sunday Service Operations (Service Frequency Range)
Route 933-934	≈ 5:10 AM to ≈ 12:30 AM (≈20-60 min.)	≈ 5:30 AM to ≈ 1:00 PM (≈ 20-60 min.)

6.0 Systemic Safety Review

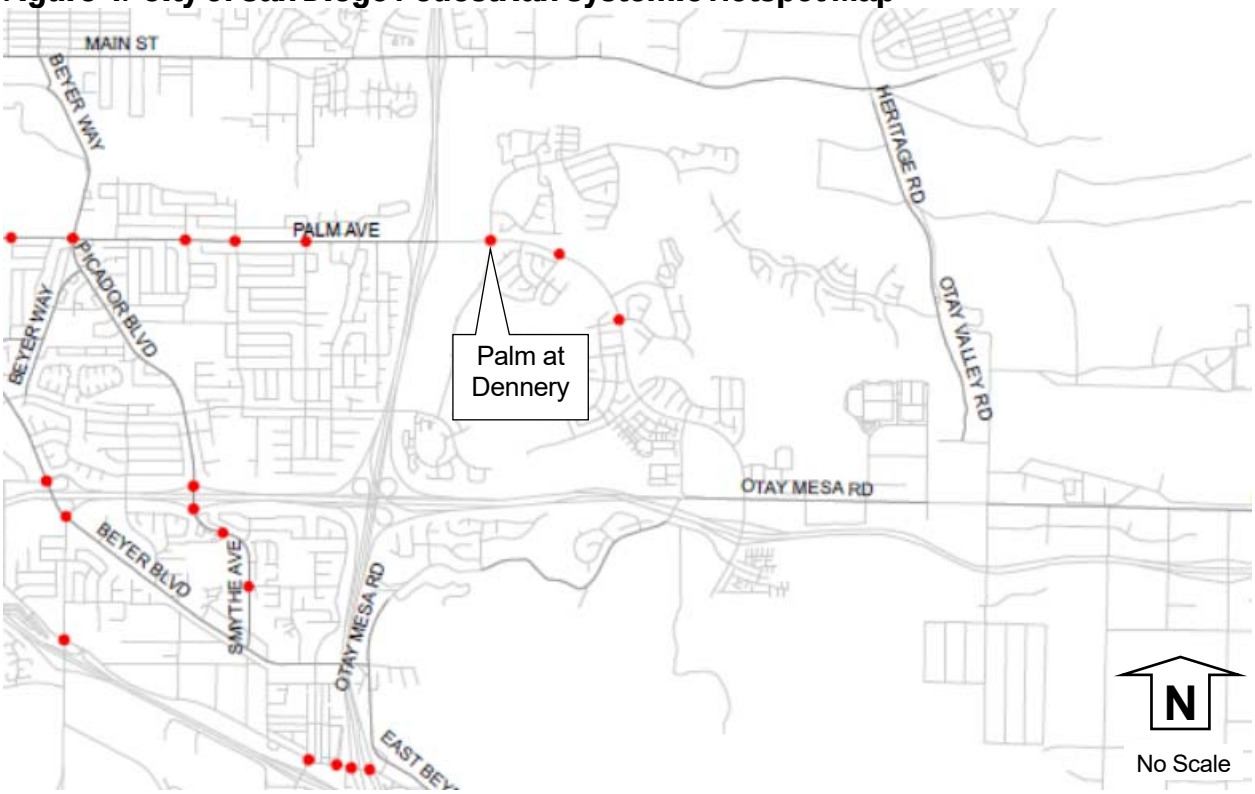
The City of San Diego Systemic Safety: The Data-Driven Path to Vision Zero (April 2019) policy promotes safe roadway design with a goal toward preventing collisions. As part of that goal, a systemic safety review provides an assessment of hotspots and possible countermeasures to align with Vision Zero. The City of San Diego *Transportation Study Manual* states on page 40:

> "Study intersections should be compared to the City of San Diego Systemic Safety: The Data-Driven Path to Vision Zero report to determine if a study intersection meets any hot spot criteria identified in Appendix C: Identification of Systemic Hotspots of the report."

6.1 Pedestrian Systemic Safety Review

The City of San Diego pedestrian hotspot map includes the project study intersection of Palm Ave at Dennery Rd as shown in **Figure 4**.

Figure 4: City of San Diego Pedestrian Systemic Hotspot Map



Source: City of San Diego

The intersection of Palm Ave/Dennery Road has an existing countermeasure of high visibility crosswalks. Therefore, the project Owner/Permittee proposes to install audible countdown pedestrian heads for each pedestrian phase as a countermeasure.

6.2 Bicycle Systemic Safety Review

The study intersections were evaluated to determine if the bicycle systemic criteria would be satisfied. The bicycle systemic hotspot matrix findings are shown in **Table 4a**.

TABLE 4A: BICYCLE SYSTEMIC HOTSPOT MATRIX

Intersection	Bicycle Footprint #1 Criteria			Bicycle Footprint #2 Criteria	
	Signalized?	4 Ln x 2 Ln?	OR 4 Ln x 4 Ln?	SSSC?	2 Ln x 2 Ln?
#1 Palm Ave at I-805 NB Ramps	Yes	No (a)	No	No	No
#2 Palm Ave at I-805 SB Ramps	Yes	No (a)	No	No	No
#3 Palm Ave at Dennery Rd	Yes	No	No	No	No
#4 Dennery Rd at Project Dwy	No	No	No	Yes	No (b)
#5 Dennery Rd at The Landing Dwy	No	No	No	Yes	No (b)
#6 Dennery Rd at Red Fin Ln	**YES**	**YES**	No	No	Yes

Notes: Dwy = Driveway
4 Ln x 2 Ln = 4 lane (2-way) roadway intersects with a 2 lane (2-way) roadway.
4 Ln x 4 Ln = 4 lane (2-way) roadway intersects with a 4 lane (2-way) roadway.
SSSC = Side Street Stop Control
(a) Freeway ramps are one-way roads while criteria require 2-way roadway.
(b) Criterion is for crossing a full intersection; thus, side street approach cannot cross raised median on Dennery Rd.
BOLD indicates all criteria satisfied to consider implementing a countermeasure.

Bicycle countermeasures to address bicyclists approaching an intersection and proceeding through the intersection against a red light include: 1) Bike loop detectors, 2) Public safety messaging campaign, and 3) Bicycle red light running enforcement.

The intersection of Dennery Rd/Red Fin Ln satisfied the bicycle Footprint #1 systemic criteria for potential countermeasures. The recommended bicycle countermeasure at the intersection of Dennery Rd/Red Fin Ln is for the Owner/Permittee to upgrade the existing bicycle loop detectors along Dennery Rd at Red Fin and install Type E Modified front loops per Standard Drawing SDE-104 on all approaches.

6.3 Vehicle Systemic Safety Review

The study intersections were evaluated to determine if the vehicle systemic criteria would be satisfied. The vehicle systemic hotspot matrix findings are shown in **Table 4b**.

TABLE 4B: VEHICLE SYSTEMIC HOTSPOT MATRIX

Intersection	Vehicle Footprint #1 Criteria				Vehicle Footprint #2 Criteria			
	Sig?	4 Ln x 2 Ln?	Major >15k ADT	Minor ≤7k ADT	Sig?	6 Ln x 4 Ln?	Major >15k ADT	Minor >7k ADT
#1 Palm Ave at I-805 NB Ramps	Yes	No (a)	Yes	No (b)	Yes	No	Yes	Yes (b)
#2 Palm Ave at I-805 SB Ramps	Yes	No (a)	Yes	No (b)	Yes	No	Yes	Yes (b)
#3 Palm Ave at Dennery Rd	Yes	No	Yes	No	**YES**	**YES**	**YES**	**YES**
#4 Dennery Rd at Project Dwy	No	No	No	No	No	No	No	No
#5 Dennery Rd at The Landing Dwy	No	No	No	No	No	No	No	No
#6 Dennery Rd at Red Fin Ln	Yes	No	No	No	Yes	No	No	No

Table continued

Intersection	Vehicle Footprint #3 Criteria			Vehicle Footprint #4 Criteria			
	Sig?	4 Ln x 4 Ln?	Minor >7k ADT	Sig?	3 Ln (1-way) x 3 Ln (1-way)?	Major >15k ADT	Minor >7k ADT
#1 Palm Ave at I-805 NB Ramps	Yes	No	No (b)	Yes	No	Yes	Yes (b)
#2 Palm Ave at I-805 SB Ramps	Yes	No	No (b)	Yes	No	Yes	Yes (b)
#3 Palm Ave at Dennery Rd	Yes	No	Yes	Yes	No	No	No
#4 Dennery Rd at Project Dwy	No	No	No	No	No	No	No
#5 Dennery Rd at The Landing Dwy	No	No	No	No	No	No	No
#6 Dennery Rd at Red Fin Ln	Yes	No	No	Yes	No	No	No

Notes: Dwy = Driveway. Sig? = Signalized (yes or no)
4 Ln x 2 Ln = 4 lane (2-way) roadway intersects with a 2 lane (2-way) roadway.
4 Ln x 4 Ln = 4 lane (2-way) roadway intersects with a 4 lane (2-way) roadway.
(a) Freeway ramps are one-way roads while criteria require 2-way roadway.
(b) Volumes from SANDAG ABM2+ Year 2016
BOLD indicates all criteria satisfied to consider implementing a countermeasure.

Countermeasures to address vehicles proceeding through a red light: 1) Signal hardware updates such as signal heads with backplates that have retroreflective borders for better visibility, 2) Convert the signalized intersection to a roundabout, 3) Intersection control awareness campaign, or 4) Vehicle red light enforcement.

The intersection of Palm Ave/Dennery Rd satisfied the vehicle Footprint #2 systemic criteria for potential countermeasures. The recommended vehicle countermeasure is for the Owner/Permittee to upgrade and install signal heads with backplates that have retroreflective borders for better visibility and upgrade the traffic controller to provide City of San Diego current 2070 signal controller including software update and communications equipment per current City of San Diego standards, to the satisfaction of the City of San Diego Engineer.

6.4 Systemic Safety Review Recommended Countermeasures

In summary, the systemic safety review identified the following locations that match the criteria for potential improvements:

1) Palm Ave at Dennery Road. Three countermeasures are proposed: 1) For the pedestrian criteria, the proposed countermeasure is for the Owner/Permittee to install audible countdown pedestrian heads for each pedestrian phase. 2) For the vehicle criteria (Footprint #2), the proposed countermeasure is for the Owner/Permittee to upgrade and install signal heads with backplates that have retroreflective borders for better visibility, and 3) Upgrade the traffic controller to provide City of San Diego current 2070 signal controller including software update and communications equipment per current City of San Diego standards, to the satisfaction of the City of San Diego Engineer.

2) Dennery Rd at Red Fin Ln. For the bicycle criteria (Footprint #1), the proposed countermeasure is for the Owner/Permittee to upgrade the existing bicycle loop detectors along Dennery Rd at Red Fin and install Type E Modified front loops per Standard Drawing SDE-104 on all approaches.

7.0 Traffic Local Mobility Analysis

The Local Mobility Analysis includes the analysis of specific study scenarios, methodology for the analysis of roadway operations, and determination of potential off-site improvements triggered by the project. Details for each of these parameters are include herein.

7.1 Study Scenarios

The number of study scenarios is dependent on the estimated trips generated by the project and whether the project would require a Community Plan Amendment and/or re-zone. For this project, the following scenarios were analyzed:

1) Existing Conditions
2) Opening Year 2025 without Project Conditions
3) Opening Year 2025 plus Project Conditions
4) Horizon Year 2062 without Project Conditions
5) Horizon Year 2062 plus Project Conditions

7.2 Local Mobility Analysis Methodology

The Local Mobility Analysis prepared for this study was based on the *6th Edition Highway Capacity Manual* (HCM) operations analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study intersections, street segments, and freeway segments were measured using the HCM LOS designations, which ranges from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. The individual LOS criteria for each roadway component are described below.

7.2.1 Intersections

The study intersections were analyzed based on the **operational analysis** outlined in the 6th Edition HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersections were calculated using the computer software program Synchro 11 (Trafficware Corporation). The 6th Edition HCM LOS for the range of delay by seconds for intersections is shown in **Table 5**.

TABLE 5: INTERSECTION LEVEL OF SERVICE DEFINITIONS (6TH EDITION HCM)

Level of Service	Un-Signalized Control Delay for TWSC, AWSC, and Roundabout (sec/veh where v/c ≤ 1)	Signalized Control Delay (sec/veh where v/c ≤ 1)
A	0-10	≤ 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

Source: 6th Edition HCM. TWSC: Two Way Stop Control. AWSC: All Way Stop Control. For unsignalized intersections, the control delay is the worst movement delay in seconds/vehicle.

7.2.2 City of San Diego Intersection Queuing

The 95th percentile queue for study intersections located within the City of San Diego with more than 50 project peak hour turns were analyzed using SimTraffic 11 software. If only one peak hour had > 50 trips, both peak hours were analyzed. The queue was calculated running ten 60-minute simulations runs with a ten-minute seeding time. The 95th percentile queue was compared to the turn pocket storage that is generally measured from the intersection stop bar to the end of the turn pocket striping.

7.2.3 Freeway Off-Ramp Queuing

The 95th percentile queue for Interstate 805/Palm Avenue southbound off-ramp was analyzed using SimTraffic 11 software because the project would add more than 50 project peak hour turns. If only one peak hour had > 50 trips, both peak hours were analyzed. The queue was calculated running ten 60-minute simulations runs with a ten-minute seeding time. The 95th percentile queue was compared to the off-ramp storage that is measured from the ramp gore to the off-ramp intersection stop bar.

7.2.4 Street Segments

The street segments were analyzed based on the functional classification of the roadway using the City of San Diego *Roadway Segment LOS by Classification and Average Daily Traffic* capacity lookup table (**Appendix D**). The roadway segment capacity and LOS standards used to analyze street segments are summarized in **Table 6**.

TABLE 6: STREET SEGMENT DAILY CAPACITY AND LOS (CITY OF SAN DIEGO)

Circulation Element Road Classification	LOS A	LOS B	LOS C	LOS D	LOS E
Prime Arterial – 7 Lanes	<30,000	<42,500	<60,000	<65,000	<70,000
Prime Arterial – 6 Lanes	<25,000	<35,000	<50,000	<55,000	<60,000
Prime Arterial – 5 Lanes	<20,000	<28,000	<40,000	<45,000	<50,000
Major Arterial – 6 Lanes	<20,000	<28,000	<40,000	<45,000	<50,000
Major Arterial – 5 Lanes	<17,500	<24,500	<35,000	<40,000	<45,000
Major Arterial – 4 Lanes	<15,000	<21,000	<30,000	<35,000	<40,000
Collector – 5 Lanes	<12,500	<17,500	<25,000	<30,750	<37,500
Collector – 4 Lanes	<10,000	<14,000	<20,000	<25,000	<30,000
Collector (no Center Ln) – 4 Lanes Collector (with TWLTL) – 2 Lanes	<5,000	<7,000	<10,000	<13,000	<15,000
Collector – 2 Lanes (no fronting property)	<4,000	<5,500	<7,500	<9,000	<10,000
Collector – 2 Lanes (without two-way left turn lane)	<2,500	<3,500	<5,000	<6,500	<8,000
Sub-Collector – 2 Lanes (single-family)			<2,200		

Source: City of San Diego *Transportation Study Manual* September 19, 2022.

7.2.5 Project Traffic Effect Thresholds

A project Owner/Permittee should consider an improvement if the project traffic exceeds the City of San Diego Transportation Study Manual (TSM) defined thresholds as shown in **Table 7** (TSM excerpts included in **Appendix E**).

TABLE 7: CITY OF SAN DIEGO TRAFFIC THRESHOLDS FOR POTENTIAL ROADWAY IMPROVEMENTS

Facility	Thresholds for Considering an Improvement
Transit	Project causes transit movement to operate at LOS E or worse
Signalized Intersection	No Existing Left-Turn Lane: If the project adds traffic to an individual left turn movement causing the total number of peak hour left turns to exceed 100, consider adding a left turn lane. Existing Single Left-Turn Lane: If the project adds traffic to an individual left turn movement causing the total number of peak hour left turns to exceed 300, consider adding a second left turn lane. No Existing Right Turn-Lane: If the addition of a right turn lane will not negatively affect other roadway users, will maintain a comfortable roadway environment, AND the project adds traffic to an individual right turn movement causing the total number of peak hour right turns to exceed 500, consider adding a right turn lane. Existing Single Right-Turn Lane: If the addition of a right turn lane will not negatively affect other roadway users, will maintain a comfortable roadway environment, AND the project adds traffic to an individual right turn movement causing the total number of peak hour right turns to exceed 800, consider adding a second right turn lane. Lengthening a Turn Pocket: If the project adds traffic to a turning movement and causes the 95th percentile queue to exceed the available turn pocket length, consider lengthening the turn pocket. Signal Timing Improvements/Signal Modification should be considered for study intersections within a ½ mile path of travel of a Major Transit Stop, if the project causes or adds traffic to an LOS F intersection, or outside ½ mile path of travel of a Major Transit Stop, if the project causes or adds traffic to an LOS E/F intersection.
Un-Signalized Intersection	An Intersection Control Evaluation should be prepared if: All Way Stop Control: Within a ½ mile path of travel of a Major Transit Stop, if the project causes intersection to degrade to LOS F, or if the project adds traffic to an intersection already operating at LOS F. All Way Stop Control: Outside of a ½ mile path of travel of a Major Transit Stop, if the project causes intersection to degrade to LOS E or F, or if the project adds traffic to an intersection already operating at LOS E or F. Side Street Stop Control: Within a ½ mile path of travel of a Major Transit Stop, if the project causes the worst movement to degrade to LOS F, or if the project adds traffic to an intersection already operating at LOS F. Side Street Stop Control: Outside a ½ mile path of travel of a Major Transit Stop, if the project causes the worst movement to degrade to LOS E or F, or if the project adds traffic to an intersection already operating at LOS E or F.
Roadway Segment	If the project adds greater than 50% of total daily vehicle trips on the segment, the project should consider implementing the improvements as identified in the community plan. If the project adds less than or equal to 50% of total daily vehicle trips on the segment, the project should evaluate its fair share toward the improvement.

Source: City of San Diego Transportation Study Manual, 9/19/2022.

7.3 Existing Conditions

This section describes the existing study area street system, peak hour intersection volumes, daily roadway volumes, existing LOS, and intersection turn bay queuing.

7.3.1 Existing Street System

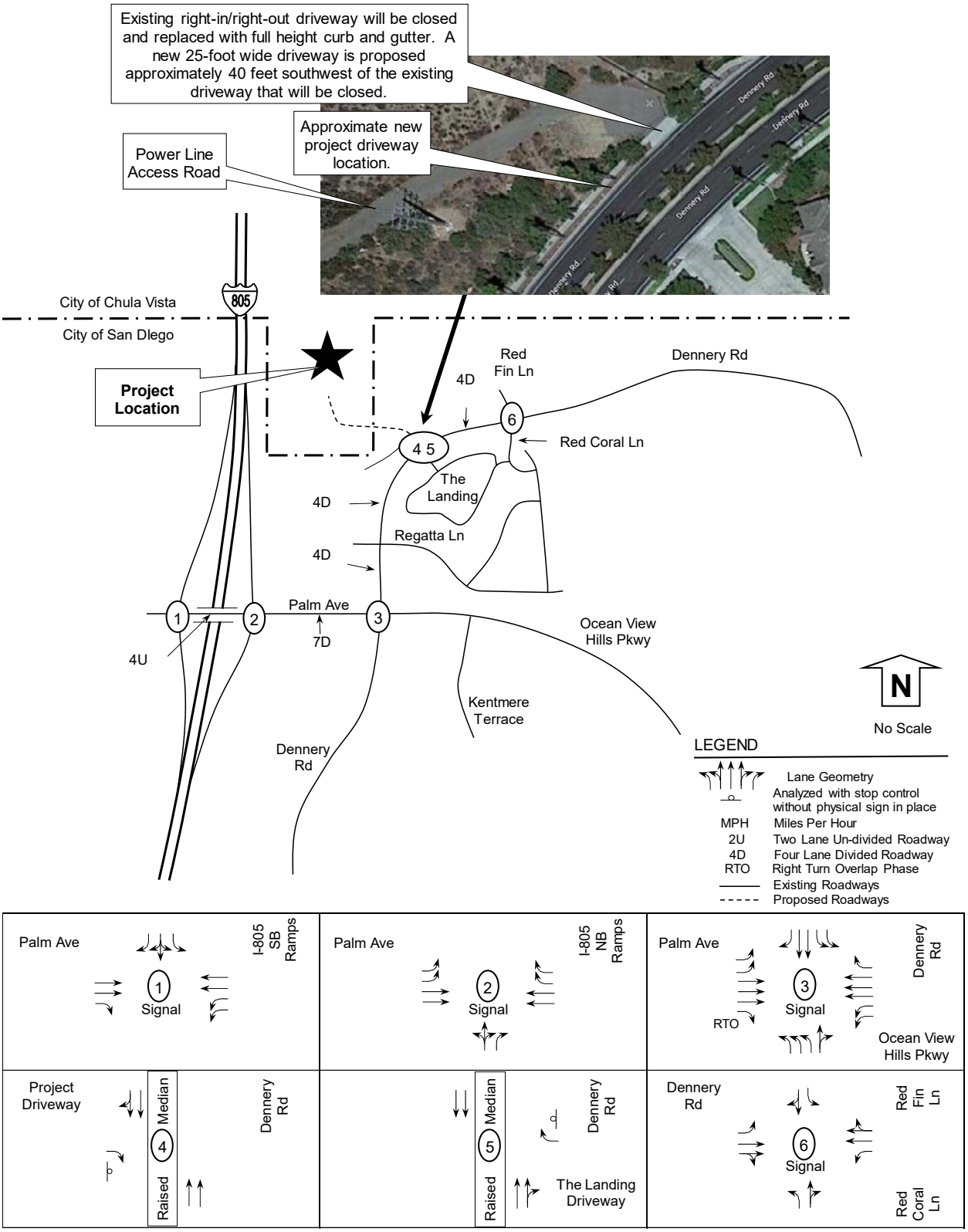
Within the LMA study area, the following roadways were analyzed as part of this study.

Palm Avenue from I-805 SB Ramps to I-805 NB Ramps is classified as a *6-Lane Prime* in the City of San Diego *Otay Mesa-Nestor Community Plan*, December 1996. Palm Avenue from I-805 NB Ramps to Dennery Road is classified as a 7-*Lane Prime* in the City of San Diego *Otay Mesa Community Plan Update*, March 2014. Palm Avenue from I-805 SB Ramps to I-805 NB Ramps is constructed as a four (4) lane undivided roadway with a center double-double yellow striping. There are Class II bike lanes in each direction. On-street parking is prohibited on both side of the roadway. From I-805 NB Ramps to Dennery Road, Palm Avenue is currently constructed as a seven (7) lane divided roadway (four westbound travel lanes and three eastbound travel lanes). There are Class II bike lanes in each direction and on-street parking prohibited on both sides of the roadway. A posted speed limit was not observed on Palm Avenue between I-805 SB Ramps and Dennery Road; however, west of I-805 the posted speed limit is 35 MPH.

Dennery Road is classified as a *4-Lane Major* between Palm Avenue and Regatta Lane and as a *4-Lane Collector* between Regatta Lane and Red Fin Lane/Red Coral Lane in the *Otay Mesa Community Plan Update*, March 2014. Dennery Road between Palm Avenue and Red Fin Lane/Red Coral Lane is constructed as a four-lane divided roadway with Class II bike lanes in each direction. On-street parking is prohibited on both sides of the roadway. The posted speed limit is 35 MPH.

Excerpts from the Otay Mesa Community Plan Update and Otay Mesa Nestor Community Plan are included in **Appendix F.** The existing conditions are shown in **Figure 5**.

Figure 5: Existing Conditions



7.3.2 Existing Traffic Volumes and LOS Analyses

Existing counts were collected between 7:00 AM and 9:00 AM for the AM commuter period and from 4:00 PM to 6:00 PM for the PM commuter period on Wednesday, February 5, 2020. Street segment counts were also collected on Wednesday, February 5, 2020. These counts were collected before the State of California issued a mandatory statewide stay-at-home order on March 19, 2020 due to COVID-19. The intersections included:

1) Palm Ave/I-805 SB Ramps
2) Palm Ave/I-805 NB Ramps
3) Palm Ave/Dennery Rd
4) Dennery Rd/Project Driveway
5) Dennery Rd/The Landing Dwy
6) Dennery Rd/Red Coral Ln/Red Fin Ln

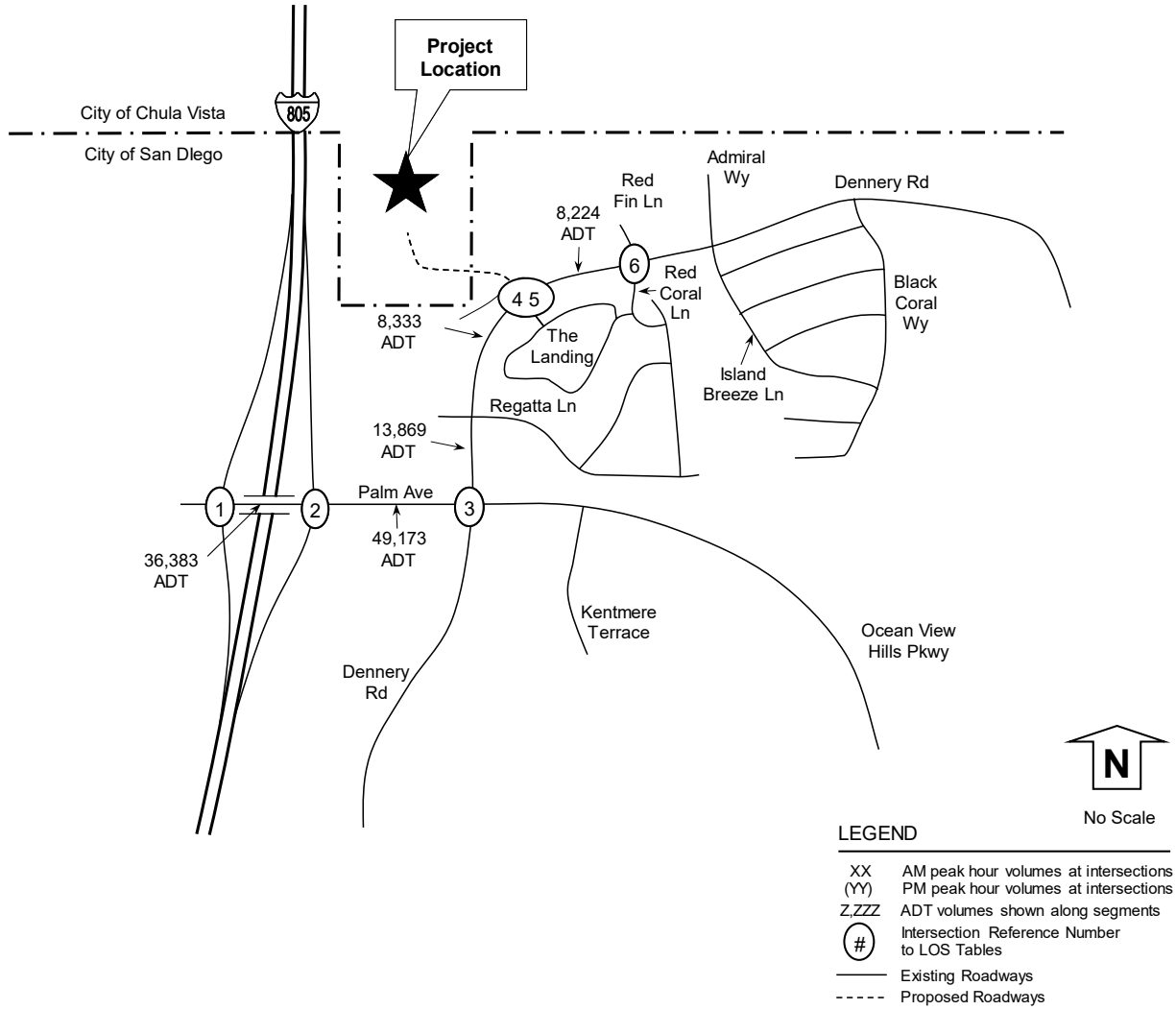
The street segments included:

1) Palm Ave between I-805 SB Ramps and I-805 NB Ramps
2) Palm Ave between I-805 NB Ramps and Dennery Rd
3) Dennery Rd between Palm Ave and Regatta Ln
4) Dennery Rd between Regatta Ln and Project Driveway
5) Dennery Rd between Project Driveway and Red Coral Ln/Red Fin Ln

The existing AM, PM, and daily volumes are shown on **Figure 6**, with count data included in **Appendix G**.

The intersection LOS is shown in **Table 8**. The 95th percentile turning queues where the project will add traffic, are shown in **Table 9**. The segment LOS is shown in **Table 10**. The intersections were analyzed based on existing signal timing. The signal timing sheets are included in **Appendix H**. The intersection LOS and queueing output are included in **Appendix I**.

Figure 6: Existing Volumes



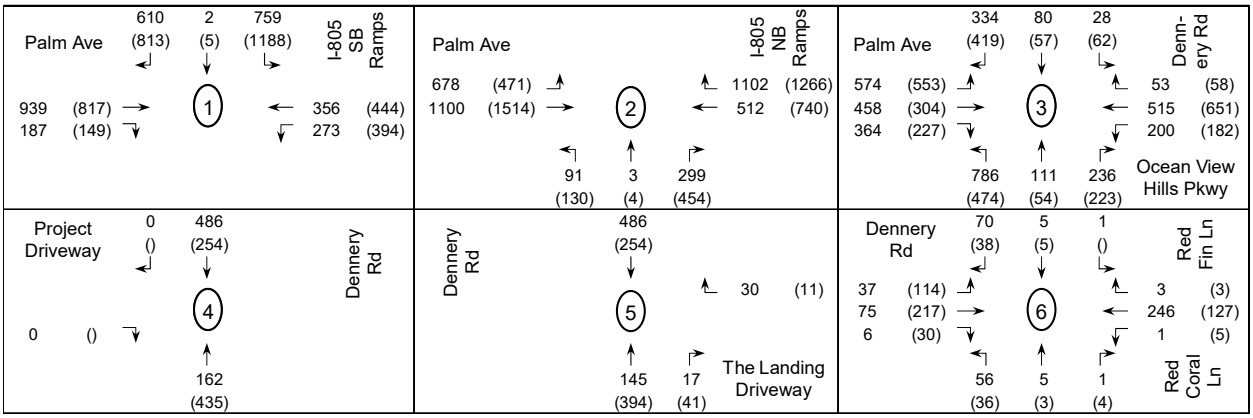


TABLE 8: EXISTING INTERSECTION LOS

Intersection and (Analysis)[1]	Approach	Peak Hour	Existing Delay[2]	Existing LOS[3]
1) Palm Ave at	All	AM	35.3	D
I-805 SB Ramps (S)	All	PM	43.8	D
2) Palm Ave at	All	AM	29.1	C
I-805 NB Ramps (S)	All	PM	49.8	D
3) Palm Ave at	All	AM	70.6	E
Dennery Rd (S)	All	PM	72.4	E
4) Dennery Rd at	EB	AM	0.0	A
Project Driveway (U)	EB	PM	0.0	A
5) Dennery Rd at The	WB	AM	8.9	A
Landing Driveway (U)	WB	PM	9.8	A
6) Dennery Rd at	All	AM	16.6	B
Red Fin Ln (S)	All	PM	16.8	B

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.

TABLE 9: EXISTING INTERSECTION TURN LANE QUEUING

Intersection	Peak Hour	Approach	Storage Length in feet (notes)		Existing 95th %ile Queue[1] (ft)	Exceeds Storage?	Distance Exceeding Storage (ft)
1) Palm Ave at	AM	WBL	190	(2)	177	No	NA
I-805 SB Ramps (S)	AM	SBL	1,850	(3)	448	No	NA
	PM	WBL	190	(2)	**230**	**Yes**	**40**
	PM	SBL	1,850	(3)	604	No	NA
2) Palm Ave at	AM	WBR	1,000	(4)	410	No	NA
I-805 NB Ramps (S)	AM	NBR	1,450	(3)	245	No	NA
	PM	WBR	1,000	(4)	259	No	NA
	PM	NBR	1,450	(3)	348	No	NA
3) Palm Ave at	AM	EBL	280	(2)	**307**	**Yes**	**27**
Dennery Rd (S)	AM	SBR	95	(2)	**136**	**Yes**	**41**
	PM	EBL	280	(2)	**306**	**Yes**	**26**
	PM	SBR	95	(2)	**132**	**Yes**	**37**
6) Dennery Rd at	AM	EBL	190	(2)	47	No	NA
Red Fin Ln (S)	PM	EBL	190	(2)	98	No	NA

Notes: WBL: Westbound Left. NBR: Northbound Right. EB: Eastbound. WB: Westbound. NBL: Northbound Left. NA: Not Applicable. (1) Queue is 95th percentile from SimTraffic analysis. (2) Stop bar to end of turn lane striping. (3) Stop bar to ramp gore point. (4) Dual right turn lanes are a continuation of two travel extending back 1,000 feet to Dennery Rd. BOLD = SimTraffic 95th %ile forecasted queue beyond storage bay capacity.

TABLE 10: EXISTING SEGMENT ADT VOLUMES AND LOS

Segment	Functional Classification	LOS E Capacity	Existing Daily Volume	Existing V/C	Existing LOS
Dennery Road					
Palm Ave to Regatta Ln	4 Lane Major	40,000	13,869	0.347	A
Regatta Ln to Landing Dwy	4 Lane Major	40,000	8,333	0.208	A
Landing Dwy to Red Coral	4 Lane Major	40,000	8,224	0.206	A
Palm Avenue					
I-805 SB Ramps to NB Ramps	4 Lane Collector	30,000	36,383	1.213	E
I-805 NB Ramps to Dennery Rd	7 Lane Prime	70,000	49,173	0.702	C

Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under existing conditions, there are 95th percentile storage lane deficiencies at 1) I-805 SB Ramps/Palm Ave WB left PM, 2) Dennery Road/Palm Avenue EB left and SB right AM & PM.

7.4 Project

The proposed project includes up to 221 residential dwelling units (a mix of up to 67 detached condominiums, 84 duplexes and 70 multi-family units). The project site is currently vacant and is located at the 450 block of Dennery Road. Project opening is forecasted to occur in 2025.

7.4.1 Project Access

Project access is proposed from a single private driveway that will connect to Dennery Road with right-in/right-out movements due to an existing raised median. No modification is proposed to the existing median on Dennery Road along the project frontage. The existing driveway provides controlled access to utility transmission lines. The existing driveway will be closed and replaced with full height curb and gutter. A new 25-foot driveway is proposed approximately 40 feet southwest of the existing driveway that will be closed. The existing utility access road will have a new connection to the project's driveway as shown on the site plan. The two-lane project access will include non-contiguous sidewalks and bike lanes on both sides.

7.4.2 Project Trip Generation and Distribution

The trip generation for the project was calculated using trip rates from the City of San Diego *Trip Generation Manual*, May 2003 (excerpt included in **Appendix J**). The project is calculated to generate 1,902 ADT with 153 AM peak hour trips (31 inbound and 122 outbound) and 190 PM peak hour trips (133 inbound and 57 outbound) as shown in **Table 11**.

TABLE 11: PROJECT TRIP GENERATION

Proposed							AM Pk Hr				PM Pk Hr	
Land Use	Rate	Size & Units	ADT	%	Split		IN	OUT	%	Split	IN	OUT
Residential - Single Family	10 /DU	67 DU	670	8%	0.2	0.8	11	43	10%	0.7 0.3	47	20
Residential - Multi Family	8 /DU	154 DU	1,232	8%	0.2	0.8	20	79	10%	0.7 0.3	86	37
		Totals:	**1,902**	8%	0.2	0.8	**31**	**122**	10%	0.7 0.3	**133**	**57**
					AM Total:		***153***		PM Total:		***190***	

Source: City of San Diego *Trip Generation Manual*, May 2003. DU: Dwelling Unit. ADT: Average Daily Traffic. Split-% inbound and outbound.

Project traffic was distributed to the adjacent roadway network based on a Series 13 Year 2012 SANDAG Select Zone Assignment (**Appendix K**). The project distribution is shown in **Figure 7**. Please note that the SANDAG traffic model documented single digit distribution (<10%) to surface streets in Chula Vista (i.e. the Main St distribution of 3% results in 4 or less peak hour directional trips and 57 ADT). The project assignment is shown in **Figure 8**. Please note that two percent (2%) of outbound project trips (3 AM and 1 PM) will make a southbound U-turn at Dennery Rd/Regatta Ln for eastbound travel and 98% of inbound project trips would make a U-turn at Dennery Rd/Red Fin/Red Coral intersection (30 AM and 130 PM).

Figure 7: Project Distribution

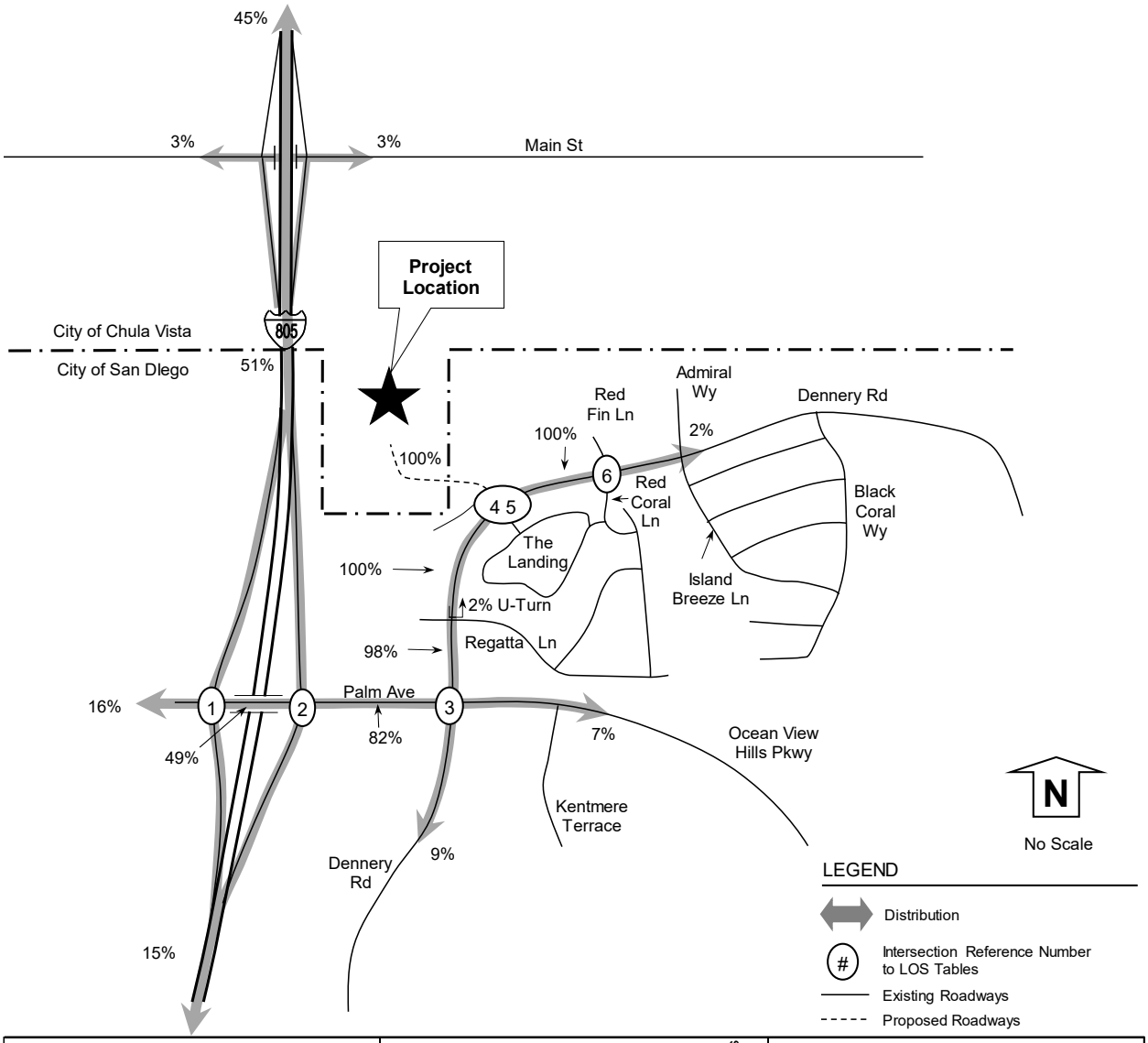
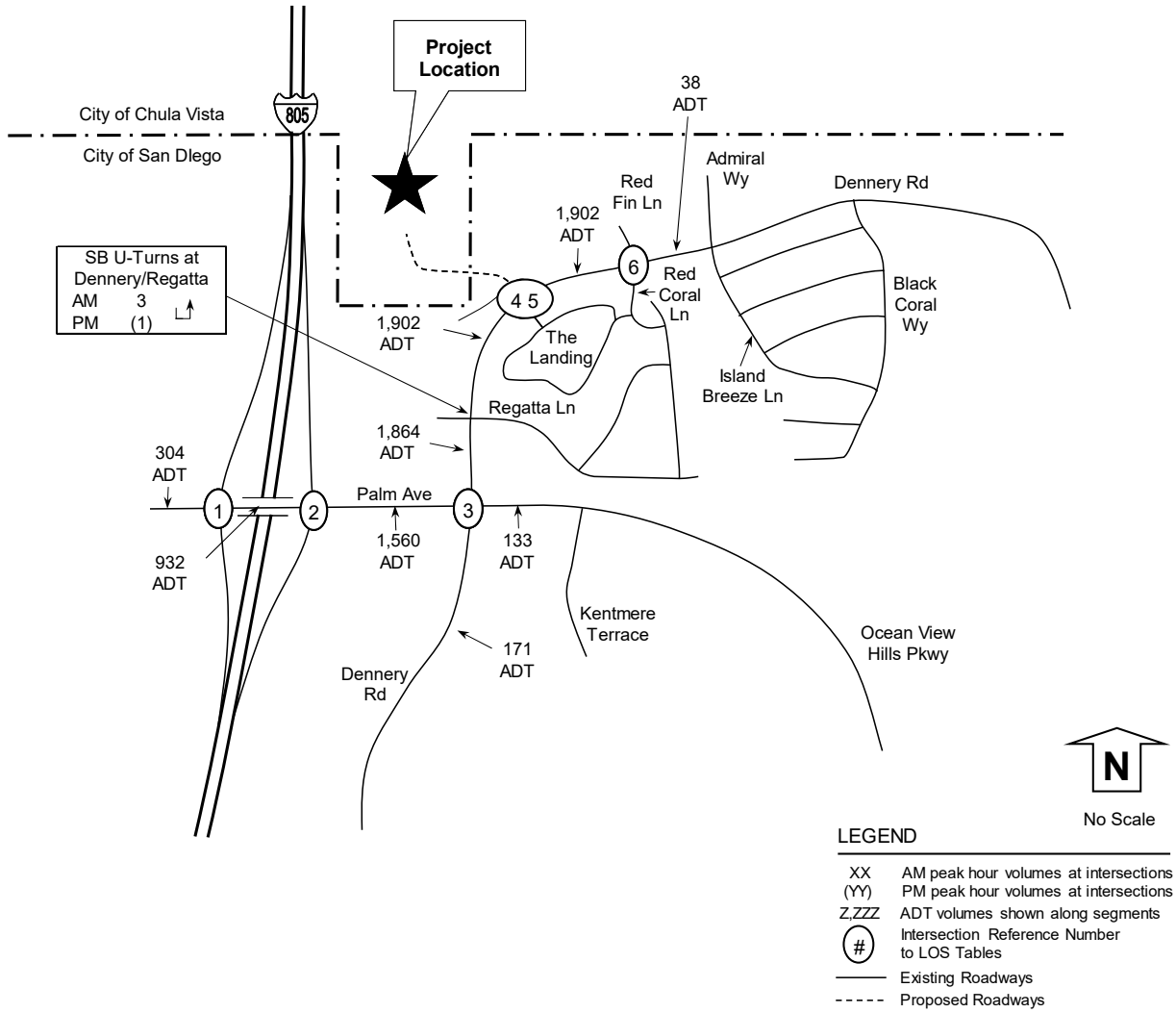
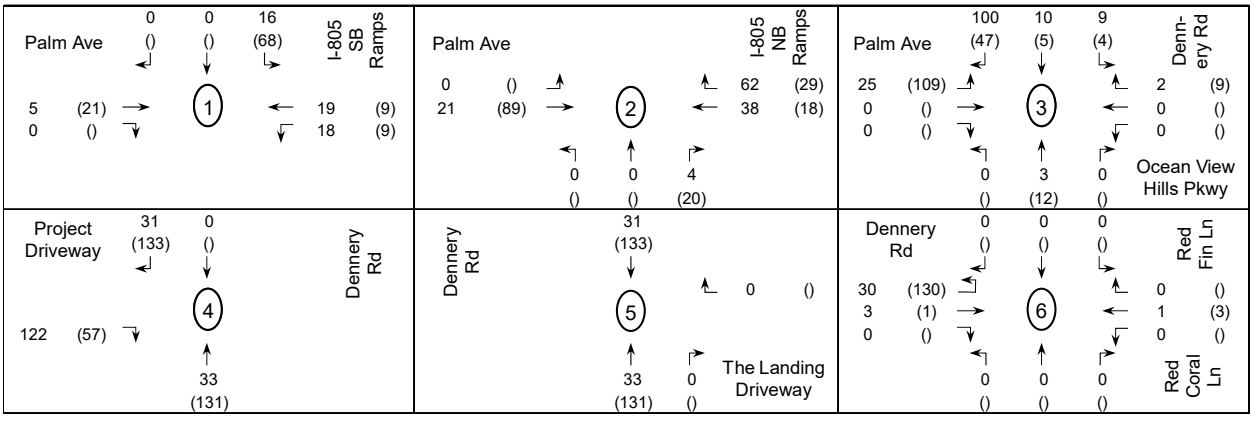


Figure 8: Project Assignment

Chula Vista Main St (first interchange north of Palm) is forecasted to receive 4 directional peak hour trips and 57 daily trips based on 3% distribution.





7.5 Opening Year 2025 without Project Conditions

The Opening Year 2025 without Project conditions describe the anticipated roadway operations during the opening year of the project anticipated to be in 2025. This scenario includes surrounding reasonably foreseeable projects added to the existing traffic volumes. Due to the location of the project, no City of Chula Vista projects are anticipated to contribute traffic to the study area.

Upon review of available cumulative project information in Open DSD and discussion with City of San Diego staff, the following cumulative projects were identified that are anticipated to add traffic to the study area roadways used by the project:

1) AMC-Amendment (PTS# 569517) – An existing retail center that is proposed to have a portion of the existing movie theater repurposed with additional retail uses and two drive-thru restaurants. The project is located on the southwest corner of Palm Ave at Dennery Rd. This project has been approved by City of San Diego decision-makers. This project was under construction in February 2020 when traffic data was collected.

2) Azul Playa Del Sol/Luna (California Terraces PA 6) and SCR (PTS# 605702) – A residential project with up to 739 multi-family units located on the south corner of Ocean View Hills Parkway and Del Sol Blvd. Approximately 369 units were occupied when counts were collected in February 2020; therefore, 370 units are yet to be constructed.

3) California Terraces PA61 (PTS# 605191) – A mixed use (residential + commercial) project with up to 267 multi-family units, up to 45,000 sf of commercial, and a 0.19 acre private park located on the southeast corner of Otay Mesa Road and Caliente Avenue. This project has been approved by City of San Diego decision-makers. An amendment to change the 45,000 square feet of commercial on the western portion of the site to 79 multi-family dwelling units was approved by City Council on 11/15/2022 under PTS# 690358. The 79 multi-family dwelling units are forecasted to have an overall reduction in weekday trip generation from the original analysis and a negligible change in peak hour trips at the SR-905/Caliente Ave interchange. The original trip generation for this project was included to provide a conservative analysis.

4) Candlelight (PTS# 40329) – A multi-family project with 475 units located on Caliente Avenue south of Airway Road. This project has been approved by City of San Diego decision-makers, although an amendment to existing permit PTS# 691625 is currently under review.

5) Central Village Specific Plan (Total Project) – A mixed use (residential + commercial) project with 425 multi-family units (<20 du/ac), 4,060 multi-family units (>20 du/ac), 139,700 sf of community commercial, 16.1 acres of active park space, and 1 elementary school (K-8) ; however, the initial phase for Central Village is Lumina TM (described below) planned in year 2027, after the planned opening of Nakano, thus no cumulative trips were included in the year 2024 opening day scenario. This Specific Plan has been approved by City of San Diego decision-makers.

6) Dennery Park (Project ID: RD22001) – A 9-acre city park generally located on the north side of Dennery Road at Black Coral Way. This project has been approved by City of San Diego decision-makers. Per the City of San Diego CIP Project Map Viewer, construction is anticipated to begin in 2023.

7) Handler Retail Center (PTS# 659064) – A retail center with 24,000 sf restaurant, 6,000 sf fast food, and 189 room motel located on the south side of Otay Mesa Road between Emerald Crest Court and Corporate Center Drive. This project has been approved by City of San Diego decision-makers, although a CPA/Rezone is currently in process to change the land use designation from "Community Commercial – Residential Prohibited" to "Community Commercial – Residential Permitted", and rezone from existing CC-2-3 zone to CC-3-6 and change the project to 430 multi-family units and 6,000 SF of retail/commercial uses. This cumulative project is being analyzed with the original trip generation to provide a more conservative analysis.

8) Lumina TM (PTS# 555609 subset of Central Village SP) – A subset of the Central Village Specific Plan; however, the phases for Lumina II & III are planned to open in 2027 after the planned opening of Nakano. Therefore, no cumulative trips from Lumina II & III were included in the year 2025 opening day scenario. This project has been approved by City of San Diego decision-makers.

9) Metropolitan Airpark (PTS# 559378) SCR (PTS# 664354) – An aviation and commercial project with expansion of existing aviation uses, commercial office, industrial, restaurants, and hotel located on the northeast corner of Otay Mesa Road and Heritage Road. By year 2024, Phase 1 of the Metropolitan Airpark is anticipated to add traffic to the study area. This project has been approved by City of San Diego decision-makers.

10) Southview (PTS# 370044) – A multi-family project with 277 units located on Airway Road east of Caliente Avenue. This project has been approved by City of San Diego decision-makers.

11) Southview East (PTS# 371807) – A multi-family project with 136 units located on Airway Road east of Caliente Avenue. This project has been approved by City of San Diego decision-makers. The total trip generation for this project was included to provide a conservative analysis because the number of occupied units were unknown at the time of the data collection in February 2020.

12) Southwind (Previous PTS# 412529) – A multi-family project with 100 units located west of Caliente Avenue and south of Airway Road. This project has been approved by City of San Diego decision-makers. While this project has been closed and no permit was issued, the traffic from this cumulative project was included to provide a conservative analysis.

13) Southwest Village VTM-1 (PTS# 614791) – A residential project with up to 920 units located south of Airway Road and Caliente Avenue. This project is under review by City of San Diego decision-makers. VTM-1 is anticipated to open in year 2025.

Cumulative project trip assignments that are anticipated to add traffic to the study area roadways are included in **Appendix L**. The cumulative project trip generation is summarized below in **Table 12**.

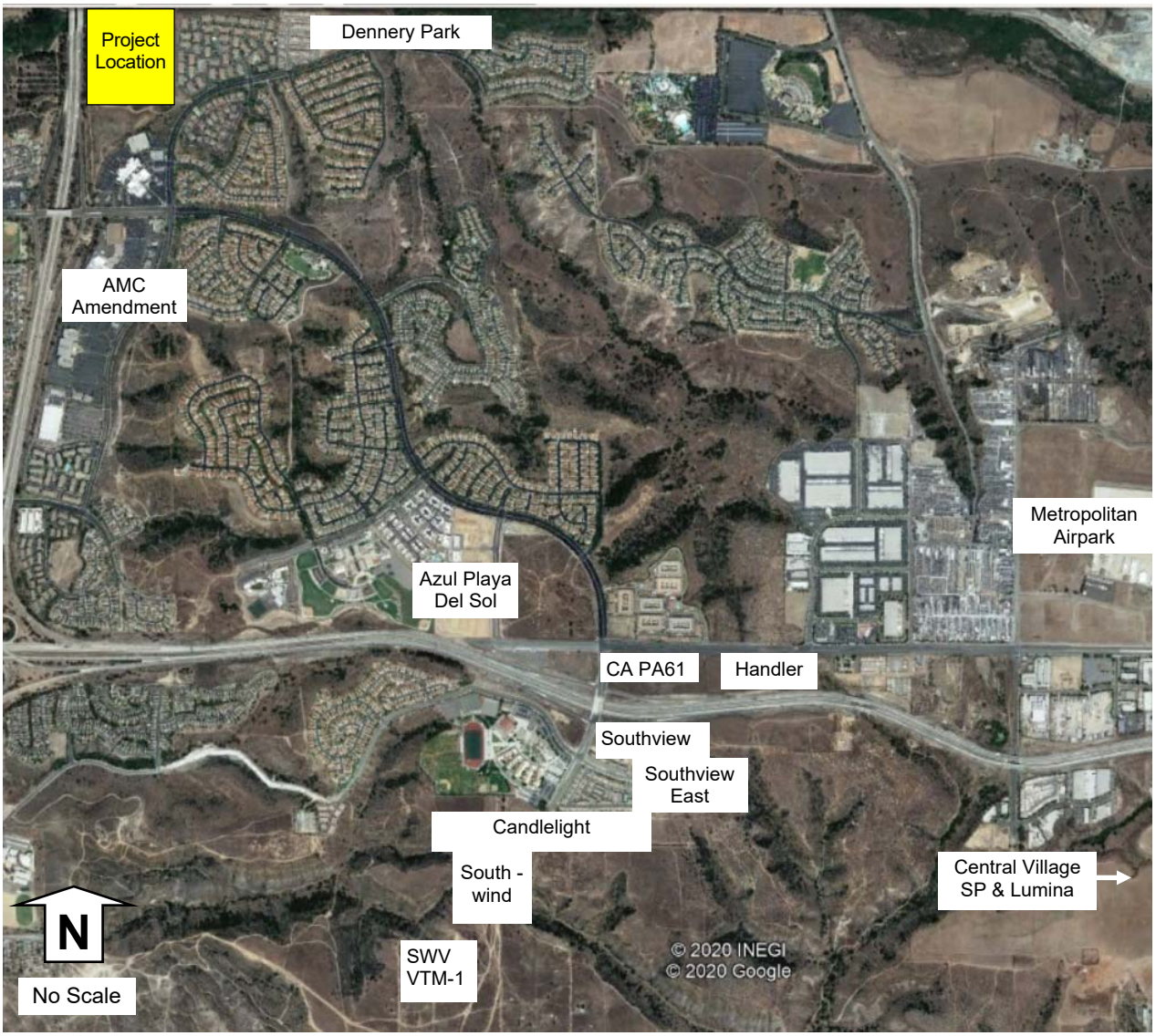
TABLE 12: CUMULATIVE PROJECT TRIP GENERATION

	Cumulative Project	Status	ADT	AM Peak Hour			AM Peak Hour		
				In	Out	Total	In	Out	Total
1	AMC-Amendment (PTS# 569517)	Approved	2,511	85	60	145	111	192	303
2	Azul Playa Del Sol (CA Terraces PA 6) SCR PTS# 605702	Approved, 370 du remaining during data collection	2,960	47	189	236	207	89	296
3	California Terraces PA61 Residential (PTS# 690358)	Modification Under Review	4,716	101	151	252	271	215	486
4	Candlellight Residential (PTS# 40329) Amdnemdnt (PTS# 691625)_	Approved	2,850	46	182	228	180	77	257
5	Central Village Specific Plan	Approved	No phases proposed for completion by 2024						
6	Dennery Park	Approved	450	11	7	18	14	22	36
7	Handler Mixed-Use (PTS# 659064) CPA/Rezone I process	Approved	9,021	280	274	554	379	360	739
8	Lumina TM	Approved	No phases proposed for completion by 2024						
9	Metorpolitan Airpark Phase 1 (PTS 559378) SCR (PTS# 664354)	Approved	961	75	20	95	31	71	102
10	Southview (PTS# 371807)	Approved	2,216	35	142	177	155	66	221
11	Southview East (PTS# 371807)	Approved	1,088	17	70	87	76	33	109
12	Southwind (PTS# 415529)	Approved	800	13	51	64	56	24	80
13	Southwest Village VTM-1 (PTS# 619791)	Proposed	7,084	114	454	568	484	208	692
Cumulative vol. during data collection (Feb 2020):			**34,657**	824	1,600	**2,424**	1,964	1,357	**3,321**

A map showing the cumulative project locations are shown on **Figure 9**. The combined cumulative project traffic volumes are shown on **Figure 10**.

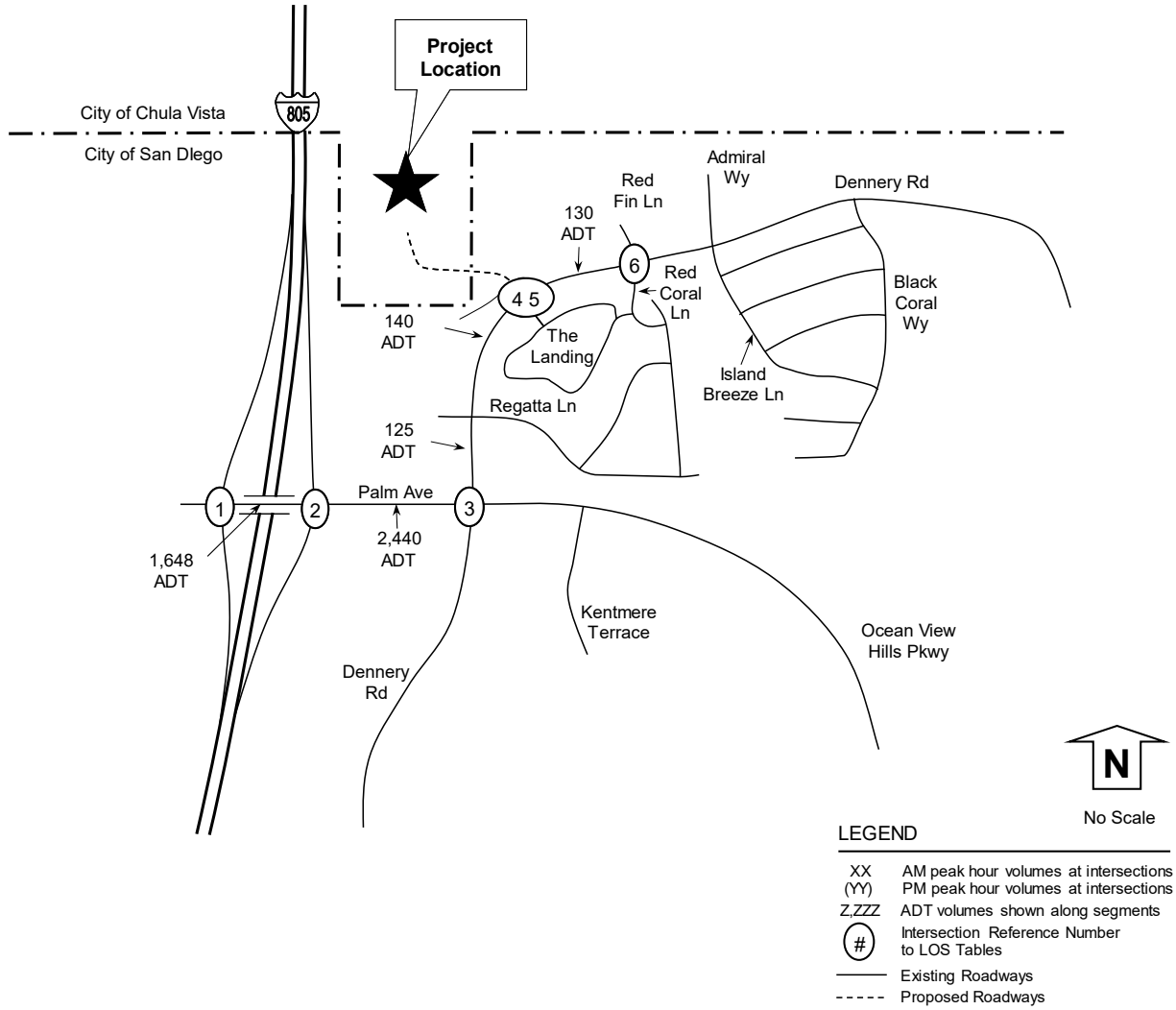
Opening Year 2025 traffic volumes (existing + cumulative) without the project are shown on **Figure 11**. The intersection LOS is shown in **Table 13**. The 95th percentile turning queues where the project will add traffic are shown in **Table 14**. The segment LOS is shown in **Table 15**. The intersection LOS and queueing output are included in **Appendix M**.

Figure 9: Cumulative Project Locations



Google Maps

Figure 10: Cumulative Project Volumes



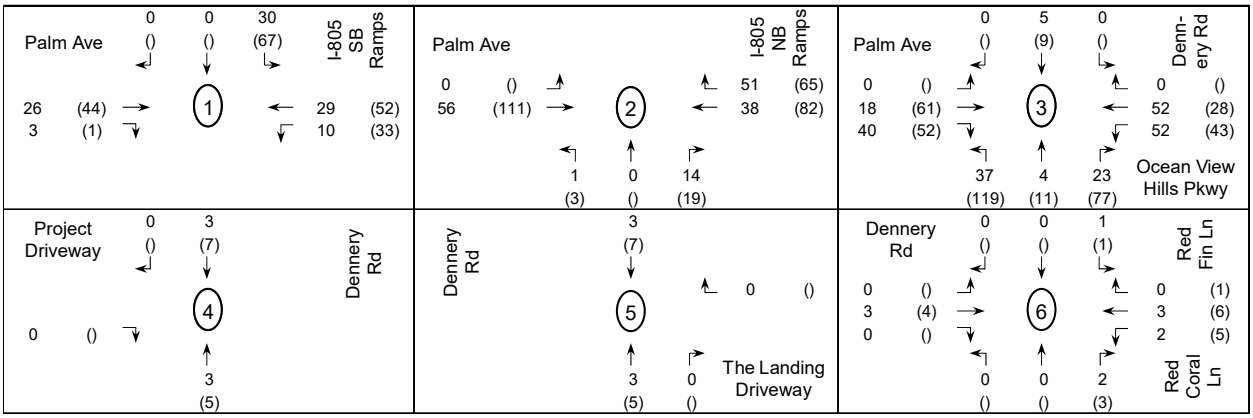
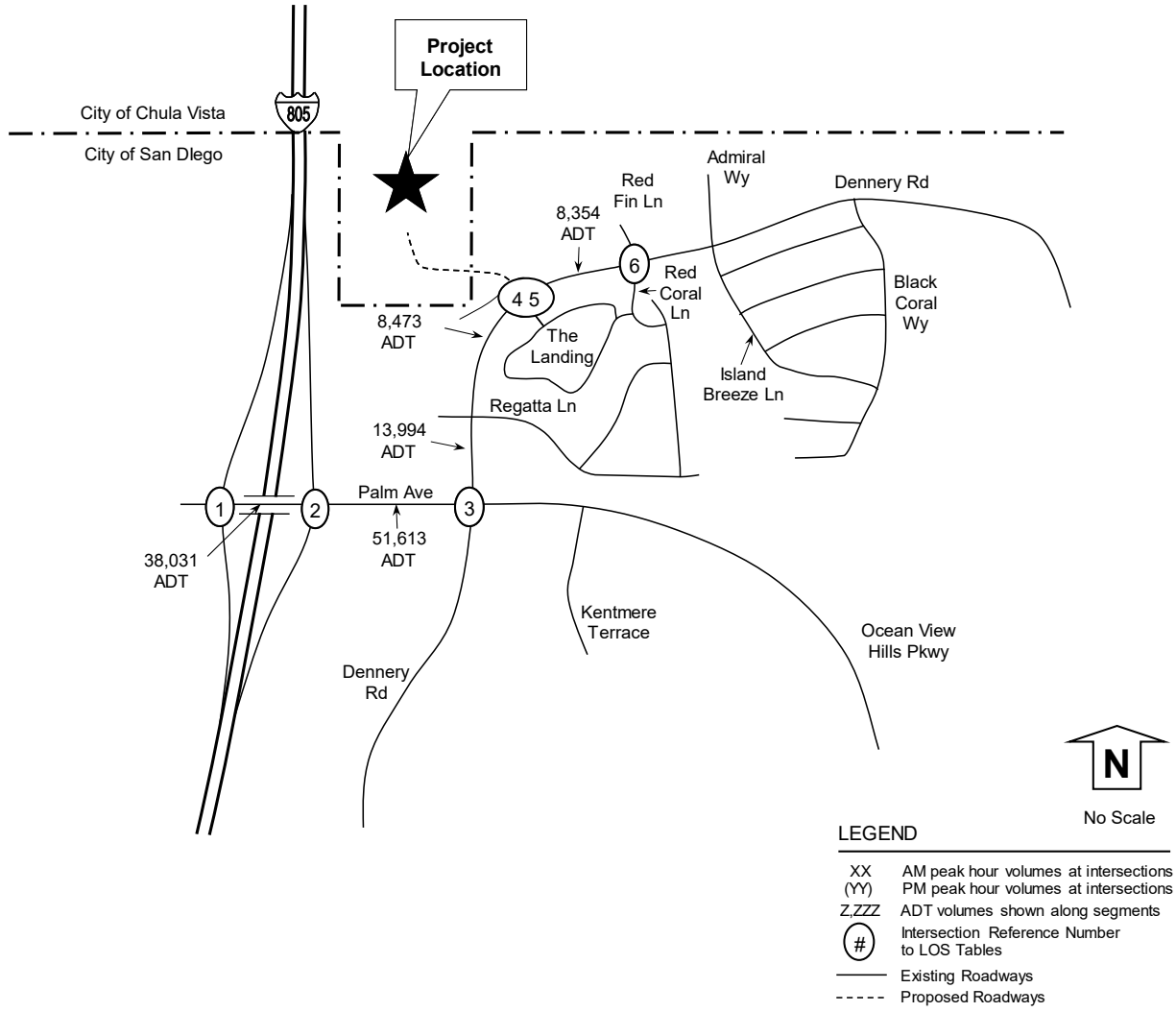


Figure 11: Opening Year 2025 without Project Volumes



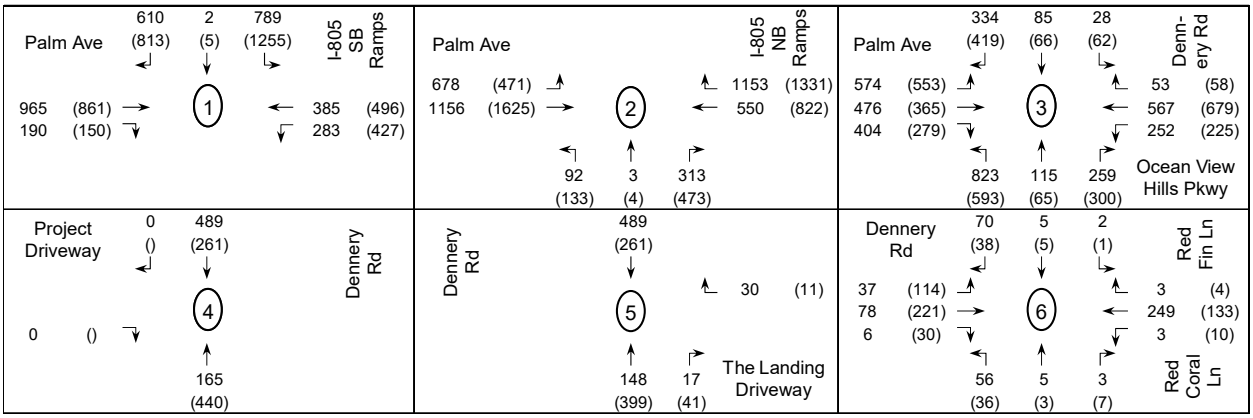


TABLE 13: OPENING YEAR 2025 WITHOUT PROJECT INTERSECTION LOS

Intersection and (Analysis)[1]	Approach	Peak Hour	Opening Year Delay[2]	Opening Year LOS[3]
1) Palm Ave at	All	AM	35.6	D
I-805 SB Ramps (S)	All	PM	56.4	E
2) Palm Ave at	All	AM	33.3	C
I-805 NB Ramps (S)	All	PM	60.0	E
3) Palm Ave at	All	AM	77.1	E
Dennery Rd (S)	All	PM	91.0	F
4) Dennery Rd at	EB	AM	0.0	A
Project Driveway (U)	EB	PM	0.0	A
5) Dennery Rd at The	WB	AM	8.9	A
Landing Driveway (U)	WB	PM	9.8	A
6) Dennery Rd at	All	AM	17.0	B
Red Fin Ln (S)	All	PM	17.0	B

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.

TABLE 14: OPENING YEAR 2025 WITHOUT PROJECT INTERSECTION TURN LANE QUEUING

Intersection	Peak Hour	Approach	Storage Length in feet (notes)		Opening Year 95th %ile Queue[1] (ft)	Exceeds Storage?	Distance Exceeding Storage (ft)
1) Palm Ave at	AM	WBL	190	(2)	183	No	NA
I-805 SB Ramps (S)	AM	SBL	1,850	(3)	491	No	NA
	PM	WBL	190	(2)	**230**	**Yes**	**40**
	PM	SBL	1,850	(3)	811	No	NA
2) Palm Ave at	AM	WBR	1,000	(4)	422	No	NA
I-805 NB Ramps (S)	AM	NBR	1,450	(3)	278	No	NA
	PM	WBR	1,000	(4)	309	No	NA
	PM	NBR	1,450	(3)	366	No	NA
3) Palm Ave at	AM	EBL	280	(2)	**348**	**Yes**	**68**
Dennery Rd (S)	AM	SBR	95	(2)	**136**	**Yes**	**41**
	PM	EBL	280	(2)	**307**	**Yes**	**27**
	PM	SBR	95	(2)	**140**	**Yes**	**45**
6) Dennery Rd at	AM	EBL	190	(2)	51	No	NA
Red Fin Ln (S)	PM	EBL	190	(2)	108	No	NA

Notes: WBL: Westbound Left. NBR: Northbound Right. EB: Eastbound. WB: Westbound. NBL: Northbound Left. NA: Not Applicable. (1) Queue is 95th percentile from SimTraffic analysis. (2) Stop bar to end of turn lane striping. (3) Stop bar to ramp gore point. (4) Dual right turn lanes are a continuation of two travel extending back 1,000 feet to Dennery Rd. BOLD = SimTraffic 95th %ile forecasted queue beyond storage bay capacity.

TABLE 15: OPENING YEAR 2025 WITHOUT PROJECT SEGMENT ADT VOLUMES AND LOS

Daily	Functional Classification	LOS E Capacity	Opening Year Daily Volume	Opening Year V/C	Opening Year LOS
Dennery Road					
Palm Ave to Regatta Ln	4 Lane Major	40,000	13,994	0.350	A
Regatta Ln to Landing Dwy	4 Lane Major	40,000	8,473	0.212	A
Landing Dwy to Red Coral	4 Lane Major	40,000	8,354	0.209	A
Palm Avenue					
I-805 SB Ramps to NB Ramps	4 Lane Collector	30,000	38,031	1.268	E
I-805 NB Ramps to Dennery Rd	7 Lane Prime	70,000	51,613	0.737	C

Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under Opening Year 2025 without Project conditions, there are calculated 95th percentile storage lane deficiencies at: 1) I-805 SB Ramps/Palm Ave WB left PM, 2) Dennery Road/Palm Avenue EB left and SB right AM & PM.

7.6 Opening Year 2025 plus Project Conditions

This scenario documents the addition of project traffic onto Opening Year 2025 conditions. The volumes shown in **Figure 12**. The intersection LOS is shown in **Table 16**. The 95th percentile turning queues where the project will add traffic, are shown in **Table 17**. The segment LOS is shown in **Table 18**. The intersection LOS and queueing output are included in **Appendix N**.

TABLE 16: OPENING YEAR 2025 PLUS PROJECT INTERSECTION LOS

Intersection and	Approach	Peak	Opening Year		Opening Year plus Project		
(Analysis)[1]		Hour	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]
1) Palm Ave at	All	AM	35.6	D	36.1	D	0.5
I-805 SB Ramps (S)	All	PM	56.4	E	58.9	E	2.5
2) Palm Ave at	All	AM	33.3	C	39.2	D	5.9
I-805 NB Ramps (S)	All	PM	60.0	E	66.3	E	6.3
3) Palm Ave at	All	AM	77.1	E	91.6	F	14.5
Dennery Rd (S)	All	PM	91.0	F	111.7	F	20.7
4) Dennery Rd at	EB	AM	0.0	A	11.2	B	11.2
Project Driveway (U)	EB	PM	0.0	A	10.0	B	10.0
5) Dennery Rd at The	WB	AM	8.9	A	9.0	A	0.1
Landing Driveway (U)	WB	PM	9.8	A	10.4	B	0.6
6) Dennery Rd at	All	AM	17.0	B	18.5	B	1.5
Red Fin Ln (S)	All	PM	17.0	B	18.5	B	1.5

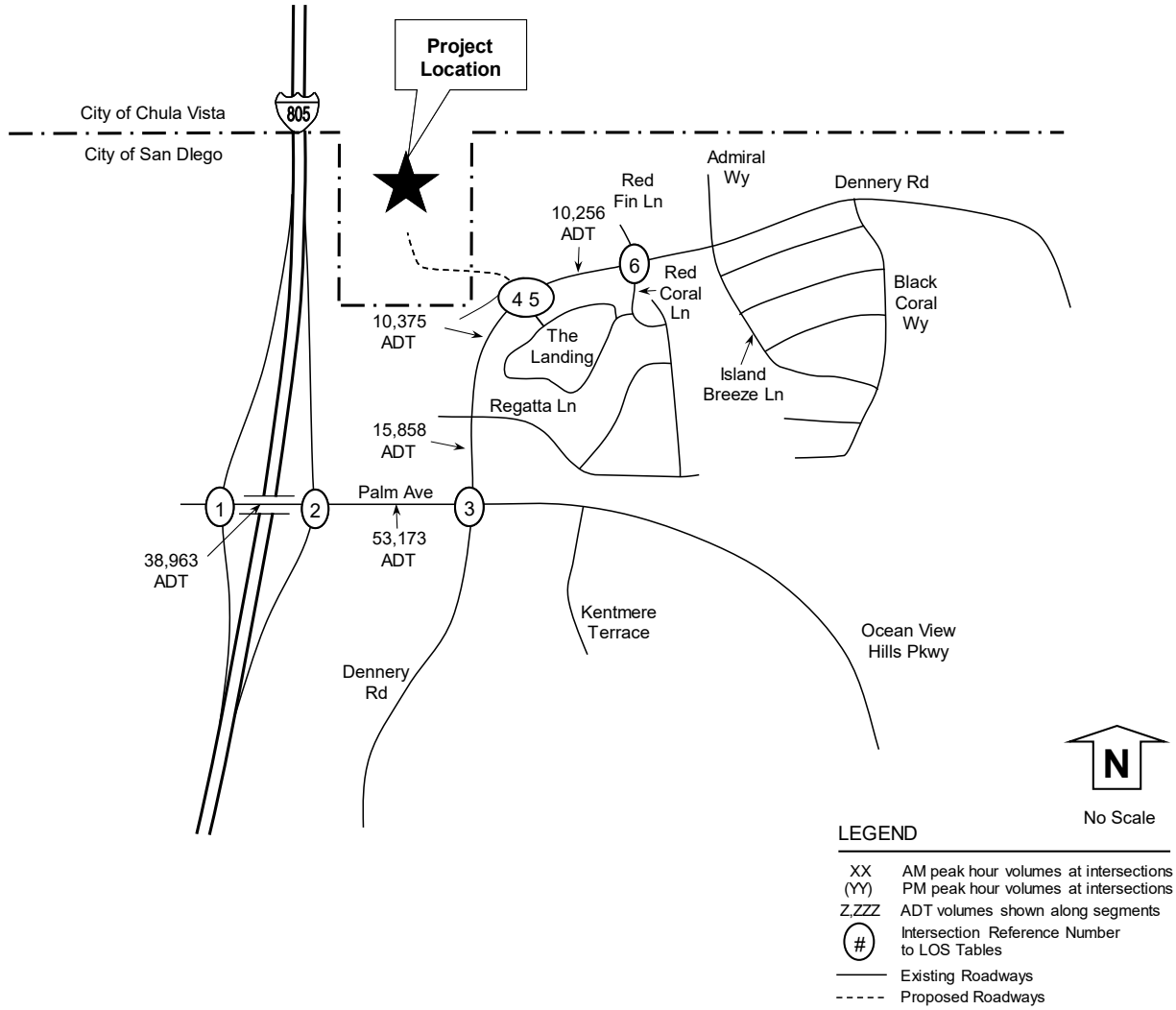
Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay.

TABLE 17: OPENING YEAR 2025 PLUS PROJECT INTERSECTION TURN LANE QUEUING

Intersection	Peak Hour	Approach	Storage Length in feet (notes)		Opening Year 95th %ile Queue[1] (ft)	Opening Year + Project 95th %ile Queue[1] (ft)	Exceeds Storage?	Distance in feet
1) Palm Ave at	AM	WBL	190	(2)	183	186	No	NA
I-805 SB Ramps (S)	AM	SBL	1,850	(3)	491	510	No	NA
	PM	WBL	190	(2)	**230**	**238**	**Yes**	**48**
	PM	SBL	1,850	(3)	811	1,060	No	NA
2) Palm Ave at	AM	WBR	1,000	(4)	422	426	No	NA
I-805 NB Ramps (S)	AM	NBR	1,450	(3)	278	282	No	NA
	PM	WBR	1,000	(4)	309	334	No	NA
	PM	NBR	1,450	(3)	366	652	No	NA
3) Palm Ave at	AM	EBL	280	(2)	**348**	**361**	**Yes**	**81**
Dennery Rd (S)	AM	SBR	95	(2)	**136**	**137**	**Yes**	**42**
	PM	EBL	280	(2)	**307**	**335**	**Yes**	**55**
	PM	SBR	95	(2)	**140**	**141**	**Yes**	**46**
6) Dennery Rd at	AM	EBL	190	(2)	51	77	No	NA
Red Fin Ln (S)	PM	EBL	190	(2)	108	178	No	NA

Notes: WBL: Westbound Left. NBR: Northbound Right. EB: Eastbound. WB: Westbound. NBL: Northbound Left. NA: Not Applicable. (1) Queue is 95th percentile from SimTraffic analysis. (2) Stop bar to end of turn lane striping. (3) Stop bar to ramp gore point. (4) Dual right turn lanes are a continuation of two travel extending back 1,000 feet to Dennery Rd. BOLD = SimTraffic 95th %ile forecasted queue beyond storage bay capacity.

Figure 12: Opening Year 2025 plus Project Volumes



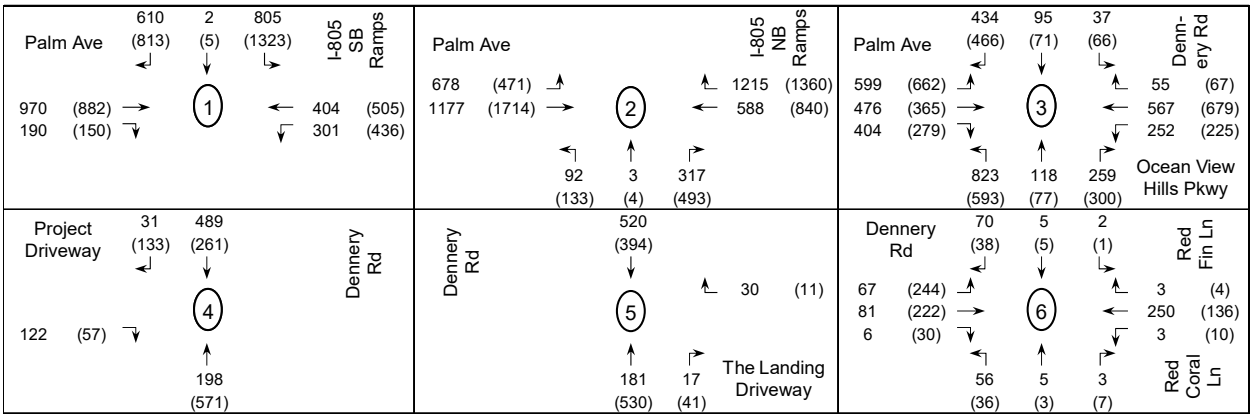


TABLE 18: OPENING YEAR 2025 PLUS PROJECT SEGMENT ADT VOLUMES AND LOS

Segment	Functional Classification	LOS E Capacity	Opening Year Daily Volume	V/C	LOS	Project Daily Volume	Opening Year plus Project Daily Volume	V/C	LOS	Project % of Total ADT
Dennery Road										
Palm Ave to Regatta Ln	4 Lane Major	40,000	13,994	0.350	A	1,864	15,858	0.396	B	12%
Regatta Ln to Landing Dwy	4 Lane Major	40,000	8,473	0.212	A	1,902	10,375	0.259	A	18%
Landing Dwy to Red Coral	4 Lane Major	40,000	8,354	0.209	A	1,902	10,256	0.256	A	19%
Palm Avenue										
I-805 SB Ramps to NB Ramps	4 Lane Collector	30,000	38,031	1.268	E	932	38,963	1.299	E	2%
I-805 NB Ramps to Dennery Rd	7 Lane Prime	70,000	51,613	0.737	C	1,560	53,173	0.760	C	3%

Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under Opening Year 2025 plus Project conditions, the project adds more than 50 peak hour turn moves or more than 500 daily trips to the study locations forecasted to operate at LOS E/F; and/or has the potential to exceed the existing turn lane storage capacities at the following locations:

1) Intersection of Palm Ave/I-805 SB Ramps:
   a. Project would add 9 PM WB lefts under LOS E and continue to exceed existing storage.
   b. No improvements are proposed because Caltrans has a circulated Environmental Document (MND/EA) and a Ready to List (RTL) date of August 2023. The scope of work and ultimate plan is as proposed in the MND/ED with details included in Appendix S. Per ECP, Phase 1 (widening of the south side of the bridge on Palm Ave) is fully funded for design. Funding for construction has not been acquired. As of 4/14/2023, City was awarded a $24M federal grant. Per ECP, additional funding is needed for Phase 1 construction.

2) Intersection of Palm Ave/Dennery Rd:
   a. Project would add 25 AM & 109 PM EB lefts under LOS F and exceed existing storage.
   b. Project would add 100 AM & 47 PM SB rights under LOS F and exceed existing storage.
   c. City criteria states if project adds traffic and causes the 95th percentile queue to exceed storage, then consider lengthening the pocket. The Owner/Permittee proposes the following improvements:
      i. Extend the eastbound dual left turn bay with 280 feet of storage per lane by an additional 85 feet of storage per lane with appropriate taper for a total of 365 feet of storage per lane under Opening Year conditions that will accommodate the Opening Year 2025 Plus Project forecasted 95th percentile queue of 361 feet.
      ii. Extend the southbound right turn lane with 95 feet of storage by an additional 50 feet of storage with appropriate taper for a total of 145 feet of storage to accommodate the forecasted 95th percentile queue of 141 feet.

3) Intersection of Dennery Rd/Red Coral Ln/Red Fin Ln:
   a. Project would add 130 PM peak hour EB u-turning vehicles.
   b. The Owner/Permittee proposes to extend the eastbound left turn lane with 190 feet of storage by an additional 50 feet of storage with appropriate tape for a total of 240 feet of storage to accommodate the project traffic.

4) Segment of Palm Ave between I-805 SB Ramps and I-805 NB Ramps:
   a. Project adds 932 daily trips under forecasted LOS E conditions on the existing 4 lane roadway.
   b. A fair share of 2.5% is proposed toward planned Caltrans Palm Ave bridge widening to a 5 Lane Major configuration anticipated to be completed after year 2024.

Concept drawings for the proposed improvements at Palm Ave/Dennery Rd and Dennery Rd/Red Coral Ln/Red Fin Ln are included in **Appendix O**. The fair share calculations for Palm Ave are included in **Appendix P**.

7.7 Horizon Year 2062 without Project Conditions

A Horizon Year 2062 scenario was prepared because the project site is currently designated as open space and zoned A-8 Agricultural and will be redesignated Residential High (RH). The project requires a change from existing zone A-8 Agricultural to a proposed zone R3P Resident. The Horizon Year volumes were obtained from multiple sources that included: 1) Otay Mesa Community Plan Update (OMCPU), 2) factored up using a growth factor, or 3) SANDAG horizon year traffic model as follows:

Study intersections and volumes source:

1) Palm Ave/I-805 SB Ramps (OMCPU)
2) Palm Ave/I-805 NB Ramps (OMCPU)
3) Palm Ave/Dennery Rd (OMCPU)
4) Dennery Rd/Project Driveway (Growth Factor on Major Rd)
5) Dennery Rd/The Landing Driveway (Growth Factor on Major Rd)
6) Dennery Rd/Red Coral Ln/Red Fin Ln (Growth Factor on Major Rd)

The street segments and volume source:

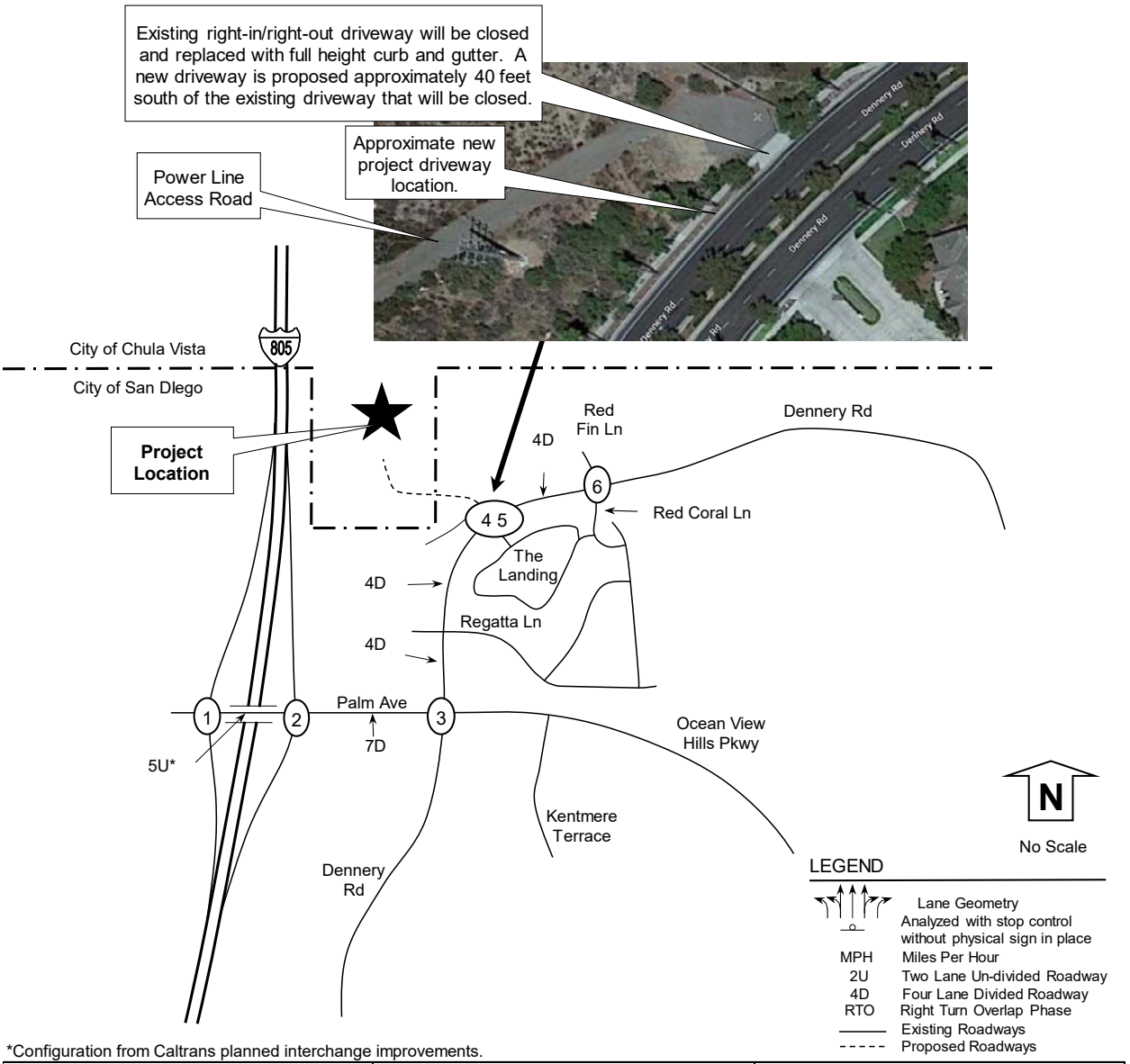
1) Palm Ave between I-805 SB Ramps and I-805 NB Ramps (SANDAG)
2) Palm Ave between I-805 NB Ramps and Dennery Rd (OMCPU)
3) Dennery Rd between Palm Ave and Regatta Ln (OMCPU)
4) Dennery Rd between Regatta Ln and Project Driveway (OMCPU)
5) Dennery Rd between Project Driveway and Red Coral Ln/Red Fin Ln (OMCPU)

The growth factor for intersections #4) Dennery Rd/Project Dwy #5) Dennery Rd/The Landing Dwy and #6) Dennery Rd/Red Coral Ln/Red Fin Ln were calculated from the increase in the segment volumes on Dennery Road between existing year 2020 and year 2062 ADTs. The calculated growth factor of 52% was applied to the existing through movements along Dennery Rd at these three intersections. The minor legs did not have the growth factor applied because they serve existing communities that are built-out. The growth factor accounts for the horizon year connection of Dennery Road easterly to Avenida de Las Vistas, that also connects to Otay Valley Road providing a connection into Chula Vista and Otay Mesa. The Horizon Year volumes and growth factor calculations are included in **Appendix Q**.

The segment of Palm Ave between I-805 SB Ramps and I-805 NB Ramps did not have a documented horizon year volume in the OMCPU; therefore, the latest available (at the time of the analysis) was obtained from the SANDAG Series 13 horizon highest year 2050 volume. The SANDAG year 2050 daily volume of 46,000 on the bridge was considered to be reasonable and slightly conservative because the same Series 13 year 2050 SANDAG Palm Ave volume just east of the bridge is 61,700, which is higher than the OMCPU Palm Ave year 2062 volume of 59,500 for the same segment just east of the bridge. The SANDAG year 2050 volume is included in **Appendix R**.

The Horizon Year 2062 analysis is based on the geometry shown in **Figure 13**, which incorporates the Caltrans' EIR Palm Ave interchange improvements (**Appendix S**). Per ECP, Phase 1 (widening of the south side of the bridge on Palm Ave) is fully funded for design. Funding for construction has not been acquired. As of 4/14/2023, City was awarded a $24M federal grant. Per ECP, additional funding is needed for Phase 1 construction. The Horizon Year 2062 volumes without the project are shown in **Figure 14.** The intersection LOS is shown in **Table 19**. The 95th percentile turning queues, for three intersections where the project will be adding more than 50 peak hour turns, are shown in **Table 20**. The segment LOS is shown in **Table 21**. The intersection LOS and queueing output are included in **Appendix T**.

Figure 13: Horizon Year 2062 Conditions



*Configuration from Caltrans planned interchange improvements.

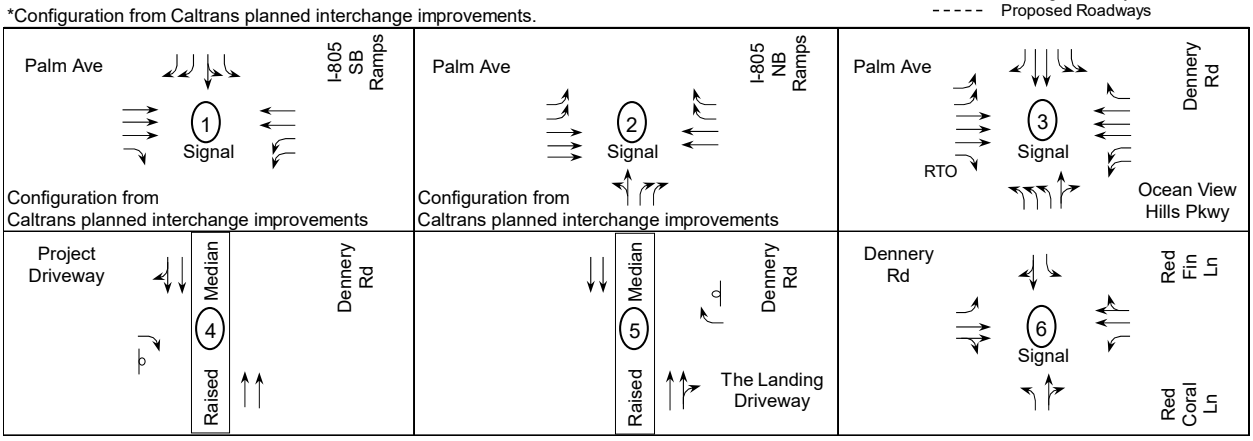
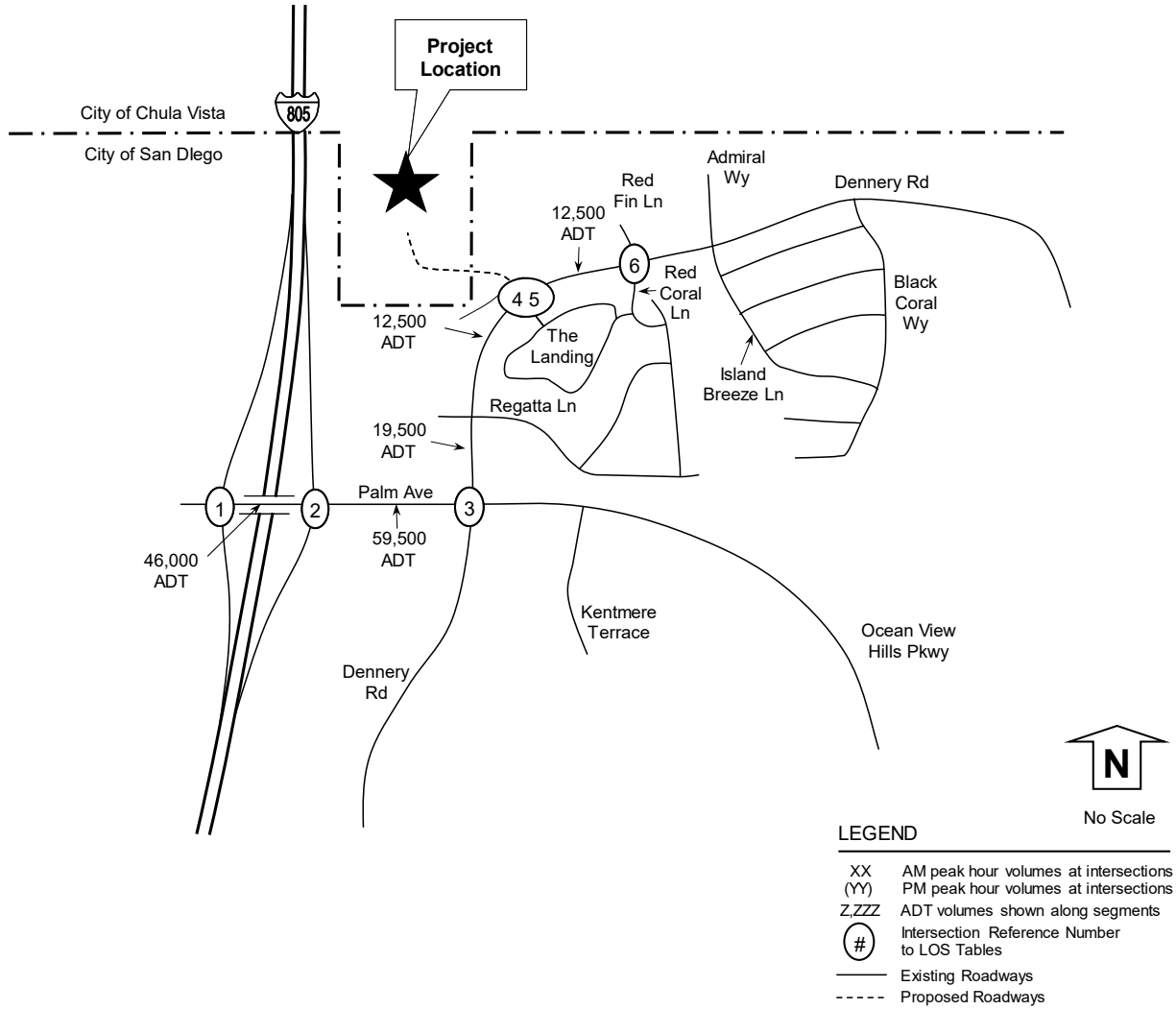


Figure 14: Horizon Year 2062 without Project Volumes



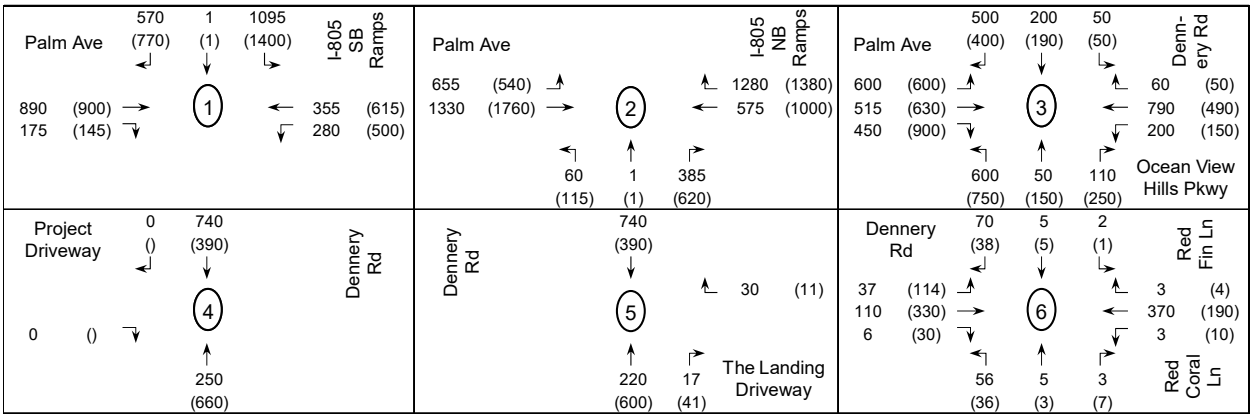


TABLE 19: HORIZON YEAR 2062 WITHOUT PROJECT INTERSECTION LOS

Intersection and (Analysis)[1]	Approach	Peak Hour	Horizon Year Delay[2]	Horizon Year LOS[3]
1) Palm Ave at	All	AM	24.4	C
I-805 SB Ramps (S)	All	PM	37.9	D
2) Palm Ave at	All	AM	41.4	D
I-805 NB Ramps (S)	All	PM	66.2	E
3) Palm Ave at	All	AM	119.7	F
Dennery Rd (S)	All	PM	188.4	F
4) Dennery Rd at	EB	AM	0.0	A
Project Driveway (U)	EB	PM	0.0	A
5) Dennery Rd at The	EB	AM	9.2	A
Landing Driveway (U)	EB	PM	10.7	B
6) Dennery Rd at	All	AM	16.5	B
Red Fin Ln (S)	All	PM	16.4	B

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.

TABLE 20: HORIZON YEAR 2062 WITHOUT PROJECT INTERSECTION TURN LANE QUEUING

Intersection	Peak Hour	Approach	Storage Length in feet (notes)		Horizon Year 95th %ile Queue[1] (feet)	Exceeds Storage?	Distance Exceeding Storage (ft)
1) Palm Ave at	AM	WBL	500	(2)	156	No	NA
I-805 SB Ramps (S)	AM	SBL	1,850	(3)	471	No	NA
	PM	WBL	500	(2)	217	No	NA
	PM	SBL	1,850	(3)	509	No	NA
2) Palm Ave at	AM	WBR	1,000	(4)	203	No	NA
I-805 NB Ramps (S)	AM	NBR	1,450	(5)	123	No	NA
	PM	WBR	1,000	(4)	202	No	NA
	PM	NBR	1,450	(5)	230	No	NA
3) Palm Ave at	AM	EBL	280	(2)	**328**	**Yes**	**48**
Dennery Rd (S)	AM	SBR	95	(2)	**121**	**Yes**	**26**
	PM	EBL	280	(2)	**301**	**Yes**	**21**
	PM	SBR	95	(2)	**136**	**Yes**	**41**
6) Dennery Rd at	AM	EBL	190	(2)	58	No	NA
Red Fin Ln (S)	PM	EBL	190	(2)	115	No	NA

Notes: WBL: Westbound Left. NBR: Northbound Right. EB: Eastbound. WB: Westbound. NBL: Northbound Left. NA: Not Applicable. (1) Queue is 95th percentile from SimTraffic analysis. (2) Stop bar to end of turn lane striping. (3) The SB left and left-through lanes both extend back to off-ramp gore approximately 1,850 feet from stop bar. (4) One of the dual right turn lanes is a continuation of one travel extending back approximately 1,000 feet to Dennery Rd. (5) The NB dual right turn lanes extend back to off-ramp gore approximately 1,450 feet from stop bar. BOLD = SimTraffic 95th %ile forecasted queue beyond storage bay capacity.

TABLE 21: HORIZON YEAR 2062 WITHOUT PROJECT SEGMENT ADT VOLUMES AND LOS

Segment	Functional Classification	LOS E Capacity	Horizon Year Daily Volume	Horizon Year V/C	Horizon Year LOS
Dennery Road					
Palm Ave to Regatta Ln	4 Lane Major	40,000	19,500	0.488	B
Regatta Ln to Landing Dwy	4 Lane Major	40,000	12,500	0.313	A
Landing Dwy to Red Coral	4 Lane Major	40,000	12,500	0.313	A
Palm Avenue					
I-805 SB Ramps to NB Ramps	5 Lane Major	45,000	46,000	1.022	F
I-805 NB Ramps to Dennery Rd	7 Lane Prime	70,000	59,500	0.850	C

Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under Horizon Year 2062 without Project conditions, there is a calculated 95th percentile storage lane deficiency at Dennery Road/Palm Avenue EB left AM & PM and SB right AM & PM.

7.8 Horizon Year 2062 plus Project Conditions

The Horizon Year 2062 plus Project conditions were analyzed by adding the project traffic onto Horizon Year volumes. Horizon Year 2062 volumes plus project traffic are shown in **Figure 15.**

The intersection LOS is shown in **Table 22**. The 95th percentile turning queues for intersections where the project will add traffic are shown in **Table 23**. The segment LOS is shown in **Table 24**. The intersection LOS and queueing output are included in **Appendix U**.

TABLE 22: HORIZON YEAR 2062 PLUS PROJECT INTERSECTION LOS

Intersection and	Approach	Peak	Horizon Year		Horizon Year plus Project		
(Analysis)[1]		Hour	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]
1) Palm Ave at	All	AM	24.4	C	24.5	C	0.1
I-805 SB Ramps (S)	All	PM	37.9	D	39.7	D	1.8
2) Palm Ave at	All	AM	41.4	D	48.9	D	7.5
I-805 NB Ramps (S)	All	PM	66.2	E	69.7	E	3.5
3) Palm Ave at	All	AM	119.7	F	133.1	F	13.4
Dennery Rd (S)	All	PM	188.4	F	218.5	F	30.1
4) Dennery Rd at	EB	AM	0.0	A	13.3	B	13.3
Project Driveway (U)	EB	PM	0.0	A	10.7	B	10.7
5) Dennery Rd at The	EB	AM	9.2	A	9.3	A	0.1
Landing Driveway (U)	EB	PM	10.7	B	11.3	B	0.6
6) Dennery Rd at	All	AM	16.5	B	17.6	B	1.1
Red Fin Ln (S)	All	PM	16.4	B	17.9	B	1.5

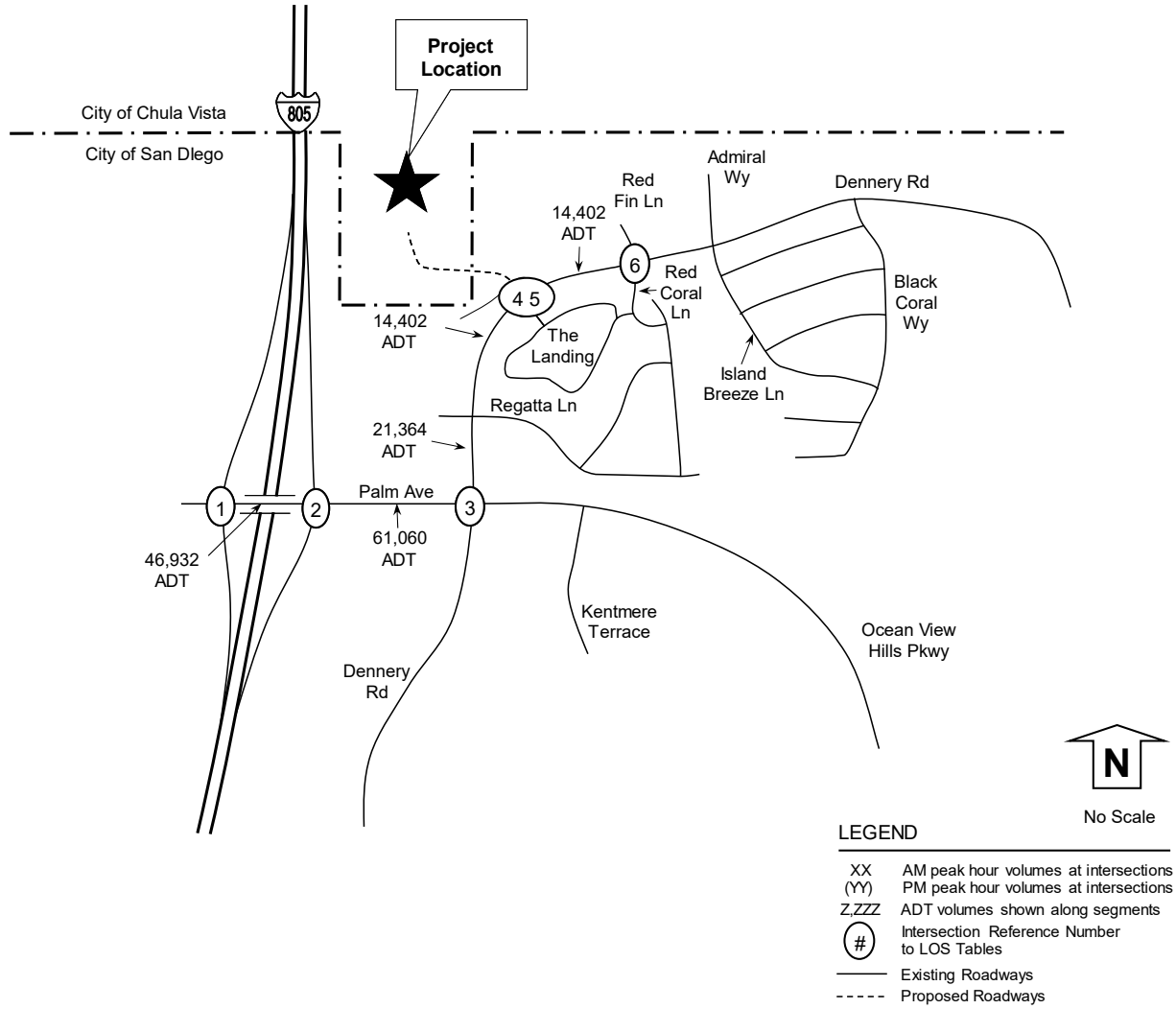
Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay.

TABLE 23: HORIZON YEAR 2062 PLUS PROJECT INTERSECTION TURN LANE QUEUING

Intersection	Peak Hour	Approach	Storage Length in feet (notes)		Horizon Year 95th %ile Queue[1] (feet)	Horizon Year + Project 95th %ile Queue[1] (feet)	Exceeds Storage?	Distance in feet
1) Palm Ave at	AM	WBL	500	(2)	156	156	No	NA
I-805 SB Ramps (S)	AM	SBL	1,850	(3)	471	483	No	NA
	PM	WBL	500	(2)	217	234	No	NA
	PM	SBL	1,850	(3)	509	916	No	NA
2) Palm Ave at	AM	WBR	1,000	(4)	203	207	No	NA
I-805 NB Ramps (S)	AM	NBR	1,450	(5)	123	124	No	NA
	PM	WBR	1,000	(4)	202	330	No	NA
	PM	NBR	1,450	(5)	230	354	No	NA
3) Palm Ave at	AM	EBL	280	(2)	**328**	**331**	**Yes**	**51**
Dennery Rd (S)	AM	SBR	95	(2)	**121**	**124**	**Yes**	**29**
	PM	EBL	280	(2)	**301**	**308**	**Yes**	**28**
	PM	SBR	95	(2)	**136**	**139**	**Yes**	**44**
6) Dennery Rd at	AM	EBL	190	(2)	58	79	No	NA
Red Fin Ln (S)	PM	EBL	190	(2)	115	**207**	**Yes**	**17**

Notes: WBL: Westbound Left. NBR: Northbound Right. EB: Eastbound. WB: Westbound. NBL: Northbound Left. NA: Not Applicable. (1) Queue is 95th percentile from SimTraffic analysis. (2) Stop bar to end of turn lane striping. (3) The SB left and left-through lanes both extend back to off-ramp gore approximately 1,850 feet from stop bar. (4) One of the dual right turn lanes is a continuation of one travel extending back approximately 1,000 feet to Dennery Rd. (5) The NB dual right turn lanes extend back to off-ramp gore approximately 1,450 feet from stop bar. BOLD = SimTraffic 95th %ile forecasted queue beyond storage bay capacity.

Figure 15: Horizon Year 2062 plus Project Volumes



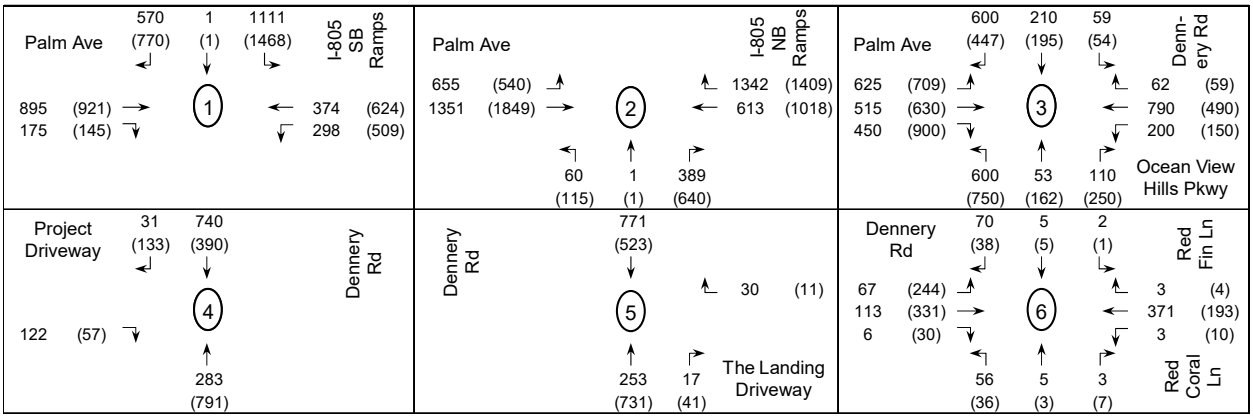


TABLE 24: HORIZON YEAR 2062 PLUS PROJECT SEGMENT ADT VOLUMES AND LOS

Segment	Functional Classification	LOS E Capacity	Horizon Year Daily Volume	V/C	LOS	Project Daily Volume	Horizon Year plus Project Daily Volume	V/C	LOS	Project % of Total ADT
Dennery Road										
Palm Ave to Regatta Ln	4 Lane Major	40,000	19,500	0.488	B	1,864	21,364	0.534	C	9%
Regatta Ln to Landing Dwy	4 Lane Major	40,000	12,500	0.313	A	1,902	14,402	0.360	A	13%
Landing Dwy to Red Coral	4 Lane Major	40,000	12,500	0.313	A	1,902	14,402	0.360	A	13%
Palm Avenue										
I-805 SB Ramps to NB Ramps	5 Lane Major	45,000	46,000	1.022	F	932	46,932	1.043	F	2%
I-805 NB Ramps to Dennery Rd	7 Lane Prime	70,000	59,500	0.850	C	1,560	61,060	0.872	D	3%

Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under Horizon Year 2062 plus Project conditions, the project adds more than 50 peak hour turn moves or more than 500 daily trips to the study locations forecasted to operate at LOS E/F; and/or has the potential to exceed the existing turn lane storage capacities at the following locations:

1) Intersection of Palm Ave/Dennery Rd.
   a. Project would add 25 AM & 109 PM EB lefts under LOS F and exceed existing storage.
   b. Project would add 100 AM & 47 PM SB rights under LOS F and exceed existing storage.
   c. City criteria states if project adds traffic and causes the 95th percentile queue to exceed storage, then consider lengthening the pocket. The Owner/Permittee proposes the following improvements with conceptual designs to demonstrate feasibility included in Appendix O:
      i. Extend the eastbound dual left turn storage bay with 280 feet of storage per lane by an additional 85 feet of storage with appropriate taper for a total of 365 feet of storage per lane under near-term conditions that will also accommodate the year 2062 forecasted 95th percentile queue of 331 feet.
      ii. Extend the southbound right turn lane with 95 feet of storage by an additional 50 feet of storage with appropriate taper for a total of 145 feet of storage to accommodate the maximum forecasted 95th percentile queue of 141 feet.

2) Intersection of Dennery Rd/Red Coral Ln/Red Fin Ln:
   a. Project would add 130 PM peak hour EB u-turning vehicles and is forecasted to exceed the existing left turn lane.
   b. Owner/Permittee proposes to extend the eastbound left turn lane of 190 feet of storage by an additional 50 feet of storage for a total of 240 feet of storage under Opening Year 2025 plus project conditions, which is forecasted to accommodate the forecasted 95th percentile queue of 207 feet under Horizon Year 2062 plus Project traffic conditions.

3) Segment of Palm Ave between I-805 SB Ramps and I-805 NB Ramps:
   a. Project adds 932 daily trips under forecasted LOS F conditions after the Caltrans bridge widening.
   b. No improvements are proposed because Caltrans has a circulated Environmental Document (MND/EA) and a Ready to List (RTL) date of August 2023. The scope of work and ultimate plan is as proposed in the MND/ED with details included in Appendix S. Per ECP, Phase 1 (widening of the south side of the bridge on Palm Ave) is fully funded for design. Funding for construction has not been acquired. As of

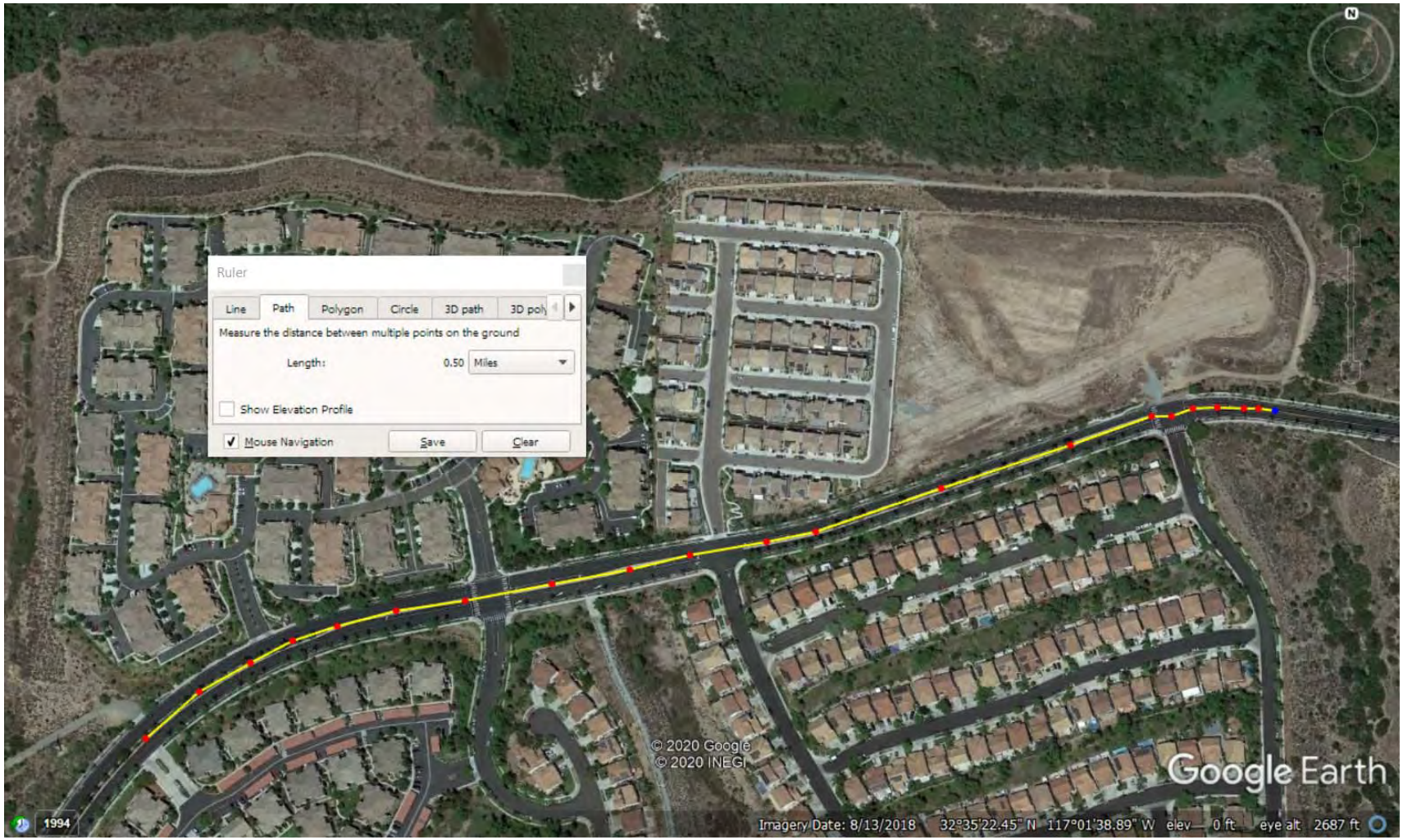
4/14/2023, City was awarded a $24M federal grant. Per ECP, additional funding is needed for Phase 1 construction.

# # #

Appendix A

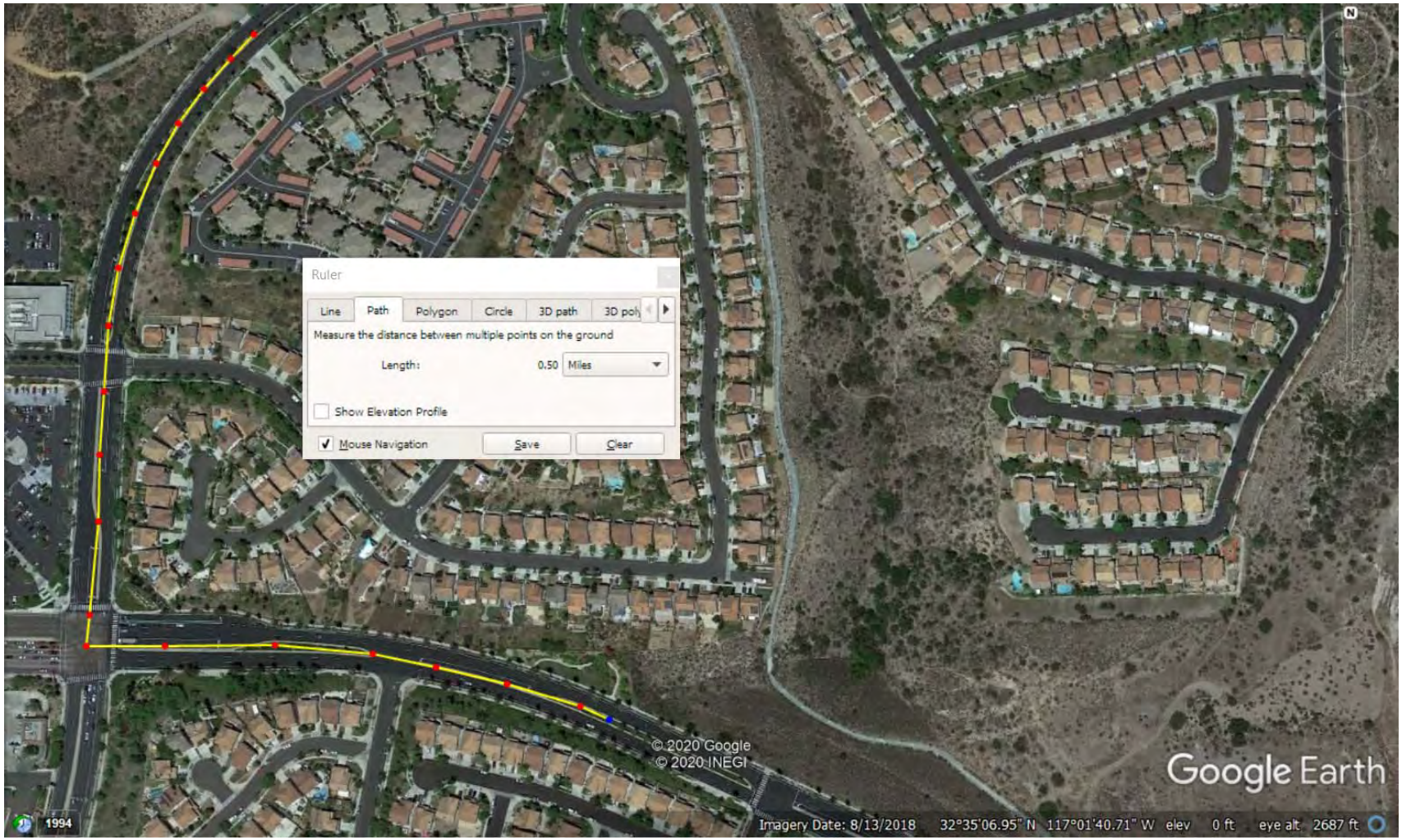
Local Mobility ½ Mile Study Area

NORTH Distance Mapping for Study Area (1/2 mile from center of project driveway intersection)



SOUTH Distance Mapping for Study Area (1/2 mile from center of project driveway intersection)

EAST Distance Mapping for Study Area (1/2 mile from center of project driveway intersection)



WEST Distance Mapping for Study Area (1/2 mile from center of project driveway intersection)

Appendix B

Excerpts from City of San Diego Bicycle Master Plan Update and Community Plan

City of San Diego Bicycle Master Plan

San Diego, California

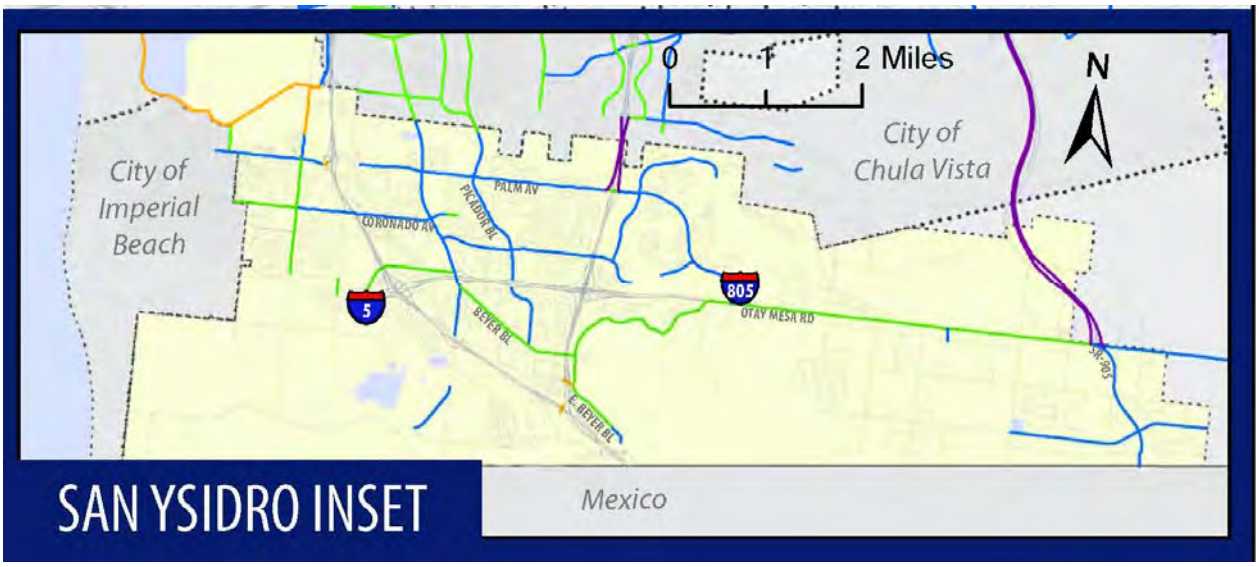
FINAL – Deceber 2013

PREPARED BY:
Alta Planning + Design
PREPARED FOR:
The City of San Diego

alta PLANNING + DESIGN

City of San Diego Bicycle Master Plan, December 2013

Existing Bicycle Routes



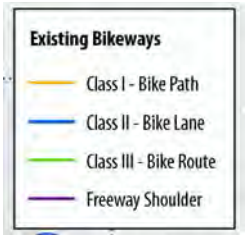


Figure 3-4:
San Diego Existing Bikeways (South)

Otay Mesa
Community Plan Update



Planning, Neighborhoods & Economic Development Department

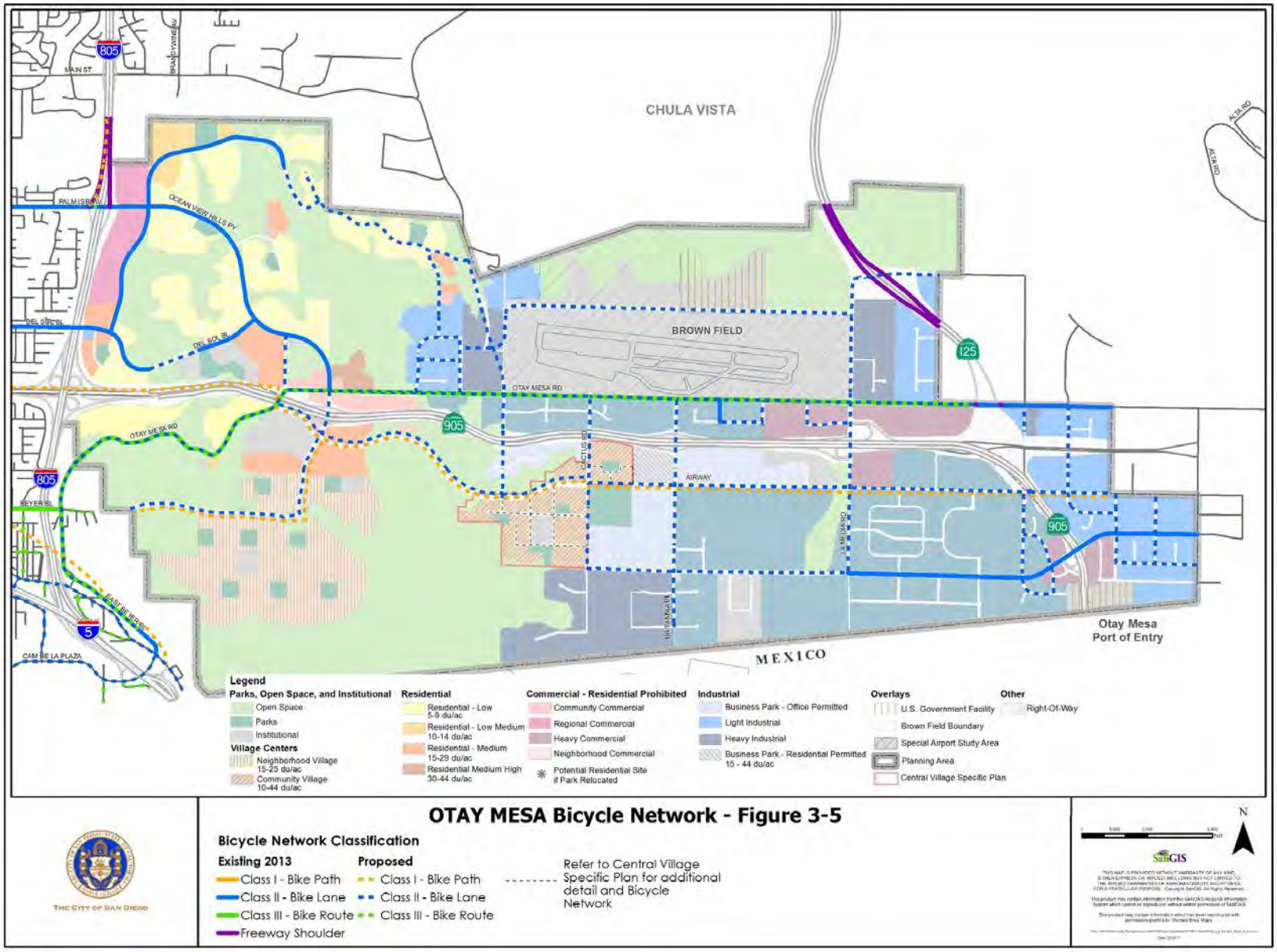
March 11, 2014

City of San Diego

OTAY MESA COMMUNITY PLAN

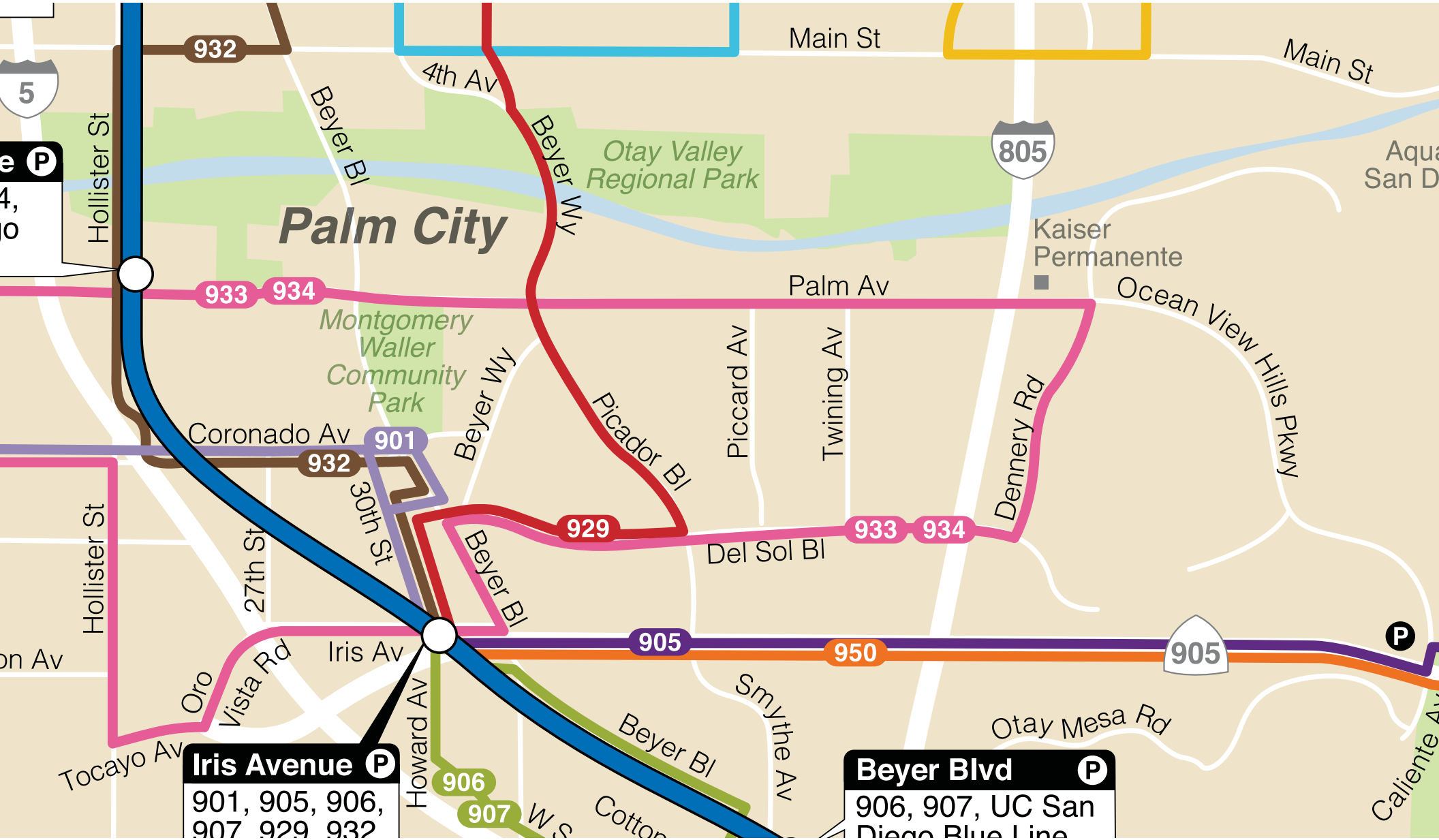
Amendment	Date Approved by Planning Commission	Resolution Number	Date Adopted by City Council	Resolution Number
Otay Mesa Community Plan Adopted	February 13, 2014		March 11, 2014	R-308810
Corrections to address inconsistencies between the Land Use and Zoning Map. Minor map and text corrections to show land use and the removal of paper streets from map figures	April 30, 2015	R-4685	June 2, 2015	R-309773
Otay Mesa Central Village Specific Plan Adopted	February 23, 2017		April 13, 2017	R-311020

Editor's note: After the adoption of the Otay Mesa Community Plan, it was noticed that Figure 3-2 depicted the street classifications for Otay Pacific Drive, Otay Pacific Place, and Las Californias incorrectly; these streets were classified pursuant to City Council Resolution R-307235 on January 10, 2012, which the reclassification was not captured in all places in the Otay Mesa Community Update documents, including Figure 3-2; and therefore, Figure 3-2 in Document Number R-308810 is replaced with Figure 3-2.


CHULA VISTA
BROWN FIELD
OTAY MESA RD
MEXICO
Otay Mesa
Port of Entry
Legend
Parks, Open Space, and Institutional
Open Space
Parks
Institutional
Village Centers
Neighborhood Village 15-25 du/ac
Community Village 10-44 du/ac
Residential
Residential - Low 5-9 du/ac
Residential - Low Medium 10-14 du/ac
Residential - Medium 15-29 du/ac
Residential Medium High 30-44 du/ac
Commercial - Residential Prohibited
Community Commercial
Regional Commercial
Heavy Commercial
Neighborhood Commercial
Potential Residential Site if Park Relocated
Industrial
Business Park - Office Permitted
Light Industrial
Heavy Industrial
Business Park - Residential Permitted 15 - 44 du/ac
Overlays
U.S. Government Facility
Brown Field Boundary
Special Airport Study Area
Planning Area
Central Village Specific Plan
Other
Right-Of-Way
OTAY MESA Bicycle Network - Figure 3-5
Bicycle Network Classification
Existing 2013
Class I - Bike Path
Class II - Bike Lane
Class III - Bike Route
Freeway Shoulder
Proposed
Class I - Bike Path
Class II - Bike Lane
Class III - Bike Route
Refer to Central Village Specific Plan for additional detail and Bicycle Network
THE CITY OF SAN DIEGO
SanGIS
N

Appendix C

Transit Map and Schedules


Main St
Main St
4th Av
Beyer Bl
Beyer Wy
Otay Valley Regional Park
805
Hollister St
Palm City
Kaiser Permanente
932
933
934
Palm Av
Ocean View Hills Pkwy
Montgomery Waller Community Park
Beyer Wy
Picador Bl
Piccard Av
Twining Av
Dennery Rd
Coronado Av
901
932
30th St
929
Del Sol Bl
933
934
Beyer Bl
Hollister St
27th St
905
950
905
Iris Av
Oro Vista Rd
Smythe Av
Otay Mesa Rd
Howard Av
Beyer Bl
Tocayo Av
Iris Avenue
901, 905, 906, 907, 929, 932
906
907
Beyer Blvd
906, 907, UC San Diego Blue Line

Effective APRIL 12, 2020

933 934

Iris Transit Center – Seacoast

via Imperial Beach Bl. or Palm Av.

DESTINATIONS
- Imperial Beach Pier
- Kaiser Permanente
- Mar Vista High School
- Montgomery High School
- Naval Auxiliary Landing Field
- Palm Promenade (Walmart)
- Southwest High School

04/20

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- Iris Ave.
- Palm Ave.

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Exact fare, please / Favor de pagar la cantidad exacta

Adult / Adulto	$2.50
Senior/Disabled/Medicare* Personas Mayores/con Discapacidades/Medicare*	$1.25
Youth (ages 6-18)* Jóvenes (edades 6-18)*	$2.50

DAY PASS (Regional) / Pase diario (Regional)

Adult / Adulto	$6.00
Senior/Disabled/Medicare* Personas Mayores/con Discapacidades/Medicare*	$3.00
Youth (ages 6-18)* Jóvenes (edades 6-18)*	$3.00

MONTHLY PASSES / Pases mensual

Adult / Adulto	$72.00
Senior/Disabled/Medicare* Personas Mayores/con Discapacidades/Medicare*	$23.00
Youth (ages 6-18)* Jóvenes (edades 6-18)*	$23.00

*Proof of eligibility required. Senior Eligibility: Age 65+ or born on or before September 1, 1959. *Se requiere verificación de elegibilidad. Elegibilidad para Personas Mayores: Edad 65+ o nacido en o antes del 1 de septiembre, 1959.

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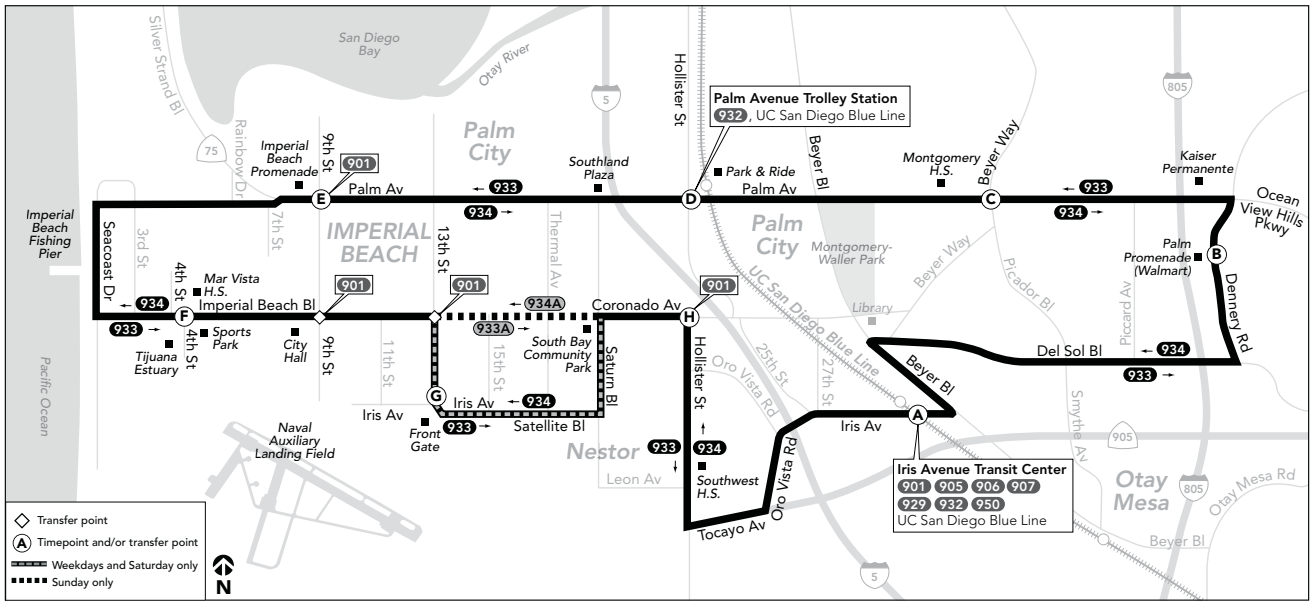

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Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

Route 933A – Sunday / *domingo*

Otay Mesa ➡ Palm City ➡ Imperial Beach ➡ Nestor ➡ Otay Mesa

(A) Iris Ave. Transit Center **DEPART**	(B) Dennery Rd. @ Walmart	(C) Palm Av. & Beyer Way	(D) Palm Av. Trolley Station	(E) Palm Av. & 9th St.	(F) Imperial Beach Bl. & 4th St.	(G) 13th St. & Iris Av.	(H) Coronado Av. & Hollister St.	(A) Iris Ave. Transit Center **ARRIVE**
5:08a	5:17a	5:24a	5:29a	5:36a	5:43a	—	5:52a	6:02a
6:08	6:17	6:24	6:29	6:36	6:43	—	6:52	7:03
7:08	7:17	7:25	7:30	7:38	7:46	—	7:55	8:06
7:58	8:07	8:15	8:20	8:28	8:36	—	8:45	8:56
8:48	8:57	9:05	9:10	9:19	9:27	—	9:36	9:47
9:38	9:48	9:56	10:01	10:10	10:18	—	10:27	10:39
10:18	10:28	10:36	10:41	10:50	10:58	—	11:07	11:19
10:48	10:58	11:06	11:11	11:20	11:28	—	11:37	11:49
11:18	11:28	11:36	11:41	11:50	11:58	—	**12:08p**	**12:20p**
11:47	11:57	**12:05p**	**12:10p**	**12:19p**	**12:28p**	—	**12:38**	**12:50**
12:17p	**12:27p**	**12:35**	**12:40**	**12:49**	**12:58**	—	**1:08**	**1:20**
12:47	**12:57**	**1:05**	**1:10**	**1:19**	**1:28**	—	**1:38**	**1:50**
1:17	**1:27**	**1:35**	**1:40**	**1:49**	**1:58**	—	**2:08**	**2:20**
1:45	**1:56**	**2:04**	**2:09**	**2:19**	**2:28**	—	**2:38**	**2:50**
2:15	**2:26**	**2:35**	**2:40**	**2:50**	**2:59**	—	**3:09**	**3:22**
2:45	**2:56**	**3:05**	**3:10**	**3:20**	**3:29**	—	**3:39**	**3:52**
3:16	**3:27**	**3:36**	**3:41**	**3:51**	**4:00**	—	**4:10**	**4:23**
3:46	**3:57**	**4:06**	**4:11**	**4:21**	**4:30**	—	**4:39**	**4:52**
4:16	**4:27**	**4:36**	**4:41**	**4:51**	**5:00**	—	**5:09**	**5:22**
5:16	**5:27**	**5:36**	**5:41**	**5:51**	**6:00**	—	**6:09**	**6:21**
6:23	**6:33**	**6:41**	**6:46**	**6:56**	**7:04**	—	**7:13**	**7:24**
7:23	**7:33**	**7:40**	**7:45**	**7:53**	**8:01**		**8:10**	**8:20**
8:23	**8:33**	**8:40**	**8:45**	**8:52**	**9:00**	—	**9:09**	**9:19**

Route 934A – Sunday / *domingo*

Otay Mesa ➡ Nestor ➡ Imperial Beach ➡ Palm City ➡ Otay Mesa

(A) Iris Ave. Transit Center **DEPART**	(H) Coronado Av. & Hollister St.	(G) 13th St. & Iris Av.	(F) Imperial Beach Bl. & 4th St.	(E) Palm Av. & 9th St.	(D) Palm Av. Trolley Station	(C) Palm Av. & Beyer Way	(B) Dennery Rd. @ Walmart	(A) Iris Ave. Transit Center **ARRIVE**
—	—	—	—	6:50a	6:59a	7:04a	7:10a	7:22a
7:23a	7:32a	—	7:41a	7:50	7:59	8:04	8:10	8:22
8:28	8:37	—	8:46	8:55	9:04	9:09	9:15	9:27
9:28	9:37	—	9:46	9:55	10:05	10:10	10:17	10:29
10:28	10:37	—	10:46	10:55	11:05	11:10	11:17	11:29
11:03	11:12	—	11:21	11:31	11:42	11:47	11:54	**12:06p**
11:32	11:41	—	11:50	**12:00p**	**12:12p**	**12:17p**	**12:24p**	**12:36**
12:01p	**12:10p**	—	**12:20p**	**12:30**	**12:42**	**12:47**	**12:54**	**1:06**
12:30	**12:39**	—	**12:49**	**12:59**	**1:11**	**1:16**	**1:23**	**1:35**
1:00	**1:09**	—	**1:19**	**1:29**	**1:41**	**1:46**	**1:53**	**2:05**
1:30	**1:39**	—	**1:49**	**1:59**	**2:11**	**2:16**	**2:24**	**2:36**
2:00	**2:09**	—	**2:19**	**2:29**	**2:41**	**2:46**	**2:54**	**3:06**
2:30	**2:39**	—	**2:49**	**2:59**	**3:11**	**3:16**	**3:24**	**3:36**
3:00	**3:09**	—	**3:19**	**3:29**	**3:41**	**3:46**	**3:54**	**4:06**
3:32	**3:41**	—	**3:51**	**4:01**	**4:13**	**4:18**	**4:26**	**4:38**
4:02	**4:11**	—	**4:21**	**4:31**	**4:41**	**4:46**	**4:54**	**5:06**
5:02	**5:11**	—	**5:20**	**5:30**	**5:40**	**5:45**	**5:53**	**6:05**
5:58	**6:07**	—	**6:16**	**6:25**	**6:35**	**6:40**	**6:48**	**6:59**
6:58	**7:07**	—	**7:16**	**7:25**	**7:34**	**7:39**	**7:46**	**7:57**
7:59	**8:08**	—	**8:17**	**8:25**	**8:33**	**8:38**	**8:45**	**8:56**
9:00	**9:08**	—	**9:17**	**9:25**	**9:32**	**9:37**	**9:43**	**9:54**

Route 933 – Monday through Friday / *lunes a viernes*

Otay Mesa ➡ Palm City ➡ Imperial Beach ➡ Nestor ➡ Otay Mesa

Ⓐ Iris Ave. Transit Center **DEPART**	Ⓑ Dennery Rd. @ Walmart	Ⓒ Palm Av. & Beyer Way	Ⓓ Palm Av. Trolley Station	Ⓔ Palm Av. & 9th St.	Ⓕ Imperial Beach Bl. & 4th St.	Ⓖ 13th St. & Iris Av.	Ⓗ Coronado Av. & Hollister St.	Ⓐ Iris Ave. Transit Center **ARRIVE**
4:38a	4:47a	4:54a	4:59a	5:05a	5:11a	5:17a	5:23a	5:33a
5:08	5:17	5:24	5:29	5:36	5:43	5:49	5:55	6:07
5:38	5:47	5:54	5:59	6:06	6:14	6:20	6:26	6:39
6:08	6:17	6:24	6:29	6:37	6:45	6:51	6:58	7:12
6:38	6:48	6:56	7:02	7:10	7:19	7:25	7:32	7:46
7:08	7:18	7:27	7:33	7:42	7:51	7:57	8:04	8:18
7:38	7:48	7:57	8:03	8:12	8:21	8:27	8:34	8:48
7:58	8:08	8:17	8:23	8:32	8:41	8:47	8:54	9:08
8:22	8:32	8:40	8:45	8:54	9:02	9:08	9:15	9:28
8:39	8:49	8:57	9:02	9:11	9:19	9:25	9:32	9:45
8:58	9:08	9:16	9:21	9:30	9:38	9:44	9:51	10:04
9:18	9:28	9:36	9:41	9:50	9:58	10:04	10:11	10:24
9:38	9:48	9:56	10:01	10:10	10:18	10:24	10:31	10:44
9:58	10:08	10:16	10:21	10:30	10:38	10:44	10:51	11:04
10:18	10:28	10:36	10:41	10:50	10:58	11:04	11:11	11:24
10:38	10:48	10:56	11:01	11:10	11:18	11:24	11:31	11:44
10:58	11:08	11:16	11:21	11:30	11:38	11:44	11:51	**12:04p**
11:18	11:28	11:36	11:41	11:50	11:58	**12:04p**	**12:11p**	**12:24**
11:38	11:48	11:56	**12:01p**	**12:10p**	**12:18p**	**12:24**	**12:31**	**12:44**
11:58	**12:08p**	**12:16p**	**12:21**	**12:30**	**12:38**	**12:44**	**12:51**	**1:04**
12:18p	**12:28**	**12:36**	**12:41**	**12:50**	**12:58**	**1:04**	**1:11**	**1:24**
12:38	**12:48**	**12:56**	**1:01**	**1:10**	**1:18**	**1:24**	**1:31**	**1:44**
12:58	**1:08**	**1:16**	**1:21**	**1:30**	**1:38**	**1:44**	**1:51**	**2:04**
1:18	**1:28**	**1:36**	**1:41**	**1:50**	**1:58**	**2:04**	**2:11**	**2:24**
1:38	**1:49**	**1:57**	**2:02**	**2:12**	**2:20**	**2:26**	**2:34**	**2:47**
1:58	**2:09**	**2:17**	**2:22**	**2:32**	**2:40**	**2:46**	**2:54**	**3:07**
2:15	**2:26**	**2:35**	**2:40**	**2:50**	**2:59**	**3:06**	**3:15**	**3:29**
2:35	**2:46**	**2:55**	**3:01**	**3:11**	**3:20**	**3:28**	**3:37**	**3:52**
2:55	**3:06**	**3:15**	**3:21**	**3:31**	**3:40**	**3:48**	**3:57**	**4:12**
3:14	**3:25**	**3:34**	**3:40**	**3:50**	**3:59**	**4:07**	**4:16**	**4:31**
3:34	**3:45**	**3:54**	**4:00**	**4:10**	**4:19**	**4:27**	**4:36**	**4:51**
3:54	**4:05**	**4:14**	**4:20**	**4:30**	**4:39**	**4:47**	**4:56**	**5:11**
4:14	**4:25**	**4:34**	**4:40**	**4:50**	**4:59**	**5:07**	**5:16**	**5:31**
4:34	**4:45**	**4:54**	**5:00**	**5:11**	**5:19**	**5:26**	**5:34**	**5:48**
4:54	**5:05**	**5:14**	**5:20**	**5:31**	**5:39**	**5:46**	**5:54**	**6:08**
5:14	**5:25**	**5:34**	**5:40**	**5:51**	**5:59**	**6:06**	**6:14**	**6:28**
5:34	**5:45**	**5:54**	**5:59**	**6:09**	**6:17**	**6:23**	**6:31**	**6:43**
5:54	**6:05**	**6:13**	**6:18**	**6:28**	**6:36**	**6:42**	**6:49**	**7:00**
6:14	**6:25**	**6:33**	**6:38**	**6:48**	**6:56**	**7:02**	**7:09**	**7:20**
6:38	**6:49**	**6:57**	**7:02**	**7:11**	**7:19**	**7:25**	**7:32**	**7:42**
7:08	**7:18**	**7:26**	**7:31**	**7:39**	**7:47**	**7:53**	**8:00**	**8:10**
7:38	**7:48**	**7:55**	**8:00**	**8:08**	**8:16**	**8:22**	**8:28**	**8:38**
8:08	**8:18**	**8:25**	**8:30**	**8:38**	**8:46**	**8:52**	**8:58**	**9:08**
8:38	**8:48**	**8:55**	**9:00**	**9:07**	**9:15**	**9:21**	**9:27**	**9:37**
9:38	**9:48**	**9:55**	**10:00**	**10:07**	**10:15**	**10:21**	**10:27**	**10:37**
10:39	**10:48**	**10:54**	**10:59**	**11:05**	**11:12**	**11:18**	**11:24**	**11:34**
11:39	**11:48**	**11:54**	**11:59**	12:05a	12:12a	12:18a	12:24a	12:34a

Route 933 – Saturday / *sábado*

Otay Mesa ➡ Palm City ➡ Imperial Beach ➡ Nestor ➡ Otay Mesa

Ⓐ Iris Ave. Transit Center **DEPART**	Ⓑ Dennery Rd. @ Walmart	Ⓒ Palm Av. & Beyer Way	Ⓓ Palm Av. Trolley Station	Ⓔ Palm Av. & 9th St.	Ⓕ Imperial Beach Bl. & 4th St.	Ⓖ 13th St. & Iris Av.	Ⓗ Coronado Av. & Hollister St.	Ⓐ Iris Ave. Transit Center **ARRIVE**
5:08a	5:17a	5:24a	5:29a	5:36a	5:43a	5:49a	5:55a	6:05a
6:08	6:17	6:24	6:29	6:36	6:43	6:49	6:56	7:07
6:38	6:47	6:55	7:00	7:08	7:16	7:22	7:29	7:40
7:08	7:17	7:25	7:30	7:38	7:46	7:52	7:59	8:10
7:38	7:47	7:55	8:00	8:08	8:16	8:22	8:29	8:40
7:58	8:07	8:15	8:20	8:28	8:36	8:42	8:49	9:00
8:22	8:31	8:39	8:44	8:53	9:01	9:07	9:14	9:25
8:39	8:48	8:56	9:01	9:10	9:18	9:24	9:31	9:42
8:58	9:07	9:15	9:20	9:29	9:37	9:43	9:50	10:01
9:18	9:28	9:36	9:41	9:50	9:58	10:04	10:11	10:23
9:38	9:48	9:56	10:01	10:10	10:18	10:24	10:31	10:43
9:58	10:08	10:16	10:21	10:30	10:38	10:44	10:51	11:03
10:18	10:28	10:36	10:41	10:50	10:58	11:04	11:11	11:23
10:38	10:48	10:56	11:01	11:10	11:18	11:24	11:31	11:43
10:58	11:08	11:16	11:21	11:30	11:38	11:44	11:51	**12:03p**
11:18	11:28	11:36	11:41	11:50	11:58	**12:04p**	**12:11p**	**12:23**
11:38	11:48	11:56	**12:01p**	**12:10p**	**12:19p**	**12:25**	**12:32**	**12:44**
11:58	**12:08p**	**12:16p**	**12:21**	**12:30**	**12:39**	**12:45**	**12:52**	**1:04**
12:18p	**12:28**	**12:36**	**12:41**	**12:50**	**12:59**	**1:05**	**1:12**	**1:24**
12:38	**12:48**	**12:56**	**1:01**	**1:10**	**1:19**	**1:25**	**1:32**	**1:44**
12:58	**1:08**	**1:16**	**1:21**	**1:30**	**1:39**	**1:45**	**1:52**	**2:04**
1:18	**1:28**	**1:36**	**1:41**	**1:50**	**1:59**	**2:05**	**2:12**	**2:24**
1:38	**1:49**	**1:57**	**2:02**	**2:12**	**2:21**	**2:27**	**2:34**	**2:46**
1:58	**2:09**	**2:17**	**2:22**	**2:32**	**2:41**	**2:47**	**2:54**	**3:06**
2:18	**2:29**	**2:38**	**2:43**	**2:53**	**3:02**	**3:08**	**3:15**	**3:28**
2:38	**2:49**	**2:58**	**3:03**	**3:13**	**3:22**	**3:28**	**3:35**	**3:48**
2:58	**3:09**	**3:18**	**3:23**	**3:33**	**3:42**	**3:48**	**3:55**	**4:08**
3:18	**3:29**	**3:38**	**3:43**	**3:53**	**4:02**	**4:08**	**4:15**	**4:28**
3:38	**3:49**	**3:58**	**4:03**	**4:13**	**4:22**	**4:28**	**4:35**	**4:48**
3:58	**4:09**	**4:18**	**4:23**	**4:33**	**4:42**	**4:48**	**4:55**	**5:08**
4:18	**4:29**	**4:38**	**4:43**	**4:53**	**5:02**	**5:08**	**5:15**	**5:28**
4:38	**4:49**	**4:58**	**5:03**	**5:13**	**5:22**	**5:28**	**5:35**	**5:47**
4:58	**5:09**	**5:18**	**5:23**	**5:33**	**5:42**	**5:48**	**5:55**	**6:07**
5:18	**5:29**	**5:38**	**5:43**	**5:53**	**6:02**	**6:08**	**6:15**	**6:27**
5:38	**5:48**	**5:56**	**6:01**	**6:11**	**6:19**	**6:25**	**6:32**	**6:43**
5:58	**6:08**	**6:16**	**6:21**	**6:31**	**6:39**	**6:45**	**6:52**	**7:03**
6:18	**6:28**	**6:36**	**6:41**	**6:51**	**6:59**	**7:05**	**7:12**	**7:23**
6:38	**6:48**	**6:56**	**7:01**	**7:10**	**7:18**	**7:24**	**7:30**	**7:40**
7:08	**7:18**	**7:25**	**7:30**	**7:38**	**7:46**	**7:52**	**7:58**	**8:08**
7:38	**7:48**	**7:55**	**8:00**	**8:08**	**8:16**	**8:22**	**8:28**	**8:38**
8:08	**8:18**	**8:25**	**8:30**	**8:37**	**8:45**	**8:51**	**8:57**	**9:07**
8:38	**8:48**	**8:55**	**9:00**	**9:07**	**9:15**	**9:21**	**9:27**	**9:37**
9:38	**9:48**	**9:55**	**10:00**	**10:07**	**10:15**	**10:21**	**10:27**	**10:37**
10:39	**10:48**	**10:54**	**10:59**	**11:05**	**11:12**	**11:18**	**11:24**	**11:34**
11:39	**11:48**	**11:54**	**11:59**	12:05a	12:12a	12:18a	12:24a	12:34a

Route 934 – Monday through Friday / *lunes a viernes*

Otay Mesa ➡ Nestor ➡ Imperial Beach ➡ Palm City ➡ Otay Mesa

Ⓐ Iris Ave. Transit Center **DEPART**	Ⓗ Coronado Av. & Hollister St.	Ⓖ 13th St. & Iris Av.	Ⓕ Imperial Beach Bl. & 4th St.	Ⓔ Palm Av. & 9th St.	Ⓓ Palm Av. Trolley Station	Ⓒ Palm Av. & Beyer Way	Ⓑ Dennery Rd. @ Walmart	Ⓐ Iris Ave. Transit Center **ARRIVE**
4:38a	4:47a	4:54a	4:59a	5:05a	5:11a	5:17a	5:23a	5:33a
5:08	5:17	5:24	5:29	5:36	5:43	5:49	5:55	6:07
5:38	5:47	5:54	5:59	6:06	6:14	6:20	6:26	6:39
6:08	6:17	6:24	6:29	6:37	6:45	6:51	6:58	7:12
6:38	6:48	6:56	7:02	7:10	7:19	7:25	7:32	7:46
7:08	7:18	7:27	7:33	7:42	7:51	7:57	8:04	8:18
7:38	7:48	7:57	8:03	8:12	8:21	8:27	8:34	8:48
7:58	8:08	8:17	8:23	8:32	8:41	8:47	8:54	9:08
8:22	8:32	8:40	8:45	8:54	9:02	9:08	9:15	9:28
8:39	8:49	8:57	9:02	9:11	9:19	9:25	9:32	9:45
8:58	9:08	9:16	9:21	9:30	9:38	9:44	9:51	10:04
9:18	9:28	9:36	9:41	9:50	9:58	10:04	10:11	10:24
9:38	9:48	9:56	10:01	10:10	10:18	10:24	10:31	10:44
9:58	10:08	10:16	10:21	10:30	10:38	10:44	10:51	11:04
10:18	10:28	10:36	10:41	10:50	10:58	11:04	11:11	11:24
10:38	10:48	10:56	11:01	11:10	11:18	11:24	11:31	11:44
10:58	11:08	11:16	11:21	11:30	11:38	11:44	11:51	**12:04p**
11:18	11:28	11:36	11:41	11:50	11:58	**12:04p**	**12:11p**	**12:24**
11:38	11:48	11:56	**12:01p**	**12:10p**	**12:18p**	**12:24**	**12:31**	**12:44**
11:58	**12:08p**	**12:16p**	**12:21**	**12:30**	**12:38**	**12:44**	**12:51**	**1:04**
12:18p	**12:28**	**12:36**	**12:41**	**12:50**	**12:58**	**1:04**	**1:11**	**1:24**
12:38	**12:48**	**12:56**	**1:01**	**1:10**	**1:18**	**1:24**	**1:31**	**1:44**
12:58	**1:08**	**1:16**	**1:21**	**1:30**	**1:38**	**1:44**	**1:51**	**2:04**
1:18	**1:28**	**1:36**	**1:41**	**1:50**	**1:58**	**2:04**	**2:11**	**2:24**
1:38	**1:49**	**1:57**	**2:02**	**2:12**	**2:20**	**2:26**	**2:34**	**2:47**
1:58	**2:09**	**2:17**	**2:22**	**2:32**	**2:40**	**2:46**	**2:54**	**3:07**
2:15	**2:26**	**2:35**	**2:40**	**2:50**	**2:59**	**3:06**	**3:15**	**3:29**
2:35	**2:46**	**2:55**	**3:01**	**3:11**	**3:20**	**3:28**	**3:37**	**3:52**
2:55	**3:06**	**3:15**	**3:21**	**3:31**	**3:40**	**3:48**	**3:57**	**4:12**
3:14	**3:25**	**3:34**	**3:40**	**3:50**	**3:59**	**4:07**	**4:16**	**4:31**
3:34	**3:45**	**3:54**	**4:00**	**4:10**	**4:19**	**4:27**	**4:36**	**4:51**
3:54	**4:05**	**4:14**	**4:20**	**4:30**	**4:39**	**4:47**	**4:56**	**5:11**
4:14	**4:25**	**4:34**	**4:40**	**4:50**	**4:59**	**5:07**	**5:16**	**5:31**
4:34	**4:45**	**4:54**	**5:00**	**5:11**	**5:19**	**5:26**	**5:34**	**5:48**
4:54	**5:05**	**5:14**	**5:20**	**5:31**	**5:39**	**5:46**	**5:54**	**6:08**
5:14	**5:25**	**5:34**	**5:40**	**5:51**	**5:59**	**6:06**	**6:14**	**6:28**
5:34	**5:45**	**5:54**	**5:59**	**6:09**	**6:17**	**6:23**	**6:31**	**6:43**
5:54	**6:05**	**6:13**	**6:18**	**6:28**	**6:36**	**6:42**	**6:49**	**7:00**
6:14	**6:25**	**6:33**	**6:38**	**6:48**	**6:56**	**7:02**	**7:09**	**7:20**
6:38	**6:49**	**6:57**	**7:02**	**7:11**	**7:19**	**7:25**	**7:32**	**7:42**
7:08	**7:18**	**7:26**	**7:31**	**7:39**	**7:47**	**7:53**	**8:00**	**8:10**
7:38	**7:48**	**7:55**	**8:00**	**8:08**	**8:16**	**8:22**	**8:28**	**8:38**
8:08	**8:18**	**8:25**	**8:30**	**8:38**	**8:46**	**8:52**	**8:58**	**9:08**
8:38	**8:48**	**8:55**	**9:00**	**9:07**	**9:15**	**9:21**	**9:27**	**9:37**
9:38	**9:48**	**9:55**	**10:00**	**10:07**	**10:15**	**10:21**	**10:27**	**10:37**
10:39	**10:48**	**10:54**	**10:59**	**11:05**	**11:12**	**11:18**	**11:24**	**11:34**
11:39	**11:48**	**11:54**	**11:59**	12:05a	12:12a	12:18a	12:24a	12:34a

Route 934 – Saturday / *sábado*

Otay Mesa ➡ Nestor ➡ Imperial Beach ➡ Palm City ➡ Otay Mesa

Ⓐ Iris Ave. Transit Center **DEPART**	Ⓗ Coronado Av. & Hollister St.	Ⓖ 13th St. & Iris Av.	Ⓕ Imperial Beach Bl. & 4th St.	Ⓔ Palm Av. & 9th St.	Ⓓ Palm Av. Trolley Station	Ⓒ Palm Av. & Beyer Way	Ⓑ Dennery Rd. @ Walmart	Ⓐ Iris Ave. Transit Center **ARRIVE**
5:29a	5:36a	5:42a	5:48a	5:55a	6:02a	6:06a	6:12a	6:22a
5:59	6:06	6:12	6:18	6:25	6:33	6:37	6:43	6:54
6:28	6:36	6:42	6:48	6:56	7:05	7:10	7:16	7:27
6:58	7:06	7:12	7:19	7:27	7:36	7:41	7:47	7:59
7:18	7:27	7:33	7:40	7:49	7:58	8:03	8:09	8:21
7:38	7:47	7:53	8:00	8:09	8:18	8:23	8:29	8:41
7:58	8:07	8:13	8:20	8:29	8:38	8:43	8:49	9:01
8:18	8:27	8:33	8:40	8:49	8:58	9:03	9:09	9:21
8:38	8:47	8:53	9:00	9:09	9:18	9:23	9:29	9:41
8:58	9:07	9:13	9:20	9:29	9:38	9:43	9:49	10:01
9:18	9:27	9:34	9:41	9:50	10:00	10:05	10:12	10:24
9:38	9:47	9:54	10:01	10:10	10:20	10:25	10:32	10:44
9:58	10:07	10:14	10:21	10:30	10:40	10:45	10:52	11:04
10:18	10:27	10:34	10:41	10:50	11:00	11:05	11:12	11:24
10:38	10:47	10:54	11:01	11:10	11:20	11:25	11:32	11:44
10:58	11:07	11:14	11:21	11:30	11:40	11:45	11:52	**12:04p**
11:18	11:27	11:34	11:41	11:51	**12:02p**	**12:07p**	**12:14p**	**12:26**
11:38	11:47	11:54	**12:01p**	**12:11p**	**12:23**	**12:28**	**12:35**	**12:47**
11:58	**12:07p**	**12:14p**	**12:21**	**12:31**	**12:43**	**12:48**	**12:55**	**1:07**
12:18p	**12:27**	**12:34**	**12:41**	**12:51**	**1:03**	**1:08**	**1:15**	**1:27**
12:38	**12:47**	**12:54**	**1:01**	**1:11**	**1:23**	**1:28**	**1:35**	**1:47**
12:58	**1:07**	**1:14**	**1:21**	**1:31**	**1:43**	**1:48**	**1:55**	**2:07**
1:18	**1:27**	**1:34**	**1:41**	**1:51**	**2:03**	**2:08**	**2:15**	**2:27**
1:38	**1:47**	**1:54**	**2:01**	**2:11**	**2:23**	**2:28**	**2:36**	**2:48**
1:58	**2:07**	**2:14**	**2:21**	**2:31**	**2:43**	**2:48**	**2:56**	**3:08**
2:18	**2:27**	**2:34**	**2:41**	**2:51**	**3:03**	**3:08**	**3:16**	**3:28**
2:38	**2:47**	**2:54**	**3:01**	**3:11**	**3:23**	**3:28**	**3:36**	**3:48**
2:58	**3:07**	**3:14**	**3:21**	**3:31**	**3:43**	**3:48**	**3:56**	**4:08**
3:18	**3:27**	**3:34**	**3:41**	**3:51**	**4:03**	**4:08**	**4:16**	**4:28**
3:38	**3:47**	**3:54**	**4:01**	**4:11**	**4:23**	**4:28**	**4:36**	**4:48**
3:58	**4:07**	**4:14**	**4:21**	**4:31**	**4:41**	**4:46**	**4:54**	**5:06**
4:18	**4:27**	**4:34**	**4:41**	**4:51**	**5:01**	**5:06**	**5:14**	**5:26**
4:38	**4:47**	**4:54**	**5:01**	**5:11**	**5:21**	**5:26**	**5:34**	**5:46**
4:58	**5:07**	**5:14**	**5:21**	**5:31**	**5:41**	**5:46**	**5:54**	**6:06**
5:18	**5:27**	**5:34**	**5:40**	**5:50**	**6:00**	**6:05**	**6:13**	**6:25**
5:38	**5:47**	**5:54**	**6:00**	**6:10**	**6:20**	**6:25**	**6:33**	**6:45**
5:58	**6:07**	**6:14**	**6:20**	**6:29**	**6:39**	**6:44**	**6:52**	**7:03**
6:18	**6:27**	**6:34**	**6:40**	**6:49**	**6:59**	**7:04**	**7:12**	**7:23**
6:38	**6:47**	**6:54**	**7:00**	**7:09**	**7:19**	**7:24**	**7:32**	**7:43**
6:58	**7:07**	**7:14**	**7:20**	**7:29**	**7:38**	**7:43**	**7:50**	**8:01**
7:28	**7:37**	**7:44**	**7:50**	**7:58**	**8:07**	**8:12**	**8:19**	**8:30**
7:58	**8:07**	**8:13**	**8:19**	**8:27**	**8:35**	—	—	—
8:44	**8:52**	**8:58**	**9:04**	**9:12**	**9:20**	**9:25**	**9:31**	**9:42**
9:43	**9:51**	**9:57**	**10:03**	**10:11**	**10:18**	**10:23**	**10:29**	**10:40**
10:43	**10:51**	**10:57**	**11:03**	**11:11**	**11:18**	**11:23**	**11:29**	**11:40**
11:59	12:06a	12:12a	12:17a	12:25a	12:32a	12:37a	12:43a	12:54a

Appendix D

City of San Diego Roadway Segment Capacity Table

Roadway Segment LOS by Classification and Average Daily Traffic (ADT)

Table Appendix F-1 provides street classifications and associated LOS thresholds dependent on the roadway's average daily traffic (ADT).

TABLE APPENDIX F-1

ROADWAY CLASSIFICATIONS, LOS, AND AVERAGE DAILY TRAFFIC (ADT)

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Expressway	8 lanes	40,000	56,000	80,000	93,500	107,000
Expressway	7 lanes	35,000	49,000	70,000	82,000	93,500
Expressway	6 lanes	30,000	42,000	60,000	70,000	80,000
Prime Arterial[1]	8 lanes	35,000	50,000	70,000	75,000	80,000
Prime Arterial[1]	7 lanes	30,000	42,500	60,000	65,000	70,000
Prime Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Prime Arterial[10]	5 lanes	20,000	28,000	40,000	45,000	50,000
Prime Arterial[11]	4 lanes	17,500	24,500	35,000	40,000	45,000
Major Arterial[2]	7 lanes	22,500	31,500	45,000	50,000	55,000
Major Arterial	6 lanes	20,000	28,000	40,000	45,000	50,000
Major Arterial[3]	5 lanes	17,500	24,500	35,000	40,000	45,000
Major Arterial	4 lanes	15,000	21,000	30,000	35,000	40,000
Major Arterial	3 lanes	11,250	15,750	22,500	26,250	30,000
Major Arterial	2 lanes	7,500	10,500	15,000	17,500	20,000
Major Arterial *(one-way)*[4]	3 lanes	12,500	16,500	22,500	25,000	27,500
Major Arterial *(one-way)*[5]	2 lanes	10,000	13,000	17,500	20,000	22,500

STREET CLASSIFICATION	LANES	LEVEL OF SERVICE				
		A	B	C	D	E
Collector *(with two-way left turn lane)*	5 lanes	12,500	17,500	25,000	30,750	37,500
Collector *(with two-way left turn lane)*	4 lanes	10,000	14,000	20,000	25,000	30,000
Collector *(with two-way left turn lane)*	3 lanes	7,500	10,500	15,000	18,750	22,500
Collector *(with two-way left turn lane)*	2 lanes	5,000	7,000	10,000	13,000	15,000
Collector *(without two-way left turn lane)*	4 lanes	5,000	7,000	10,000	13,000	15,000
Collector *(without two-way left turn lane)*[6]	3 lanes	4,000	5,000	7,500	10,000	11,000
Collector *(without two-way left turn lane)*	2 lanes	2,500	3,500	5,000	6,500	8,000
Collector *(with no fronting property)*	2 lanes	4,000	5,500	7,500	9,000	10,000
Collector *(one-way)*[7]	3 lanes	11,000	14,000	19,000	22,500	26,000
Collector *(one-way)*[8]	2 lanes	7,500	9,500	12,500	15,000	17,500
Collector *(one-way)*[9]	1 lane	2,500	3,500	5,000	6,500	7,500
Sub-Collector *(Single-family)*	2 lanes	--	--	2,200	--	--

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

[1]Calculated assuming that each additional lane above a 6-Ln Arterial adds 5,000 ADT for LOS A, 7,500 ADT for LOS B and 10,000 ADT for LOS C, D, and E

[2]Calculated assuming that ADT is 1/2 way between steps of a 6-Ln Major Arterial & 6 Ln Prime Arterial

[3]Calculated assuming that ADT is 1/2 way between steps of a 4-Ln Major Arterial & 6 Ln Major Arterial

[4]Calculated using: Capacity = 0.5 (6-Ln Major (2-way) + Added Capacity of 2,500 ADT)

[5]Calculated using: Capacity = 0.5 (4-Ln Major (2-way) + Added Capacity of 2,500 ADT)

[6]Calculated using: Capacity = 4-Ln Collector (no center lane) * (3/4)

[7]Calculated using: Capacity = 2-Ln Collector (one-way) * (3/2)

[8]Calculated using: Capacity = 0.5 (4-Ln Collector w/continuous left turn lane) + Added Capacity of 2,500 ADT)

[9]Calculated using: Capacity = 0.5 (2-Ln Collector w/ continuous left turn lane). Capacity took into account parking friction from both sides of roadway

[10] Calculated by applying same differences between 8-Ln Prime & 7-Ln Prime & 7-Ln Prime & 6-Ln Prime

[11] Calculated assuming ratio between 6-Ln Prime & 6-Ln Major applied to 4-Ln Major

Appendix E

Excerpts from City of San Diego TSM for Roadway Improvement Criteria

The City of SAN DIEGO

Transportation Study Manual (TSM)

DATE: 09/29/2020

Local Mobility Analysis (LMA)

The Local Mobility Analysis (LMA) evaluates the effects of a development project on mobility, access, circulation, and related safety elements in the proximate area of the project. The LMA has the following objectives:

- Ensures that improvements identified in the Community Plan that support multi-modal circulation and access are constructed when needed.
- Identifies improvements needed to support and promote active transportation and transit modes.
- Ensures the project provides connections to the active transportation network and transit system.
- Addresses issues related to operations and safety for all transportation modes.

DETERMINING STUDY REQUIREMENTS

Screening Criteria

All projects must complete an LMA unless they meet the following screening criteria:

- Consistent with community plan and zoning designation and generates less than 1,000 daily unadjusted driveway vehicle trips
- Inconsistent with community plan or zoning designation and generates less than 500 daily unadjusted driveway vehicle trips
- Within the Downtown Community Planning Area and generates less than 2,400 daily unadjusted trips.[5]

The screening criteria provided serve as a guide to determine study requirements. City staff may determine additional study requirements apply due to location, project complexity, local transportation system complexity, or other local context. City staff will provide a written response to

[5] Projects that exceed this threshold shall comply with mitigation measure TRF-A.1.1-2 of the Downtown Community Plan & Downtown Mobility Plan FEIR/SEIR Mitigation Monitoring and Reporting Program.

the PIF and request a meeting with the applicant/consultant if the City has identified the need to perform an LMA despite meeting the screening criteria listed above.

Extents of Study

The extents of the LMA study will be determined for each mode as follows:

- Pedestrian: Documentation of pedestrian facilities and basic deficiencies (missing sidewalk, curb ramps, and major obstructions) within ½ mile walking distance measured from each pedestrian access point (for example, driveways, internal project sidewalk connections to the street, etc.).
- Bicycle: Documentation of bicycle facilities and basic deficiencies (bike lane gaps, obstructions) within ½ mile bicycling distance measured from the center of the intersection formed by each project driveway.
- Transit: Identification of the closest transit routes and stops to the project. If the transit stops are within ½ mile walking distance of each pedestrian access point, the condition of the stop amenities must be described/evaluated.
- Intersection Operations: Intersections are focal points within a mobility network where multiple modes interact and at times, conflict, in their movements. Understanding intersection operations is essential for understanding circulation and safety for all modes that traverse through the intersection.
    - For Projects that generate less than 2,400 daily final driveway[6] trips the typical study intersections are as follows:
        - All signalized intersections and signalized project driveways located within ½ mile path of travel distance measured from the center of the intersection formed by each project driveway AND the project will add 50 or more peak hour final primary (cumulative) trips[6] to any turning movement at the intersection.
        - All unsignalized intersections (side street stop controlled, all-way stop-controlled, and roundabouts) and unsignalized project driveways located within ½ mile path of travel distance measured from the center of the

[6] Refer to the trip generation chart in the Study Initiation chapter for trip generation definitions.

intersection formed by each project driveway AND the project will add 50 or more peak hour final primary (cumulative) trips[6] in either direction.

- All freeway ramp terminal intersections where a project adds 50 or more peak hour final primary (cumulative) (AM or PM)[6] net new trips in either direction must be analyzed regardless of their distance from the project site.

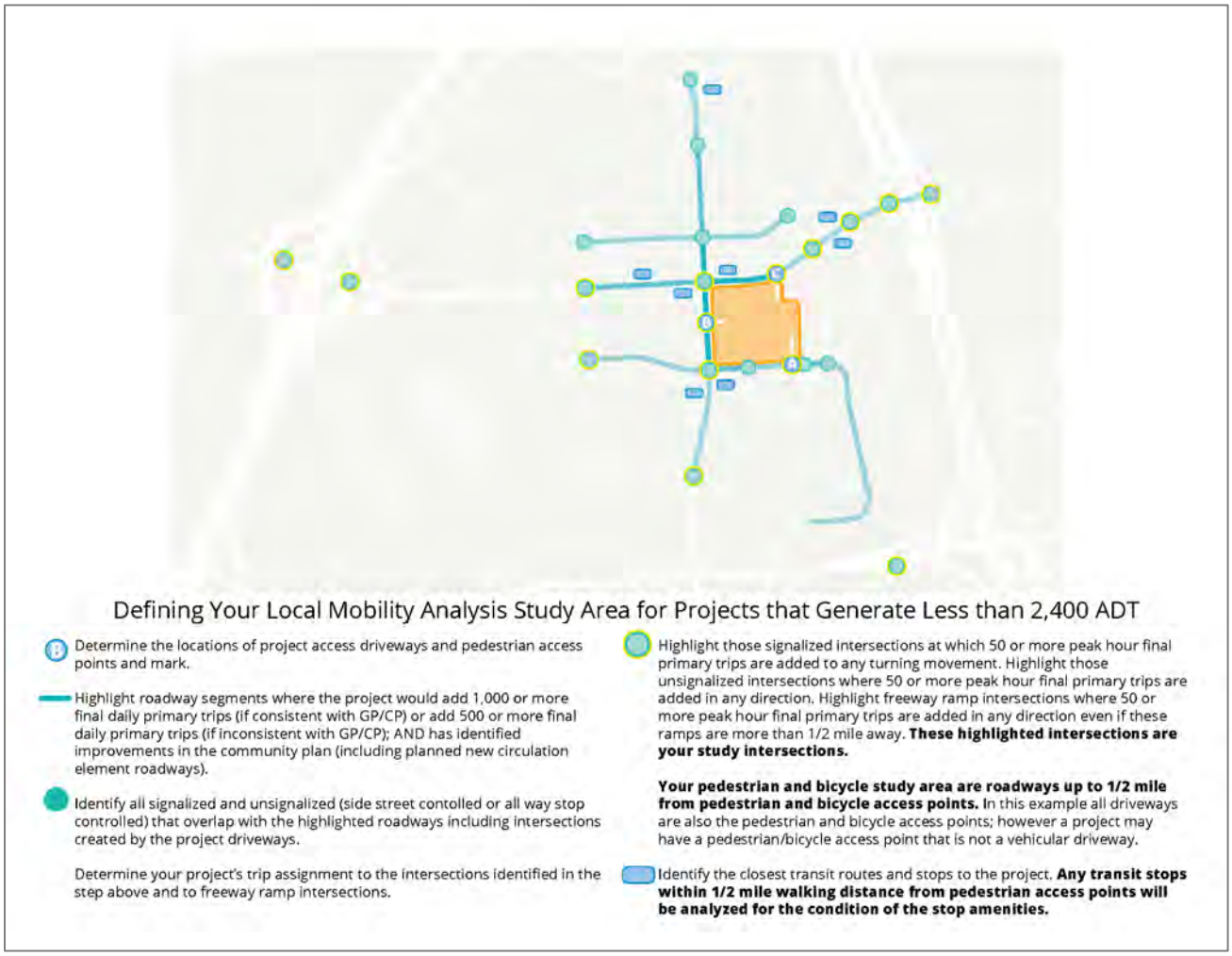
o For Projects that generate more than 2,400 daily final driveway[6] trips the typical study intersections are as follows:

- All signalized intersections and signalized project driveways where the project will add 50 or more peak hour final primary (cumulative) trips[6] to any turning movement at the intersection.
- All unsignalized intersections (side street stop controlled, all-way stop-controlled, and roundabouts) and unsignalized project driveways where the project will add 50 or more peak hour final primary (cumulative) trips[6] on any approach.
- All freeway ramp terminal intersections where a project adds 50 or more peak hour final primary (cumulative) (AM or PM)[6] net new trips on any approach must be analyzed regardless of their distance from the project site.

- Roadway Segments: The study area should include any roadway segments where the project adds 1,000 or more daily final primary trips (cumulative trips)[6] if consistent with the Community Plan, or 500 or more daily final primary trips (cumulative trips) [6] if inconsistent with the Community Plan AND:
  - o Have improvements identified in the community plan; OR
  - o Not built to the community plan ultimate classification (including planned new circulation element roadways).
- City staff may determine additional study requirements apply due to location, project complexity, local transportation system complexity, or other local context.

For purposes of determining the extent of a the LMA, a project applicant may not segment or piecemeal project submittals to avoid studying a greater project area. If two or more adjacent and similar (in land uses and/or applicant/owner) are submitted as two separate projects within a two-year timeframe of each other, City staff may determine if a larger study area is needed based on the combined trip generation of the projects.

The following graphic provides additional guidance on determining the extents of the study for a project that generates less than 2,400 final daily driveway trips.



Study Scenarios

The following scenarios should be evaluated for the LMA:

- Existing Conditions
- Opening Year No Project Conditions: Analysis of the project's opening year. The traffic volumes should include any reasonably foreseeable projects and/or other ambient growth (background traffic that occurs naturally due to general population growth). Historical growth rates should be used to estimate ambient growth.

- Opening Year Plus Project Conditions: Analysis of the opening year volumes generated in the step above plus the project generated traffic.
- Phased Analysis: If the project is a large multi-phased development in which several stages of development activity are planned, each phase of the project may need to be evaluated to coincide with each major stage of development or increment of area transportation improvements. For example: Existing, Opening Year of Phase 1, Opening Year of Phase 2, etc.
- Horizon Year Analysis (Community Plan Amendments or Rezones): If the project requires a Community Plan Amendment or a rezone, community buildout horizon year analysis may be required. Coordinate with the Development Services Department's Transportation Development Section staff for study scenario requirements related to Community Plan Amendments or rezones.

Study Periods

The following study periods shall be analyzed:

- The morning and afternoon peak commute hours are analyzed, unless the land use is atypical and an alternate/additional study period is identified by City Staff. The peak hours are based on traffic counts (the procedure for collecting counts is described in the following section). For typical commute hours, the peak hour will fall between 7:00-9:00 AM and 4:00-6:00 PM.
- For areas near beaches or Mission Bay, the peak hours are during summer months (between Memorial Day and Labor Day, when public schools are not in session).
- Other timeframes may be required based on the project land uses and unique characteristics of the project.

CONDUCTING THE LOCAL MOBILITY ANALYSIS

Identifying Existing Conditions

A project is required to document the existing conditions of the local mobility system in the study area as identified in the "Extents of Study" section above, including field observations of biking, walking, transit, and roadway conditions/operations during study periods.

Existing conditions may include, but are not limited to, the following areas:

- Field Reconnaissance of:
  - Pedestrian facilities and observations on use of facilities
  - Bicycle facilities and observations on use of facilities
  - Location of nearby transit stops and observations of use of facilities
  - Roadway configurations, geometric features, sight distance, intersection lane configurations, intersection operations, presence of closely spaced or offset driveways or intersections, uneven lane utilization
  - Length of available turn lane storage and observations of typical maximum vehicle queues
  - Confirmation of traffic signal phasing and timing (from plans obtained from the City or Caltrans)
  - Adjacent land uses
  - Ramp meter queues and spill back onto local streets
- Transportation Data Collection
  - New transportation data is required if available data is older than two years, or if warranted by other changes in built environment conditions.
  - Pedestrian Counts: For each crosswalk leg at each study intersection.
  - Bicycle Counts: Turning movement counts at each study intersection.
  - Transit stations, routes, provision of bus-only lanes and/or turn-outs, and schedules.
  - Study period traffic counts: For typical commute hours, intersection turning movement data should be collected on Tuesday, Wednesday, or Thursday between 7:00-9:00 AM and 4:00-6:00 PM during non-holiday periods and not on the week of a holiday under fair

weather conditions. Counts should be taken when school is in session. Any intersection counts should include pedestrian and bicycle counts. For areas near beaches or Mission Bay, counts should be taken during summer months (between Memorial Day and Labor Day when public school is not in session) or should be adjusted to reflect typical summer conditions. Any deviation should be discussed with City Staff.

- If the project is a redevelopment project of which the existing uses are in operation at the time that the transportation data is collected, the trips associated with the existing use should be calculated by conducting driveway counts at all existing site driveways. The site trips should then be distributed to the study intersections and subtracted from the intersection traffic counts to represent the traffic volumes that would be present if the existing use were not in operation.

Analysis Methodology

Pedestrian Analysis

Pedestrian analysis should primarily focus on pedestrian connectivity, walkshed analysis, presence of adequate facilities, etc. However, in dense, urban environments featuring substantial pedestrian volumes, analysis of pedestrian facilities (i.e., sidewalks and crosswalks) may be required in accordance with the latest version of the HCM. Mid-block pedestrian crossing treatments should also be evaluated using available research and recommendations. Applicants should coordinate with the Development Services Department's Transportation Development Section on the need to perform HCM pedestrian analysis.

Bicycle Analysis

Project effects on existing and proposed bicycle facilities should be reviewed in consideration of the following:

- Bicycle analysis should primarily focus on bicycle connectivity, bikeshed analysis, presence of adequate facilities, etc.
- Consistency with the City's Bicycle Master Plan and the Community's Bicycle Mobility Element
- On-site bike parking supply as well as bikeshare bicycles that may be parked/stored on public sidewalks

Transit Analysis

Project effects on the transportation system should be evaluated in consideration of the following:

- Increased travel time for buses that could adversely affect on-time performance (intersection delay, corridor delay, movement delay (for transit))
- Conflicts (e.g., weaving, sight distance, etc.) involving buses at stop due to nearby driveways
- Planned and/or proposed transit improvements and stops identified in community plans, the RTIP and/or RTP within the study area

Project effects on transit system ridership is not typically considered an issue but may be evaluated under special circumstances (e.g., new office building along a bus line that already has substantial peak period ridership).

Systemic Safety Review

Study intersections should be compared to the City of San Diego Systemic Safety: The Data-Driven Path to Vision Zero [7] report to determine if a study intersection meets any hot spot criteria identified in Appendix C: Identification of Systemic Hotspots of the report. If a study intersection meets any of the criteria, the applicant should evaluate any potential countermeasures and coordinate with the Development Services Department Transportation Development Section staff to determine appropriate intersection improvements.

Signalized Intersections

Traffic operational impacts at signalized intersections shall be analyzed using standard or state-of-the-practice procedures consistent with the latest edition of the Highway Capacity Manual (HCM) published by the Transportation Research Board.

The following provides general guidelines for the parameters necessary to perform the analysis. For existing and opening year conditions within five years of commencement of the LMA, the parameters should generally be based on field measurements taken during traffic data collection or field

[7] https://www.sandiego.gov/sites/default/files/systemic-safety-the-data-driven-path-to-vision-zero.pdf

Appendix F

Otay Mesa and Otay Mesa-Nestor Community Plan Roadway Classifications

Otay Mesa
Community Plan Update



Planning, Neighborhoods & Economic Development Department

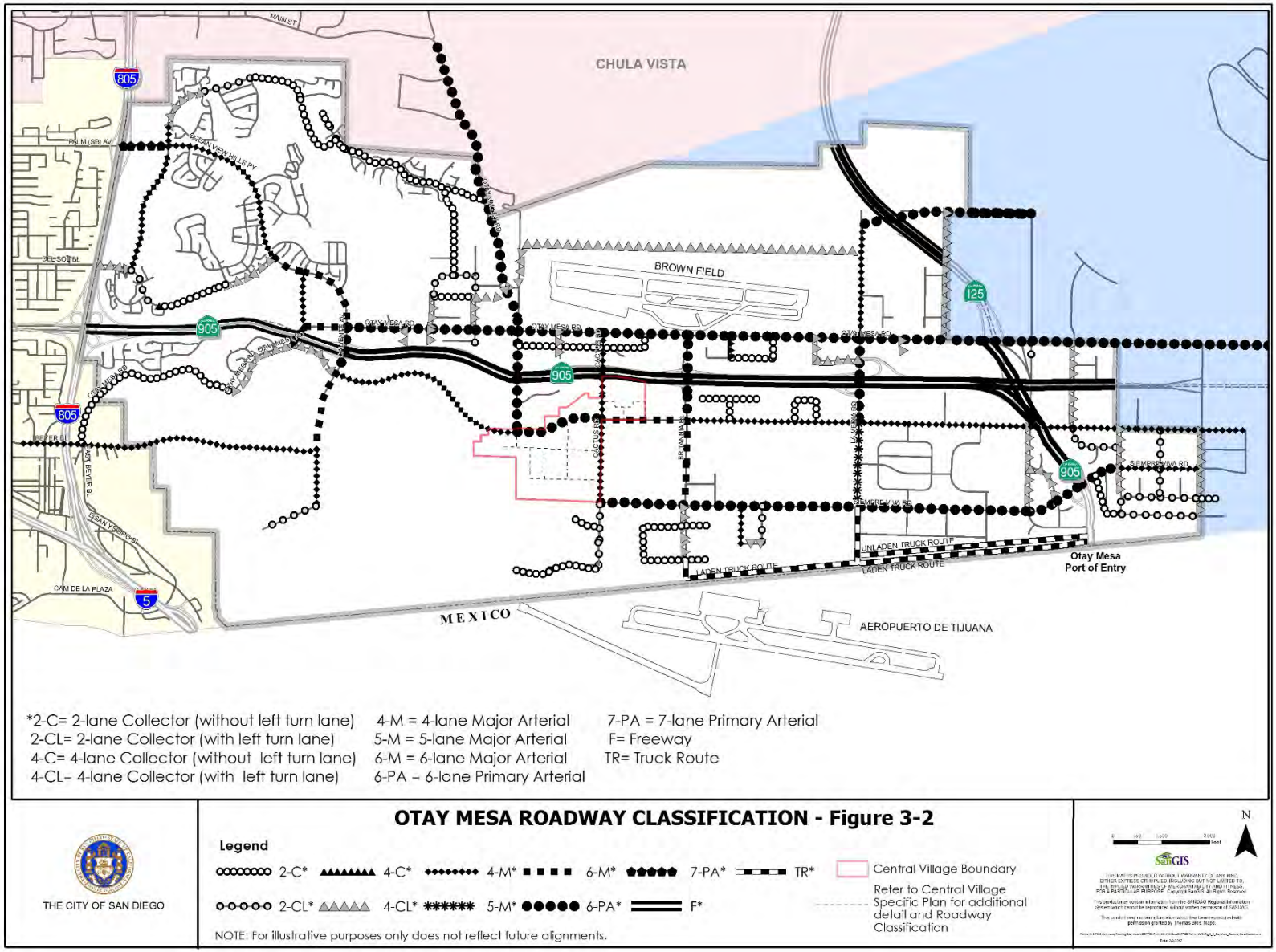
March 11, 2014

City of San Diego

OTAY MESA COMMUNITY PLAN

Amendment	Date Approved by Planning Commission	Resolution Number	Date Adopted by City Council	Resolution Number
Otay Mesa Community Plan Adopted	February 13, 2014		March 11, 2014	R-308810
Corrections to address inconsistencies between the Land Use and Zoning Map. Minor map and text corrections to show land use and the removal of paper streets from map figures	April 30, 2015	R-4685	June 2, 2015	R-309773
Otay Mesa Central Village Specific Plan Adopted	February 23, 2017		April 13, 2017	R-311020

Editor's note: After the adoption of the Otay Mesa Community Plan, it was noticed that Figure 3-2 depicted the street classifications for Otay Pacific Drive, Otay Pacific Place, and Las Californias incorrectly; these streets were classified pursuant to City Council Resolution R-307235 on January 10, 2012, which the reclassification was not captured in all places in the Otay Mesa Community Update documents, including Figure 3-2; and therefore, Figure 3-2 in Document Number R-308810 is replaced with Figure 3-2.


CHULA VISTA
BROWN FIELD
MEXICO
AEROPUERTO DE TIJUANA
Otay Mesa
Port of Entry
UNLADEN TRUCK ROUTE
LADEN TRUCK ROUTE
*2-C= 2-lane Collector (without left turn lane)
2-CL= 2-lane Collector (with left turn lane)
4-C= 4-lane Collector (without left turn lane)
4-CL= 4-lane Collector (with left turn lane)
4-M = 4-lane Major Arterial
5-M = 5-lane Major Arterial
6-M = 6-lane Major Arterial
6-PA = 6-lane Primary Arterial
7-PA = 7-lane Primary Arterial
F= Freeway
TR= Truck Route
OTAY MESA ROADWAY CLASSIFICATION - Figure 3-2
Legend
2-C* 4-C* 4-M* 6-M* 7-PA* TR*
2-CL* 4-CL* 5-M* 6-PA* F*
Central Village Boundary
Refer to Central Village Specific Plan for additional detail and Roadway Classification
NOTE: For illustrative purposes only does not reflect future alignments.
THE CITY OF SAN DIEGO
N

OTAY MESA-NESTOR

COMMUNITY PLAN

Printed on recycled paper.

This information, or this document (or portions thereof), will be made available in alternative formats upon request.

OTAY MESA-NESTOR COMMUNITY PLAN

The following amendments have been incorporated into this March 2007 posting of this Plan:

Amendment	Date Approved by Planning Commission	Resolution Number	Date Adopted by City Council	Resolution Number
Adopted the Otay Mesa-Nestor Community Plan Update	December 12, 1996	2331-PC	May 6, 1997	R-288632
Certified Environmental Negative Declaration No. 95-0233 on May 6, 1997 by R-288630				
Certified by the California Coastal Commission on August 13, 1997 by Amendment No. 1-97B/Otay Mesa-Nestor Community Plan				

(**Editors Note:** In an effort to create a single, comprehensive document, this Otay Mesa-Nestor Community Plan has been reformatted.)

Street Classification with Future Traffic Volumes

Otay Mesa-Nestor Community Plan

5 FIGURE

Appendix G

Count Data

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: I-805 SB Ramps
E/W: Palm Avenue

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	I-805 SB Ramps Northbound			I-805 SB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	108	0	99	0	165	30	69	61	0	532
7:15 AM	0	0	0	157	1	174	0	217	35	71	87	0	742
7:30 AM	0	0	0	185	1	145	0	217	43	77	107	0	775
7:45 AM	0	0	0	197	0	149	0	252	57	69	77	0	801
8:00 AM	0	0	0	220	0	142	0	253	52	56	85	0	808
8:15 AM	0	0	0	234	0	99	0	215	46	59	72	0	725
8:30 AM	0	0	0	167	0	81	0	190	34	52	78	0	602
8:45 AM	0	0	0	222	0	115	0	139	40	54	53	0	623
TOTAL VOLUMES:	0	0	0	1490	2	1004	0	1648	337	507	620	0	5608

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	759	2	610	0	939	187	273	356	0	3126

PEAK HR FACTOR:	0.000	0.947	0.911	0.855	0.967

Bicycle Counts

	I-805 SB Ramps Northbound			I-805 SB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	1	0	0	3	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	4	0	0	3	0	7

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	1	0	0	3	0	4

Pedestrian Counts

	I-805 SB Ramps North Leg	I-805 SB Ramps South Leg	Palm Avenue East Leg	Palm Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1
7:30 AM	1	0	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	2	0	0	0	2
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	4	2	0	0	6

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	2	1	0	0	3

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: I-805 SB Ramps
E/W: Palm Avenue

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:45 PM to 5:45 PM**

Vehicle Counts

	I-805 SB Ramps Northbound			I-805 SB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	255	2	172	0	194	31	106	124	0	884
4:15 PM	0	0	0	261	0	191	0	210	47	109	128	0	946
4:30 PM	0	0	0	277	1	210	0	226	41	83	118	0	956
4:45 PM	0	0	0	296	0	192	0	205	26	91	115	0	925
5:00 PM	0	0	0	295	2	196	0	224	39	115	112	0	983
5:15 PM	0	0	0	308	0	207	0	189	48	83	109	0	944
5:30 PM	0	0	0	289	3	218	0	199	36	105	108	0	958
5:45 PM	0	0	0	294	2	190	0	197	31	101	100	0	915
TOTAL VOLUMES:	0	0	0	2275	10	1576	0	1644	299	793	914	0	7511

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	1188	5	813	0	817	149	394	444	0	3810

PEAK HR FACTOR:	0.000	0.974	0.918	0.923	0.969

Bicycle Counts

	I-805 SB Ramps Northbound			I-805 SB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	2	0	0	2	0	4

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	2	0	0	2	0	4

Pedestrian Counts

	I-805 SB Ramps North Leg	I-805 SB Ramps South Leg	Palm Avenue East Leg	Palm Avenue West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	1	1	0	0	2
4:30 PM	2	0	0	0	2
4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	5	1	0	0	6

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	2	0	0	0	2

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: I-805 NB Ramps
E/W: Palm Avenue

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	I-805 NB Ramps Northbound			I-805 NB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	15	0	71	0	0	0	137	143	0	0	120	253	739
7:15 AM	23	0	70	0	0	0	169	195	0	0	138	271	866
7:30 AM	33	2	67	0	0	0	174	229	0	0	151	266	922
7:45 AM	17	0	72	0	0	0	172	271	0	0	129	289	950
8:00 AM	22	0	80	0	0	0	177	297	0	0	119	246	941
8:15 AM	19	1	80	0	0	0	155	303	0	0	113	301	972
8:30 AM	21	1	87	0	0	0	127	228	0	0	103	210	777
8:45 AM	14	1	84	0	0	0	89	262	0	0	96	204	750
TOTAL VOLUMES:	164	5	611	0	0	0	1200	1928	0	0	969	2040	6917

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	91	3	299	0	0	0	678	1100	0	0	512	1102	3785

PEAK HR FACTOR:	0.963	0.000	0.938	0.965	0.974

Bicycle Counts

	I-805 NB Ramps Northbound			I-805 NB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	4	0	0	2	0	6

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	I-805 NB Ramps North Leg	I-805 NB Ramps South Leg	Palm Avenue East Leg	Palm Avenue West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	2	0	0	2
TOTAL VOLUMES:	0	4	0	0	4

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	0	0	1

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: I-805 NB Ramps
E/W: Palm Avenue

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:15 PM to 5:15 PM**

Vehicle Counts

	I-805 NB Ramps Northbound			I-805 NB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	37	0	100	0	0	0	129	329	0	0	202	341	1138
4:15 PM	31	0	122	0	0	0	105	359	0	0	202	339	1158
4:30 PM	33	0	106	0	0	0	119	375	0	0	171	308	1112
4:45 PM	34	2	134	0	0	0	131	379	0	0	169	283	1132
5:00 PM	32	2	92	0	0	0	116	401	0	0	198	336	1177
5:15 PM	33	0	103	0	0	0	105	389	0	0	153	345	1128
5:30 PM	30	0	94	0	0	0	107	385	0	0	184	267	1067
5:45 PM	32	0	95	0	0	0	111	380	0	0	171	275	1064
TOTAL VOLUMES:	262	4	846	0	0	0	923	2997	0	0	1450	2494	8976

PM Peak Hr Begins at: 415 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	130	4	454	0	0	0	471	1514	0	0	740	1266	4579

PEAK HR FACTOR:	0.865	0.000	0.960	0.927	0.973

Bicycle Counts

	I-805 NB Ramps Northbound			I-805 NB Ramps Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	0	0	0	1	2

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	1	0	0	0	0	0	1

Pedestrian Counts

	I-805 NB Ramps North Leg	I-805 NB Ramps South Leg	Palm Avenue East Leg	Palm Avenue West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	0	0	1

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: Dennery Road
E/W: Palm Avenue

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	Dennery Road Northbound			Dennery Road Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	188	25	69	13	18	75	130	95	63	79	178	16	949
7:15 AM	198	17	61	3	18	70	119	109	92	68	175	12	942
7:30 AM	182	21	58	3	22	87	164	107	87	48	100	19	898
7:45 AM	220	27	57	8	13	81	135	102	101	42	112	13	911
8:00 AM	189	30	61	11	28	96	127	112	88	46	123	6	917
8:15 AM	195	33	60	6	17	70	148	137	88	64	180	15	1013
8:30 AM	194	22	63	10	17	58	124	132	77	41	125	10	873
8:45 AM	215	18	64	6	15	63	118	128	83	45	120	10	885
TOTAL VOLUMES:	1581	193	493	60	148	600	1065	922	679	433	1113	101	7388

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	786	111	236	28	80	334	574	458	364	200	515	53	3739

PEAK HR FACTOR:	0.932	0.819	0.936	0.741	0.923

Bicycle Counts

	Dennery Road Northbound			Dennery Road Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	3	0	1	0	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	1	0	1	0	0	0	0	0	2	0	4
8:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	5	0	3	0	0	0	0	0	3	0	12

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	1	4	0	3	0	0	0	0	0	3	0	11

Pedestrian Counts

	Dennery Road North Leg	Dennery Road South Leg	Palm Avenue East Leg	Palm Avenue West Leg	TOTAL
7:00 AM	0	0	0	11	11
7:15 AM	0	1	0	5	6
7:30 AM	0	1	0	2	3
7:45 AM	0	0	0	1	1
8:00 AM	0	0	0	2	2
8:15 AM	0	0	1	1	2
8:30 AM	0	0	0	5	5
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	0	2	2	27	31

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	1	6	8

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: Dennery Road
E/W: Palm Avenue

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:30 PM to 5:30 PM**

Vehicle Counts

	Dennery Road Northbound			Dennery Road Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	105	6	31	11	10	119	66	37	37	18	144	5	589
4:15 PM	109	8	52	21	11	128	82	67	54	23	143	9	707
4:30 PM	129	6	47	19	10	128	93	75	57	39	187	10	800
4:45 PM	109	20	57	17	17	108	139	77	48	42	148	15	797
5:00 PM	115	16	76	14	16	107	147	94	52	44	126	11	818
5:15 PM	121	12	43	12	14	76	174	58	70	57	190	22	849
5:30 PM	94	12	26	7	7	56	150	50	75	54	124	9	664
5:45 PM	132	9	32	1	12	66	145	47	61	19	83	6	613
TOTAL VOLUMES:	914	89	364	102	97	788	996	505	454	296	1145	87	5837

PM Peak Hr Begins at: 430 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	474	54	223	62	57	419	553	304	227	182	651	58	3264

PEAK HR FACTOR:	0.907	0.857	0.897	0.828	0.961

Bicycle Counts

	Dennery Road Northbound			Dennery Road Southbound			Palm Avenue Eastbound			Palm Avenue Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	2
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	2	0	1	0	0	4	0	0	2	0	9

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	1	0	1	0	0	1	0	0	0	0	3

Pedestrian Counts

	Dennery Road North Leg	Dennery Road South Leg	Palm Avenue East Leg	Palm Avenue West Leg	TOTAL
4:00 PM	0	0	0	2	2
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1
4:45 PM	0	1	0	1	2
5:00 PM	0	0	0	3	3
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2
5:45 PM	0	1	0	2	3
TOTAL VOLUMES:	0	2	0	11	13

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	0	5	6

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: Dennery Road
E/W: The Landing

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Dennery Road Northbound			Dennery Road Southbound			The Landing Eastbound			The Landing Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	26	4	0	111	0	0	0	0	0	0	5	146
7:15 AM	0	30	1	0	131	0	0	0	0	0	0	7	169
7:30 AM	0	26	3	0	127	0	0	0	0	0	0	8	164
7:45 AM	0	48	8	0	122	0	0	0	0	0	0	11	189
8:00 AM	0	41	5	0	106	0	0	0	0	0	0	4	156
8:15 AM	0	58	5	0	78	0	0	0	0	0	0	1	142
8:30 AM	0	37	6	0	54	0	0	0	0	0	0	6	103
8:45 AM	0	33	3	0	55	0	0	0	0	0	0	1	92
TOTAL VOLUMES:	0	299	35	0	784	0	0	0	0	0	0	43	1161

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	145	17	0	486	0	0	0	0	0	0	30	678

PEAK HR FACTOR:	0.723	0.927	0.000	0.682	0.897

Bicycle Counts

	Dennery Road Northbound			Dennery Road Southbound			The Landing Eastbound			The Landing Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	1	0	0	2

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	1	0	0	0	0	1	0	0	2

Pedestrian Counts

	Dennery Road North Leg	Dennery Road South Leg	The Landing East Leg	The Landing West Leg	TOTAL
7:00 AM	0	1	2	0	3
7:15 AM	0	0	2	0	2
7:30 AM	0	0	1	0	1
7:45 AM	0	0	1	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	3	0	3
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	0	1	10	0	11

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	4	0	4

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: Dennery Road
E/W: The Landing

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:30 PM to 5:30 PM**

Vehicle Counts

	Dennery Road Northbound			Dennery Road Southbound			The Landing Eastbound			The Landing Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	87	14	0	54	0	0	0	0	0	0	2	157
4:15 PM	0	82	5	0	50	0	0	0	0	0	0	2	139
4:30 PM	0	103	9	0	70	0	0	0	0	0	0	5	187
4:45 PM	0	93	8	0	59	0	0	0	0	0	0	3	163
5:00 PM	0	87	12	0	65	0	0	0	0	0	0	1	165
5:15 PM	0	111	12	0	60	0	0	0	0	0	0	2	185
5:30 PM	0	81	12	0	54	0	0	0	0	0	0	5	152
5:45 PM	0	89	8	0	63	0	0	0	0	0	0	3	163
TOTAL VOLUMES:	0	733	80	0	475	0	0	0	0	0	0	23	1311

PM Peak Hr Begins at: 430 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	394	41	0	254	0	0	0	0	0	0	11	700

PEAK HR FACTOR:	0.884	0.907	0.000	0.550	0.936

Bicycle Counts

	Dennery Road Northbound			Dennery Road Southbound			The Landing Eastbound			The Landing Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	3	0	0	0	0	0	0	0	4

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	2	0	0	0	0	0	0	0	2

Pedestrian Counts

	Dennery Road North Leg	Dennery Road South Leg	The Landing East Leg	The Landing West Leg	TOTAL
4:00 PM	0	0	1	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	2	0	2
4:45 PM	0	0	2	0	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1
5:30 PM	0	0	1	0	1
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	0	0	8	0	8

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	5	0	5

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: Red Fin Lane
E/W: Dennery Road

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:00 AM to 8:00 AM**

Vehicle Counts

	Red Fin Lane Northbound			Red Fin Lane Southbound			Dennery Road Eastbound			Dennery Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	12	2	1	0	0	18	4	17	1	1	60	0	116
7:15 AM	16	0	0	0	0	17	10	19	3	0	67	0	132
7:30 AM	12	2	0	0	3	19	13	12	0	0	60	0	121
7:45 AM	16	1	0	1	2	16	10	27	2	0	59	3	137
8:00 AM	9	0	1	0	0	5	12	21	4	0	63	0	115
8:15 AM	4	0	0	0	0	7	20	32	3	0	50	0	116
8:30 AM	6	0	0	0	0	3	8	21	3	0	28	0	69
8:45 AM	7	1	1	0	0	4	5	23	2	0	30	0	73
TOTAL VOLUMES:	82	6	3	1	5	89	82	172	18	1	417	3	879

AM Peak Hr Begins at: 700 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	56	5	1	1	5	70	37	75	6	1	246	3	506

PEAK HR FACTOR:	0.912	0.864	0.756	0.933	0.923

Bicycle Counts

	Red Fin Lane Northbound			Red Fin Lane Southbound			Dennery Road Eastbound			Dennery Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

Pedestrian Counts

	Red Fin Lane North Leg	Red Fin Lane South Leg	Dennery Road East Leg	Dennery Road West Leg	TOTAL
7:00 AM	1	3	1	0	5
7:15 AM	1	7	0	1	9
7:30 AM	0	3	7	1	11
7:45 AM	1	2	4	0	7
8:00 AM	0	0	0	0	0
8:15 AM	2	1	0	1	4
8:30 AM	4	1	0	1	6
8:45 AM	0	1	0	1	2
TOTAL VOLUMES:	9	18	12	5	44

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	3	15	12	2	32

PO Box 1178
Corona, CA 92880
951-268-6268

Location: San Diego
N/S: Red Fin Lane
E/W: Dennery Road

Date: 2/5/2020
Day: WEDNESDAY
Project # 143-20078

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:30 PM to 5:30 PM**

Vehicle Counts

	Red Fin Lane Northbound			Red Fin Lane Southbound			Dennery Road Eastbound			Dennery Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	5	0	0	0	0	10	24	41	13	0	28	1	122
4:15 PM	4	0	1	0	0	8	15	55	9	0	28	0	120
4:30 PM	9	1	1	0	1	10	28	51	8	0	35	0	144
4:45 PM	5	0	2	0	1	10	27	57	10	1	34	2	149
5:00 PM	12	0	1	0	0	11	28	47	9	4	31	0	143
5:15 PM	10	2	0	0	3	7	31	62	3	0	27	1	146
5:30 PM	5	1	3	0	3	6	20	49	8	0	29	1	125
5:45 PM	7	0	0	0	1	10	26	48	5	0	31	1	129
TOTAL VOLUMES:	57	4	8	0	9	72	199	410	65	5	243	6	1078

PM Peak Hr Begins at: 430 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	36	3	4	0	5	38	114	217	30	5	127	3	582

PEAK HR FACTOR:	0.827	0.977	0.940	0.912	0.977

Bicycle Counts

	Red Fin Lane Northbound			Red Fin Lane Southbound			Dennery Road Eastbound			Dennery Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	1	0	1	0	0	0	2	0	0	3	0	7

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	1	0	0	0	0	0	0	2	0	3

Pedestrian Counts

	Red Fin Lane North Leg	Red Fin Lane South Leg	Dennery Road East Leg	Dennery Road West Leg	TOTAL
4:00 PM	1	0	0	0	1
4:15 PM	3	1	2	0	6
4:30 PM	1	2	2	1	6
4:45 PM	2	0	1	5	8
5:00 PM	3	0	0	0	3
5:15 PM	1	2	2	1	6
5:30 PM	1	0	0	0	1
5:45 PM	2	0	0	1	3
TOTAL VOLUMES:	14	5	7	8	34

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	7	4	5	7	23

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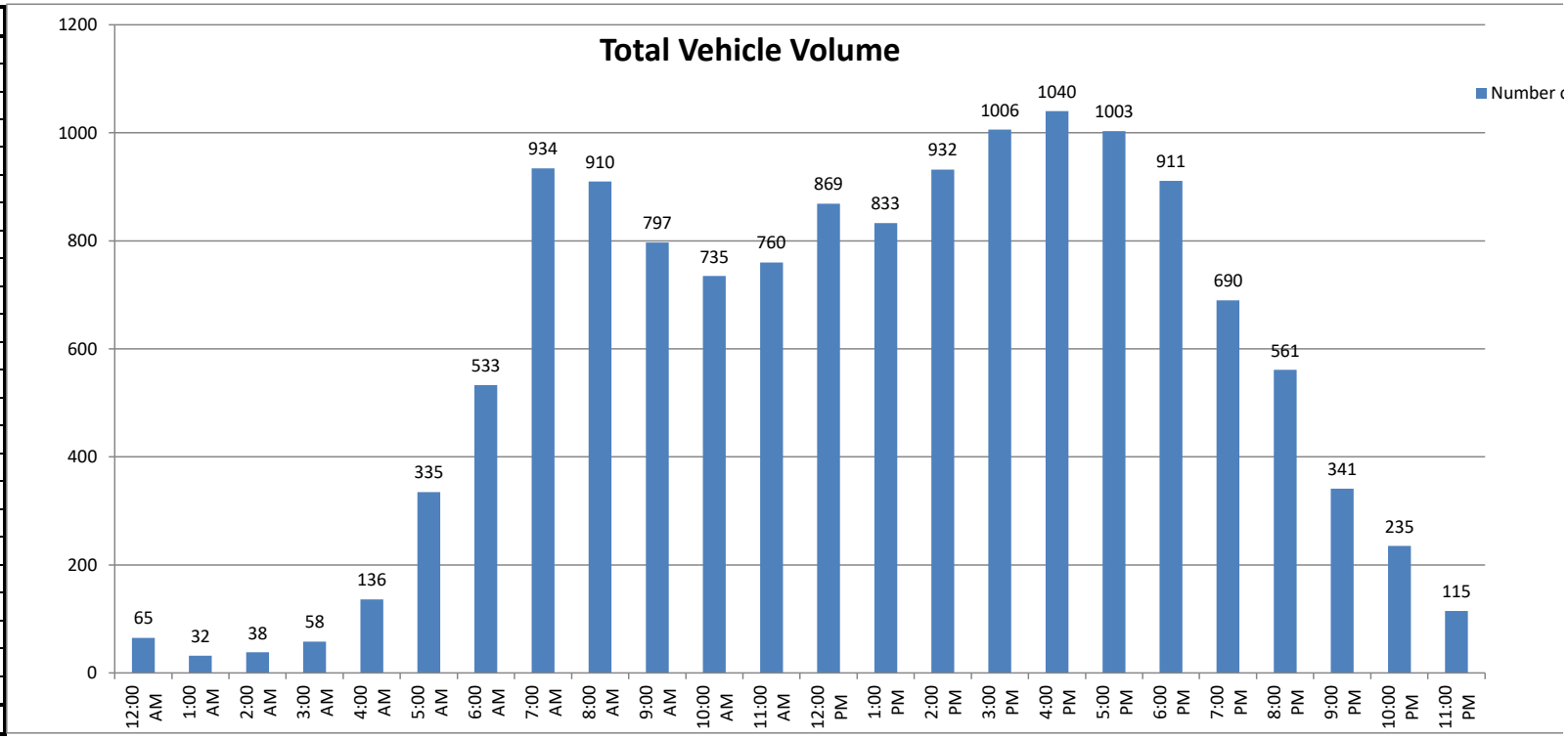
24 Hour Volume Plot

Dennery Road

B/ Palm Avenue - Regatta Lane

2/5/2020

Start Time	2/5/2020
12:00 AM	65
1:00 AM	32
2:00 AM	38
3:00 AM	58
4:00 AM	136
5:00 AM	335
6:00 AM	533
7:00 AM	934
8:00 AM	910
9:00 AM	797
10:00 AM	735
11:00 AM	760
12:00 PM	869
1:00 PM	833
2:00 PM	932
3:00 PM	1006
4:00 PM	1040
5:00 PM	1003
6:00 PM	911
7:00 PM	690
8:00 PM	561
9:00 PM	341
10:00 PM	235
11:00 PM	115
Total	13869



Volumes represent the combined totals for both directions

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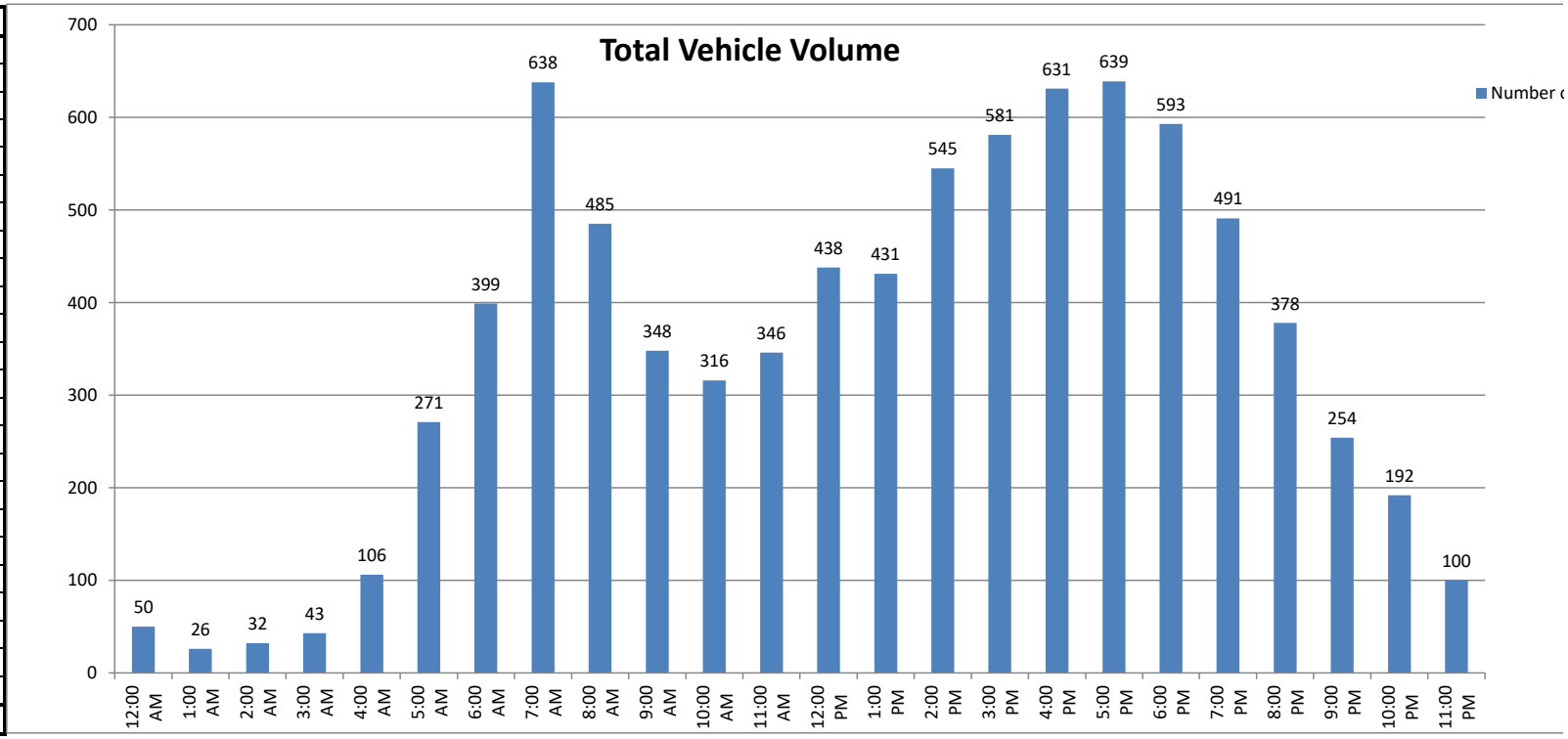
24 Hour Volume Plot

Dennery Road

B/ Regatta Lane - The Landing

2/5/2020

Start Time	2/5/2020
12:00 AM	50
1:00 AM	26
2:00 AM	32
3:00 AM	43
4:00 AM	106
5:00 AM	271
6:00 AM	399
7:00 AM	638
8:00 AM	485
9:00 AM	348
10:00 AM	316
11:00 AM	346
12:00 PM	438
1:00 PM	431
2:00 PM	545
3:00 PM	581
4:00 PM	631
5:00 PM	639
6:00 PM	593
7:00 PM	491
8:00 PM	378
9:00 PM	254
10:00 PM	192
11:00 PM	100
Total	8333



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Phone: 951-268-6268

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Corona, CA 92878

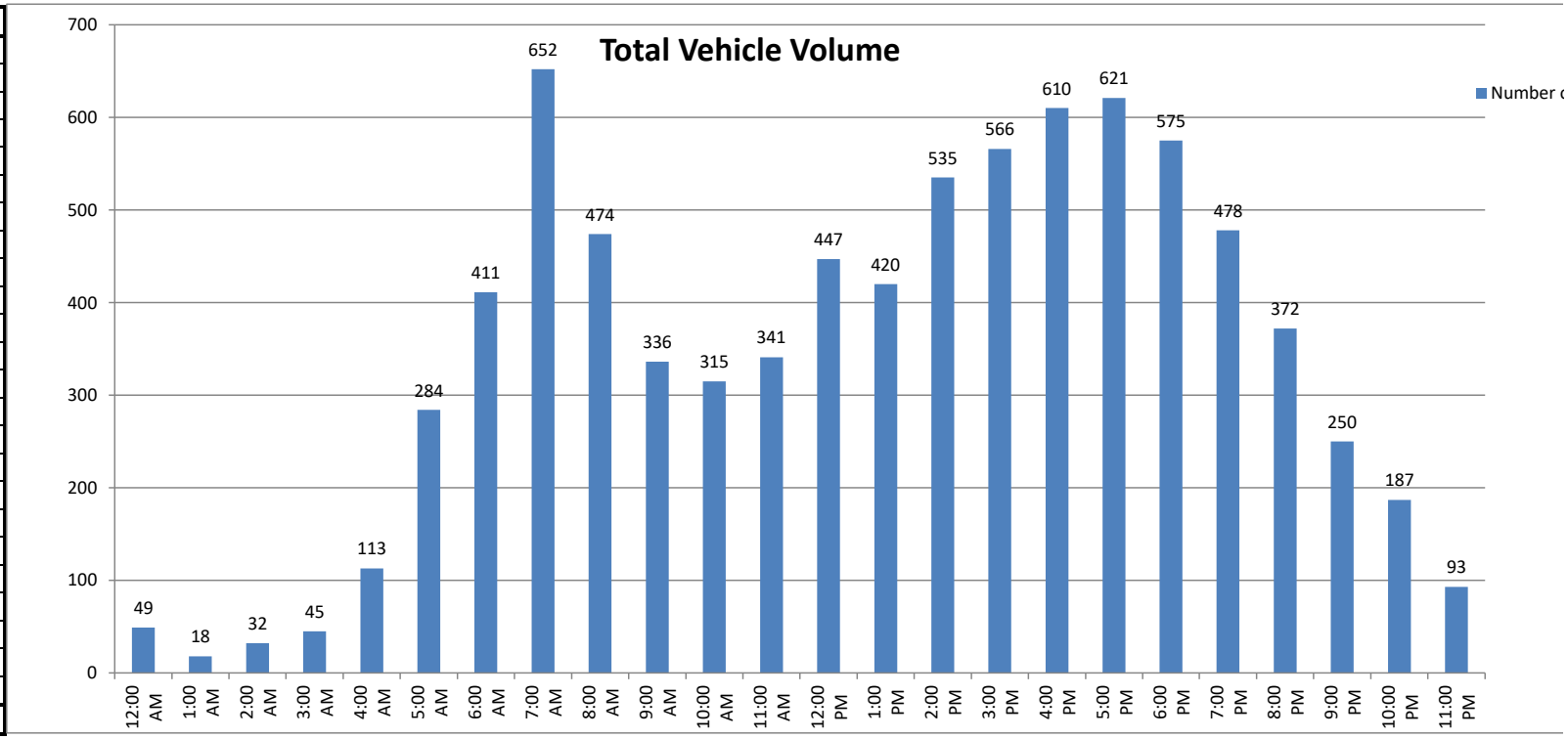
24 Hour Volume Plot

Dennery Road

B/ The Landing - Red Coral Lane

2/5/2020

Start Time	2/5/2020
12:00 AM	49
1:00 AM	18
2:00 AM	32
3:00 AM	45
4:00 AM	113
5:00 AM	284
6:00 AM	411
7:00 AM	652
8:00 AM	474
9:00 AM	336
10:00 AM	315
11:00 AM	341
12:00 PM	447
1:00 PM	420
2:00 PM	535
3:00 PM	566
4:00 PM	610
5:00 PM	621
6:00 PM	575
7:00 PM	478
8:00 PM	372
9:00 PM	250
10:00 PM	187
11:00 PM	93
Total	8224



Volumes represent the combined totals for both directions

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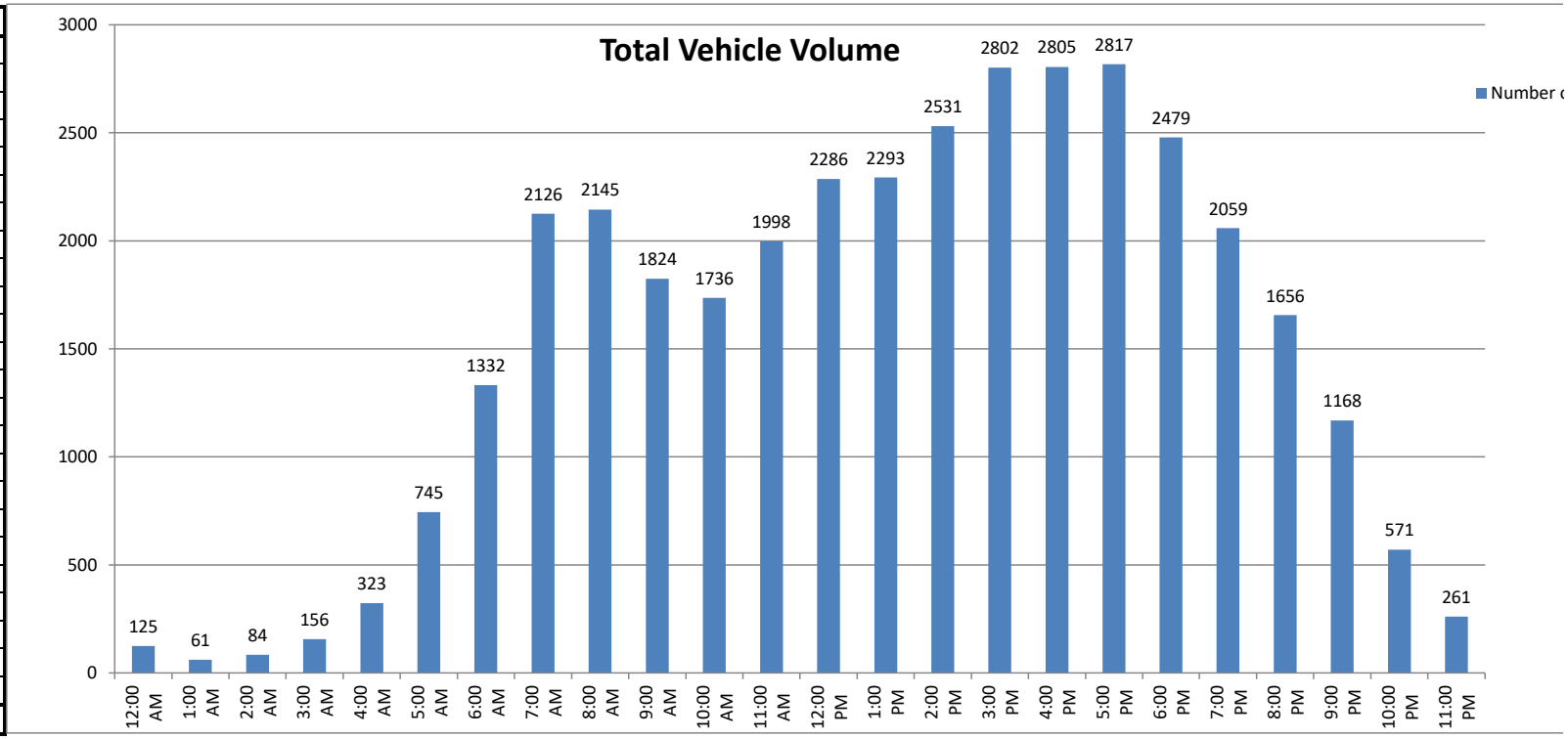
24 Hour Volume Plot

Palm Avenue

B/ I-805 Southbound Ramps - I-805 Northbound Ramps

2/5/2020

Start Time	2/5/2020
12:00 AM	125
1:00 AM	61
2:00 AM	84
3:00 AM	156
4:00 AM	323
5:00 AM	745
6:00 AM	1332
7:00 AM	2126
8:00 AM	2145
9:00 AM	1824
10:00 AM	1736
11:00 AM	1998
12:00 PM	2286
1:00 PM	2293
2:00 PM	2531
3:00 PM	2802
4:00 PM	2805
5:00 PM	2817
6:00 PM	2479
7:00 PM	2059
8:00 PM	1656
9:00 PM	1168
10:00 PM	571
11:00 PM	261
Total	36383



Volumes represent the combined totals for both directions

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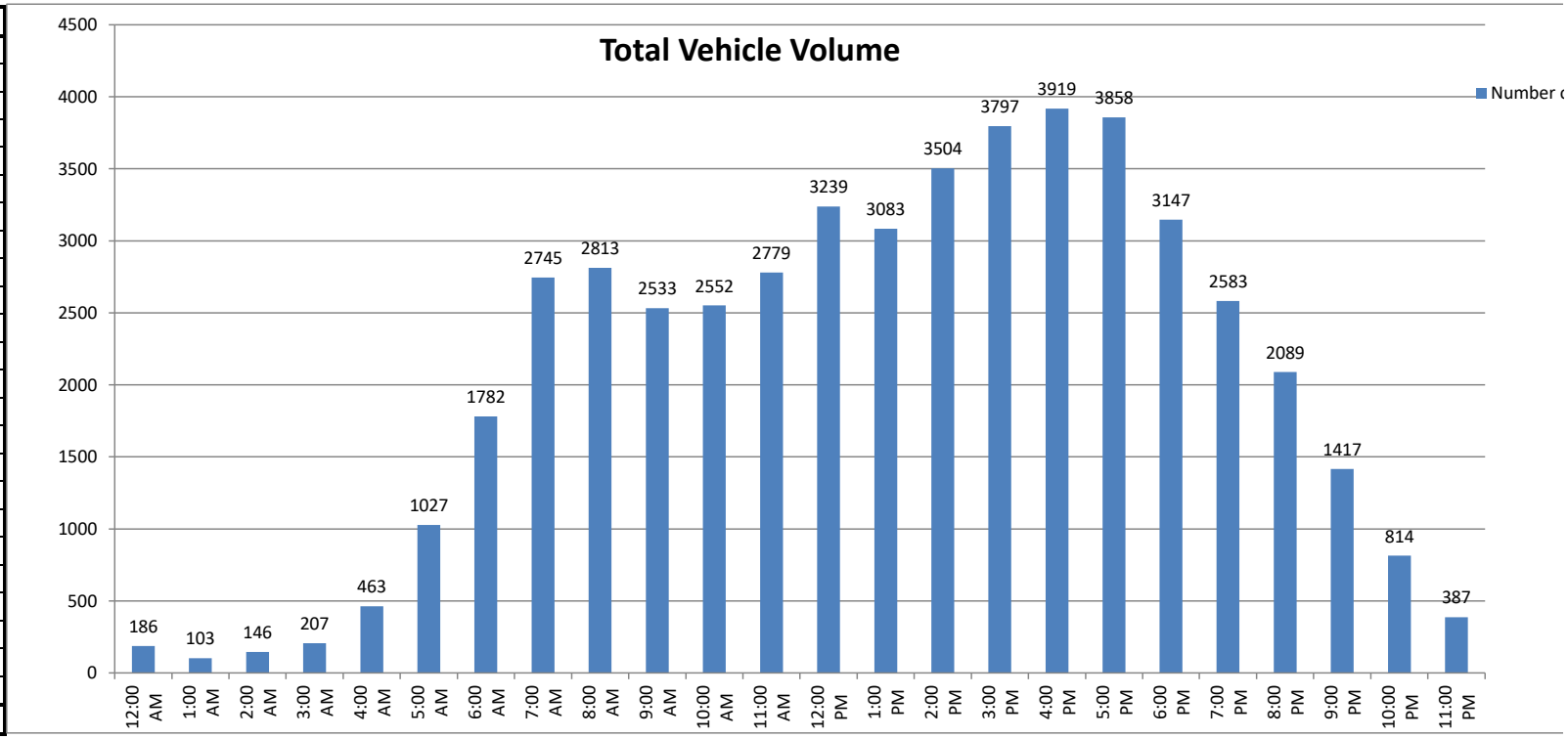
24 Hour Volume Plot

Palm Avenue

B/ I-805 Northbound Ramps - Dennery Road

2/5/2020

Start Time	2/5/2020
12:00 AM	186
1:00 AM	103
2:00 AM	146
3:00 AM	207
4:00 AM	463
5:00 AM	1027
6:00 AM	1782
7:00 AM	2745
8:00 AM	2813
9:00 AM	2533
10:00 AM	2552
11:00 AM	2779
12:00 PM	3239
1:00 PM	3083
2:00 PM	3504
3:00 PM	3797
4:00 PM	3919
5:00 PM	3858
6:00 PM	3147
7:00 PM	2583
8:00 PM	2089
9:00 PM	1417
10:00 PM	814
11:00 PM	387
Total	49173



Volumes represent the combined totals for both directions

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Appendix H

Signal Timing Sheets

INTERSECTION: C DENNERY RD @ PALM AV

223 Program

Group Assignment:
Field Master Assignment:

N/S Street Name: Dennery Rd
E/W Street Name: Palm Av

Timing Sheet By: JD
Approved By: MM

System Ref. Number: 904
Drawing Number: 28944-15-D
Timing Implemented On: 07/30/03

N

Row	Column # ---->	1	2	3	4	5	6	7	8
	Phase # ---->		Palm Av		Dennery Rd		Ocean View Hills Py		Denner Rd
			Phase						
0	Ped Walk		7		7		7		7
1	Ped FDW		23 22		35		23 22	4	32
2	Min Green	4	7	4	7	4	7		7
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	5.7 4.7	3.0	5.2 4.8	2.0	4.3 4.7	2.0	4.1 4.8
6	Max Gap	2.0	5.7 4.7	3.0	5.2 4.8	2.0	4.3 4.7	2.0	4.1 4.8
7	Min Gap	2.0	0.2	3.0	0.2	2.0	0.2	2.0	0.2
8	Max Limit	30	45	50	50	30	45	30	30
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1		0.1		0.1		0.1
D	Every		0.5 0.7		0.6 0.7		0.7		0.8 0.7
E	Yellow	3.4	3.9 4.3	3.4	4.3 3.9	3.4	5.4 5.1	3.4	4.3 3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.4

Phase Timing - Bank 1
F + Phase + Row

<F Page>

07/31/12 CN2

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	
View EV Clear	
View RR Delay	
View RR Clear	

Preempt Timing
F + E + Row

	F
Permit	12345678
Red Lock	
Yellow Lock	
Min Recall	_2___6__
Ped Recall	
Peds (View)	_2_4_6_8
Rest In Walk	
Red Rest	
Dbl Entry	
Max Recall	
Soft Recall	
Max 2	
Cond Serv	
Ped Lock	12345678
Yellow Start	_2___6__
1st Phases	___4___8

Phase Functions
F + F + Row

<F Page>

Max Initial	0
Red Revert	5.0
All Red Start	0.0

F + 0 + E
F + 0 + F
F + C + O

Start / Revert Times

Drop Number	10
Zone Number	10
Area Number	7
Area Address	52
QuicNet Channel	Com 3/4

C + 0 + 0
C + 0 + 1
C + 0 + 2
C + 0 + 3
(QuicNet)

Communication Addresses

Row	Green Clear	Yellow Change	Red Clear	Load-Switch #
A	Overlap A			
B	Overlap B			
C	Overlap C			
D	Overlap D			

Overlap Timing <F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	14
Manual Offset	0

C + A + 1
C + B + 1

Manual Selection

Manual Plan	Manual Offset
0 = Automatic	0 = Automatic
1-9 = Plan 1-9	1 = Offset A
14 = Free	2 = Offset B
15 = Flash	3 = Offset C

C + F + O	F	Row
Free Lag	_2_4_6_8	

Lag Phases ____ <C Page>

2,4,6,7

6-21-06

Downtime Flash	255 (minutes)

Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports	_234____

Disable Communication Ports
D + D + 9

INTERSECTION: DENNERY ROAD @ RED CORAL LN/RED FIN LN

Group Assignment: NONE
Field Master Assignment: NONE
System Reference Number: 890

N/S Street Name: RED CORAL LN/RED FIN LN Last Database Change:
E/W Street Name: DENNERY ROAD

Change Record		
Timing Sheet By	Approved By	Date
SHAIKH	AL3	1/24/2018

Free Lag <C/1+F+0>: _2_4_6_8

Notes: *Drawing: 30220-D*

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	16	<C/0+0+0>
Zone Number	16	<C/0+0+1>
Area Number	7	<C/0+0+2>
Area Address	73	<C/0+0+3>
QuicNet Channel	COM34	(QuicNet)

Communication Addresses

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVLP CHG Red	0.0	<F/1+0+3>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

		DENNERY ROAD		RED FIN LN		DENNERY ROAD		RED CORAL LN
		Phase						
Row	Column Numbers →	1	2	3	4	5	6	7	8
0	Ped Walk		7		7		7		7
1	Ped FDW		14		23		14		22
2	Min Green	4	10	4	7	4	10	4	7
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	3.1	2.0	2.0	2.0	3.3	2.0	2.0
6	Max Gap	2.0	3.1	2.0	2.0	2.0	3.3	2.0	2.0
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2	2.0	2.0
8	Max Limit	30	60	30	40	30	60	30	40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every		1.0				1.0		
E	Yellow Change	3.4	4.3	3.4	3.9	3.4	4.7	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1 <F/1+Phase+Row>

	9	A	B	C	D
	---	---	---	---	---
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	
EV-A Clear	
EV-B Delay	
EV-B Clear	
EV-C Delay	
EV-C Clear	
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing <F/1+E+Row>

Row	F
0	Permit: 12345678
1	Red Lock:
2	Yellow Lock:
3	Min Recall: _2___6__
4	Ped Recall:
5	*View Set Peds*
6	Rest In Walk:
7	Red Rest:
8	Dual Entry:
9	Max Recall:
A	Soft Recall:
B	Max 2:
C	Cond. Service:
D	Man Cntrl Calls:
E	Yellow Start: _2___6__
F	First Phases: __3___7_

Phase Functions <F/1+F+Row>

How to Set Page Access Code: F/1 – C + 0 + F = 1

INTERSECTION: DENNERY ROAD @ RED CORAL LN/RED FIN LN

Row	Column Numbers —> / Overlap Name —>	Overlap 1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Manual Hold in FDW
7 = Allow QuicNet PE
8 = Flash Gm B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7
		8
		9
		A
		B
		C
		D
		E
		F

Preempt Priority <E/125+C+Row>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers —>	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	_2__5__
B	EV-B Phases	___4__7_
C	EV-C Phases	1___6__
D	EV-D Phases	__3___8
E	Extra 1 Config. Bits	1_345__
F	IC Select (Interconnect)	_2_____

Configuration <E/125+E+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	_2_____
Ped for 6P Output	_____6__
Ped for 4P Output	__4_____
Ped for 8P Output	_____8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	__3_____

Configuration <E/125+F+Row>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <F/2+F+Row>

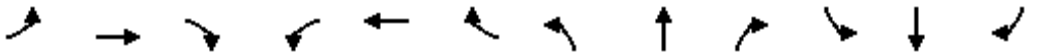
Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 =
5 =
6 = Simplex Master
7 =
8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8
		9
		A
		B
		C
		D
		E
		F

Coordination Transition Minimums <C/5+2+Row>

Caltrans signal timings were used to code Synchro; however, the timing sheets are not included within this appendix as Caltrans specified that the sheets were not to be reproduced. Therefore, timing sheets are on file at Caltrans.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	939	187	273	356	0	0	0	0	759	2	610
Future Volume (veh/h)	0	939	187	273	356	0	0	0	0	759	2	610
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.98
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1032	205	317	414	0				1000	0	429
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1465	641	371	2019	0				1138	0	496
Arrive On Green	0.00	0.42	0.42	0.22	1.00	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	3618	1544	3428	3618	0				3534	0	1541
Grp Volume(v), veh/h	0	1032	205	317	414	0				1000	0	429
Grp Sat Flow(s),veh/h/ln	0	1763	1544	1714	1763	0				1767	0	1541
Q Serve(g_s), s	0.0	28.1	10.4	10.3	0.0	0.0				31.0	0.0	30.3
Cycle Q Clear(g_c), s	0.0	28.1	10.4	10.3	0.0	0.0				31.0	0.0	30.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1465	641	371	2019	0				1138	0	496
V/C Ratio(X)	0.00	0.70	0.32	0.85	0.21	0.00				0.88	0.00	0.86
Avail Cap(c_a), veh/h	0	1465	641	423	2019	0				1307	0	570
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.94	0.94	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.0	22.9	44.6	0.0	0.0				37.2	0.0	36.9
Incr Delay (d2), s/veh	0.0	2.9	1.3	13.5	0.2	0.0				6.5	0.0	11.8
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/ln	0.0	12.2	4.0	4.6	0.1	0.0				14.2	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.9	24.2	58.1	0.2	0.0				43.6	0.0	48.8
LnGrp LOS	A	C	C	E	A	A				D	A	D
Approach Vol, veh/h		1237			731						1429	
Approach Delay, s/veh		29.8			25.3						45.2	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.3	54.3		43.5		72.5
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1
Max Green Setting (Gmax), s	* 14	40.9		42.9		60.9
Max Q Clear Time (g_c+I1), s	12.3	30.1		33.0		2.0
Green Ext Time (p_c), s	0.2	5.8		4.3		3.1

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	678	1100	0	0	512	1102	91	3	299	0	0	0
Future Volume (veh/h)	678	1100	0	0	512	1102	91	3	299	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		0.97	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	721	1170	0	0	528	1136	95	163	204			
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	772	2496	0	0	1528	1164	125	215	286			
Arrive On Green	0.45	1.00	0.00	0.00	0.43	0.43	0.19	0.19	0.19			
Sat Flow, veh/h	3428	3618	0	0	3618	2685	671	1151	1532			
Grp Volume(v), veh/h	721	1170	0	0	528	1136	258	0	204			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1342	1822	0	1532			
Q Serve(g_s), s	23.1	0.0	0.0	0.0	11.6	48.2	15.6	0.0	14.5			
Cycle Q Clear(g_c), s	23.1	0.0	0.0	0.0	11.6	48.2	15.6	0.0	14.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.37		1.00			
Lane Grp Cap(c), veh/h	772	2496	0	0	1528	1164	341	0	286			
V/C Ratio(X)	0.93	0.47	0.00	0.00	0.35	0.98	0.76	0.00	0.71			
Avail Cap(c_a), veh/h	836	2496	0	0	1528	1164	675	0	568			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.48	0.48	0.00	0.00	0.57	0.57	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.1	0.0	0.0	0.0	21.9	32.3	44.7	0.0	44.2			
Incr Delay (d2), s/veh	9.4	0.3	0.0	0.0	0.4	15.0	3.5	0.0	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.4	0.1	0.0	0.0	4.8	17.6	7.3	0.0	5.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	0.3	0.0	0.0	22.2	47.3	48.1	0.0	47.5			
LnGrp LOS	D	A	A	A	C	D	D	A	D			
Approach Vol, veh/h		1891			1664			462				
Approach Delay, s/veh		15.6			39.3			47.9				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.2			31.8	56.4		27.8				
Change Period (Y+Rc), s		6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s		60.8			* 28	26.8		43.0				
Max Q Clear Time (g_c+I1), s		2.0			25.1	50.2		17.6				
Green Ext Time (p_c), s		12.2			1.0	0.0		2.3				
Intersection Summary												
HCM 6th Ctrl Delay			29.1									
HCM 6th LOS			C									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	574	458	364	200	515	53	786	111	236	28	80	334
Future Volume (veh/h)	574	458	364	200	515	53	786	111	236	28	80	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	611	487	387	270	696	72	845	119	254	34	98	407
Peak Hour Factor	0.94	0.94	0.94	0.74	0.74	0.74	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	564	1524	473	324	1169	358	782	223	475	74	1027	449
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.43	0.43	0.02	0.29	0.29
Sat Flow, veh/h	3428	5066	1571	3428	5066	1549	4983	522	1113	3428	3526	1541
Grp Volume(v), veh/h	611	487	387	270	696	72	845	0	373	34	98	407
Grp Sat Flow(s),veh/h/ln	1714	1689	1571	1714	1689	1549	1661	0	1635	1714	1763	1541
Q Serve(g_s), s	21.6	9.8	30.0	10.2	16.1	4.9	20.6	0.0	22.2	1.3	2.7	33.4
Cycle Q Clear(g_c), s	21.6	9.8	30.0	10.2	16.1	4.9	20.6	0.0	22.2	1.3	2.7	33.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	564	1524	473	324	1169	358	782	0	698	74	1027	449
V/C Ratio(X)	1.08	0.32	0.82	0.83	0.60	0.20	1.08	0.00	0.53	0.46	0.10	0.91
Avail Cap(c_a), veh/h	564	1524	473	449	1169	358	782	0	729	107	1128	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	35.5	42.6	58.4	45.0	40.7	55.3	0.0	27.9	63.4	33.9	44.8
Incr Delay (d2), s/veh	62.3	0.6	14.6	6.8	2.2	1.3	56.1	0.0	1.0	1.6	0.1	21.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	4.1	13.5	4.7	7.0	2.0	12.7	0.0	8.9	0.6	1.2	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.1	36.0	57.1	65.2	47.2	42.0	111.4	0.0	28.9	65.1	34.0	66.2
LnGrp LOS	F	D	E	E	D	D	F	A	C	E	C	E
Approach Vol, veh/h		1485			1038			1218			539	
Approach Delay, s/veh		74.9			51.5			86.2			60.2	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	45.9	25.0	43.5	26.0	36.7	7.2	61.3
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	12.2	* 36	20.6	42.0	21.6	30.3	4.1	58.5
Max Q Clear Time (g_c+I1), s	12.2	32.0	22.6	35.4	23.6	18.1	3.3	24.2
Green Ext Time (p_c), s	0.2	2.9	0.0	2.3	0.0	5.5	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	70.6
HCM 6th LOS	E

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	162	486	0
Future Vol, veh/h	0	0	0	162	486	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	72	72	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	225	523	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	262	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	734	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	734	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

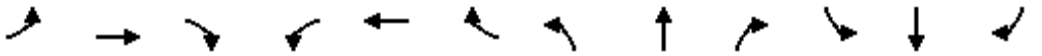
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	145	17	0	486
Future Vol, veh/h	0	30	145	17	0	486
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	33	158	18	0	528

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	88	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	950	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	950	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	950	-
HCM Lane V/C Ratio	-	-	0.034	-
HCM Control Delay (s)	-	-	8.9	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

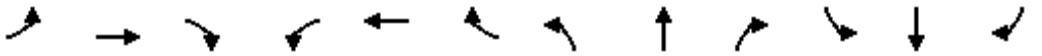


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	75	6	1	246	3	56	5	1	1	5	70
Future Volume (veh/h)	37	75	6	1	246	3	56	5	1	1	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	99	8	1	265	3	61	5	1	1	6	81
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	73	976	78	4	913	10	85	378	76	4	22	304
Arrive On Green	0.04	0.30	0.30	0.00	0.26	0.26	0.05	0.25	0.25	0.00	0.21	0.21
Sat Flow, veh/h	1767	3300	263	1767	3569	40	1767	1497	299	1767	109	1476
Grp Volume(v), veh/h	49	52	55	1	131	137	61	0	6	1	0	87
Grp Sat Flow(s),veh/h/ln	1767	1763	1800	1767	1763	1847	1767	0	1797	1767	0	1585
Q Serve(g_s), s	1.2	0.9	1.0	0.0	2.6	2.6	1.5	0.0	0.1	0.0	0.0	2.0
Cycle Q Clear(g_c), s	1.2	0.9	1.0	0.0	2.6	2.6	1.5	0.0	0.1	0.0	0.0	2.0
Prop In Lane	1.00		0.15	1.00		0.02	1.00		0.17	1.00		0.93
Lane Grp Cap(c), veh/h	73	522	533	4	451	472	85	0	454	4	0	326
V/C Ratio(X)	0.67	0.10	0.10	0.24	0.29	0.29	0.72	0.00	0.01	0.24	0.00	0.27
Avail Cap(c_a), veh/h	180	894	913	168	865	907	205	0	1285	168	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	11.0	11.0	21.5	12.9	12.9	20.3	0.0	12.1	21.5	0.0	14.4
Incr Delay (d2), s/veh	10.3	0.1	0.1	28.4	0.4	0.3	10.8	0.0	0.0	28.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.3	0.0	0.9	0.9	0.8	0.0	0.0	0.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	11.1	11.1	49.9	13.3	13.3	31.0	0.0	12.1	49.9	0.0	14.8
LnGrp LOS	C	B	B	D	B	B	C	A	B	D	A	B
Approach Vol, veh/h		156			269			67			88	
Approach Delay, s/veh		17.3			13.4			29.3			15.2	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.4	18.5	6.5	13.8	6.2	16.7	4.4	15.8
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 22	5.0	30.0	4.4	21.2	4.1	30.9
Max Q Clear Time (g_c+I1), s	2.0	3.0	3.5	4.0	3.2	4.6	2.0	2.1
Green Ext Time (p_c), s	0.0	0.5	0.0	0.5	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	817	149	394	444	0	0	0	0	1188	5	813
Future Volume (veh/h)	0	817	149	394	444	0	0	0	0	1188	5	813
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	888	162	428	483	0				1488	0	560
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	979	431	423	1586	0				1572	0	699
Arrive On Green	0.00	0.28	0.28	0.25	0.90	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	3618	1551	3428	3618	0				3534	0	1570
Grp Volume(v), veh/h	0	888	162	428	483	0				1488	0	560
Grp Sat Flow(s),veh/h/ln	0	1763	1551	1714	1763	0				1767	0	1570
Q Serve(g_s), s	0.0	28.2	9.8	14.3	2.2	0.0				46.8	0.0	35.7
Cycle Q Clear(g_c), s	0.0	28.2	9.8	14.3	2.2	0.0				46.8	0.0	35.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	979	431	423	1586	0				1572	0	699
V/C Ratio(X)	0.00	0.91	0.38	1.01	0.30	0.00				0.95	0.00	0.80
Avail Cap(c_a), veh/h	0	979	431	423	1586	0				1600	0	711
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.79	0.79	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.5	33.8	43.7	3.3	0.0				30.9	0.0	27.8
Incr Delay (d2), s/veh	0.0	13.6	2.5	42.1	0.4	0.0				12.0	0.0	6.5
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/ln	0.0	13.9	4.0	7.6	0.8	0.0				21.9	0.0	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	54.0	36.3	85.8	3.7	0.0				42.9	0.0	34.3
LnGrp LOS	A	D	D	F	A	A				D	A	C
Approach Vol, veh/h		1050			911						2048	
Approach Delay, s/veh		51.3			42.3						40.5	
Approach LOS		D			D						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.0	38.3		57.7		58.3						
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1						
Max Green Setting (Gmax), s	* 14	31.3		52.5		51.3						
Max Q Clear Time (g_c+I1), s	16.3	30.2		48.8		4.2						
Green Ext Time (p_c), s	0.0	0.7		2.8		3.7						

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1514	0	0	740	1266	130	4	454	0	0	0
Future Volume (veh/h)	471	1514	0	0	740	1266	130	4	454	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		0.99			
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	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	491	1577	0	0	796	1361	149	281	338			
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	544	2190	0	0	1457	1144	173	326	424			
Arrive On Green	0.32	1.00	0.00	0.00	0.41	0.41	0.27	0.27	0.27			
Sat Flow, veh/h	3428	3618	0	0	3618	2768	632	1192	1551			
Grp Volume(v), veh/h	491	1577	0	0	796	1361	430	0	338			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1384	1824	0	1551			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	19.8	48.0	26.0	0.0	23.5			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	19.8	48.0	26.0	0.0	23.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.35		1.00			
Lane Grp Cap(c), veh/h	544	2190	0	0	1457	1144	499	0	424			
V/C Ratio(X)	0.90	0.72	0.00	0.00	0.55	1.19	0.86	0.00	0.80			
Avail Cap(c_a), veh/h	600	2190	0	0	1457	1144	676	0	575			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.21	0.21	0.00	0.00	0.59	0.59	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.8	0.0	0.0	0.0	25.8	34.0	40.0	0.0	39.1			
Incr Delay (d2), s/veh	4.2	0.4	0.0	0.0	0.9	90.8	8.5	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/ln	5.9	0.1	0.0	0.0	8.4	30.0	12.7	0.0	9.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.4	0.0	0.0	26.7	124.8	48.5	0.0	44.7			
LnGrp LOS	D	A	A	A	C	F	D	A	D			
Approach Vol, veh/h		2068			2157			768				
Approach Delay, s/veh		10.5			88.6			46.8				
Approach LOS		B			F			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		78.1			24.1	54.1		37.9				
Change Period (Y+Rc), s		6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s		60.8			* 20	34.8		43.0				
Max Q Clear Time (g_c+I1), s		2.0			17.9	50.0		28.0				
Green Ext Time (p_c), s		20.7			0.5	0.0		3.6				
Intersection Summary												
HCM 6th Ctrl Delay			49.8									
HCM 6th LOS			D									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	304	227	182	651	58	474	54	223	62	57	419
Future Volume (veh/h)	553	304	227	182	651	58	474	54	223	62	57	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	614	338	252	219	784	70	521	59	245	72	66	487
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	541	1672	512	275	1278	397	466	122	505	116	1168	512
Arrive On Green	0.16	0.33	0.33	0.08	0.25	0.25	0.09	0.39	0.39	0.03	0.33	0.33
Sat Flow, veh/h	3428	5066	1551	3428	5066	1572	4983	311	1292	3428	3526	1546
Grp Volume(v), veh/h	614	338	252	219	784	70	521	0	304	72	66	487
Grp Sat Flow(s),veh/h/ln	1714	1689	1551	1714	1689	1572	1661	0	1604	1714	1763	1546
Q Serve(g_s), s	19.6	5.9	16.1	7.8	17.0	4.3	11.6	0.0	17.7	2.6	1.6	38.2
Cycle Q Clear(g_c), s	19.6	5.9	16.1	7.8	17.0	4.3	11.6	0.0	17.7	2.6	1.6	38.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	541	1672	512	275	1278	397	466	0	627	116	1168	512
V/C Ratio(X)	1.13	0.20	0.49	0.80	0.61	0.18	1.12	0.00	0.49	0.62	0.06	0.95
Avail Cap(c_a), veh/h	541	1672	512	381	1278	397	466	0	627	180	1193	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	29.8	33.2	56.1	41.0	36.3	56.2	0.0	28.4	59.2	28.3	40.5
Incr Delay (d2), s/veh	81.2	0.3	3.4	5.3	2.2	1.0	78.2	0.0	0.9	2.0	0.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	2.5	6.6	3.6	7.3	1.8	8.2	0.0	6.9	1.2	0.7	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.4	30.1	36.6	61.4	43.3	37.3	134.4	0.0	29.3	61.2	28.3	68.6
LnGrp LOS	F	C	D	E	D	D	F	A	C	E	C	E
Approach Vol, veh/h		1204			1073			825			625	
Approach Delay, s/veh		84.2			46.6			95.7			63.5	
Approach LOS		F			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	47.4	16.0	46.4	24.0	37.7	8.6	53.8
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	13.8	* 39	11.6	42.0	19.6	31.3	6.5	47.1
Max Q Clear Time (g_c+I1), s	9.8	18.1	13.6	40.2	21.6	19.0	4.6	19.7
Green Ext Time (p_c), s	0.2	6.9	0.0	0.8	0.0	6.1	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	72.4
HCM 6th LOS	E

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	435	254	0
Future Vol, veh/h	0	0	0	435	254	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	494	279	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	140	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	879	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	879	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.2

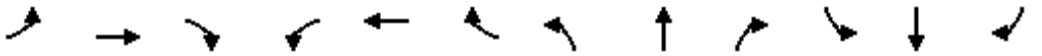
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	394	41	0	254
Future Vol, veh/h	0	11	394	41	0	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	12	428	45	0	276

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	237	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	761	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	761	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	761	-
HCM Lane V/C Ratio	-	-	0.016	-
HCM Control Delay (s)	-	-	9.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	217	30	5	127	3	36	3	4	0	5	38
Future Volume (veh/h)	114	217	30	5	127	3	36	3	4	0	5	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	121	231	32	5	140	3	43	4	5	0	5	39
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.83	0.83	0.83	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	158	1011	138	10	848	18	66	248	310	4	35	271
Arrive On Green	0.09	0.32	0.32	0.01	0.24	0.24	0.04	0.33	0.33	0.00	0.20	0.20
Sat Flow, veh/h	1767	3113	426	1767	3526	75	1767	748	935	1767	178	1388
Grp Volume(v), veh/h	121	129	134	5	70	73	43	0	9	0	0	44
Grp Sat Flow(s),veh/h/ln	1767	1763	1776	1767	1763	1839	1767	0	1682	1767	0	1566
Q Serve(g_s), s	3.0	2.4	2.4	0.1	1.4	1.4	1.1	0.0	0.2	0.0	0.0	1.0
Cycle Q Clear(g_c), s	3.0	2.4	2.4	0.1	1.4	1.4	1.1	0.0	0.2	0.0	0.0	1.0
Prop In Lane	1.00		0.24	1.00		0.04	1.00		0.56	1.00		0.89
Lane Grp Cap(c), veh/h	158	573	577	10	424	442	66	0	558	4	0	306
V/C Ratio(X)	0.76	0.23	0.23	0.53	0.16	0.17	0.66	0.00	0.02	0.00	0.00	0.14
Avail Cap(c_a), veh/h	510	1208	1217	163	846	883	259	0	1229	163	0	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	10.9	10.9	22.0	13.3	13.3	21.1	0.0	10.0	0.0	0.0	14.8
Incr Delay (d2), s/veh	7.4	0.2	0.2	38.3	0.2	0.2	10.6	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.8	0.1	0.5	0.5	0.6	0.0	0.1	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	11.1	11.1	60.3	13.5	13.5	31.7	0.0	10.0	0.0	0.0	15.0
LnGrp LOS	C	B	B	E	B	B	C	A	A	A	A	B
Approach Vol, veh/h		384			148			52			44	
Approach Delay, s/veh		16.2			15.1			27.9			15.0	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	20.1	6.0	13.6	8.4	16.4	0.0	19.6
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 30	6.5	30.0	12.8	21.3	4.1	32.4
Max Q Clear Time (g_c+I1), s	2.1	4.4	3.1	3.0	5.0	3.4	0.0	2.2
Green Ext Time (p_c), s	0.0	1.5	0.0	0.2	0.2	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

LOS Engineering, Inc.

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	517	498	175	191	172	95	74	551	515	500
Average Queue (ft)	407	317	79	109	124	28	33	294	310	254
95th Queue (ft)	556	508	176	177	172	69	68	437	448	377
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	14	2								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		15	0	0	0					
Queuing Penalty (veh)		28	1	0	0					

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	242	255	412	411	246	201	414	474	310	183
Average Queue (ft)	209	224	243	179	129	104	205	225	146	42
95th Queue (ft)	283	288	446	352	234	191	384	410	245	100
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			1	0						
Queuing Penalty (veh)			12	1						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	2	8	1						1	
Queuing Penalty (veh)	11	45	9						1	

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	304	1143	1122	158	186	189	197	140	212	286	243
Average Queue (ft)	291	303	897	479	46	85	76	104	89	125	176	36
95th Queue (ft)	294	307	1279	1129	128	154	154	174	134	221	276	105
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)			4	0								
Queuing Penalty (veh)			19	0								
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	14	65	0			0					3	0
Queuing Penalty (veh)	22	99	1			0					1	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	283	292	300	810	31	72	92	227	120
Average Queue (ft)	229	289	299	732	3	22	36	83	101
95th Queue (ft)	291	293	301	915	17	52	71	194	136
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				32					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	1	7	42	4				0	14
Queuing Penalty (veh)	2	25	145	28				0	6

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR	L	TR
Maximum Queue (ft)	54	52	74	139	133	79	31	30	70
Average Queue (ft)	22	17	19	44	52	35	2	1	30
95th Queue (ft)	47	43	52	87	103	66	15	10	61
Link Distance (ft)		413	413	873	873		390	231	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190					75			
Storage Blk Time (%)						1			
Queuing Penalty (veh)						0			

Network Summary

Network wide Queuing Penalty: 827

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	498	498	175	202	212	325	179	607	845	818
Average Queue (ft)	413	339	111	164	170	74	64	327	406	336
95th Queue (ft)	543	468	216	230	226	179	116	480	604	534
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	4	0								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		28	0	2	12				0	0
Queuing Penalty (veh)		42	0	5	28				2	0

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	240	255	419	420	380	315	324	334	393	275
Average Queue (ft)	153	220	317	321	202	147	153	158	231	166
95th Queue (ft)	236	298	463	459	316	249	259	257	348	309
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			3	3						
Queuing Penalty (veh)			29	29						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	0	1	13						6	0
Queuing Penalty (veh)	3	9	59						13	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1015	890	73	106	152	165	202	233	340	250
Average Queue (ft)	291	303	595	150	22	52	63	106	128	153	200	69
95th Queue (ft)	295	306	908	479	64	90	139	164	181	224	294	202
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	13	62	0								2	0
Queuing Penalty (veh)	13	63	1								1	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	276	290	300	450	95	110	74	249	120
Average Queue (ft)	147	210	232	117	21	49	28	65	95
95th Queue (ft)	251	321	329	295	64	90	66	204	132
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	0	2	6	1		0		0	14
Queuing Penalty (veh)	0	5	16	4		0		0	4

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

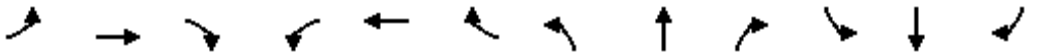
Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	TR
Maximum Queue (ft)	114	93	115	31	92	114	70	31	31
Average Queue (ft)	60	29	45	4	36	37	27	3	20
95th Queue (ft)	98	66	99	21	69	75	59	18	43
Link Distance (ft)		413	413		873	873		390	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190			160			75		
Storage Blk Time (%)							0		
Queuing Penalty (veh)							0		

Network Summary

Network wide Queuing Penalty: 332

Appendix I

Existing LOS and Queuing Output



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	939	187	273	356	0	0	0	0	759	2	610
Future Volume (veh/h)	0	939	187	273	356	0	0	0	0	759	2	610
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.98
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1032	205	317	414	0				1000	0	429
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1465	641	371	2019	0				1138	0	496
Arrive On Green	0.00	0.42	0.42	0.22	1.00	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	3618	1544	3428	3618	0				3534	0	1541
Grp Volume(v), veh/h	0	1032	205	317	414	0				1000	0	429
Grp Sat Flow(s),veh/h/ln	0	1763	1544	1714	1763	0				1767	0	1541
Q Serve(g_s), s	0.0	28.1	10.4	10.3	0.0	0.0				31.0	0.0	30.3
Cycle Q Clear(g_c), s	0.0	28.1	10.4	10.3	0.0	0.0				31.0	0.0	30.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1465	641	371	2019	0				1138	0	496
V/C Ratio(X)	0.00	0.70	0.32	0.85	0.21	0.00				0.88	0.00	0.86
Avail Cap(c_a), veh/h	0	1465	641	423	2019	0				1307	0	570
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.94	0.94	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.0	22.9	44.6	0.0	0.0				37.2	0.0	36.9
Incr Delay (d2), s/veh	0.0	2.9	1.3	13.5	0.2	0.0				6.5	0.0	11.8
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/ln	0.0	12.2	4.0	4.6	0.1	0.0				14.2	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.9	24.2	58.1	0.2	0.0				43.6	0.0	48.8
LnGrp LOS	A	C	C	E	A	A				D	A	D
Approach Vol, veh/h		1237			731						1429	
Approach Delay, s/veh		29.8			25.3						45.2	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.3	54.3		43.5		72.5
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1
Max Green Setting (Gmax), s	* 14	40.9		42.9		60.9
Max Q Clear Time (g_c+I1), s	12.3	30.1		33.0		2.0
Green Ext Time (p_c), s	0.2	5.8		4.3		3.1

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	678	1100	0	0	512	1102	91	3	299	0	0	0
Future Volume (veh/h)	678	1100	0	0	512	1102	91	3	299	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		0.97	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	721	1170	0	0	528	1136	95	163	204			
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	772	2496	0	0	1528	1164	125	215	286			
Arrive On Green	0.45	1.00	0.00	0.00	0.43	0.43	0.19	0.19	0.19			
Sat Flow, veh/h	3428	3618	0	0	3618	2685	671	1151	1532			
Grp Volume(v), veh/h	721	1170	0	0	528	1136	258	0	204			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1342	1822	0	1532			
Q Serve(g_s), s	23.1	0.0	0.0	0.0	11.6	48.2	15.6	0.0	14.5			
Cycle Q Clear(g_c), s	23.1	0.0	0.0	0.0	11.6	48.2	15.6	0.0	14.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.37		1.00			
Lane Grp Cap(c), veh/h	772	2496	0	0	1528	1164	341	0	286			
V/C Ratio(X)	0.93	0.47	0.00	0.00	0.35	0.98	0.76	0.00	0.71			
Avail Cap(c_a), veh/h	836	2496	0	0	1528	1164	675	0	568			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.48	0.48	0.00	0.00	0.57	0.57	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.1	0.0	0.0	0.0	21.9	32.3	44.7	0.0	44.2			
Incr Delay (d2), s/veh	9.4	0.3	0.0	0.0	0.4	15.0	3.5	0.0	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.4	0.1	0.0	0.0	4.8	17.6	7.3	0.0	5.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	0.3	0.0	0.0	22.2	47.3	48.1	0.0	47.5			
LnGrp LOS	D	A	A	A	C	D	D	A	D			
Approach Vol, veh/h		1891			1664			462				
Approach Delay, s/veh		15.6			39.3			47.9				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.2			31.8	56.4		27.8				
Change Period (Y+Rc), s		6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s		60.8			* 28	26.8		43.0				
Max Q Clear Time (g_c+I1), s		2.0			25.1	50.2		17.6				
Green Ext Time (p_c), s		12.2			1.0	0.0		2.3				
Intersection Summary												
HCM 6th Ctrl Delay			29.1									
HCM 6th LOS			C									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	574	458	364	200	515	53	786	111	236	28	80	334
Future Volume (veh/h)	574	458	364	200	515	53	786	111	236	28	80	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	611	487	387	270	696	72	845	119	254	34	98	407
Peak Hour Factor	0.94	0.94	0.94	0.74	0.74	0.74	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	564	1524	473	324	1169	358	782	223	475	74	1027	449
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.43	0.43	0.02	0.29	0.29
Sat Flow, veh/h	3428	5066	1571	3428	5066	1549	4983	522	1113	3428	3526	1541
Grp Volume(v), veh/h	611	487	387	270	696	72	845	0	373	34	98	407
Grp Sat Flow(s),veh/h/ln	1714	1689	1571	1714	1689	1549	1661	0	1635	1714	1763	1541
Q Serve(g_s), s	21.6	9.8	30.0	10.2	16.1	4.9	20.6	0.0	22.2	1.3	2.7	33.4
Cycle Q Clear(g_c), s	21.6	9.8	30.0	10.2	16.1	4.9	20.6	0.0	22.2	1.3	2.7	33.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	564	1524	473	324	1169	358	782	0	698	74	1027	449
V/C Ratio(X)	1.08	0.32	0.82	0.83	0.60	0.20	1.08	0.00	0.53	0.46	0.10	0.91
Avail Cap(c_a), veh/h	564	1524	473	449	1169	358	782	0	729	107	1128	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	35.5	42.6	58.4	45.0	40.7	55.3	0.0	27.9	63.4	33.9	44.8
Incr Delay (d2), s/veh	62.3	0.6	14.6	6.8	2.2	1.3	56.1	0.0	1.0	1.6	0.1	21.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	4.1	13.5	4.7	7.0	2.0	12.7	0.0	8.9	0.6	1.2	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.1	36.0	57.1	65.2	47.2	42.0	111.4	0.0	28.9	65.1	34.0	66.2
LnGrp LOS	F	D	E	E	D	D	F	A	C	E	C	E
Approach Vol, veh/h		1485			1038			1218			539	
Approach Delay, s/veh		74.9			51.5			86.2			60.2	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	45.9	25.0	43.5	26.0	36.7	7.2	61.3
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	12.2	* 36	20.6	42.0	21.6	30.3	4.1	58.5
Max Q Clear Time (g_c+I1), s	12.2	32.0	22.6	35.4	23.6	18.1	3.3	24.2
Green Ext Time (p_c), s	0.2	2.9	0.0	2.3	0.0	5.5	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	70.6
HCM 6th LOS	E

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	162	486	0
Future Vol, veh/h	0	0	0	162	486	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	72	72	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	225	523	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	262	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	734	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	734	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

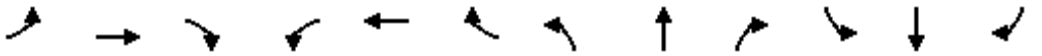
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	145	17	0	486
Future Vol, veh/h	0	30	145	17	0	486
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	33	158	18	0	528

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	88	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	950	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	950	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	950	-
HCM Lane V/C Ratio	-	-	0.034	-
HCM Control Delay (s)	-	-	8.9	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

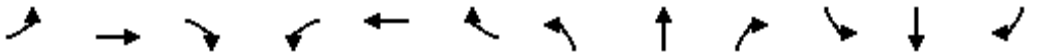


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	75	6	1	246	3	56	5	1	1	5	70
Future Volume (veh/h)	37	75	6	1	246	3	56	5	1	1	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	99	8	1	265	3	61	5	1	1	6	81
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	73	976	78	4	913	10	85	378	76	4	22	304
Arrive On Green	0.04	0.30	0.30	0.00	0.26	0.26	0.05	0.25	0.25	0.00	0.21	0.21
Sat Flow, veh/h	1767	3300	263	1767	3569	40	1767	1497	299	1767	109	1476
Grp Volume(v), veh/h	49	52	55	1	131	137	61	0	6	1	0	87
Grp Sat Flow(s),veh/h/ln	1767	1763	1800	1767	1763	1847	1767	0	1797	1767	0	1585
Q Serve(g_s), s	1.2	0.9	1.0	0.0	2.6	2.6	1.5	0.0	0.1	0.0	0.0	2.0
Cycle Q Clear(g_c), s	1.2	0.9	1.0	0.0	2.6	2.6	1.5	0.0	0.1	0.0	0.0	2.0
Prop In Lane	1.00		0.15	1.00		0.02	1.00		0.17	1.00		0.93
Lane Grp Cap(c), veh/h	73	522	533	4	451	472	85	0	454	4	0	326
V/C Ratio(X)	0.67	0.10	0.10	0.24	0.29	0.29	0.72	0.00	0.01	0.24	0.00	0.27
Avail Cap(c_a), veh/h	180	894	913	168	865	907	205	0	1285	168	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	11.0	11.0	21.5	12.9	12.9	20.3	0.0	12.1	21.5	0.0	14.4
Incr Delay (d2), s/veh	10.3	0.1	0.1	28.4	0.4	0.3	10.8	0.0	0.0	28.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.3	0.0	0.9	0.9	0.8	0.0	0.0	0.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	11.1	11.1	49.9	13.3	13.3	31.0	0.0	12.1	49.9	0.0	14.8
LnGrp LOS	C	B	B	D	B	B	C	A	B	D	A	B
Approach Vol, veh/h		156			269			67			88	
Approach Delay, s/veh		17.3			13.4			29.3			15.2	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.4	18.5	6.5	13.8	6.2	16.7	4.4	15.8
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 22	5.0	30.0	4.4	21.2	4.1	30.9
Max Q Clear Time (g_c+I1), s	2.0	3.0	3.5	4.0	3.2	4.6	2.0	2.1
Green Ext Time (p_c), s	0.0	0.5	0.0	0.5	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	817	149	394	444	0	0	0	0	1188	5	813
Future Volume (veh/h)	0	817	149	394	444	0	0	0	0	1188	5	813
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	888	162	428	483	0				1488	0	560
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	979	431	423	1586	0				1572	0	699
Arrive On Green	0.00	0.28	0.28	0.25	0.90	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	3618	1551	3428	3618	0				3534	0	1570
Grp Volume(v), veh/h	0	888	162	428	483	0				1488	0	560
Grp Sat Flow(s),veh/h/ln	0	1763	1551	1714	1763	0				1767	0	1570
Q Serve(g_s), s	0.0	28.2	9.8	14.3	2.2	0.0				46.8	0.0	35.7
Cycle Q Clear(g_c), s	0.0	28.2	9.8	14.3	2.2	0.0				46.8	0.0	35.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	979	431	423	1586	0				1572	0	699
V/C Ratio(X)	0.00	0.91	0.38	1.01	0.30	0.00				0.95	0.00	0.80
Avail Cap(c_a), veh/h	0	979	431	423	1586	0				1600	0	711
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.79	0.79	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.5	33.8	43.7	3.3	0.0				30.9	0.0	27.8
Incr Delay (d2), s/veh	0.0	13.6	2.5	42.1	0.4	0.0				12.0	0.0	6.5
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/ln	0.0	13.9	4.0	7.6	0.8	0.0				21.9	0.0	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	54.0	36.3	85.8	3.7	0.0				42.9	0.0	34.3
LnGrp LOS	A	D	D	F	A	A				D	A	C
Approach Vol, veh/h		1050			911						2048	
Approach Delay, s/veh		51.3			42.3						40.5	
Approach LOS		D			D						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.0	38.3		57.7		58.3						
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1						
Max Green Setting (Gmax), s	* 14	31.3		52.5		51.3						
Max Q Clear Time (g_c+I1), s	16.3	30.2		48.8		4.2						
Green Ext Time (p_c), s	0.0	0.7		2.8		3.7						

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1514	0	0	740	1266	130	4	454	0	0	0
Future Volume (veh/h)	471	1514	0	0	740	1266	130	4	454	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		0.99			
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	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	491	1577	0	0	796	1361	149	281	338			
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	544	2190	0	0	1457	1144	173	326	424			
Arrive On Green	0.32	1.00	0.00	0.00	0.41	0.41	0.27	0.27	0.27			
Sat Flow, veh/h	3428	3618	0	0	3618	2768	632	1192	1551			
Grp Volume(v), veh/h	491	1577	0	0	796	1361	430	0	338			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1384	1824	0	1551			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	19.8	48.0	26.0	0.0	23.5			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	19.8	48.0	26.0	0.0	23.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.35		1.00			
Lane Grp Cap(c), veh/h	544	2190	0	0	1457	1144	499	0	424			
V/C Ratio(X)	0.90	0.72	0.00	0.00	0.55	1.19	0.86	0.00	0.80			
Avail Cap(c_a), veh/h	600	2190	0	0	1457	1144	676	0	575			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.21	0.21	0.00	0.00	0.59	0.59	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.8	0.0	0.0	0.0	25.8	34.0	40.0	0.0	39.1			
Incr Delay (d2), s/veh	4.2	0.4	0.0	0.0	0.9	90.8	8.5	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/ln	5.9	0.1	0.0	0.0	8.4	30.0	12.7	0.0	9.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.4	0.0	0.0	26.7	124.8	48.5	0.0	44.7			
LnGrp LOS	D	A	A	A	C	F	D	A	D			
Approach Vol, veh/h		2068			2157			768				
Approach Delay, s/veh		10.5			88.6			46.8				
Approach LOS		B			F			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		78.1			24.1	54.1		37.9				
Change Period (Y+Rc), s		6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s		60.8			* 20	34.8		43.0				
Max Q Clear Time (g_c+I1), s		2.0			17.9	50.0		28.0				
Green Ext Time (p_c), s		20.7			0.5	0.0		3.6				
Intersection Summary												
HCM 6th Ctrl Delay			49.8									
HCM 6th LOS			D									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	304	227	182	651	58	474	54	223	62	57	419
Future Volume (veh/h)	553	304	227	182	651	58	474	54	223	62	57	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	614	338	252	219	784	70	521	59	245	72	66	487
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	541	1672	512	275	1278	397	466	122	505	116	1168	512
Arrive On Green	0.16	0.33	0.33	0.08	0.25	0.25	0.09	0.39	0.39	0.03	0.33	0.33
Sat Flow, veh/h	3428	5066	1551	3428	5066	1572	4983	311	1292	3428	3526	1546
Grp Volume(v), veh/h	614	338	252	219	784	70	521	0	304	72	66	487
Grp Sat Flow(s),veh/h/ln	1714	1689	1551	1714	1689	1572	1661	0	1604	1714	1763	1546
Q Serve(g_s), s	19.6	5.9	16.1	7.8	17.0	4.3	11.6	0.0	17.7	2.6	1.6	38.2
Cycle Q Clear(g_c), s	19.6	5.9	16.1	7.8	17.0	4.3	11.6	0.0	17.7	2.6	1.6	38.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	541	1672	512	275	1278	397	466	0	627	116	1168	512
V/C Ratio(X)	1.13	0.20	0.49	0.80	0.61	0.18	1.12	0.00	0.49	0.62	0.06	0.95
Avail Cap(c_a), veh/h	541	1672	512	381	1278	397	466	0	627	180	1193	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	29.8	33.2	56.1	41.0	36.3	56.2	0.0	28.4	59.2	28.3	40.5
Incr Delay (d2), s/veh	81.2	0.3	3.4	5.3	2.2	1.0	78.2	0.0	0.9	2.0	0.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	2.5	6.6	3.6	7.3	1.8	8.2	0.0	6.9	1.2	0.7	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.4	30.1	36.6	61.4	43.3	37.3	134.4	0.0	29.3	61.2	28.3	68.6
LnGrp LOS	F	C	D	E	D	D	F	A	C	E	C	E
Approach Vol, veh/h		1204			1073			825			625	
Approach Delay, s/veh		84.2			46.6			95.7			63.5	
Approach LOS		F			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	47.4	16.0	46.4	24.0	37.7	8.6	53.8
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	13.8	* 39	11.6	42.0	19.6	31.3	6.5	47.1
Max Q Clear Time (g_c+I1), s	9.8	18.1	13.6	40.2	21.6	19.0	4.6	19.7
Green Ext Time (p_c), s	0.2	6.9	0.0	0.8	0.0	6.1	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	72.4
HCM 6th LOS	E

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	435	254	0
Future Vol, veh/h	0	0	0	435	254	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	494	279	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	140	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	879	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	879	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.2

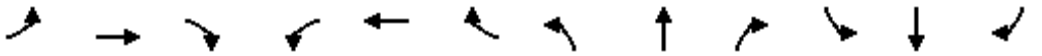
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	394	41	0	254
Future Vol, veh/h	0	11	394	41	0	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	12	428	45	0	276

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	237	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	761	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	761	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	761	-
HCM Lane V/C Ratio	-	-	0.016	-
HCM Control Delay (s)	-	-	9.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	217	30	5	127	3	36	3	4	0	5	38
Future Volume (veh/h)	114	217	30	5	127	3	36	3	4	0	5	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	121	231	32	5	140	3	43	4	5	0	5	39
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.83	0.83	0.83	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	158	1011	138	10	848	18	66	248	310	4	35	271
Arrive On Green	0.09	0.32	0.32	0.01	0.24	0.24	0.04	0.33	0.33	0.00	0.20	0.20
Sat Flow, veh/h	1767	3113	426	1767	3526	75	1767	748	935	1767	178	1388
Grp Volume(v), veh/h	121	129	134	5	70	73	43	0	9	0	0	44
Grp Sat Flow(s),veh/h/ln	1767	1763	1776	1767	1763	1839	1767	0	1682	1767	0	1566
Q Serve(g_s), s	3.0	2.4	2.4	0.1	1.4	1.4	1.1	0.0	0.2	0.0	0.0	1.0
Cycle Q Clear(g_c), s	3.0	2.4	2.4	0.1	1.4	1.4	1.1	0.0	0.2	0.0	0.0	1.0
Prop In Lane	1.00		0.24	1.00		0.04	1.00		0.56	1.00		0.89
Lane Grp Cap(c), veh/h	158	573	577	10	424	442	66	0	558	4	0	306
V/C Ratio(X)	0.76	0.23	0.23	0.53	0.16	0.17	0.66	0.00	0.02	0.00	0.00	0.14
Avail Cap(c_a), veh/h	510	1208	1217	163	846	883	259	0	1229	163	0	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	10.9	10.9	22.0	13.3	13.3	21.1	0.0	10.0	0.0	0.0	14.8
Incr Delay (d2), s/veh	7.4	0.2	0.2	38.3	0.2	0.2	10.6	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.8	0.1	0.5	0.5	0.6	0.0	0.1	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	11.1	11.1	60.3	13.5	13.5	31.7	0.0	10.0	0.0	0.0	15.0
LnGrp LOS	C	B	B	E	B	B	C	A	A	A	A	B
Approach Vol, veh/h		384			148			52			44	
Approach Delay, s/veh		16.2			15.1			27.9			15.0	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	20.1	6.0	13.6	8.4	16.4	0.0	19.6
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 30	6.5	30.0	12.8	21.3	4.1	32.4
Max Q Clear Time (g_c+I1), s	2.1	4.4	3.1	3.0	5.0	3.4	0.0	2.2
Green Ext Time (p_c), s	0.0	1.5	0.0	0.2	0.2	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

LOS Engineering, Inc.

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	517	498	175	191	172	95	74	551	515	500
Average Queue (ft)	407	317	79	109	124	28	33	294	310	254
95th Queue (ft)	556	508	176	177	172	69	68	437	448	377
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	14	2								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		15	0	0	0					
Queuing Penalty (veh)		28	1	0	0					

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	242	255	412	411	246	201	414	474	310	183
Average Queue (ft)	209	224	243	179	129	104	205	225	146	42
95th Queue (ft)	283	288	446	352	234	191	384	410	245	100
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			1	0						
Queuing Penalty (veh)			12	1						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	2	8	1						1	
Queuing Penalty (veh)	11	45	9						1	

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	304	1143	1122	158	186	189	197	140	212	286	243
Average Queue (ft)	291	303	897	479	46	85	76	104	89	125	176	36
95th Queue (ft)	294	307	1279	1129	128	154	154	174	134	221	276	105
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)			4	0								
Queuing Penalty (veh)			19	0								
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	14	65	0			0					3	0
Queuing Penalty (veh)	22	99	1			0					1	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	283	292	300	810	31	72	92	227	120
Average Queue (ft)	229	289	299	732	3	22	36	83	101
95th Queue (ft)	291	293	301	915	17	52	71	194	136
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				32					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	1	7	42	4				0	14
Queuing Penalty (veh)	2	25	145	28				0	6

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	TR	L	TR	L	TR
Maximum Queue (ft)	54	52	74	139	133	79	31	30	70
Average Queue (ft)	22	17	19	44	52	35	2	1	30
95th Queue (ft)	47	43	52	87	103	66	15	10	61
Link Distance (ft)		413	413	873	873		390	231	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190					75			
Storage Blk Time (%)						1			
Queuing Penalty (veh)						0			

Network Summary

Network wide Queuing Penalty: 827

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	498	498	175	202	212	325	179	607	845	818
Average Queue (ft)	413	339	111	164	170	74	64	327	406	336
95th Queue (ft)	543	468	216	230	226	179	116	480	604	534
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	4	0								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		28	0	2	12				0	0
Queuing Penalty (veh)		42	0	5	28				2	0

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	240	255	419	420	380	315	324	334	393	275
Average Queue (ft)	153	220	317	321	202	147	153	158	231	166
95th Queue (ft)	236	298	463	459	316	249	259	257	348	309
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			3	3						
Queuing Penalty (veh)			29	29						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	0	1	13						6	0
Queuing Penalty (veh)	3	9	59						13	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1015	890	73	106	152	165	202	233	340	250
Average Queue (ft)	291	303	595	150	22	52	63	106	128	153	200	69
95th Queue (ft)	295	306	908	479	64	90	139	164	181	224	294	202
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	13	62	0								2	0
Queuing Penalty (veh)	13	63	1								1	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	276	290	300	450	95	110	74	249	120
Average Queue (ft)	147	210	232	117	21	49	28	65	95
95th Queue (ft)	251	321	329	295	64	90	66	204	132
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	0	2	6	1		0		0	14
Queuing Penalty (veh)	0	5	16	4		0		0	4

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	TR
Maximum Queue (ft)	114	93	115	31	92	114	70	31	31
Average Queue (ft)	60	29	45	4	36	37	27	3	20
95th Queue (ft)	98	66	99	21	69	75	59	18	43
Link Distance (ft)		413	413		873	873		390	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190			160			75		
Storage Blk Time (%)							0		
Queuing Penalty (veh)							0		

Network Summary

Network wide Queuing Penalty: 332

Appendix J

Excerpts from City of San Diego Trip Generation Manual

TRIP GENERATION RATE SUMMARY
(WEEKDAY)

LAND USE	DRIVEWAY [1] [2] VEHICLE TRIP RATE	CUMULATIVE [8] VEHICLE TRIP RATE	PEAK HOUR AND IN/OUT RATIO AM (IN:OUT)	PM (IN:OUT)
RESIDENTIAL [3]				
Congregate Care Facility	2 trips/dwelling unit	2 trips/dwelling unit	3% (6:4)	8% (5:5)
Estate Housing	12 trips/dwelling unit	12 trips/dwelling unit	- -	- -
Mobile Home	5 trips/dwelling unit; 40 trips/acre	5 trips/dwelling unit; 40 trips/acre	9% (3:7)	12% (6:4)
Multiple Dwelling Unit:				
Under 20 dwelling units/acre	8 trips/dwelling unit	8 trips/dwelling unit	8% (2:8)	10% (7:3)
Over 20 dwelling units/acre	6 trips/dwelling unit	6 trips/dwelling unit	8% (2:8)	9% (7:3)
Retirement/Senior Citizen Housing	4 trips/dwelling unit	4 trips/dwelling unit	- -	- -
Single Family Detached:				
Urbanized Area [1]	9 trips/dwelling unit	9 trips/dwelling unit	8% (2:8)	10% (7:3)
Urbanizing Area [1]	10 trips/dwelling unit	10 trips/dwelling unit	8% (2:8)	10% (7:3)
TRANSPORTATION FACILITIES [3]				
Bus Depot	25 trips/1,000 sq. ft.	25 trips/1,000 sq. ft.		
Park & Ride Lots	400 trips/acre; 600 trips/paved acre	400 trips/acre; 600 trips/paved acre	14% (7:3)	15% (3:7)
Transit Station (rail)	300 trips/acre	300 trips/acre	14% (7:3)	15% (3:7)

Notes:

(1) From the 1990 Trip Generation Manual. Driveway rates reflect trips that are generated by a site. These rates are used to calculate the total number of trips that impact the project and its immediate vicinity.

(2) Does not include trip rates for Centre City area. See Table 5.

(3) San Diego Association of Governments (SANDAG), "Traffic Generators," San Diego, California, December 1996, and July 1998.

(4) City of San Diego memo, "Trip Generation Rate for Churches," December 9, 1992.

(5) Refer to Cumulative Vehicle Trip Rate column for reduced trip rates.

(6) Ln = Natural logarithm; fitted curve logarithmic equation is used for Commercial Office and Regional Shopping Center. For example, the trip generation of an Office Building with 100,000 sq. ft. of GLA is: Ln(T) = 0.756 Ln(100) + 3.95, or Ln(T) = 0.756 (4.60517) + 3.95, or Ln(T) = 3.481509 + 3.95, or Ln(T) = 7.431509, which is 1,688 trips. The trip generation of a Regional Shopping Center with 1,000,000 sq. ft. of GLA is: Ln(T) = 0.756 Ln(1,000) + 5.25, or Ln(T) = 0.756 (6.907755) + 5.25, or Ln(T) = 5.222263 + 5.25, or Ln(T) = 10.47226, which is 35,322 trips. See Table 2 for calculated trip generation for selected sizes of Regional Shopping Centers, and Table 3 for calculated trip generation for selected sizes of Commercial Offices. GLA = Gross Leasable Area; T = trips; x = GLA in 1,000 square feet.

(7) Institute of Transportation Engineers, "Trip Generation," 5th and 6th Editions, Washington, District of Columbia, 1991 and 1998.

(8) Trips made to a site are Pass-By and Cumulative trips. See Appendix A for definitions of these trips. Cumulative rates are used to determine the community-wide impact of a new project.

Appendix K

SANDAG Select Zone Assignment

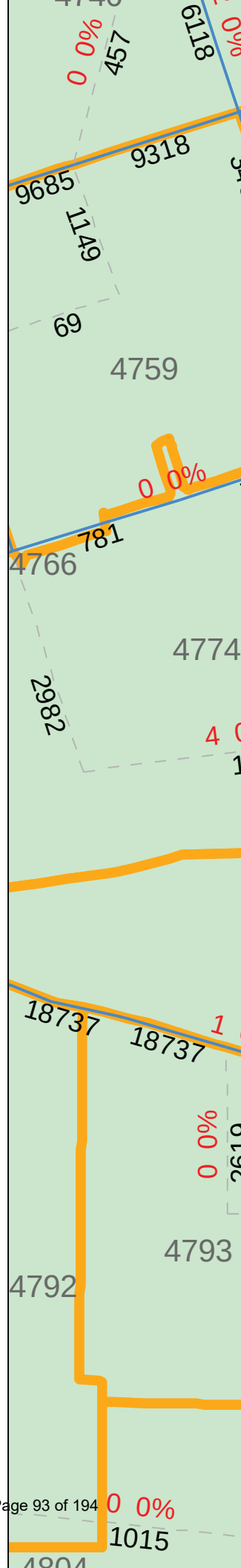
SANDAG
Series13
version13_3_2
Scenario ID 1209

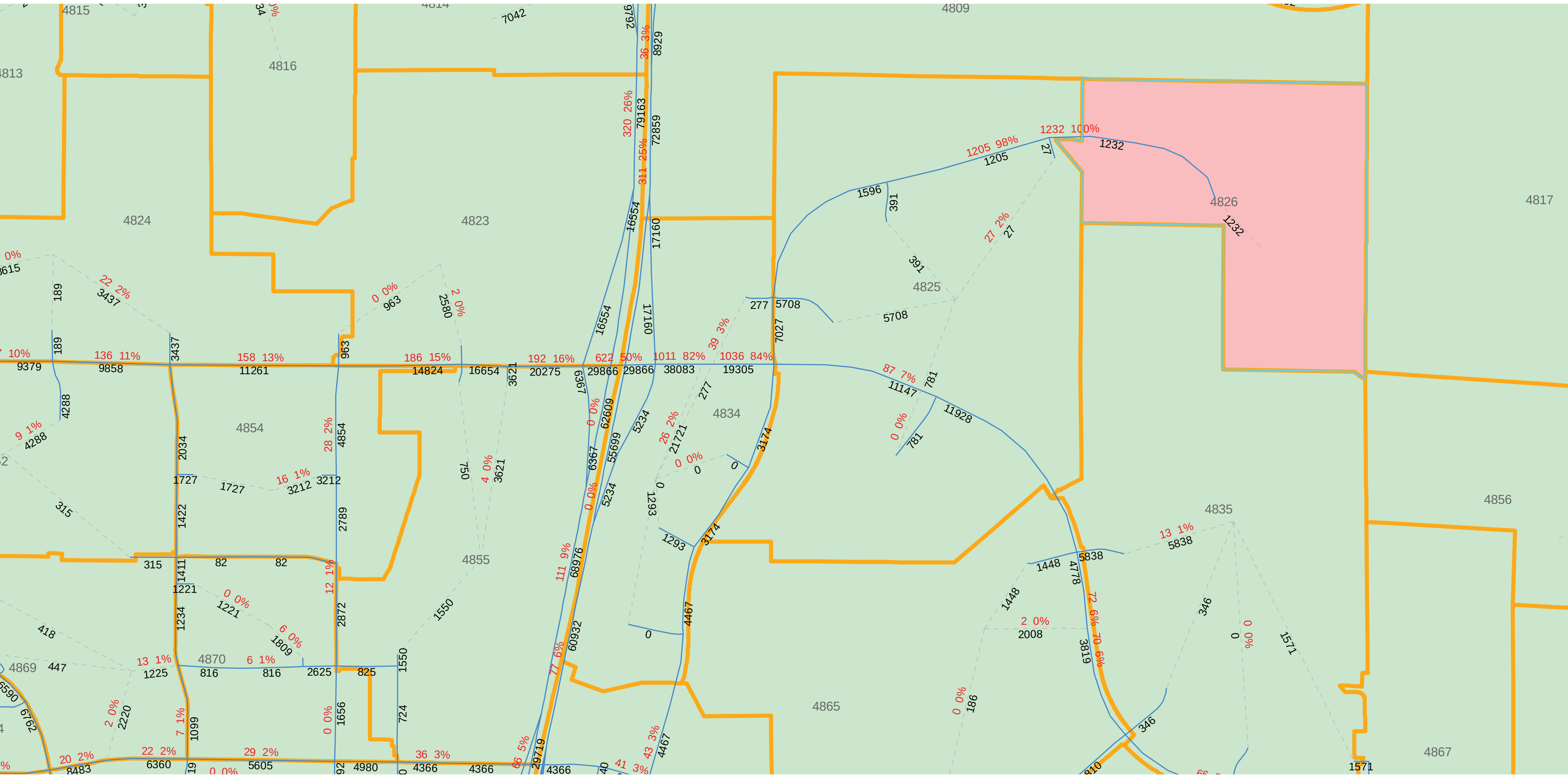
2012

Nakano

Select Zone Run

TAZ 4826

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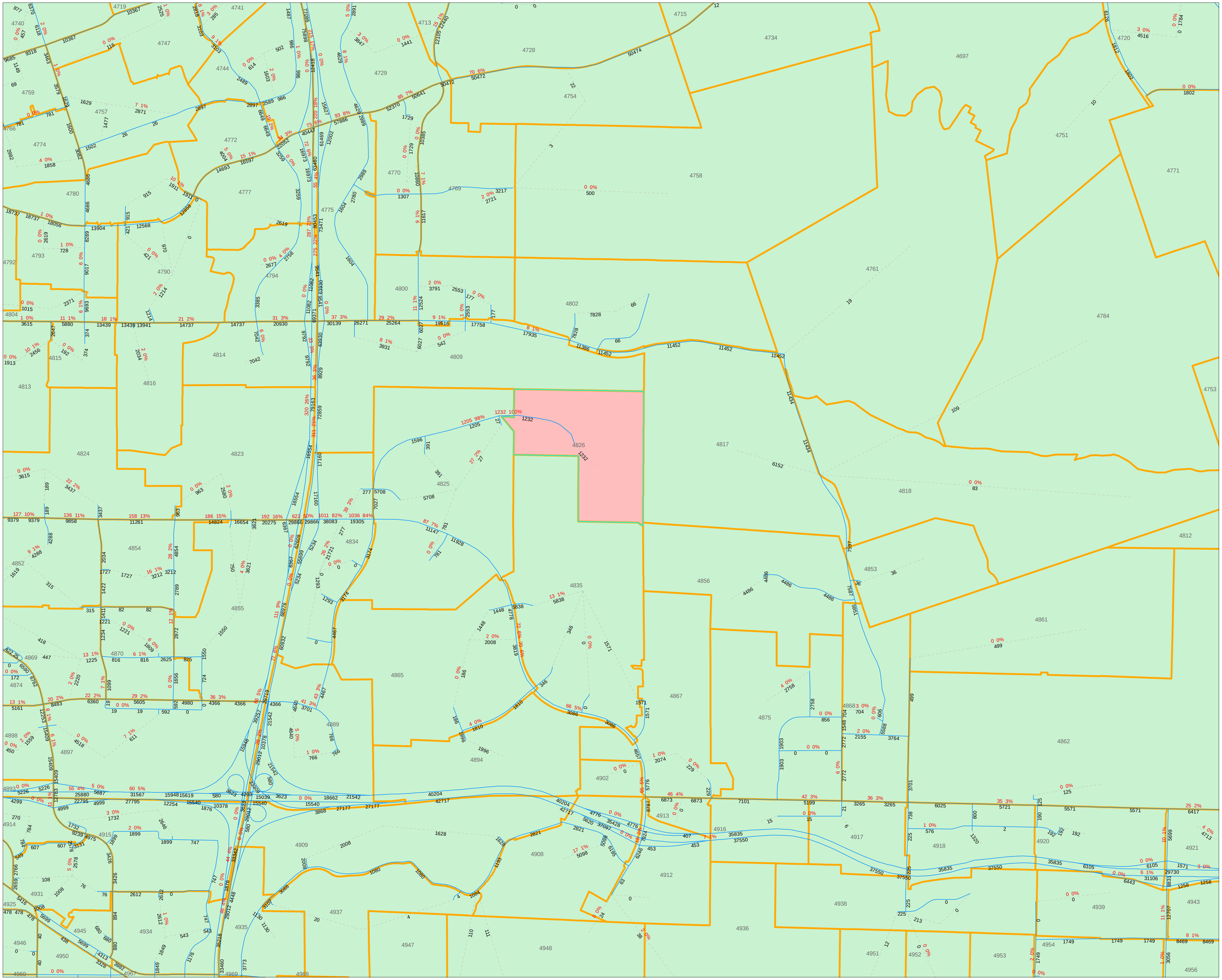
SANDAG
Series13
version13_3_2
Scenario ID 1209

2012

Nakano

Select Zone Run

TAZ 4826



Selected Zone(s)

\# Select Zone Vol and %

\# Model Estimated ADT

SAN DIEGO ASSOCIATION OF GOVERNMENTS
401 B STREET, SUITE 800
SAN DIEGO, CALIFORNIA 92101 USA
(619) 699-1900
E-mail: sandag@sandag.org
Web site: www.sandag.org

N

0 0.075 0.15 0.225
Miles

SANDAG
servicebureau

Date: May 18, 2020

Appendix L

Cumulative Project Information

	1) Palm/805 SB											
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM TOTAL	**0**	**0**	**0**	**30**	**0**	**0**	**0**	**26**	**3**	**10**	**29**	**0**
Azul Playa Del Sol	x	x	x	9			x	3			13	x
California PA 61	x	x	x				x					x
Canlelight	x	x	x				x					x
Dennery Park	x	x	x				x					x
Handler	x	x	x				x	6			3	x
Metropolitan Airpark	x	x	x				x		3		1	x
Palm Prominade	x	x	x	21			x	17		10	12	x
Southview&Southview East	x	x	x				x					x
Southwind	x	x	x				x					x
Southwest Village VTM-1	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
PM TOTAL	**()**	**()**	**()**	**(67)**	**()**	**()**	**()**	**(44)**	**(1)**	**(33)**	**(52)**	**()**
Azul Playa Del Sol	x	x	x	(39)			x	(15)			(6)	x
California PA 61	x	x	x				x					x
Canlelight	x	x	x				x					x
Dennery Park	x	x	x				x					x
Handler	x	x	x				x	(7)			(4)	x
Metropolitan Airpark	x	x	x				x		(1)		(4)	x
Palm Prominade	x	x	x	(28)			x	(22)		(33)	(38)	x
Southview&Southview East	x	x	x				x					x
Southwind	x	x	x				x					x
Southwest Village VTM-1	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x
	x	x	x				x					x

2) Palm/805 NB	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM TOTAL	**1**	**0**	**14**	**0**	**0**	**0**	**0**	**56**	**0**	**0**	**38**	**51**
Azul Playa Del Sol				x	x	x		12	x	x	13	36
California PA 61				x	x	x			x	x		
Canlelight				x	x	x			x	x		
Dennery Park				x	x	x			x	x		
Handler				x	x	x		6	x	x	3	
Metropolitan Airpark	1			x	x	x			x	x		
Palm Prominade			14	x	x	x		38	x	x	22	15
Southview&Southview East				x	x	x			x	x		
Southwind				x	x	x			x	x		
Southwest Village VTM-1				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
0				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
PM TOTAL	**(3)**	**()**	**(19)**	**()**	**()**	**()**	**()**	**(111)**	**()**	**()**	**(82)**	**(65)**
Azul Playa Del Sol				x	x	x		(54)	x	x	(6)	(17)
California PA 61				x	x	x			x	x		
Canlelight				x	x	x			x	x		
Dennery Park				x	x	x			x	x		
Handler				x	x	x		(7)	x	x	(4)	
Metropolitan Airpark	(3)			x	x	x			x	x	(1)	
Palm Prominade			(19)	x	x	x		(50)	x	x	(71)	(48)
Southview&Southview East				x	x	x			x	x		
Southwind				x	x	x			x	x		
Southwest Village VTM-1				x	x	x			x	x		
()				x	x	x			x	x		
()				x	x	x			x	x		
()				x	x	x			x	x		
()				x	x	x			x	x		
()				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		
				x	x	x			x	x		

3) Palm/Dennery	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM TOTAL	**37**	**4**	**23**	**0**	**5**	**0**	**0**	**18**	**40**	**52**	**52**	**0**
Azul Playa Del Sol			5					12		19	49	
California PA 61			7							11		
Canlelight										1		
Dennery Park		1			1							
Handler								6			3	
Metropolitan Airpark												
Palm Prominade	37	3	8		4				40	11		
Southview&Southview East			1							1		
Southwind										1		
Southwest Village VTM-1			2							8		
0												
0												
0												
0												
0												
PM TOTAL	**(119)**	**(11)**	**(77)**	**()**	**(9)**	**()**	**()**	**(61)**	**(52)**	**(43)**	**(28)**	**()**
Azul Playa Del Sol			(21)					(54)		(9)	(23)	
California PA 61			(19)							(15)		
Canlelight			(1)									
Dennery Park		(1)			(2)							
Handler								(7)			(4)	
Metropolitan Airpark											(1)	
Palm Prominade	(119)	(10)	(25)		(7)				(52)	(14)		
Southview&Southview East			(1)							(1)		
Southwind			(1)									
Southwest Village VTM-1			(9)							(4)		
()												
()												
()												
()												
()												

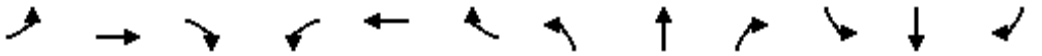
4) Dennery/The Landing	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM TOTAL	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Azul Playa Del Sol	x			x			x	x		x	x	
California PA 61	x			x			x	x		x	x	
Canlelight	x			x			x	x		x	x	
Dennery Park	x	2		x	2		x	x		x	x	
Handler	x			x			x	x		x	x	
Metropolitan Airpark	x			x			x	x		x	x	
Palm Prominade	x	1		x	1		x	x		x	x	
Southview&Southview East	x			x			x	x		x	x	
Southwind	x			x			x	x		x	x	
Southwest Village VTM-1	x			x			x	x		x	x	
0	x			x			x	x		x	x	
0	x			x			x	x		x	x	
0	x			x			x	x		x	x	
0	x			x			x	x		x	x	
0	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
PM TOTAL	**()**	**(5)**	**()**	**()**	**(7)**	**()**	**()**	**()**	**()**	**()**	**()**	**()**
Azul Playa Del Sol	x			x			x	x		x	x	
California PA 61	x			x			x	x		x	x	
Canlelight	x			x			x	x		x	x	
Dennery Park	x	(3)		x	(5)		x	x		x	x	
Handler	x			x			x	x		x	x	
Metropolitan Airpark	x			x			x	x		x	x	
Palm Prominade	x	(2)		x	(2)		x	x		x	x	
Southview&Southview East	x			x			x	x		x	x	
Southwind	x			x			x	x		x	x	
Southwest Village VTM-1	x			x			x	x		x	x	
()	x			x			x	x		x	x	
()	x			x			x	x		x	x	
()	x			x			x	x		x	x	
()	x			x			x	x		x	x	
()	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	
	x			x			x	x		x	x	

5) Dennery/Red Fin	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM TOTAL	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**3**	**0**	**2**	**3**	**0**
Azul Playa Del Sol												
California PA 61												
Canlelight												
Dennery Park			2	1				2		2	2	
Handler												
Metropolitan Airpark												
Palm Prominade								1			1	
Southview&Southview East												
Southwind												
Southwest Village VTM-1												
0												
0												
0												
0												
0												
PM TOTAL	**()**	**()**	**(3)**	**(1)**	**()**	**()**	**()**	**(4)**	**()**	**(5)**	**(6)**	**(1)**
Azul Playa Del Sol												
California PA 61												
Canlelight												
Dennery Park			(3)	(1)				(3)		(5)	(5)	(1)
Handler												
Metropolitan Airpark												
Palm Prominade								(1)			(1)	
Southview&Southview East												
Southwind												
Southwest Village VTM-1												
()												
()												
()												
()												
()												

Roadway Segment	Cumu-lative Total	Azul Playa Del Sol	CA PA61	Candle-light	Dennery Park	Handler Commer-cial	Metro-politan Airpark	Palm Promenade	S. Wiew SV E.	South wind	SWV VTM-1
Dennery Road											
Palm Ave to Regatta Ln	**125**				75			50			
Regatta Ln to Landing Dwy	**140**				100			40			
Landing Dwy to Red Coral	**130**				100			30			
Palm Avenue											
I-805 SB Ramps to NB Ramps	**1648**	488				90	40	1030			
I-805 NB Ramps to Dennery Rd	**2440**	770				90	20	1560			

Appendix M

Opening Year 2025 without Project LOS and Queuing Output



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	965	190	283	385	0	0	0	0	789	2	610
Future Volume (veh/h)	0	965	190	283	385	0	0	0	0	789	2	610
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.98
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1060	209	329	448	0				1032	0	429
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1428	625	382	1993	0				1164	0	508
Arrive On Green	0.00	0.40	0.40	0.22	1.00	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	3618	1544	3428	3618	0				3534	0	1541
Grp Volume(v), veh/h	0	1060	209	329	448	0				1032	0	429
Grp Sat Flow(s),veh/h/ln	0	1763	1544	1714	1763	0				1767	0	1541
Q Serve(g_s), s	0.0	29.7	10.8	10.7	0.0	0.0				32.1	0.0	30.0
Cycle Q Clear(g_c), s	0.0	29.7	10.8	10.7	0.0	0.0				32.1	0.0	30.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1428	625	382	1993	0				1164	0	508
V/C Ratio(X)	0.00	0.74	0.33	0.86	0.22	0.00				0.89	0.00	0.84
Avail Cap(c_a), veh/h	0	1428	625	423	1993	0				1307	0	570
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.92	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.4	23.8	44.2	0.0	0.0				36.8	0.0	36.1
Incr Delay (d2), s/veh	0.0	3.5	1.4	14.4	0.2	0.0				7.1	0.0	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.1	4.2	4.8	0.1	0.0				14.8	0.0	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.9	25.2	58.6	0.2	0.0				43.9	0.0	46.4
LnGrp LOS	A	C	C	E	A	A				D	A	D
Approach Vol, veh/h		1269			777						1461	
Approach Delay, s/veh		31.6			25.0						44.7	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.6	53.1		44.3		71.7
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1
Max Green Setting (Gmax), s	* 14	40.9		42.9		60.9
Max Q Clear Time (g_c+I1), s	12.7	31.7		34.1		2.0
Green Ext Time (p_c), s	0.2	5.3		4.1		3.4

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	678	1156	0	0	550	1153	92	3	313	0	0	0
Future Volume (veh/h)	678	1156	0	0	550	1153	92	3	313	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		0.97	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	721	1230	0	0	567	1189	96	173	212			
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	772	2475	0	0	1508	1148	125	226	296			
Arrive On Green	0.45	1.00	0.00	0.00	0.43	0.43	0.19	0.19	0.19			
Sat Flow, veh/h	3428	3618	0	0	3618	2684	651	1172	1533			
Grp Volume(v), veh/h	721	1230	0	0	567	1189	269	0	212			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1342	1823	0	1533			
Q Serve(g_s), s	23.1	0.0	0.0	0.0	12.7	49.6	16.2	0.0	15.0			
Cycle Q Clear(g_c), s	23.1	0.0	0.0	0.0	12.7	49.6	16.2	0.0	15.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.36		1.00			
Lane Grp Cap(c), veh/h	772	2475	0	0	1508	1148	352	0	296			
V/C Ratio(X)	0.93	0.50	0.00	0.00	0.38	1.04	0.77	0.00	0.72			
Avail Cap(c_a), veh/h	836	2475	0	0	1508	1148	676	0	568			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.45	0.45	0.00	0.00	0.52	0.52	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.1	0.0	0.0	0.0	22.6	33.2	44.3	0.0	43.8			
Incr Delay (d2), s/veh	8.9	0.3	0.0	0.0	0.4	29.1	3.5	0.0	3.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.4	0.1	0.0	0.0	5.3	20.2	7.6	0.0	6.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	0.3	0.0	0.0	23.0	62.3	47.8	0.0	47.1			
LnGrp LOS	D	A	A	A	C	F	D	A	D			
Approach Vol, veh/h		1951			1756			481				
Approach Delay, s/veh		15.0			49.6			47.5				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		87.5			31.8	55.7		28.5				
Change Period (Y+Rc), s		6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s		60.8			* 28	26.8		43.0				
Max Q Clear Time (g_c+I1), s		2.0			25.1	51.6		18.2				
Green Ext Time (p_c), s		13.3			1.0	0.0		2.4				
Intersection Summary												
HCM 6th Ctrl Delay			33.3									
HCM 6th LOS			C									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	574	476	404	252	567	53	823	115	259	28	85	334
Future Volume (veh/h)	574	476	404	252	567	53	823	115	259	28	85	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	611	506	430	341	766	72	885	124	278	34	104	407
Peak Hour Factor	0.94	0.94	0.94	0.74	0.74	0.74	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	564	1423	441	392	1169	358	782	215	482	74	1028	449
Arrive On Green	0.16	0.28	0.28	0.11	0.23	0.23	0.16	0.43	0.43	0.02	0.29	0.29
Sat Flow, veh/h	3428	5066	1571	3428	5066	1549	4983	503	1128	3428	3526	1541
Grp Volume(v), veh/h	611	506	430	341	766	72	885	0	402	34	104	407
Grp Sat Flow(s),veh/h/ln	1714	1689	1571	1714	1689	1549	1661	0	1632	1714	1763	1541
Q Serve(g_s), s	21.6	10.5	35.6	12.8	18.0	4.9	20.6	0.0	24.6	1.3	2.8	33.4
Cycle Q Clear(g_c), s	21.6	10.5	35.6	12.8	18.0	4.9	20.6	0.0	24.6	1.3	2.8	33.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	564	1423	441	392	1169	358	782	0	697	74	1028	449
V/C Ratio(X)	1.08	0.36	0.97	0.87	0.66	0.20	1.13	0.00	0.58	0.46	0.10	0.91
Avail Cap(c_a), veh/h	564	1423	441	449	1169	358	782	0	727	107	1128	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	37.7	46.7	57.2	45.8	40.7	55.3	0.0	28.6	63.5	33.9	44.8
Incr Delay (d2), s/veh	62.4	0.7	37.0	13.7	2.9	1.3	74.9	0.0	1.4	1.6	0.1	21.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	4.5	18.3	6.3	7.9	2.0	14.0	0.0	9.9	0.6	1.2	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.2	38.4	83.7	70.9	48.6	42.0	130.3	0.0	30.0	65.1	34.0	66.1
LnGrp LOS	F	D	F	E	D	D	F	A	C	E	C	E
Approach Vol, veh/h		1547			1179			1287			545	
Approach Delay, s/veh		82.1			54.7			98.9			59.9	
Approach LOS		F			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	43.3	25.0	43.6	26.0	36.7	7.2	61.3
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	17.2	* 36	20.6	42.0	21.6	30.3	4.1	58.5
Max Q Clear Time (g_c+I1), s	14.8	37.6	22.6	35.4	23.6	20.0	3.3	26.6
Green Ext Time (p_c), s	0.2	0.0	0.0	2.4	0.0	5.3	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	77.1
HCM 6th LOS	E

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	165	489	0
Future Vol, veh/h	0	0	0	165	489	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	72	72	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	229	526	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	263	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	732	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	732	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.4

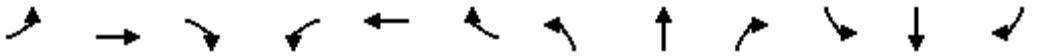
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	148	17	0	489
Future Vol, veh/h	0	30	148	17	0	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	33	161	18	0	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	90	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	947	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	947	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	947	-
HCM Lane V/C Ratio	-	-	0.034	-
HCM Control Delay (s)	-	-	8.9	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

LOS Engineering, Inc.

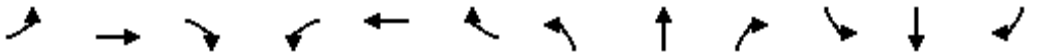


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	78	6	3	249	3	56	5	3	2	5	70
Future Volume (veh/h)	37	78	6	3	249	3	56	5	3	2	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	103	8	3	268	3	61	5	3	2	6	81
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	73	973	75	6	914	10	85	272	163	4	22	304
Arrive On Green	0.04	0.29	0.29	0.00	0.26	0.26	0.05	0.25	0.25	0.00	0.21	0.21
Sat Flow, veh/h	1767	3311	254	1767	3570	40	1767	1080	648	1767	109	1476
Grp Volume(v), veh/h	49	54	57	3	132	139	61	0	8	2	0	87
Grp Sat Flow(s),veh/h/ln	1767	1763	1802	1767	1763	1847	1767	0	1728	1767	0	1585
Q Serve(g_s), s	1.2	1.0	1.0	0.1	2.6	2.6	1.5	0.0	0.2	0.0	0.0	2.0
Cycle Q Clear(g_c), s	1.2	1.0	1.0	0.1	2.6	2.6	1.5	0.0	0.2	0.0	0.0	2.0
Prop In Lane	1.00		0.14	1.00		0.02	1.00		0.38	1.00		0.93
Lane Grp Cap(c), veh/h	73	518	530	6	451	473	85	0	435	4	0	326
V/C Ratio(X)	0.67	0.10	0.11	0.52	0.29	0.29	0.72	0.00	0.02	0.49	0.00	0.27
Avail Cap(c_a), veh/h	180	894	913	168	865	906	205	0	1236	168	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	11.1	11.1	21.5	12.9	12.9	20.3	0.0	12.2	21.5	0.0	14.4
Incr Delay (d2), s/veh	10.3	0.1	0.1	57.3	0.4	0.3	10.8	0.0	0.0	69.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.3	0.1	0.9	1.0	0.8	0.0	0.1	0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	11.2	11.2	78.7	13.3	13.3	31.0	0.0	12.2	91.3	0.0	14.9
LnGrp LOS	C	B	B	E	B	B	C	A	B	F	A	B
Approach Vol, veh/h		160			274			69			89	
Approach Delay, s/veh		17.2			14.0			28.8			16.6	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	18.4	6.5	13.8	6.2	16.8	4.5	15.8
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 22	5.0	30.0	4.4	21.2	4.1	30.9
Max Q Clear Time (g_c+I1), s	2.1	3.0	3.5	4.0	3.2	4.6	2.0	2.2
Green Ext Time (p_c), s	0.0	0.5	0.0	0.5	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	861	150	427	496	0	0	0	0	1255	5	813
Future Volume (veh/h)	0	861	150	427	496	0	0	0	0	1255	5	813
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	936	163	464	539	0				1557	0	560
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1061	467	393	1638	0				1520	0	675
Arrive On Green	0.00	0.30	0.30	0.23	0.93	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	3618	1551	3428	3618	0				3534	0	1570
Grp Volume(v), veh/h	0	936	163	464	539	0				1557	0	560
Grp Sat Flow(s),veh/h/ln	0	1763	1551	1714	1763	0				1767	0	1570
Q Serve(g_s), s	0.0	29.3	9.5	13.3	1.8	0.0				49.9	0.0	36.6
Cycle Q Clear(g_c), s	0.0	29.3	9.5	13.3	1.8	0.0				49.9	0.0	36.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1061	467	393	1638	0				1520	0	675
V/C Ratio(X)	0.00	0.88	0.35	1.18	0.33	0.00				1.02	0.00	0.83
Avail Cap(c_a), veh/h	0	1061	467	393	1638	0				1520	0	675
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.6	31.7	44.7	2.3	0.0				33.0	0.0	29.3
Incr Delay (d2), s/veh	0.0	10.6	2.1	98.7	0.4	0.0				29.4	0.0	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	3.8	10.3	0.6	0.0				26.8	0.0	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	49.2	33.7	143.4	2.6	0.0				62.4	0.0	37.8
LnGrp LOS	A	D	C	F	A	A				F	A	D
Approach Vol, veh/h		1099			1003						2117	
Approach Delay, s/veh		46.9			67.8						55.9	
Approach LOS		D			E						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.0	41.0		56.0		60.0
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1
Max Green Setting (Gmax), s	* 13	34.9		49.9		53.9
Max Q Clear Time (g_c+I1), s	15.3	31.3		51.9		3.8
Green Ext Time (p_c), s	0.0	2.2		0.0		4.2

Intersection Summary	
HCM 6th Ctrl Delay	56.4
HCM 6th LOS	E

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1625	0	0	822	1331	133	4	473	0	0	0
Future Volume (veh/h)	471	1625	0	0	822	1331	133	4	473	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		0.99			
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	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	491	1693	0	0	884	1431	153	294	351			
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	544	2158	0	0	1425	1119	177	339	439			
Arrive On Green	0.32	1.00	0.00	0.00	0.40	0.40	0.28	0.28	0.28			
Sat Flow, veh/h	3428	3618	0	0	3618	2768	624	1200	1551			
Grp Volume(v), veh/h	491	1693	0	0	884	1431	447	0	351			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1384	1824	0	1551			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	23.1	46.9	27.0	0.0	24.3			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	23.1	46.9	27.0	0.0	24.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.34		1.00			
Lane Grp Cap(c), veh/h	544	2158	0	0	1425	1119	516	0	439			
V/C Ratio(X)	0.90	0.78	0.00	0.00	0.62	1.28	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	600	2158	0	0	1425	1119	676	0	575			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.20	0.20	0.00	0.00	0.42	0.42	1.00	0.00	1.00			
Uniform Delay (d), s/veh	38.8	0.0	0.0	0.0	27.5	34.5	39.5	0.0	38.6			
Incr Delay (d2), s/veh	4.0	0.6	0.0	0.0	0.9	128.5	9.2	0.0	6.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.9	0.2	0.0	0.0	9.8	35.3	13.3	0.0	9.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	0.6	0.0	0.0	28.3	163.1	48.7	0.0	44.6			
LnGrp LOS	D	A	A	A	C	F	D	A	D			
Approach Vol, veh/h		2184			2315			798				
Approach Delay, s/veh		10.1			111.6			46.9				
Approach LOS		B			F			D				

Timer - Assigned Phs	2			5	6		8				
Phs Duration (G+Y+Rc), s	77.1			24.1	53.0		38.9				
Change Period (Y+Rc), s	6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s	60.8			* 20	34.8		43.0				
Max Q Clear Time (g_c+I1), s	2.0			17.9	48.9		29.0				
Green Ext Time (p_c), s	23.7			0.5	0.0		3.6				

Intersection Summary												
HCM 6th Ctrl Delay			60.0									
HCM 6th LOS			E									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	365	279	225	679	58	593	65	300	62	66	419
Future Volume (veh/h)	553	365	279	225	679	58	593	65	300	62	66	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	614	406	310	271	818	70	652	71	330	72	77	487
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	541	1597	489	325	1278	397	466	111	514	116	1168	512
Arrive On Green	0.16	0.32	0.32	0.09	0.25	0.25	0.09	0.39	0.39	0.03	0.33	0.33
Sat Flow, veh/h	3428	5066	1551	3428	5066	1572	4983	283	1316	3428	3526	1546
Grp Volume(v), veh/h	614	406	310	271	818	70	652	0	401	72	77	487
Grp Sat Flow(s),veh/h/ln	1714	1689	1551	1714	1689	1572	1661	0	1599	1714	1763	1546
Q Serve(g_s), s	19.6	7.4	21.2	9.6	17.9	4.3	11.6	0.0	25.3	2.6	1.9	38.2
Cycle Q Clear(g_c), s	19.6	7.4	21.2	9.6	17.9	4.3	11.6	0.0	25.3	2.6	1.9	38.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.82	1.00		1.00
Lane Grp Cap(c), veh/h	541	1597	489	325	1278	397	466	0	625	116	1168	512
V/C Ratio(X)	1.13	0.25	0.63	0.83	0.64	0.18	1.40	0.00	0.64	0.62	0.07	0.95
Avail Cap(c_a), veh/h	541	1597	489	381	1278	397	466	0	625	180	1193	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	31.6	36.4	55.2	41.4	36.3	56.3	0.0	30.7	59.2	28.4	40.5
Incr Delay (d2), s/veh	81.2	0.4	6.1	11.3	2.5	1.0	192.6	0.0	2.6	2.0	0.1	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	3.1	8.9	4.7	7.7	1.8	13.2	0.0	10.2	1.2	0.8	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.5	32.0	42.5	66.5	43.9	37.3	248.8	0.0	33.3	61.2	28.4	68.6
LnGrp LOS	F	C	D	E	D	D	F	A	C	E	C	E
Approach Vol, veh/h		1330			1159			1053			636	
Approach Delay, s/veh		81.3			48.8			166.8			62.9	
Approach LOS		F			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	45.5	16.0	46.4	24.0	37.7	8.6	53.8
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	13.8	* 39	11.6	42.0	19.6	31.3	6.5	47.1
Max Q Clear Time (g_c+I1), s	11.6	23.2	13.6	40.2	21.6	19.9	4.6	27.3
Green Ext Time (p_c), s	0.1	7.1	0.0	0.8	0.0	6.0	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	91.0
HCM 6th LOS	F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	440	261	0
Future Vol, veh/h	0	0	0	440	261	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	500	287	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	144	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	874	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	874	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.2

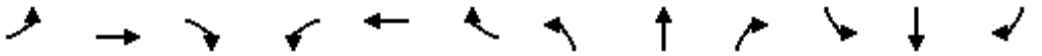
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	399	41	0	261
Future Vol, veh/h	0	11	399	41	0	261
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	12	434	45	0	284

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	240	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	758	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	758	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	758	-
HCM Lane V/C Ratio	-	-	0.016	-
HCM Control Delay (s)	-	-	9.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	221	30	10	133	4	36	3	7	1	5	38
Future Volume (veh/h)	114	221	30	10	133	4	36	3	7	1	5	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	121	235	32	11	146	4	43	4	8	1	5	39
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.83	0.83	0.83	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	158	995	134	20	843	23	66	127	254	4	35	271
Arrive On Green	0.09	0.32	0.32	0.01	0.24	0.24	0.04	0.23	0.23	0.00	0.20	0.20
Sat Flow, veh/h	1767	3120	420	1767	3501	96	1767	550	1099	1767	178	1388
Grp Volume(v), veh/h	121	131	136	11	73	77	43	0	12	1	0	44
Grp Sat Flow(s),veh/h/ln	1767	1763	1777	1767	1763	1834	1767	0	1649	1767	0	1566
Q Serve(g_s), s	3.0	2.4	2.5	0.3	1.5	1.5	1.1	0.0	0.3	0.0	0.0	1.0
Cycle Q Clear(g_c), s	3.0	2.4	2.5	0.3	1.5	1.5	1.1	0.0	0.3	0.0	0.0	1.0
Prop In Lane	1.00		0.24	1.00		0.05	1.00		0.67	1.00		0.89
Lane Grp Cap(c), veh/h	158	562	567	20	424	442	66	0	382	4	0	306
V/C Ratio(X)	0.76	0.23	0.24	0.54	0.17	0.17	0.66	0.00	0.03	0.25	0.00	0.14
Avail Cap(c_a), veh/h	510	1207	1217	163	846	880	259	0	1204	163	0	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	11.1	11.1	21.8	13.3	13.3	21.1	0.0	13.2	22.1	0.0	14.8
Incr Delay (d2), s/veh	7.4	0.2	0.2	20.9	0.2	0.2	10.6	0.0	0.0	30.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.8	0.2	0.5	0.5	0.6	0.0	0.1	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	11.3	11.4	42.7	13.5	13.5	31.7	0.0	13.2	52.2	0.0	15.0
LnGrp LOS	C	B	B	D	B	B	C	A	B	D	A	B
Approach Vol, veh/h		388			161			55			45	
Approach Delay, s/veh		16.3			15.5			27.7			15.8	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	19.9	6.0	13.6	8.4	16.4	4.4	15.2
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 30	6.5	30.0	12.8	21.3	4.1	32.4
Max Q Clear Time (g_c+I1), s	2.3	4.5	3.1	3.0	5.0	3.5	2.0	2.3
Green Ext Time (p_c), s	0.0	1.5	0.0	0.2	0.2	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

LOS Engineering, Inc.

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	517	526	175	202	210	122	144	474	501	468
Average Queue (ft)	439	362	95	106	123	34	38	326	346	279
95th Queue (ft)	568	546	203	176	183	82	103	453	491	425
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	15	3								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		20	0	0	1					
Queuing Penalty (veh)		37	0	0	2					

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	242	255	427	442	286	226	414	460	353	275
Average Queue (ft)	195	217	286	222	158	123	222	246	160	69
95th Queue (ft)	284	297	501	410	272	216	387	422	278	194
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			6	1						
Queuing Penalty (veh)			52	11						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	2	11	4						2	0
Queuing Penalty (veh)	13	66	30						3	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1151	1143	1132	174	222	251	159	234	334	255
Average Queue (ft)	268	279	673	518	201	88	110	141	97	144	184	59
95th Queue (ft)	336	348	1440	1263	783	159	186	204	150	218	282	187
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)			12	1	0							
Queuing Penalty (veh)			61	5	0							
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	6	44	0			0	0	1			4	0
Queuing Penalty (veh)	9	70	0			0	0	2			2	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	280	292	300	810	31	88	74	205	120
Average Queue (ft)	225	288	299	756	6	33	36	57	94
95th Queue (ft)	313	295	300	908	26	66	61	170	136
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				44					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	1	9	44	3				1	12
Queuing Penalty (veh)	3	35	164	22				4	5

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	56	52	52	31	116	89	53	32	30	54
Average Queue (ft)	22	12	18	2	45	44	32	4	1	29
95th Queue (ft)	51	37	49	15	83	79	55	21	10	54
Link Distance (ft)		413	413		873	873		390	231	231
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			160			75			
Storage Blk Time (%)										
Queuing Penalty (veh)										

Network Summary

Network wide Queuing Penalty: 799

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	517	498	175	202	214	407	115	817	943	724
Average Queue (ft)	404	328	92	168	175	134	57	509	569	479
95th Queue (ft)	549	481	207	229	230	330	102	700	811	682
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	8	3				1			1	
Queuing Penalty (veh)	0	0				4			0	
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		28	0	1	19			0	1	
Queuing Penalty (veh)		41	0	3	46			0	7	

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	236	255	428	420	440	365	337	326	477	275
Average Queue (ft)	157	239	386	382	222	173	198	204	240	161
95th Queue (ft)	226	297	477	476	382	315	293	309	366	306
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			7	9						
Queuing Penalty (veh)			79	94						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	0	2	19						6	0
Queuing Penalty (veh)	1	15	91						14	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1147	1164	70	121	217	252	224	259	351	255
Average Queue (ft)	291	302	581	233	20	61	88	125	142	153	212	30
95th Queue (ft)	294	307	1110	770	57	106	182	211	215	227	300	105
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)			2	0								
Queuing Penalty (veh)			13	1								
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	12	52	1				0	1	0		3	
Queuing Penalty (veh)	14	63	4				0	2	1		2	

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	282	291	300	797	78	116	228	246	120
Average Queue (ft)	222	267	277	545	24	52	47	86	103
95th Queue (ft)	313	338	348	1001	52	91	118	234	140
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				32					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	2	14	34	7		1	0	2	18
Queuing Penalty (veh)	7	49	125	43		0	0	7	6

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

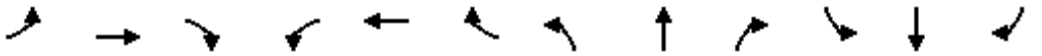
Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	TR
Maximum Queue (ft)	133	116	139	51	111	53	87	31	55
Average Queue (ft)	65	41	60	10	38	26	28	3	19
95th Queue (ft)	108	91	107	34	82	56	68	17	45
Link Distance (ft)		413	413		873	873		390	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190			160			75		
Storage Blk Time (%)							1		
Queuing Penalty (veh)							0		

Network Summary

Network wide Queuing Penalty: 710

Appendix N

Opening Year 2025 plus Project LOS and Queuing Output



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	970	190	301	404	0	0	0	0	805	2	610
Future Volume (veh/h)	0	970	190	301	404	0	0	0	0	805	2	610
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.98
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1066	209	350	470	0				1048	0	429
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1396	611	400	1981	0				1177	0	513
Arrive On Green	0.00	0.40	0.40	0.23	1.00	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	3618	1543	3428	3618	0				3534	0	1541
Grp Volume(v), veh/h	0	1066	209	350	470	0				1048	0	429
Grp Sat Flow(s),veh/h/ln	0	1763	1543	1714	1763	0				1767	0	1541
Q Serve(g_s), s	0.0	30.4	11.0	11.4	0.0	0.0				32.6	0.0	29.8
Cycle Q Clear(g_c), s	0.0	30.4	11.0	11.4	0.0	0.0				32.6	0.0	29.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1396	611	400	1981	0				1177	0	513
V/C Ratio(X)	0.00	0.76	0.34	0.87	0.24	0.00				0.89	0.00	0.84
Avail Cap(c_a), veh/h	0	1396	611	423	1981	0				1307	0	570
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.91	0.91	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.3	24.5	43.6	0.0	0.0				36.7	0.0	35.8
Incr Delay (d2), s/veh	0.0	4.0	1.5	16.2	0.3	0.0				7.4	0.0	9.7
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/ln	0.0	13.4	4.3	5.2	0.1	0.0				15.1	0.0	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.3	26.0	59.9	0.3	0.0				44.1	0.0	45.4
LnGrp LOS	A	C	C	E	A	A				D	A	D
Approach Vol, veh/h		1275			820						1477	
Approach Delay, s/veh		33.0			25.7						44.5	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.2	52.0		44.7		71.3
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1
Max Green Setting (Gmax), s	* 14	40.9		42.9		60.9
Max Q Clear Time (g_c+I1), s	13.4	32.4		34.6		2.0
Green Ext Time (p_c), s	0.1	5.0		4.0		3.6

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	678	1177	0	0	588	1215	92	3	317	0	0	0
Future Volume (veh/h)	678	1177	0	0	588	1215	92	3	317	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		0.97	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	721	1252	0	0	606	1253	96	176	214			
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	772	2469	0	0	1502	1144	125	229	298			
Arrive On Green	0.45	1.00	0.00	0.00	0.43	0.43	0.19	0.19	0.19			
Sat Flow, veh/h	3428	3618	0	0	3618	2684	644	1180	1533			
Grp Volume(v), veh/h	721	1252	0	0	606	1253	272	0	214			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1342	1823	0	1533			
Q Serve(g_s), s	23.1	0.0	0.0	0.0	13.8	49.4	16.4	0.0	15.2			
Cycle Q Clear(g_c), s	23.1	0.0	0.0	0.0	13.8	49.4	16.4	0.0	15.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.35		1.00			
Lane Grp Cap(c), veh/h	772	2469	0	0	1502	1144	355	0	298			
V/C Ratio(X)	0.93	0.51	0.00	0.00	0.40	1.10	0.77	0.00	0.72			
Avail Cap(c_a), veh/h	836	2469	0	0	1502	1144	676	0	568			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.42	0.42	0.00	0.00	0.38	0.38	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.1	0.0	0.0	0.0	23.1	33.3	44.2	0.0	43.7			
Incr Delay (d2), s/veh	8.4	0.3	0.0	0.0	0.3	49.1	3.5	0.0	3.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.3	0.1	0.0	0.0	5.8	23.3	7.7	0.0	6.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.3	0.0	0.0	23.4	82.4	47.7	0.0	47.0			
LnGrp LOS	D	A	A	A	C	F	D	A	D			
Approach Vol, veh/h		1973			1859			486				
Approach Delay, s/veh		14.6			63.1			47.4				
Approach LOS		B			E			D				

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	87.3		31.8	55.5		28.7
Change Period (Y+Rc), s	6.1		* 5.7	6.1		6.1
Max Green Setting (Gmax), s	60.8		* 28	26.8		43.0
Max Q Clear Time (g_c+I1), s	2.0		25.1	51.4		18.4
Green Ext Time (p_c), s	13.7		1.0	0.0		2.4

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	599	476	404	252	567	55	823	118	259	37	95	434
Future Volume (veh/h)	599	476	404	252	567	55	823	118	259	37	95	434
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	637	506	430	341	766	74	885	127	278	45	116	529
Peak Hour Factor	0.94	0.94	0.94	0.74	0.74	0.74	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	549	1371	425	390	1137	348	760	225	493	83	1097	480
Arrive On Green	0.16	0.27	0.27	0.11	0.22	0.22	0.15	0.44	0.44	0.02	0.31	0.31
Sat Flow, veh/h	3428	5066	1571	3428	5066	1549	4983	512	1121	3428	3526	1541
Grp Volume(v), veh/h	637	506	430	341	766	74	885	0	405	45	116	529
Grp Sat Flow(s),veh/h/ln	1714	1689	1571	1714	1689	1549	1661	0	1633	1714	1763	1541
Q Serve(g_s), s	21.6	10.9	36.5	13.2	18.7	5.3	20.6	0.0	24.9	1.8	3.2	42.0
Cycle Q Clear(g_c), s	21.6	10.9	36.5	13.2	18.7	5.3	20.6	0.0	24.9	1.8	3.2	42.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	549	1371	425	390	1137	348	760	0	718	83	1097	480
V/C Ratio(X)	1.16	0.37	1.01	0.87	0.67	0.21	1.16	0.00	0.56	0.54	0.11	1.10
Avail Cap(c_a), veh/h	549	1371	425	437	1137	348	760	0	718	104	1097	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	39.9	49.2	58.9	47.8	42.6	57.2	0.0	28.2	65.1	33.1	46.5
Incr Delay (d2), s/veh	91.3	0.8	46.7	15.0	3.2	1.4	87.8	0.0	1.3	2.1	0.1	72.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	4.7	19.8	6.6	8.2	2.2	14.8	0.0	10.0	0.8	1.4	25.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.0	40.7	95.9	73.9	51.0	44.0	145.0	0.0	29.5	67.2	33.2	118.7
LnGrp LOS	F	D	F	E	D	D	F	A	C	E	C	F
Approach Vol, veh/h		1573			1181			1290			690	
Approach Delay, s/veh		99.2			57.2			108.8			101.0	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	42.9	25.0	47.3	26.0	36.7	7.7	64.6
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	17.2	* 36	20.6	42.0	21.6	30.3	4.1	58.5
Max Q Clear Time (g_c+I1), s	15.2	38.5	22.6	44.0	23.6	20.7	3.8	26.9
Green Ext Time (p_c), s	0.2	0.0	0.0	0.0	0.0	5.0	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	91.6
HCM 6th LOS	F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	122	0	198	489	31
Future Vol, veh/h	0	122	0	198	489	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	72	72	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	133	0	275	526	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	280	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	714	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	714	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	714	-	-
HCM Lane V/C Ratio	-	0.186	-	-
HCM Control Delay (s)	-	11.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.7	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.4

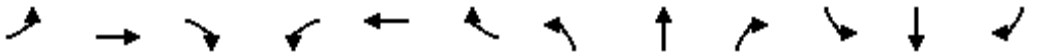
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	181	17	0	520
Future Vol, veh/h	0	30	181	17	0	520
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	33	197	18	0	565

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	108	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	922	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	922	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	922	-
HCM Lane V/C Ratio	-	-	0.035	-
HCM Control Delay (s)	-	-	9	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

LOS Engineering, Inc.

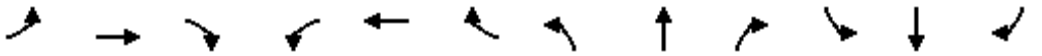


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	81	6	3	250	3	56	5	3	2	5	70
Future Volume (veh/h)	67	81	6	3	250	3	56	5	3	2	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	88	107	8	3	269	3	61	5	3	2	6	81
Peak Hour Factor	0.76	0.76	0.76	0.93	0.93	0.93	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	110	1029	76	6	894	10	84	267	160	4	22	297
Arrive On Green	0.06	0.31	0.31	0.00	0.25	0.25	0.05	0.25	0.25	0.00	0.20	0.20
Sat Flow, veh/h	1767	3321	245	1767	3570	40	1767	1080	648	1767	109	1475
Grp Volume(v), veh/h	88	56	59	3	133	139	61	0	8	2	0	87
Grp Sat Flow(s),veh/h/ln	1767	1763	1804	1767	1763	1847	1767	0	1728	1767	0	1585
Q Serve(g_s), s	2.2	1.0	1.0	0.1	2.7	2.7	1.5	0.0	0.2	0.1	0.0	2.1
Cycle Q Clear(g_c), s	2.2	1.0	1.0	0.1	2.7	2.7	1.5	0.0	0.2	0.1	0.0	2.1
Prop In Lane	1.00		0.14	1.00		0.02	1.00		0.38	1.00		0.93
Lane Grp Cap(c), veh/h	110	546	559	6	442	463	84	0	427	4	0	320
V/C Ratio(X)	0.80	0.10	0.11	0.52	0.30	0.30	0.72	0.00	0.02	0.50	0.00	0.27
Avail Cap(c_a), veh/h	175	871	892	163	843	884	199	0	1205	163	0	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.5	10.9	10.9	22.1	13.5	13.5	20.8	0.0	12.6	22.1	0.0	14.9
Incr Delay (d2), s/veh	12.4	0.1	0.1	57.3	0.4	0.4	11.1	0.0	0.0	73.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.3	0.4	0.1	1.0	1.0	0.8	0.0	0.1	0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	11.0	11.0	79.4	13.8	13.8	31.9	0.0	12.6	95.9	0.0	15.4
LnGrp LOS	C	B	B	E	B	B	C	A	B	F	A	B
Approach Vol, veh/h		203			275			69			89	
Approach Delay, s/veh		20.5			14.5			29.7			17.2	
Approach LOS		C			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	19.4	6.5	13.8	7.2	16.8	4.5	15.9
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 22	5.0	30.0	4.4	21.2	4.1	30.9
Max Q Clear Time (g_c+I1), s	2.1	3.0	3.5	4.1	4.2	4.7	2.1	2.2
Green Ext Time (p_c), s	0.0	0.5	0.0	0.5	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	882	150	436	505	0	0	0	0	1323	5	813
Future Volume (veh/h)	0	882	150	436	505	0	0	0	0	1323	5	813
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	959	163	474	549	0				1627	0	560
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1000	440	423	1608	0				1551	0	689
Arrive On Green	0.00	0.28	0.28	0.25	0.91	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	3618	1551	3428	3618	0				3534	0	1570
Grp Volume(v), veh/h	0	959	163	474	549	0				1627	0	560
Grp Sat Flow(s),veh/h/ln	0	1763	1551	1714	1763	0				1767	0	1570
Q Serve(g_s), s	0.0	31.1	9.8	14.3	2.3	0.0				50.9	0.0	36.1
Cycle Q Clear(g_c), s	0.0	31.1	9.8	14.3	2.3	0.0				50.9	0.0	36.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1000	440	423	1608	0				1551	0	689
V/C Ratio(X)	0.00	0.96	0.37	1.12	0.34	0.00				1.05	0.00	0.81
Avail Cap(c_a), veh/h	0	1000	440	423	1608	0				1551	0	689
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.9	33.3	43.7	2.9	0.0				32.5	0.0	28.4
Incr Delay (d2), s/veh	0.0	20.1	2.4	74.1	0.4	0.0				36.9	0.0	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.1	4.0	9.5	0.8	0.0				28.9	0.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	61.0	35.6	117.8	3.3	0.0				69.5	0.0	35.8
LnGrp LOS	A	E	D	F	A	A				F	A	D
Approach Vol, veh/h		1122			1023						2187	
Approach Delay, s/veh		57.3			56.3						60.8	
Approach LOS		E			E						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	39.0		57.0		59.0
Change Period (Y+Rc), s	* 5.7	6.1		6.1		6.1
Max Green Setting (Gmax), s	* 14	32.9		50.9		52.9
Max Q Clear Time (g_c+I1), s	16.3	33.1		52.9		4.3
Green Ext Time (p_c), s	0.0	0.0		0.0		4.3

Intersection Summary	
HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1714	0	0	840	1360	133	4	493	0	0	0
Future Volume (veh/h)	471	1714	0	0	840	1360	133	4	493	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		0.99			
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	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	491	1785	0	0	903	1462	153	312	362			
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	544	2125	0	0	1393	1093	175	358	453			
Arrive On Green	0.32	1.00	0.00	0.00	0.40	0.40	0.29	0.29	0.29			
Sat Flow, veh/h	3428	3618	0	0	3618	2768	601	1225	1551			
Grp Volume(v), veh/h	491	1785	0	0	903	1462	465	0	362			
Grp Sat Flow(s),veh/h/ln	1714	1763	0	0	1763	1384	1826	0	1551			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	24.2	45.8	28.1	0.0	25.0			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	24.2	45.8	28.1	0.0	25.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.33		1.00			
Lane Grp Cap(c), veh/h	544	2125	0	0	1393	1093	533	0	453			
V/C Ratio(X)	0.90	0.84	0.00	0.00	0.65	1.34	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	600	2125	0	0	1393	1093	677	0	575			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.8	0.0	0.0	0.0	28.5	35.1	39.0	0.0	37.9			
Incr Delay (d2), s/veh	1.9	0.4	0.0	0.0	0.9	154.0	10.0	0.0	6.2			
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/ln	5.7	0.1	0.0	0.0	10.2	38.4	13.9	0.0	10.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	0.4	0.0	0.0	29.4	189.1	49.0	0.0	44.1			
LnGrp LOS	D	A	A	A	C	F	D	A	D			
Approach Vol, veh/h		2276			2365			827				
Approach Delay, s/veh		9.1			128.1			46.9				
Approach LOS		A			F			D				

Timer - Assigned Phs	2			5	6		8				
Phs Duration (G+Y+Rc), s	76.0			24.1	51.9		40.0				
Change Period (Y+Rc), s	6.1			* 5.7	6.1		6.1				
Max Green Setting (Gmax), s	60.8			* 20	34.8		43.0				
Max Q Clear Time (g_c+I1), s	2.0			17.9	47.8		30.1				
Green Ext Time (p_c), s	26.2			0.5	0.0		3.7				

Intersection Summary												
HCM 6th Ctrl Delay			66.3									
HCM 6th LOS			E									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	662	365	279	225	679	67	593	77	300	66	71	466
Future Volume (veh/h)	662	365	279	225	679	67	593	77	300	66	71	466
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	736	406	310	271	818	81	652	85	330	77	83	542
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	538	1583	485	325	1268	394	462	129	502	122	1185	519
Arrive On Green	0.16	0.31	0.31	0.09	0.25	0.25	0.09	0.39	0.39	0.04	0.34	0.34
Sat Flow, veh/h	3428	5066	1551	3428	5066	1572	4983	329	1277	3428	3526	1546
Grp Volume(v), veh/h	736	406	310	271	818	81	652	0	415	77	83	542
Grp Sat Flow(s),veh/h/ln	1714	1689	1551	1714	1689	1572	1661	0	1606	1714	1763	1546
Q Serve(g_s), s	19.6	7.5	21.5	9.7	18.0	5.1	11.6	0.0	26.4	2.8	2.0	42.0
Cycle Q Clear(g_c), s	19.6	7.5	21.5	9.7	18.0	5.1	11.6	0.0	26.4	2.8	2.0	42.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	538	1583	485	325	1268	394	462	0	632	122	1185	519
V/C Ratio(X)	1.37	0.26	0.64	0.83	0.64	0.21	1.41	0.00	0.66	0.63	0.07	1.04
Avail Cap(c_a), veh/h	538	1583	485	378	1268	394	462	0	632	178	1185	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	32.1	36.9	55.6	41.9	37.0	56.7	0.0	31.0	59.5	28.2	41.5
Incr Delay (d2), s/veh	177.7	0.4	6.3	11.6	2.5	1.2	197.0	0.0	2.9	2.0	0.1	51.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.7	3.1	9.0	4.7	7.8	2.1	13.3	0.0	10.7	1.2	0.9	23.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	230.4	32.5	43.3	67.2	44.4	38.2	253.7	0.0	33.9	61.5	28.3	92.8
LnGrp LOS	F	C	D	E	D	D	F	A	C	E	C	F
Approach Vol, veh/h		1452			1170			1067			702	
Approach Delay, s/veh		135.1			49.3			168.2			81.8	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	45.5	16.0	47.3	24.0	37.7	8.9	54.4
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	13.8	* 39	11.6	42.0	19.6	31.3	6.5	47.1
Max Q Clear Time (g_c+I1), s	11.7	23.5	13.6	44.0	21.6	20.0	4.8	28.4
Green Ext Time (p_c), s	0.1	7.0	0.0	0.0	0.0	6.0	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	111.7
HCM 6th LOS	F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	57	0	571	261	133
Future Vol, veh/h	0	57	0	571	261	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	62	0	649	287	146

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	217	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	784	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	784	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	784	-	-
HCM Lane V/C Ratio	-	0.079	-	-
HCM Control Delay (s)	-	10	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.1

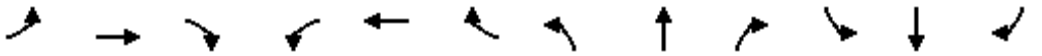
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	530	41	0	394
Future Vol, veh/h	0	11	530	41	0	394
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	12	576	45	0	428

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	311	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	682	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	682	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	682	-
HCM Lane V/C Ratio	-	-	0.018	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	222	30	10	136	4	36	3	7	1	5	38
Future Volume (veh/h)	244	222	30	10	136	4	36	3	7	1	5	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	260	236	32	11	149	4	43	4	8	1	5	39
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.83	0.83	0.83	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	324	1211	162	20	756	20	64	117	233	4	32	246
Arrive On Green	0.18	0.39	0.39	0.01	0.22	0.22	0.04	0.21	0.21	0.00	0.18	0.18
Sat Flow, veh/h	1767	3122	418	1767	3503	94	1767	549	1099	1767	178	1387
Grp Volume(v), veh/h	260	132	136	11	75	78	43	0	12	1	0	44
Grp Sat Flow(s),veh/h/ln	1767	1763	1778	1767	1763	1834	1767	0	1648	1767	0	1564
Q Serve(g_s), s	7.1	2.5	2.5	0.3	1.7	1.8	1.2	0.0	0.3	0.0	0.0	1.2
Cycle Q Clear(g_c), s	7.1	2.5	2.5	0.3	1.7	1.8	1.2	0.0	0.3	0.0	0.0	1.2
Prop In Lane	1.00		0.24	1.00		0.05	1.00		0.67	1.00		0.89
Lane Grp Cap(c), veh/h	324	683	689	20	380	396	64	0	350	4	0	277
V/C Ratio(X)	0.80	0.19	0.20	0.55	0.20	0.20	0.68	0.00	0.03	0.28	0.00	0.16
Avail Cap(c_a), veh/h	516	1155	1165	145	771	803	145	0	988	145	0	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	10.1	10.2	24.6	16.1	16.1	23.8	0.0	15.6	25.0	0.0	17.4
Incr Delay (d2), s/veh	4.8	0.1	0.1	21.4	0.2	0.2	11.8	0.0	0.0	38.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.8	0.9	0.2	0.7	0.7	0.7	0.0	0.1	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	10.3	10.3	46.0	16.3	16.3	35.7	0.0	15.7	63.8	0.0	17.7
LnGrp LOS	C	B	B	D	B	B	D	A	B	E	A	B
Approach Vol, veh/h		528			164			55			45	
Approach Delay, s/veh		17.2			18.3			31.3			18.7	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	25.1	6.2	13.8	13.6	16.5	4.5	15.5
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 33	4.1	30.0	14.6	21.9	4.1	30.0
Max Q Clear Time (g_c+I1), s	2.3	4.5	3.2	3.2	9.1	3.8	2.0	2.3
Green Ext Time (p_c), s	0.0	1.6	0.0	0.2	0.4	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

LOS Engineering, Inc.

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	535	513	175	198	211	96	96	596	594	532
Average Queue (ft)	503	488	118	96	121	33	41	332	339	262
95th Queue (ft)	520	534	219	170	186	74	88	510	492	417
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	67	25								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		41	0	0	2					
Queuing Penalty (veh)		78	1	0	4					

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	242	255	418	427	273	225	467	459	401	275
Average Queue (ft)	196	235	313	249	155	129	232	245	157	73
95th Queue (ft)	272	290	497	449	237	215	418	426	282	181
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			7	2						
Queuing Penalty (veh)			60	18						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	2	9	8						1	0
Queuing Penalty (veh)	9	51	53						2	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1150	1171	1132	178	234	253	288	301	358	255
Average Queue (ft)	264	280	894	706	251	79	105	144	115	149	204	48
95th Queue (ft)	353	361	1574	1491	896	148	193	222	207	235	305	166
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)			24	5	0							
Queuing Penalty (veh)			119	25	0							
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	12	57	2		0	0	0	1			6	0
Queuing Penalty (veh)	19	90	14		0	0	0	3			4	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	283	292	300	821	80	92	96	270	120
Average Queue (ft)	207	289	298	786	5	25	47	128	109
95th Queue (ft)	287	292	303	810	31	62	80	268	137
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				53					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	0	9	45	4				1	21
Queuing Penalty (veh)	1	33	169	32				4	10

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	116	52	73	31	74	93	70	31	31	53
Average Queue (ft)	33	15	20	3	43	42	38	3	2	29
95th Queue (ft)	77	44	52	18	71	70	70	18	14	50
Link Distance (ft)		413	413		873	873		390	231	231
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			160			75			
Storage Blk Time (%)							2			
Queuing Penalty (veh)							0			

Network Summary

Network wide Queuing Penalty: 1421

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	546	522	175	202	214	282	478	825	967	825
Average Queue (ft)	503	496	132	158	172	119	95	543	607	506
95th Queue (ft)	522	536	236	228	238	249	240	931	1060	894
Link Distance (ft)	483	483				394	394		928	
Upstream Blk Time (%)	76	51							9	
Queuing Penalty (veh)	0	0							0	
Storage Bay Dist (ft)			150	190	190			800		800
Storage Blk Time (%)		69	0	2	15	0		2	8	0
Queuing Penalty (veh)		104	1	5	37	0		26	89	2

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	R	R	LTR	R
Maximum Queue (ft)	240	255	419	427	393	330	378	404	833	275
Average Queue (ft)	144	232	375	372	249	190	195	205	347	215
95th Queue (ft)	222	300	467	477	355	290	324	334	652	312
Link Distance (ft)			394	394	1132	1132	1132	1132	881	
Upstream Blk Time (%)			18	17						
Queuing Penalty (veh)			199	185						
Storage Bay Dist (ft)	230	230								250
Storage Blk Time (%)	1	2	34						21	1
Queuing Penalty (veh)	8	20	162						51	3

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1156	1157	1107	154	194	244	298	288	331	255
Average Queue (ft)	284	297	915	560	137	64	92	136	145	159	204	47
95th Queue (ft)	321	335	1541	1344	645	116	172	217	228	252	293	163
Link Distance (ft)			1132	1132	1132				400	400	400	
Upstream Blk Time (%)			18	1								
Queuing Penalty (veh)			132	9								
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	26	62						0	1		4	0
Queuing Penalty (veh)	31	75						0	1		3	0

Intersection: 3: Dennery Rd & Palm Ave/Ocean View Hills Pkwy

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	283	291	300	797	119	96	117	290	120
Average Queue (ft)	241	287	298	781	18	47	31	113	106
95th Queue (ft)	306	298	303	798	65	87	75	278	141
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				64					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	2	22	57	8	0		0	1	28
Queuing Penalty (veh)	7	83	214	47	0		0	3	10

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

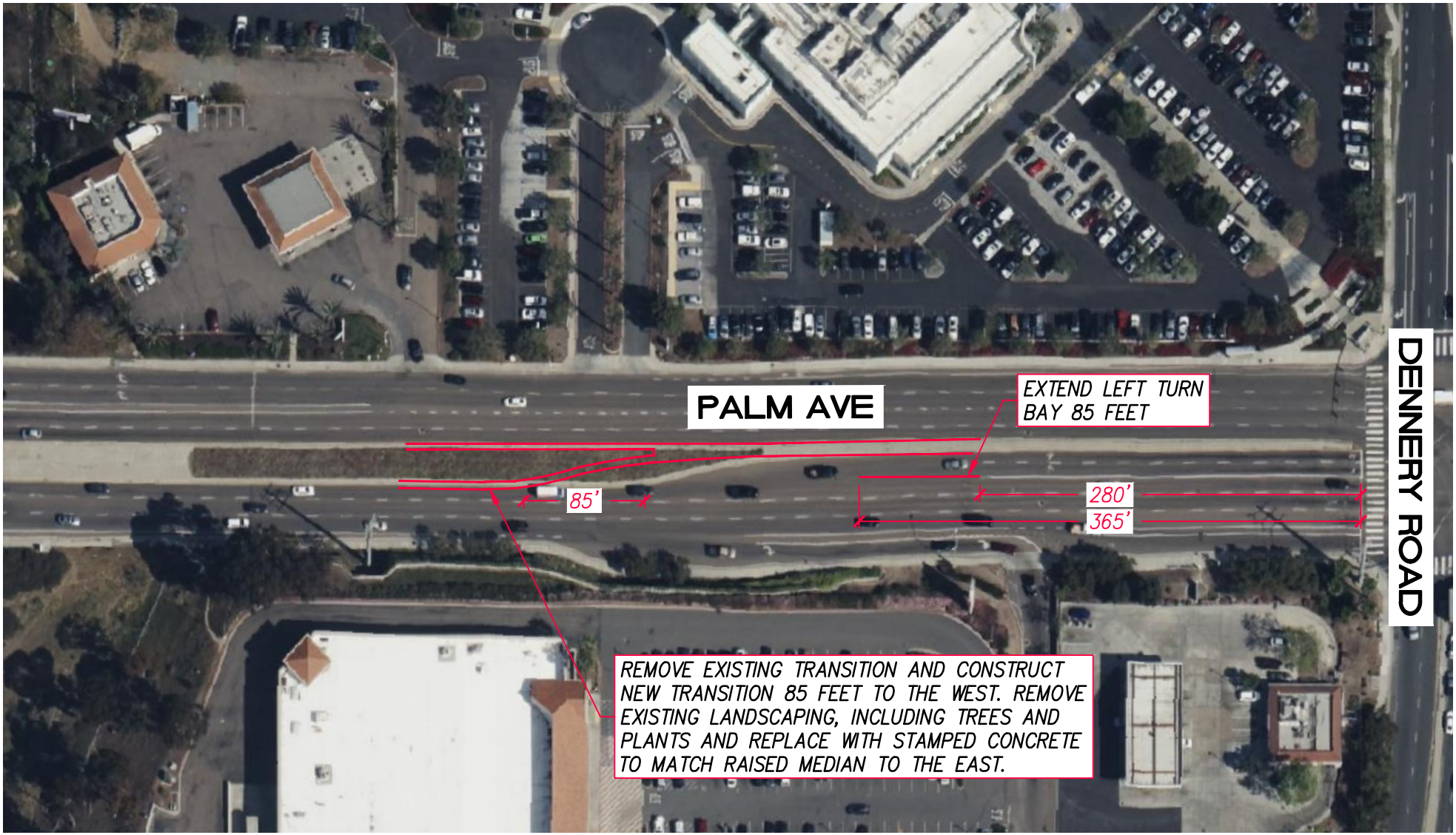
Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	TR
Maximum Queue (ft)	207	235	93	31	119	73	72	31	76
Average Queue (ft)	105	29	44	11	37	31	29	4	23
95th Queue (ft)	178	100	87	34	84	68	60	21	52
Link Distance (ft)		413	413		873	873		390	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190			160			75		
Storage Blk Time (%)	0						0		
Queuing Penalty (veh)	0						0		

Network Summary

Network wide Queuing Penalty: 1261

Appendix O

Proposed Improvement Concept Drawings



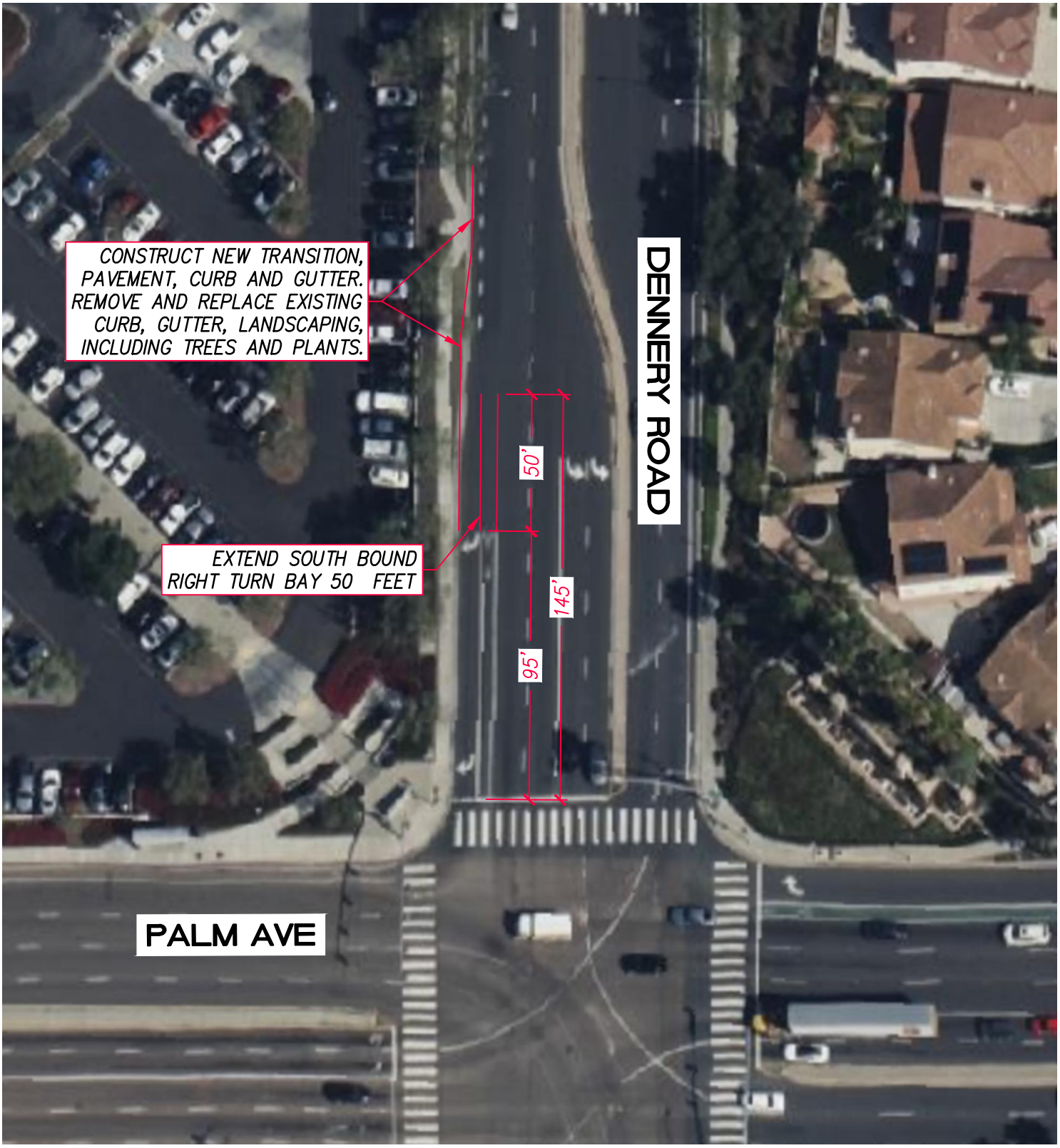
INTERSECTION OF DENNERY RD AT PALM AVE

Nakano LMA Appendix

N

SCALE: 1"=100'

CIVIL SENSE INC
13475 Danielson Street, Suite 150
Poway, CA 92064

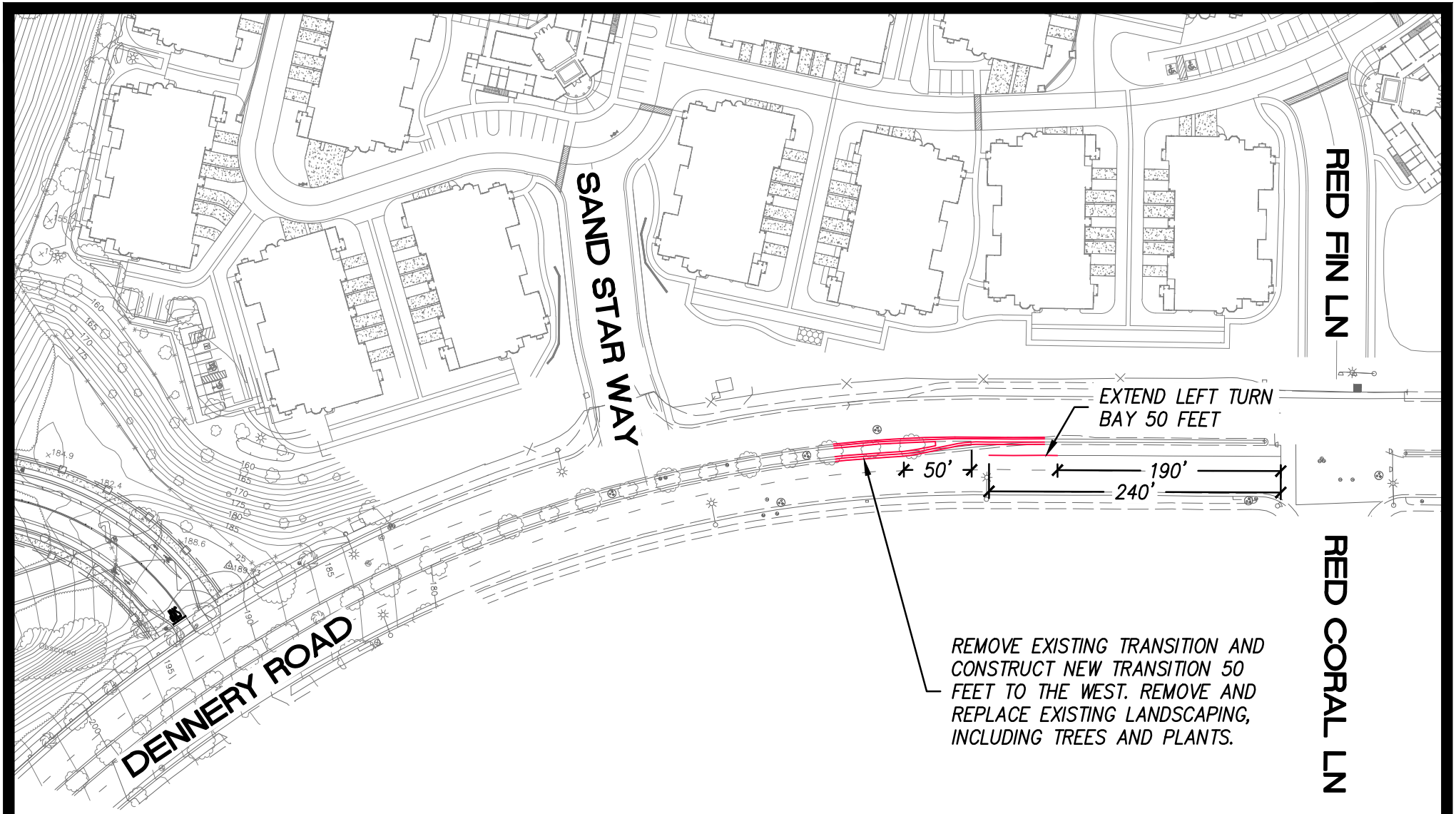


SCALE: 1"=50'

INTERSECTION OF DENNERY RD AT PALM AVE

Nakano LMA Appendix

CIVIL SENSE INC
13475 Danielson Street, Suite 150
Poway, CA 92064



INTERSECTION OF DENNERY RD AT RED FIN / RED CORAL LN

Nakano LMA Appendix

SCALE: 1"=100'

CIVIL SENSE INC
13475 Danielson Street, Suite 150
Poway, CA 92064

Appendix P

Fair Share Calculations

The fair share is calculated based on the proportional amount of project traffic being added to the Palm Ave bridge. While the fair share is not required by CEQA, the fair share calculation approach is based on the following section in CEQA:

> 15041. AUTHORITY TO MITIGATE
>
> Within the limitations described in Section 15040:
>
> (a) A lead agency for a project has authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the "nexus" and "**rough proportionality**" standards established by case law (*Nollan v. California Coastal Commission* (1987) 483 U.S. 825, *Dolan v. City of Tigard*, (1994) 512 U.S. 374, *Ehrlich v. City of Culver City*, (1996) 12 Cal. 4th 854.).

Using rough proportionality, the segment fair share amount is based on the percentage of project traffic compared to the total traffic as follows:

> **Opening Year 2024: 932 project ADT/38,031 background ADT = 2.5%**

The horizon year fair share calculation:

> **Horizon Year 2062: 932 project ADT/46,000 background ADT = 2.0%**

The higher Opening Year fair share of **2.5%** is the controlling fair share to be paid by the Owner/Permittee.

Appendix Q

Horizon Year Volumes and Growth Factor Calculations

5.12 Transportation/Circulation

This section analyzes the potential transportation-related impacts associated with the adoption of the CPU. The study area boundaries for the purposes of the traffic analysis include the CPU area and extend to those areas outside the CPU area to roads that are common to other communities in the City of San Diego and other jurisdictions such as the City of Chula Vista and the County of San Diego. The analysis in this section is based on the Traffic Impact Analysis (TIA) prepared by Urban Systems Associates (USA), Inc. (June 14, 2012), which is contained in Appendix J.

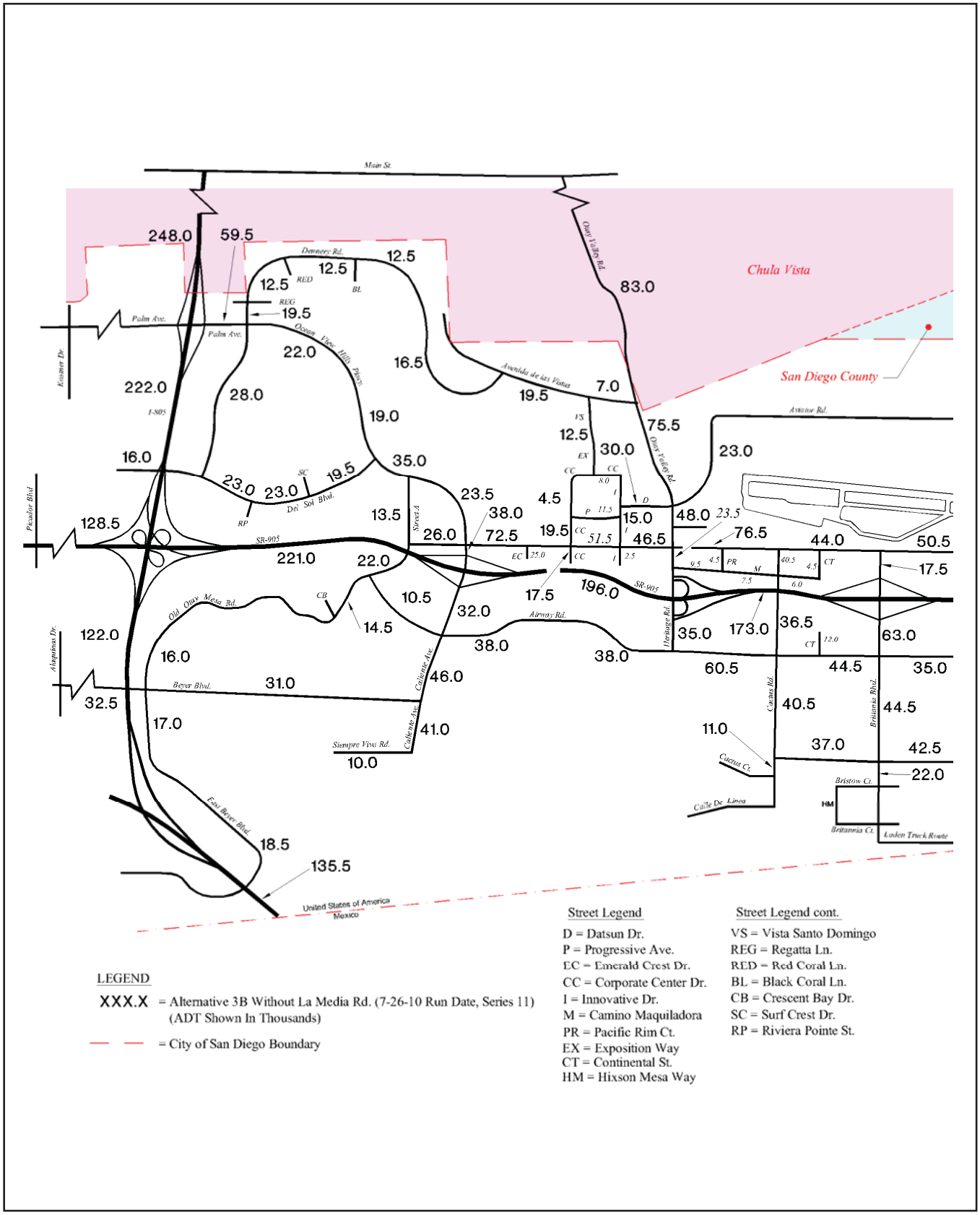
Traffic analysis was conducted in support of the CPU in order to identify the recommended roadway classifications and other recommended transportation improvements to support buildout of the CPU land uses and proposed zoning, and to identify any significant traffic impacts that would remain unmitigated at the programmatic level.

Future traffic volumes were forecasted using SANDAG's Series 11 regional transportation model calibrated for the Otay Mesa area. Land uses within the CPU area were assumed to be built out within the traffic model. The CPU transportation model network included the future improvements from the Adopted Community Plan that were assumed to be completed at buildout of the CPU and included the Year 2030 Regional Transportation Plan "Reasonably Expected" projects in the region such as SR-11 and the SR-905/SR-125/SR-11 freeway interchange. Also, the model was modified to include a half-diamond interchange (instead of a full interchange) at SR-125/Lone Star Road and a portion of SR-125 was modeled as a toll facility.

Due to the undeveloped nature of much of the community, a majority of the circulation element roadways are not built, are only partially built, or are not operating near capacity. Therefore, for many facilities, an analysis of the CPU buildout traffic volumes on the existing transportation network was not possible or meaningful. So, although the existing condition is considered the baseline for identifying significant impacts, in order to identify the recommended roadway classifications and other transportation improvements, the proposed CPU land use buildout traffic volumes were initially analyzed on the CPU transportation network. Based on those level of service analysis results and other considerations, where possible, recommendations were made for the CPU roadway classifications, intersection lane configurations, and freeway and ramp improvements that would mitigate or reduce impacts by bringing the facilities to Level of Service D or better operation at buildout.

All but 24 potential roadway segment significant impacts would be mitigated at the programmatic level by incorporating the recommended roadway segment classifications (refer to Table 5.12-4 CPU Classification column) in the CPU Figure 3-2 Otay Mesa Roadway Classification Map and Public Facilities Financing Plan, and through future

Map Source: Urban Systems Associates, Inc. 2012



LEGEND

XXX.X = Alternative 3B Without La Media Rd. (7-26-10 Run Date, Series 11) (ADT Shown In Thousands)

— — = City of San Diego Boundary

Street Legend

D = Datsun Dr.
P = Progressive Ave.
EC = Emerald Crest Dr.
CC = Corporate Center Dr.
I = Innovative Dr.
M = Camino Maquiladora
PR = Pacific Rim Ct.
EX = Exposition Way
CT = Continental St.
HM = Hixson Mesa Way

Street Legend cont.

VS = Vista Santo Domingo
REG = Regatta Ln.
RED = Red Coral Ln.
BL = Black Coral Ln.
CB = Crescent Bay Dr.
SC = Surf Crest Dr.
RP = Riviera Pointe St.

Not to Scale

FIGURE 5.12-3a

Horizon Year Plus CPU Condition Roadway Segment Volumes (West)

TABLE 5.12-5
CPU HORIZON YEAR ROADWAY SEGMENT LEVEL OF SERVICE
(continued)

Street	Segment	Horizon Year					Horizon Year with CPU			
		Class[1]	LOS E ADT[2]	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	Sig?
Palm Ave.	I-805 to Dennery Rd.	7-PA	65,000	59,500	0.92	D	-	-	-	N
Ocean View Hills Parkway	Dennery Rd. to Del Sol Blvd.	4-M	40,000	22,000	0.55	C	-	-	-	N
	Del Sol Blvd. to Street "A"	6-M	50,000	35,000	0.70	C	-	-	-	N
	Street "A" to Otay Mesa Rd.	6-M	50,000	23,500	0.42	B	-	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	6-M	50,000	38,000	0.76	C	6-PA	0.63	C	N
	SR-905 to Airway Rd.	6-M	50,000	32,000	0.64	C	6-PA	0.53	B	N
	Airway Rd. to Beyer Blvd.	4-M	40,000	46,000	1.15	**F**	6-M	0.92	**E**	**Y**
	Beyer Blvd. to Siempre Viva Rd.	4-M	40,000	41,000	1.03	**F**	-	-	-	**Y**
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd. Old Otay Mesa Rd. to Caliente Ave.[3]	4-M	40,000	32,500	0.81	D	-	-	-	N
		4-M	40,000	31,000	0.78	D	-	-	-	N
Heritage Road/ Otay Valley Road	Main St. to Avenida de Las Vistas**	6-PA	60,000	83,000	1.38	**F**	-	-	-	**Y**
	Avenida De Las Vistas to Datsun St.	6-M	50,000	75,500	1.51	**F**	6-PA	1.26	**F**	**Y**
	Datsun St. to Otay Mesa Rd.	6-M	50,000	48,000	0.96	**E**	6-PA	0.80	C	N
	Otay Mesa Rd. to SR-905	6-M	50,000	23,500	0.47	B	6-PA	0.39	A	N
	SR-905 to Airway Rd.	6-M	50,000	35,000	0.70	C	6-PA	0.58	B	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	4-CL	30,000	40,500	1.35	**F**	4-M	1.01	**F**	**Y**
	Airway Rd. to Siempre Viva Rd.	4-CL	30,000	40,500	1.35	**F**	4-M	1.01	**F**	**Y**
	Siempre Viva Rd. to South End	2-CL	15,000	11,000	0.73	D	-	-	-	N
Britannia Boulevard	Otay Mesa Rd. to SR-905	4-M	40,000	17,500	0.44	B	6-PA	0.29	A	N
	SR-905 to Airway Rd.	4-M	40,000	63,000	1.58	**F**	6-PA	1.05	**F**	**Y**
	Airway Rd. to Siempre Viva Rd.	4-M	40,000	44,500	1.11	**F**	6-M	0.89	D	N
	Siempre Viva Rd. to South End	2-C	8,000	22,000	2.75	**F**	4-CL	0.73	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	6-PA	60,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Lone Star Rd. to Aviator Rd.	6-PA	60,000	19,500	0.33	A	4-M	0.49	B	N
	Aviator Rd. to Otay Mesa Rd.	6-PA	60,000	22,500	0.38	A	4-M	0.56	C	N
	Otay Mesa Rd. to SR-905	6-PA	60,000	37,500	0.63	C	-	-	-	N
	SR-905 to Airway Rd.	6-PA	60,000	64,000	1.06	**F**	-	-	-	**Y**
	Airway Rd. to Siempre Viva Rd.	4-M	40,000	33,000	0.83	D	5-M	0.73	C	N
Harvest Road	South of Otay Mesa Rd.	4-M	40,000	8,500	0.21	A	2-CL	0.57	C	N
	Airway Rd. to Otay Center Dr.	4-M	40,000	16,000	0.40	B	4-CL	0.53	C	N
	Otay Center Dr. to Siempre Viva Rd.	4-M	40,000	10,000	0.25	A	4-CL	0.33	A	N
Enrico Fermi Drive	SR-11 to Airway Rd.*	4-M	40,000	15,500	0.62	B	-	-	-	N
	Airway Rd. to Siempre Viva Rd.	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N

TABLE 5.12-5
CPU HORIZON YEAR ROADWAY SEGMENT LEVEL OF SERVICE
(continued)

Street	Segment	Horizon Year					Horizon Year with CPU			
		Class[1]	LOS E ADT[2]	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	Sig?
Lone Star Road	SR-125 to Piper Ranch Rd.	4-M	40,000	35,000	0.88	D	6-PA	0.58	B	N
	Piper Ranch Rd. to City/County Boundary	4-M	40,000	36,000	0.90	**E**	6-PA	0.60	C	N
Aviator Road	Heritage Rd. to La Media Rd. [3]	2-C	8,000	23,000	2.88	F	4-CL	0.77	D	N
Dennery Road	Palm Ave. to Del Sol Blvd.	4-M	40,000	28,000	0.70	C	-	-	-	N
	Palm Ave. to Regatta Ln.	4-M	40,000	19,500	0.49	B	-	-	-	N
	Regatta Ln. to Red Coral Ln.	4-CL	30,000	12,500	0.42	B	-	-	-	N
	Red Coral Ln. to Black Coral Ln.	2-CL	15,000	12,500	0.83	D	-	-	-	N
	Black Coral Ln. to East End	2-CN	10,000	16,500	1.65	**F**	-	-	-	**Y**
Avenida De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	2-CN	10,000	7,000	0.70	C	-	-	-	N
	Vis ta Santo Domingo to Dennery Rd.	2-CN	10,000	19,500	1.95	**F**	-	-	-	**Y**
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	4-CL	30,000	19,500	0.65	C	-	-	-	N
	Surf Crest Dr. to Riviera Pointe	2-CN	10,000	23,000	2.30	**F**	-	-	-	**Y**
	Riviera Pointe to Dennery Rd.	2-CL	15,000	23,000	1.53	**F**	-	-	-	**Y**
	Dennery Rd. to I-805	4-CL	30,000	16,000	0.53	C	-	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	4-M	40,000	13,500	0.34	A	-	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	4-CL	30,000	22,000	0.73	D	-	-	-	N
	Airway Rd. to Crescent Bay Dr.	4-CL	30,000	14,500	0.48	C	-	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	2-C	8,000	16,000	2.00	**F**	-	-	-	**Y**
Emerald Crest Dr.	Otay Mesa Rd. to South End [3]	4-CL	30,000	25,000	0.83	D	-	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. [3]	4-CL	30,000	17,500	0.58	C	-	-	-	N
	Otay Mesa Rd. to Progressive Ave.	4-CL	30,000	19,500	0.65	C	-	-	-	N
	Progressive Ave. to Innovative Dr.	2-C	8,000	8,000	1.00	**E**	2-CL	0.53	C	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	4-CL	30,000	15,000	0.50	C	-	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	4-CL	30,000	20,500	0.68	D	-	-	-	N
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. [4]	4-C	15,000	24,500	1.63	**F**	4-CL	0.82	D	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas[4]	2-CL	15,000	12,000	0.80	D	-	-	-	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	2-C	8,000	16,500	2.06	**F**	4-CL	0.55	C	N
	Siempre Viva Rd. to Marconi Dr.	2-C	8,000	15,000	1.88	**F**	4-CL	0.50	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	2-C	8,000	8,000	1.00	**E**	2-CL	0.53	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd.[4]	4-C	15,000	15,500	1.03	**F**	4-CL	0.52	C	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. [4]	2-CL	15,000	6,500	0.43	B	-	-	-	N
	Siempre Viva Rd. to Marconi Dr. [4]	2-CL	15,000	8,000	0.53	C	-	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	2-C	8,000	13,500	1.69	**F**	4-CL	0.45	C	N

Intersections

With the specified proposed classifications the following intersections would be expected to operate at unacceptable levels of service in the Horizon Year Plus CPU condition (Table 5.12-6):

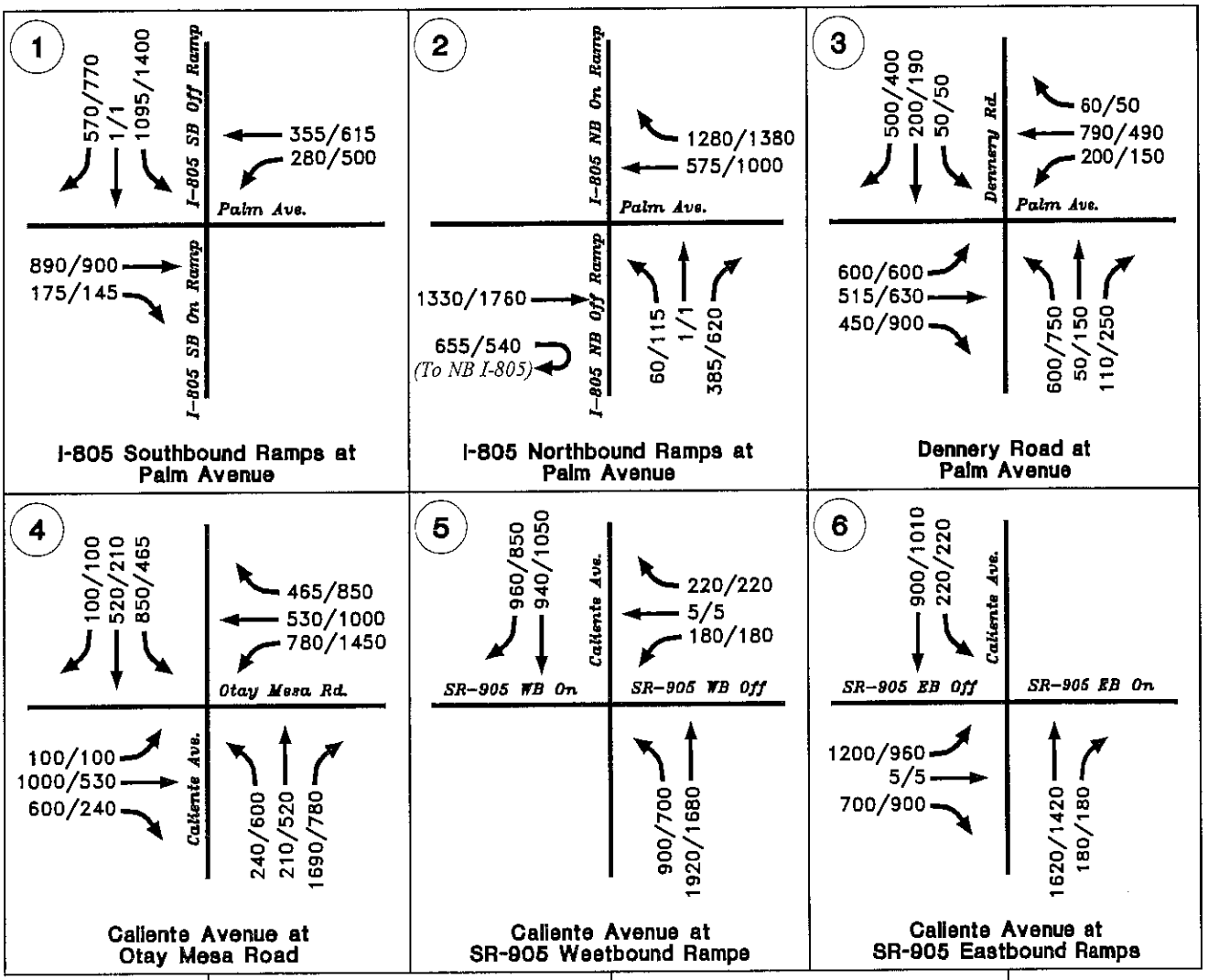
1. Palm Ave./I-805 NB Ramps (LOS F in the AM and PM peak hours)
2. Palm Ave./Dennery Rd. (LOS E in the PM peak hour)
3. Otay Mesa Rd./Caliente Ave. (LOS F in the AM and PM peak hours)
4. Caliente Ave./SR-905 WB Ramps (LOS F in the AM peak hour and LOS D with excessive queues blocking the intersection in the PM peak hour)
5. Caliente Ave./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
6. Caliente Ave./Airway Rd. (LOS F in the AM and PM peak hours)
7. Caliente Ave./Beyer Blvd. (LOS F in the AM and PM peak hours)
8. Otay Mesa Rd./Heritage Rd. (LOS F in the AM and PM peak hours)
9. Heritage Rd./SR-905 WB Ramps (LOS E in the AM peak hour and LOS F in the PM peak hour)
10. Heritage Rd./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
11. Heritage Rd./Airway Rd. (LOS F in the AM and PM peak hours)
12. Otay Mesa Rd./Cactus Rd. (LOS F in the AM and PM peak hours)
13. Airway Rd./Cactus Rd. (LOS F in the AM and PM peak hours)
14. Siempre Viva Rd./Cactus Rd. (LOS F in the PM peak hour)
15. Otay Mesa Rd./Britannia Blvd. (LOS F in the AM and PM peak hours)
16. Britannia Blvd./SR-905 WB Ramps (LOS F in the AM and PM peak hours)
17. Britannia Blvd./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
18. Britannia Blvd./Airway Rd. (LOS F in the AM and PM peak hours)
19. Siempre Viva Rd./Britannia Blvd. (LOS F in the AM and PM peak hours)
20. Otay Mesa Rd./La Media Rd. (LOS F in the AM and PM peak hours)
21. La Media Rd./SR-905 WB Ramps (LOS F in the AM and PM peak hours)
22. La Media Rd./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
23. La Media Rd./Airway Rd. (LOS F in the AM and PM peak hours)
24. La Media Rd./Siempre Viva Rd. (LOS F in the AM and PM peak hours)
25. Lone Star Rd./SR-125 SB Off Ramp (LOS E in the AM peak hour and LOS F in the PM peak hours)
26. Lone Star Rd./SR-125 NB On Ramp (LOS A with excessive queues blocking the intersection in the AM peak hour and LOS F in the PM peak hour)
27. Lone Star Rd./Piper Ranch Rd. (LOS A with excessive queues blocking the intersection in the PM peak hour)
28. Otay Mesa Rd./Piper Ranch Rd. (LOS F in the AM and PM peak hours)
29. Otay Mesa Rd./SR-125 SB Off Ramp (LOS F in the AM peak hour and LOS B with excessive queues blocking the intersection in the PM peak hour)
30. Otay Mesa Rd./Harvest Rd. (LOS F in the PM peak hour)
31. Siempre Viva Rd./Otay Center Dr. (LOS F in the AM and PM peak hours)

TABLE 5.12-6
CPU HORIZON YEAR INTERSECTION LEVELS OF SERVICE

	Intersection	Horizon Year Plus CPU				Mitigation	Horizon Year Plus CPU With Mitigation				Significant After Mitigation?
		AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour		
		CD	LOS	CD	LOS		CD	LOS	CD	LOS	
1	Palm Ave./I-805 SB Ramps	48.9	D	51.3	D	Revise SB-LTR to LT; +1 SB-R*	24.8	C	35.7	D	-
2	Palm Ave./I-805 NB Ramps	116.1	**F**	122.6	**F**	+1 dedicated NB-L; +1EB-T; +1EB-R; +1WB-T; +1WB-R	4.6	A	5.5	A	No
3	Palm Ave./Dennery Rd.	33.5	C	67.2	**E**	-	-	-	-	-	**Yes**
4	Otay Mesa Rd./Caliente Ave.	263.5	**F**	146.0	**F**	+1 dedicated NB-R	205.9	**F**	87.2	**F**	**Yes**
5	Caliente Ave./SR-905 WB Ramps	83.1	**F**	43.2	**D**[1]	+1 NB-L; +1 dedicated SB-R	34.0	**C**[1]	34.0	**C**[1]	**Yes**
6	Caliente Ave./SR-905 EB Ramps	165.7	**F**	150.5	**F**	+1 dedicated NB-R; +1SB-L; +1 dedicated EB-R	55.0	**E**	70.2	**E**	**Yes**
7	Caliente Ave./Airway Rd.	228.5	**F**	223.0	**F**	+1 dedicated NB-L; +1 dedicated EB-R	143.0	**F**	200.5	**F**	**Yes**
8	Caliente Ave./Beyer Blvd.	252.0	**F**	429.8	**F**	+2 dedicated SB-R; +1 dedicated EB-R	212.7	**F**	122.4	**F**	**Yes**
9	Otay Mesa Rd./Heritage Rd.	367.5	**F**	257.4	**F**	+1 dedicated NB-R; +1 dedicated SB-R; +1WB-R	272.0	**F**	161.2	**F**	**Yes**
10	Heritage Rd./SR-905 WB Ramps	69.9	**E**	81.1	**F**	+2 dedicated NB-R	15.9	**B**[1]	28.4	**C**[1]	**Yes**
11	Heritage Rd./SR-905 EB Ramps	113.0	**F**	86.4	**F**	+1 dedicated NB-L; +1 dedicated WB-R	39.5	**D**[1]	25.5	**C**[1]	**Yes**
12	Heritage Rd./Airway Rd.	162.7	**F**	402.8	**F**	+2 dedicated WB-R	144.5	**F**	88.3	**F**	**Yes**
13	Heritage Rd./Siempre Viva Rd.	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	N/A	-
14	Otay Mesa Rd./Cactus Rd.	437.9	**F**	290.5	**F**	+2 dedicated EB-R; +1 dedicated WB-R	139.6	**F**	199.7	**F**	**Yes**
15	Airway Rd./Cactus Rd.	361.5	**F**	437.7	**F**	+1 dedicated NB-R; +1 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	188.6	**F**	306.2	**F**	**Yes**
16	Siempre Viva Rd./Cactus Rd.	48.7	**D**	127.7	**F**	+1 dedicated NB-R	47.6	D	117.3	**F**	**Yes**
17	Otay Mesa Rd./Britannia Blvd.	108.5	**F**	117.2	**F**	+1 dedicated EB-R; +1 dedicated WB-R	63.1	**E**	47.5	D	**Yes**
18	Britannia Blvd./SR-905 WB Ramps	240.5	**F**	577.4	**F**	Restripe 3rd SB-T to SB-TR; +1 dedicated SB-R; Restripe WB-T to LTR	65.0	**E**	547.1	**F**	**Yes**
19	Britannia Blvd./SR-905 EB Ramps	353.3	**F**	235.1	**F**	+2 dedicated NB-R	305.9	**F**	67.1	**E**	**Yes**
20	Britannia Blvd./Airway Rd.	618.2	**F**	615.8	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	184.9	**F**	241.1	**F**	**Yes**
21	Siempre Viva Rd./Britannia Blvd.	363.3	**F**	362.8	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	177.5	**F**	143.2	**F**	**Yes**

Buildout AM/PM Peak Hour Traffic - Alternative 3-B

Without La Media Road



(7-26-10 Run Date) *(Revised 7-29-11)*

Growth between Existing and Horizon Years

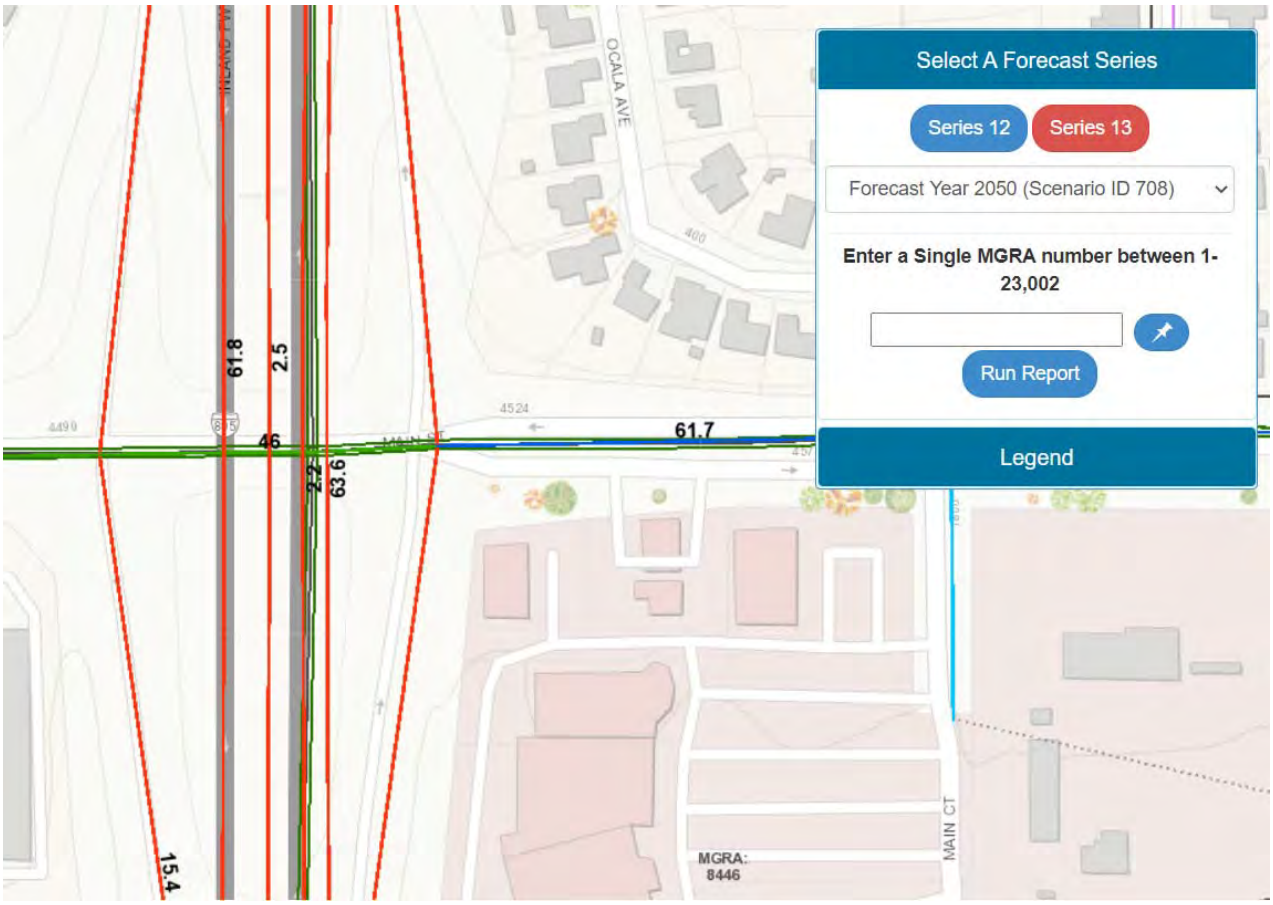
Dennery Road	Existing Yr 2015	Horizon Yr 2062	Percent Growth
Regatta Ln to Landing Dwy	8,333	12,500	50.0%
Landing Dwy to Red Coral	8,224	12,500	52.0%

Higher Growth Rate Applied: 52.0%

Appendix R

SANDAG Horizon Year Volumes

SANDAG Series 13 Year 2050



Appendix S

Excerpts from Caltrans EIR Palm Ave Interchange Improvements

Interstate 805/Palm Avenue Interchange Improvements

SAN DIEGO COUNTY, CALIFORNIA
DISTRICT 11 – SD – 805 (PM I-805 2.6/3.2)
EA No. 11-173700
SCH# 2018101025

Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact and Section 4(f) De Minimis Determination

Prepared by the
State of California, Department of Transportation
in Coordination with the City of San Diego

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Caltrans

JUNE 2019

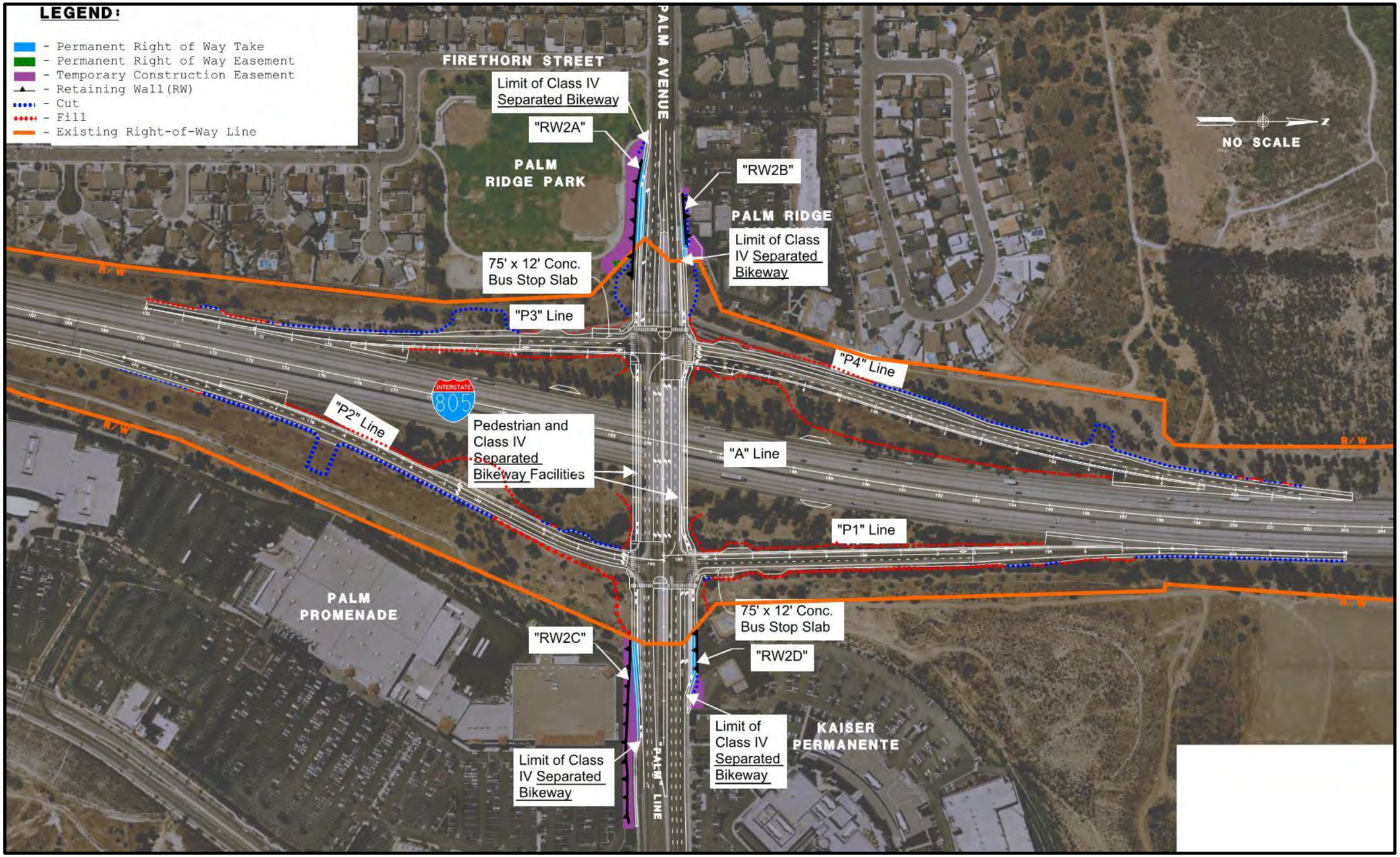


Figure 1.4.2

Alternative 2 + IV Project Features

Road Widening East of the Bridge

Between the bridge and the proposed Project end near Dennery Road, two right-turn lanes to the I-805 North on-ramp and three through lanes would be constructed for WB traffic; three through lanes would be constructed for EB traffic.

A roadway typical section for Palm Avenue is shown in **Figure 1.4.4**.

Retaining Walls

Three retaining walls would be unique to Alternative 1 + IV, as follows:

- West of the bridge, a retaining wall (RW2A) with a proposed maximum height of approximately 10 feet would be constructed along the EB side of Palm Avenue within Palm Ridge Neighborhood Park and Caltrans Right-of-Way;
- The loop on-ramp would require a retaining wall (RW1B) within Caltrans Right-of-Way east of the freeway main lanes; and
- The realignment of the I-805 North off-ramp to accommodate the new loop on-ramp would require a retaining wall (RW1A) along the off-ramp in the slope below Palm Promenade Shopping Center.

Utility Relocation

Alternative 1 + IV would affect 6 utilities: gas pipelines (SDG&E), telecommunication lines (AT&T), fiber optic lines (Cox Communication), water pipelines (California American Water), and water and sewer pipelines and storm drain facilities (City of San Diego).

Hazardous Waste

Alternative 1 + IV would have a potential hazardous waste issue due to the presence of the former South Bay Burn Site in the slope below Palm Promenade Shopping Center where this alternative would construct a retaining wall.

Property Acquisition

Alternative 1 + IV would impact several properties within the project boundaries. Palm Ridge Neighborhood Park would be impacted by a permanent easement that would require 0.09 acres of property acquisition. Palm Promenade Shopping Center would be impacted by a partial acquisition and permanent easement on the slope adjacent to the I-805 North off-ramp that would require 0.286 acres of property acquisition. This information can be found in **Table 2.1.8**.

Unique Features of Alternative 2 + IV: Spread Diamond with Class IV Separated Bikeway

Alternative 2 + IV would address the proposed Project purpose and need by widening the Palm Avenue bridge to provide additional lanes and longer turn pockets and widening various ramps and roadway approaches to provide additional turn lanes.

In addition to the common design features of both Build Alternatives listed previously, Alternative 2 + IV would reduce congestion by constructing the proposed unique Project features summarized below.

Bridge Widening

The Palm Avenue bridge structure would be widened to the north and south to accommodate additional vehicular travel lanes, a center median, and other features outside the vehicular travel way. The widening to the south would involve a new concrete column and concrete box girder, and the widening to the north would involve a new column on a concrete pile, similar to Alternative 1 + IV. The main difference between the design of Alternative 1 + IV and Alternative 2 + IV is the width of the bridge deck that is being provided. Alternative 2 + IV will have a wider bridge deck than Alternative 1 + IV. The

typical section for Alternative 2 + IV bridge widening is shown in **Figure 1.4.5**. The number of lanes in each direction would be as follows:

- For WB Palm Avenue, the widened bridge would have two through lanes plus two left-turn lanes to I-805 South, a Class IV Separated Bikeway, and pedestrian walkways; and
- For EB Palm Avenue, the widened bridge would have three through lanes plus two left-turn lanes to I-805 North, a Class IV Separated Bikeway, and pedestrian walkways.

Road Widening West of the Bridge

Between the bridge and Firethorn Street, two through lanes would accommodate WB traffic; three through lanes plus a longer right-turn lane to the I-805 South on-ramp would accommodate EB traffic.

Road Widening East of the Bridge

Between the bridge and the proposed Project end near Dennery Road, two right-turn lanes to I-805 North on-ramp and three through lanes for WB traffic would be constructed; three through lanes would be constructed for EB traffic.

A roadway typical section for Alternative 2 + IV is shown in **Figure 1.4.6**.

Retaining Walls

Two retaining walls would be unique to Alternative 2 + IV, as follows:

- West of the bridge, a retaining wall (RW2A) with a proposed maximum height of approximately 17 feet would be constructed along EB Palm Avenue within Palm Ridge Neighborhood Park and Caltrans Right-of-Way.
- East of the bridge, a ground anchor retaining wall (RW2C) would be constructed in place of the existing crib wall along the EB side of Palm Avenue within Palm Promenade Shopping Center.

Utility Relocation

In addition to the utilities affected by Alternative 1 + IV, Alternative 2 + IV would result in relocation of a 69 kV SDG&E overhead electrical pole in EB Palm Avenue, North of Palm Promenade Shopping Center.

Property Acquisition

Alternative 2 + IV would impact several properties within the project boundaries. Palm Ridge Neighborhood Park would be impacted by a permanent easement that would require 0.22 acres of property acquisition. Palm Promenade Shopping Center would be impacted by a permanent easement on the slope parallel to Palm Avenue that would require 0.078 acres of partial acquisition and property acquisition. This information can be found in **Table 2.1.8**.

Transportation Demand Management, Transportation System Management, and Mass Transit Alternatives

Transportation Demand Management (TDM), Transportation System Management (TSM), and Mass Transit strategies are required for consideration on proposed major highway projects in urban areas over 200,000 population.

Although Transportation System Management measures alone could not satisfy the purpose and need of the proposed Project, the following Transportation System Management measures have been incorporated into the Build Alternatives for this proposed Project:

- Addition of HOV lanes to ramps;

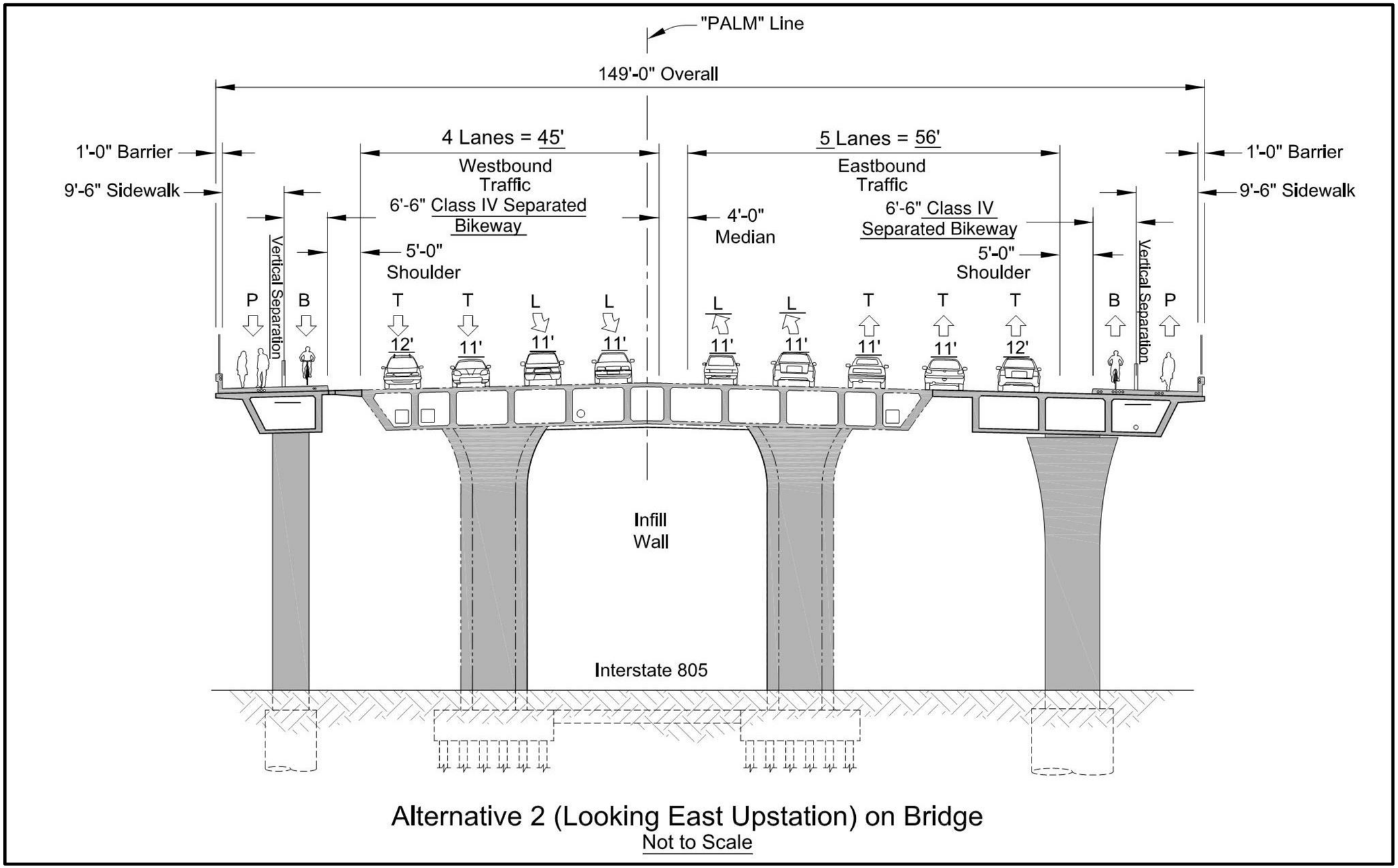


Figure 1.4.5

Alternative 2 + IV Palm Avenue Bridge Typical Cross-Section

From: Carlin, Roger@DOT <roger.carlin@dot.ca.gov>
Sent: Friday, February 17, 2023 11:32 AM
To: Gonsalves, Ann <AGonsalves@sandiego.gov>
Cc: Sanchez Rangel, Rogelio@DOT <roger.sanchez-rangel@dot.ca.gov>; Hajjiri, Samir <SHajjiri@sandiego.gov>; Eaton, Maurice A@DOT <maurice.eaton@dot.ca.gov>
Subject: [EXTERNAL] RE: Palm Ave/I-805 RTL date and scope questions - Response

---

Hi Ann and others,

Sorry for the slight confusion on getting an answer back on this inquiry. Hopefully this will answer the inquiry and provide addition contact information for the project.

The 805/Palm Avenue project is a cooperative effort between the City of San Diego and Caltrans. I am the Caltrans Project Manager and the City of San Diego Project Manager is Diluvan Piromari. The project is currently in the Design with a planned Ready-to-List milestone planned for August 2023. Questions related to planned schedule and funding should be directed to Diluvan at the City of San Diego.

To address the inquiry, the project ultimate plan is as proposed in the Environmental Document (MND/EA), however, the project is planned to be developed in 2 phases with the current project is the interim phase or phase 1. The project is proposed as 100% locally funded project by the City of San Diego with Caltrans planning to Advertise, Award, and Administer (AAA) the project.

There was an inquiry related to the project in late October 2022 from Tri Point Homes (Southwest Strategies - Elizabeth Hanson and Matthew Warren) also asking about planned improvements. The response at that time was through an email to Southwest Strategies and copied to Diluvan Priomari.

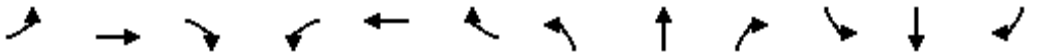
If you have any additional questions, please let me know or contact Diluvan Priomari at 619-533-5479.

Roger Carlin

From: Justin Rasas <justin@losengineering.com>
Sent: Monday, January 23, 2023 8:03 AM
To: Sanchez Rangel, Rogelio@DOT <roger.sanchez-rangel@dot.ca.gov>
Cc: Santos, Mary Rose Ann <MCSantos@sandiego.gov>
Subject: Palm Ave/I-805 RTL date and scope questions

Appendix T

Horizon Year 2062 without Project LOS and Queuing Output



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	890	175	280	355	0	0	0	0	1095	1	570
Future Volume (veh/h)	0	890	175	280	355	0	0	0	0	1095	1	570
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	967	190	304	386	0				1191	0	620
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1735	528	373	1768	0				1409	0	1215
Arrive On Green	0.00	0.34	0.34	0.22	1.00	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	5233	1542	3428	3618	0				3534	0	3048
Grp Volume(v), veh/h	0	967	190	304	386	0				1191	0	620
Grp Sat Flow(s),veh/h/ln	0	1689	1542	1714	1763	0				1767	0	1524
Q Serve(g_s), s	0.0	14.0	8.3	7.6	0.0	0.0				27.5	0.0	13.8
Cycle Q Clear(g_c), s	0.0	14.0	8.3	7.6	0.0	0.0				27.5	0.0	13.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1735	528	373	1768	0				1409	0	1215
V/C Ratio(X)	0.00	0.56	0.36	0.81	0.22	0.00				0.85	0.00	0.51
Avail Cap(c_a), veh/h	0	1735	528	438	1768	0				1630	0	1406
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.0	22.2	34.3	0.0	0.0				24.5	0.0	20.4
Incr Delay (d2), s/veh	0.0	1.3	1.9	9.2	0.3	0.0				3.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.6	3.2	3.3	0.1	0.0				11.7	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.3	24.1	43.5	0.3	0.0				28.4	0.0	20.8
LnGrp LOS	A	C	C	D	A	A				C	A	C
Approach Vol, veh/h		1157			690						1811	
Approach Delay, s/veh		25.1			19.3						25.8	
Approach LOS		C			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.3	35.3		40.4		49.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	11.5	23.5		41.5		39.5
Max Q Clear Time (g_c+I1), s	9.6	16.0		29.5		2.0
Green Ext Time (p_c), s	0.2	4.2		6.4		2.8

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	655	1330	0	0	575	1280	60	1	385	0	0	0
Future Volume (veh/h)	655	1330	0	0	575	1280	60	1	385	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		0.97	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	712	1446	0	0	625	1391	65	1	418			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	771	3673	0	0	1587	1209	305	5	471			
Arrive On Green	0.45	1.00	0.00	0.00	0.45	0.45	0.17	0.17	0.17			
Sat Flow, veh/h	3428	5233	0	0	3618	2686	1742	27	2694			
Grp Volume(v), veh/h	712	1446	0	0	625	1391	66	0	418			
Grp Sat Flow(s),veh/h/ln	1714	1689	0	0	1763	1343	1768	0	1347			
Q Serve(g_s), s	17.6	0.0	0.0	0.0	10.7	40.5	2.9	0.0	13.6			
Cycle Q Clear(g_c), s	17.6	0.0	0.0	0.0	10.7	40.5	2.9	0.0	13.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	771	3673	0	0	1587	1209	309	0	471			
V/C Ratio(X)	0.92	0.39	0.00	0.00	0.39	1.15	0.21	0.00	0.89			
Avail Cap(c_a), veh/h	819	3673	0	0	1587	1209	314	0	479			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.61	0.61	0.00	0.00	0.28	0.28	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	0.0	0.0	0.0	16.5	24.7	31.8	0.0	36.3			
Incr Delay (d2), s/veh	10.5	0.2	0.0	0.0	0.2	70.7	0.3	0.0	17.8			
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/ln	6.0	0.1	0.0	0.0	4.2	23.8	1.2	0.0	5.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.2	0.0	0.0	16.7	95.4	32.2	0.0	54.0			
LnGrp LOS	C	A	A	A	B	F	C	A	D			
Approach Vol, veh/h		2158			2016			484				
Approach Delay, s/veh		11.5			71.0			51.0				
Approach LOS		B			E			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		69.8			24.7	45.0		20.2				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		65.0			21.5	39.0		16.0				
Max Q Clear Time (g_c+I1), s		2.0			19.6	42.5		15.6				
Green Ext Time (p_c), s		16.7			0.6	0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			41.4									
HCM 6th LOS			D									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	600	515	450	200	790	60	600	50	110	50	200	500
Future Volume (veh/h)	600	515	450	200	790	60	600	50	110	50	200	500
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	652	560	489	217	859	65	652	54	120	54	217	543
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	443	1596	485	271	1341	407	438	206	459	95	1227	537
Arrive On Green	0.13	0.31	0.31	0.08	0.26	0.26	0.09	0.41	0.41	0.03	0.35	0.35
Sat Flow, veh/h	3428	5066	1541	3428	5066	1538	4983	505	1123	3428	3526	1542
Grp Volume(v), veh/h	652	560	489	217	859	65	652	0	174	54	217	543
Grp Sat Flow(s),veh/h/ln	1714	1689	1541	1714	1689	1538	1661	0	1629	1714	1763	1542
Q Serve(g_s), s	15.6	10.3	38.0	7.5	18.1	3.9	10.6	0.0	8.5	1.9	5.2	42.0
Cycle Q Clear(g_c), s	15.6	10.3	38.0	7.5	18.1	3.9	10.6	0.0	8.5	1.9	5.2	42.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	443	1596	485	271	1341	407	438	0	665	95	1227	537
V/C Ratio(X)	1.47	0.35	1.01	0.80	0.64	0.16	1.49	0.00	0.26	0.57	0.18	1.01
Avail Cap(c_a), veh/h	443	1596	485	296	1341	407	438	0	665	151	1227	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	31.8	41.3	54.6	39.3	34.0	55.0	0.0	23.6	57.9	27.3	39.3
Incr Delay (d2), s/veh	223.8	0.6	42.7	12.0	2.4	0.8	231.9	0.0	0.3	2.0	0.2	41.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.5	4.3	20.0	3.7	7.8	1.6	13.8	0.0	3.4	0.8	2.2	21.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	276.4	32.4	84.1	66.6	41.6	34.9	287.0	0.0	24.0	59.9	27.5	81.1
LnGrp LOS	F	C	F	E	D	C	F	A	C	E	C	F
Approach Vol, veh/h		1701			1141			826			814	
Approach Delay, s/veh		140.8			46.0			231.6			65.4	
Approach LOS		F			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	44.4	15.0	47.3	20.0	38.3	7.7	54.6
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	10.4	* 38	10.6	42.0	15.6	31.3	5.3	47.3
Max Q Clear Time (g_c+I1), s	9.5	40.0	12.6	44.0	17.6	20.1	3.9	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	6.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	119.7
HCM 6th LOS	F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	250	740	0
Future Vol, veh/h	0	0	0	250	740	0
Conflicting Peds, #/hr	0	5	0	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	272	804	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	412	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	586	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	581	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.3

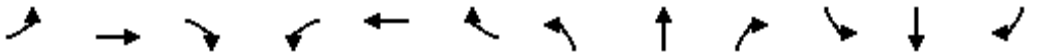
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	220	17	0	740
Future Vol, veh/h	0	30	220	17	0	740
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	33	239	18	0	804

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	129	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	894	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	894	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	894	-
HCM Lane V/C Ratio	-	-	0.036	-
HCM Control Delay (s)	-	-	9.2	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

LOS Engineering, Inc.

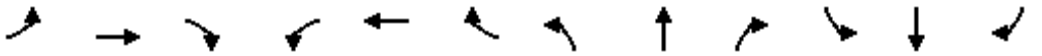


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	110	6	3	370	3	56	5	3	2	5	70
Future Volume (veh/h)	37	110	6	3	370	3	56	5	3	2	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	40	120	7	3	402	3	61	5	3	2	5	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	970	56	6	914	7	85	275	165	4	20	303
Arrive On Green	0.04	0.29	0.29	0.00	0.25	0.25	0.05	0.26	0.26	0.00	0.21	0.21
Sat Flow, veh/h	1767	3379	195	1767	3585	27	1767	1076	646	1767	95	1445
Grp Volume(v), veh/h	40	62	65	3	198	207	61	0	8	2	0	81
Grp Sat Flow(s),veh/h/ln	1767	1763	1812	1767	1763	1849	1767	0	1722	1767	0	1540
Q Serve(g_s), s	1.0	1.1	1.1	0.1	4.0	4.0	1.5	0.0	0.1	0.0	0.0	1.9
Cycle Q Clear(g_c), s	1.0	1.1	1.1	0.1	4.0	4.0	1.5	0.0	0.1	0.0	0.0	1.9
Prop In Lane	1.00		0.11	1.00		0.01	1.00		0.38	1.00		0.94
Lane Grp Cap(c), veh/h	62	506	520	6	449	471	85	0	440	4	0	323
V/C Ratio(X)	0.64	0.12	0.12	0.52	0.44	0.44	0.72	0.00	0.02	0.49	0.00	0.25
Avail Cap(c_a), veh/h	272	1096	1127	189	998	1047	395	0	1408	189	0	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	11.3	11.3	21.4	13.4	13.4	20.1	0.0	11.9	21.4	0.0	14.2
Incr Delay (d2), s/veh	10.4	0.1	0.1	57.2	0.7	0.6	10.7	0.0	0.0	68.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.4	0.4	0.1	1.4	1.5	0.8	0.0	0.1	0.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	11.4	11.4	78.6	14.1	14.1	30.8	0.0	12.0	90.2	0.0	14.6
LnGrp LOS	C	B	B	E	B	B	C	A	B	F	A	B
Approach Vol, veh/h		167			408			69			83	
Approach Delay, s/veh		16.1			14.6			28.6			16.4	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	18.0	6.5	13.9	5.9	16.6	4.5	15.9
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 27	9.6	30.1	6.6	24.3	4.6	35.1
Max Q Clear Time (g_c+I1), s	2.1	3.1	3.5	3.9	3.0	6.0	2.0	2.1
Green Ext Time (p_c), s	0.0	0.6	0.0	0.4	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	900	145	500	615	0	0	0	0	1400	1	770
Future Volume (veh/h)	0	900	145	500	615	0	0	0	0	1400	1	770
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	978	158	543	668	0				1523	0	837
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1236	375	596	1606	0				1660	0	1434
Arrive On Green	0.00	0.24	0.24	0.17	0.46	0.00				0.47	0.00	0.47
Sat Flow, veh/h	0	5233	1537	3428	3618	0				3534	0	3053
Grp Volume(v), veh/h	0	978	158	543	668	0				1523	0	837
Grp Sat Flow(s),veh/h/ln	0	1689	1537	1714	1763	0				1767	0	1527
Q Serve(g_s), s	0.0	21.7	10.4	18.7	15.3	0.0				48.2	0.0	24.0
Cycle Q Clear(g_c), s	0.0	21.7	10.4	18.7	15.3	0.0				48.2	0.0	24.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1236	375	596	1606	0				1660	0	1434
V/C Ratio(X)	0.00	0.79	0.42	0.91	0.42	0.00				0.92	0.00	0.58
Avail Cap(c_a), veh/h	0	1236	375	614	1606	0				1723	0	1489
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	1.00	1.00	0.59	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.5	38.2	48.6	22.0	0.0				29.7	0.0	23.3
Incr Delay (d2), s/veh	0.0	5.2	3.4	11.5	0.5	0.0				8.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.6	4.3	8.9	6.4	0.0				21.7	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	47.7	41.7	60.2	22.4	0.0				37.8	0.0	23.8
LnGrp LOS	A	D	D	E	C	A				D	A	C
Approach Vol, veh/h		1136			1211						2360	
Approach Delay, s/veh		46.9			39.4						32.8	
Approach LOS		D			D						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	25.4	33.8		60.9		59.1
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	21.5	26.5		58.5		52.5
Max Q Clear Time (g_c+I1), s	20.7	23.7		50.2		17.3
Green Ext Time (p_c), s	0.2	1.8		6.2		5.3

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	540	1760	0	0	1000	1380	115	1	620	0	0	0
Future Volume (veh/h)	540	1760	0	0	1000	1380	115	1	620	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		0.97	1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	587	1913	0	0	1087	1500	125	1	674			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	654	3343	0	0	1478	1125	421	3	649			
Arrive On Green	0.19	0.66	0.00	0.00	0.42	0.42	0.24	0.24	0.24			
Sat Flow, veh/h	3428	5233	0	0	3618	2684	1754	14	2705			
Grp Volume(v), veh/h	587	1913	0	0	1087	1500	126	0	674			
Grp Sat Flow(s),veh/h/ln	1714	1689	0	0	1763	1342	1768	0	1352			
Q Serve(g_s), s	15.0	18.6	0.0	0.0	23.3	37.7	5.2	0.0	21.6			
Cycle Q Clear(g_c), s	15.0	18.6	0.0	0.0	23.3	37.7	5.2	0.0	21.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	654	3343	0	0	1478	1125	424	0	649			
V/C Ratio(X)	0.90	0.57	0.00	0.00	0.74	1.33	0.30	0.00	1.04			
Avail Cap(c_a), veh/h	667	3343	0	0	1478	1125	424	0	649			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.32	0.32	0.00	0.00	0.30	0.30	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.5	8.4	0.0	0.0	22.0	26.1	28.0	0.0	34.2			
Incr Delay (d2), s/veh	5.6	0.2	0.0	0.0	1.0	151.9	0.4	0.0	45.6			
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/ln	6.7	5.8	0.0	0.0	9.3	35.0	2.2	0.0	11.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	8.6	0.0	0.0	23.0	178.1	28.4	0.0	79.8			
LnGrp LOS	D	A	A	A	C	F	C	A	F			
Approach Vol, veh/h		2500			2587			800				
Approach Delay, s/veh		16.2			112.9			71.7				
Approach LOS		B			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.9			21.7	42.2		26.1				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		59.4			17.5	37.4		21.6				
Max Q Clear Time (g_c+I1), s		20.6			17.0	39.7		23.6				
Green Ext Time (p_c), s		22.1			0.1	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			66.2									
HCM 6th LOS			E									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	600	630	900	150	490	50	750	150	250	50	190	400
Future Volume (veh/h)	600	630	900	150	490	50	750	150	250	50	190	400
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	652	685	978	163	533	54	815	163	272	54	207	435
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	427	1805	550	134	1373	417	535	248	413	97	1136	496
Arrive On Green	0.12	0.36	0.36	0.04	0.27	0.27	0.11	0.40	0.40	0.03	0.32	0.32
Sat Flow, veh/h	3428	5066	1542	3428	5066	1539	4983	617	1030	3428	3526	1541
Grp Volume(v), veh/h	652	685	978	163	533	54	815	0	435	54	207	435
Grp Sat Flow(s),veh/h/ln	1714	1689	1542	1714	1689	1539	1661	0	1647	1714	1763	1541
Q Serve(g_s), s	14.6	11.8	41.8	4.6	10.1	3.1	12.6	0.0	25.2	1.8	5.0	31.3
Cycle Q Clear(g_c), s	14.6	11.8	41.8	4.6	10.1	3.1	12.6	0.0	25.2	1.8	5.0	31.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		1.00
Lane Grp Cap(c), veh/h	427	1805	550	134	1373	417	535	0	661	97	1136	496
V/C Ratio(X)	1.53	0.38	1.78	1.21	0.39	0.13	1.52	0.00	0.66	0.56	0.18	0.88
Avail Cap(c_a), veh/h	427	1805	550	134	1373	417	535	0	692	155	1263	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	28.1	37.7	56.3	34.8	32.3	52.3	0.0	28.6	56.3	28.6	37.5
Incr Delay (d2), s/veh	249.1	0.6	358.0	145.6	0.8	0.6	244.4	0.0	2.5	1.9	0.2	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.0	4.9	70.1	4.7	4.2	1.2	17.4	0.0	10.3	0.8	2.1	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	300.5	28.7	395.7	202.0	35.6	32.9	296.8	0.0	31.1	58.1	28.8	53.4
LnGrp LOS	F	C	F	F	D	C	F	A	C	E	C	D
Approach Vol, veh/h		2315			750			1250			696	
Approach Delay, s/veh		260.3			71.6			204.3			46.4	
Approach LOS		F			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	48.2	17.0	43.1	19.0	38.2	7.7	52.4
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	4.6	* 42	12.6	42.0	14.6	30.3	5.3	49.3
Max Q Clear Time (g_c+I1), s	6.6	43.8	14.6	33.3	16.6	12.1	3.8	27.2
Green Ext Time (p_c), s	0.0	0.0	0.0	3.8	0.0	5.3	0.0	4.3

Intersection Summary		
HCM 6th Ctrl Delay		188.4
HCM 6th LOS		F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	660	390	0
Future Vol, veh/h	0	0	0	660	390	0
Conflicting Peds, #/hr	0	5	0	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	717	424	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	222	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	779	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	773	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	600	41	0	390
Future Vol, veh/h	0	11	600	41	0	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	12	652	45	0	424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	349	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	644	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	644	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	644	-
HCM Lane V/C Ratio	-	-	0.019	-
HCM Control Delay (s)	-	-	10.7	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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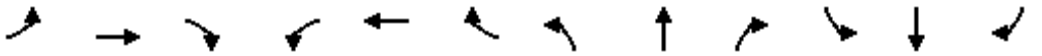


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	330	30	10	190	4	36	3	7	1	5	38
Future Volume (veh/h)	114	330	30	10	190	4	36	3	7	1	5	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	124	359	33	11	207	4	39	3	8	1	5	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	163	1055	96	20	860	17	61	103	275	4	34	279
Arrive On Green	0.09	0.32	0.32	0.01	0.24	0.24	0.03	0.23	0.23	0.00	0.20	0.20
Sat Flow, veh/h	1767	3256	297	1767	3534	68	1767	440	1172	1767	169	1384
Grp Volume(v), veh/h	124	193	199	11	103	108	39	0	11	1	0	46
Grp Sat Flow(s),veh/h/ln	1767	1763	1790	1767	1763	1839	1767	0	1612	1767	0	1553
Q Serve(g_s), s	3.1	3.8	3.8	0.3	2.1	2.1	1.0	0.0	0.2	0.0	0.0	1.1
Cycle Q Clear(g_c), s	3.1	3.8	3.8	0.3	2.1	2.1	1.0	0.0	0.2	0.0	0.0	1.1
Prop In Lane	1.00		0.17	1.00		0.04	1.00		0.73	1.00		0.89
Lane Grp Cap(c), veh/h	163	571	580	20	429	448	61	0	378	4	0	313
V/C Ratio(X)	0.76	0.34	0.34	0.55	0.24	0.24	0.64	0.00	0.03	0.26	0.00	0.15
Avail Cap(c_a), veh/h	531	1243	1263	160	858	895	195	0	1101	160	0	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	11.6	11.6	22.2	13.8	13.8	21.6	0.0	13.3	22.6	0.0	14.9
Incr Delay (d2), s/veh	7.2	0.3	0.3	21.0	0.3	0.3	10.9	0.0	0.0	31.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.3	1.3	0.2	0.8	0.8	0.6	0.0	0.1	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	12.0	12.0	43.2	14.0	14.0	32.5	0.0	13.4	53.9	0.0	15.1
LnGrp LOS	C	B	B	D	B	B	C	A	B	D	A	B
Approach Vol, veh/h		516			222			50			47	
Approach Delay, s/veh		15.6			15.5			28.3			15.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	20.4	5.9	14.0	8.6	16.7	4.4	15.5
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 32	5.0	30.0	13.6	22.0	4.1	30.9
Max Q Clear Time (g_c+I1), s	2.3	5.8	3.0	3.1	5.1	4.1	2.0	2.2
Green Ext Time (p_c), s	0.0	2.4	0.0	0.2	0.2	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

LOS Engineering, Inc.

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	L	LT	R	R
Maximum Queue (ft)	225	500	482	100	178	184	95	94	534	362	95	74
Average Queue (ft)	216	281	175	44	82	101	43	55	326	232	60	43
95th Queue (ft)	244	485	365	76	151	156	76	87	471	358	91	73
Link Distance (ft)		469	469		506	506	506	506	1650	1650		
Upstream Blk Time (%)		4	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	200			350							700	700
Storage Blk Time (%)	30	0	0									
Queuing Penalty (veh)	90	1	0									

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	R	LT	R
Maximum Queue (ft)	268	258	176	151	174	281	157	129	200	212	114	178
Average Queue (ft)	163	182	73	71	96	83	45	57	114	128	50	76
95th Queue (ft)	238	251	148	138	170	182	111	96	193	203	89	123
Link Distance (ft)	506	506	506	506	506	1118	1118	1118	1118			1450
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)										200	550	
Storage Blk Time (%)									0	0		
Queuing Penalty (veh)									1	2		

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	113
Average Queue (ft)	50
95th Queue (ft)	90
Link Distance (ft)	1450
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dennery Rd & Palm Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1136	1178	1117	215	162	254	472	400	522	255
Average Queue (ft)	285	295	610	363	130	122	71	115	207	360	479	130
95th Queue (ft)	320	328	1174	988	471	210	147	206	413	505	499	324
Link Distance (ft)			1118	1118	1118				400	400	400	
Upstream Blk Time (%)			7	1	0				3	1	76	
Queuing Penalty (veh)			39	7	0				0	0	0	
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	5	43	0		0	4			1		83	0
Queuing Penalty (veh)	9	74	0		0	6			1		50	0

Intersection: 3: Dennery Rd & Palm Ave

Movement	B14	B14	NB	NB	NB	NB	SB	SB	SB	SB	SB	
Directions Served	T	T	L	L	L	TR	L	L	T	T	R	
Maximum Queue (ft)	333	369	274	291	300	810	52	149	468	653	120	
Average Queue (ft)	286	325	67	273	298	778	9	42	93	354	120	
95th Queue (ft)	415	395	189	363	303	793	33	87	255	601	121	
Link Distance (ft)	306	306				758			1884	1884		
Upstream Blk Time (%)	24	78				88						
Queuing Penalty (veh)	0	0				0						
Storage Bay Dist (ft)			275	275	275		125	125			95	
Storage Blk Time (%)			0	6	83	0		0	1	1	60	
Queuing Penalty (veh)			0	10	133	0		0	0	3	60	

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR	
Maximum Queue (ft)	74	48	73	31	155	177	54	29	31	70	
Average Queue (ft)	24	17	30	3	70	69	38	4	2	27	
95th Queue (ft)	58	42	65	19	120	129	56	21	15	60	
Link Distance (ft)		413	413		873	873		390	231	231	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	190			160			75				
Storage Blk Time (%)					1						
Queuing Penalty (veh)					0						

Network Summary

Network wide Queuing Penalty: 518

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	L	LT	R	R
Maximum Queue (ft)	225	484	469	67	208	225	200	206	545	504	155	178
Average Queue (ft)	200	273	223	39	143	159	117	131	356	314	86	78
95th Queue (ft)	265	508	381	60	203	217	191	205	509	452	135	140
Link Distance (ft)		469	469		506	506	506	506	1650	1650		
Upstream Blk Time (%)		6	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	200			350							700	700
Storage Blk Time (%)	31	3	0									
Queuing Penalty (veh)	92	10	0									

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	R	LT	R
Maximum Queue (ft)	223	237	259	293	360	235	213	178	235	224	141	258
Average Queue (ft)	145	150	152	154	221	132	100	90	127	118	66	146
95th Queue (ft)	198	208	230	253	318	232	179	155	202	192	120	230
Link Distance (ft)	506	506	506	506	506	1118	1118	1118	1118			1450
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)										200	550	
Storage Blk Time (%)									0	0		
Queuing Penalty (veh)									3	1		

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	201
Average Queue (ft)	114
95th Queue (ft)	182
Link Distance (ft)	1450
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dennery Rd & Palm Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	304	1142	1143	1158	215	172	192	174	263	285	255
Average Queue (ft)	207	227	287	753	1087	215	100	130	83	93	181	48
95th Queue (ft)	296	301	824	1494	1268	215	153	177	141	169	272	167
Link Distance (ft)			1118	1118	1118				400	400	400	
Upstream Blk Time (%)			0	1	12							
Queuing Penalty (veh)			1	10	91							
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	1	2			2	65					4	0
Queuing Penalty (veh)	2	5			15	136					2	0

Intersection: 3: Dennery Rd & Palm Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	282	292	300	810	50	71	180	431	120
Average Queue (ft)	152	284	299	779	8	36	83	142	107
95th Queue (ft)	283	328	302	797	31	65	130	300	136
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				80					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	0	23	76	9			1	1	23
Queuing Penalty (veh)	1	90	306	65			1	6	22

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

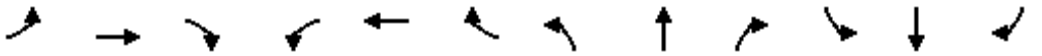
Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	TR
Maximum Queue (ft)	129	118	135	31	77	93	81	31	94
Average Queue (ft)	66	44	58	4	44	41	26	6	26
95th Queue (ft)	115	104	122	21	75	85	63	25	60
Link Distance (ft)		413	413		873	873		390	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190			160			75		
Storage Blk Time (%)							2		
Queuing Penalty (veh)							0		

Network Summary

Network wide Queuing Penalty: 1130

Appendix U

Horizon Year 2062 plus Project LOS and Queuing Output



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	895	175	298	374	0	0	0	0	1111	1	570
Future Volume (veh/h)	0	895	175	298	374	0	0	0	0	1111	1	570
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	973	190	324	407	0				1209	0	620
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1683	512	395	1753	0				1423	0	1227
Arrive On Green	0.00	0.33	0.33	0.23	0.99	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	5233	1541	3428	3618	0				3534	0	3049
Grp Volume(v), veh/h	0	973	190	324	407	0				1209	0	620
Grp Sat Flow(s),veh/h/ln	0	1689	1541	1714	1763	0				1767	0	1524
Q Serve(g_s), s	0.0	14.3	8.4	8.1	0.1	0.0				28.0	0.0	13.7
Cycle Q Clear(g_c), s	0.0	14.3	8.4	8.1	0.1	0.0				28.0	0.0	13.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1683	512	395	1753	0				1423	0	1227
V/C Ratio(X)	0.00	0.58	0.37	0.82	0.23	0.00				0.85	0.00	0.51
Avail Cap(c_a), veh/h	0	1683	512	476	1753	0				1630	0	1406
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.91	0.91	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.8	22.9	33.8	0.1	0.0				24.4	0.0	20.2
Incr Delay (d2), s/veh	0.0	1.5	2.1	8.6	0.3	0.0				4.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	3.3	3.4	0.1	0.0				11.9	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.3	24.9	42.3	0.4	0.0				28.4	0.0	20.5
LnGrp LOS	A	C	C	D	A	A				C	A	C
Approach Vol, veh/h		1163			731						1829	
Approach Delay, s/veh		26.1			19.0						25.7	
Approach LOS		C			B						C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.9	34.4		40.7		49.3						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	12.5	22.5		41.5		39.5						
Max Q Clear Time (g_c+I1), s	10.1	16.3		30.0		2.1						
Green Ext Time (p_c), s	0.3	3.6		6.3		3.0						

Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	655	1351	0	0	613	1342	60	1	389	0	0	0
Future Volume (veh/h)	655	1351	0	0	613	1342	60	1	389	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		0.97	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	712	1468	0	0	666	1459	65	1	423			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	764	3666	0	0	1589	1211	307	5	475			
Arrive On Green	0.45	1.00	0.00	0.00	0.45	0.45	0.18	0.18	0.18			
Sat Flow, veh/h	3428	5233	0	0	3618	2686	1742	27	2694			
Grp Volume(v), veh/h	712	1468	0	0	666	1459	66	0	423			
Grp Sat Flow(s),veh/h/ln	1714	1689	0	0	1763	1343	1768	0	1347			
Q Serve(g_s), s	17.7	0.0	0.0	0.0	11.5	40.6	2.9	0.0	13.8			
Cycle Q Clear(g_c), s	17.7	0.0	0.0	0.0	11.5	40.6	2.9	0.0	13.8			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	764	3666	0	0	1589	1211	312	0	475			
V/C Ratio(X)	0.93	0.40	0.00	0.00	0.42	1.21	0.21	0.00	0.89			
Avail Cap(c_a), veh/h	789	3666	0	0	1589	1211	314	0	479			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.58	0.58	0.00	0.00	0.13	0.13	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.3	0.0	0.0	0.0	16.7	24.7	31.7	0.0	36.2			
Incr Delay (d2), s/veh	11.5	0.2	0.0	0.0	0.1	93.4	0.3	0.0	18.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.2	0.1	0.0	0.0	4.5	27.7	1.2	0.0	5.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.2	0.0	0.0	16.8	118.1	32.0	0.0	54.6			
LnGrp LOS	D	A	A	A	B	F	C	A	D			
Approach Vol, veh/h		2180			2125			489				
Approach Delay, s/veh		11.8			86.4			51.5				
Approach LOS		B			F			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		69.6			24.6	45.1		20.4				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		65.0			20.7	39.8		16.0				
Max Q Clear Time (g_c+I1), s		2.0			19.7	42.6		15.8				
Green Ext Time (p_c), s		17.1			0.3	0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			48.9									
HCM 6th LOS			D									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	625	515	450	200	790	62	600	53	110	59	210	600
Future Volume (veh/h)	625	515	450	200	790	62	600	53	110	59	210	600
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	679	560	489	217	859	67	652	58	120	64	228	652
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	443	1596	485	271	1341	407	438	216	446	106	1227	537
Arrive On Green	0.13	0.31	0.31	0.08	0.26	0.26	0.09	0.41	0.41	0.03	0.35	0.35
Sat Flow, veh/h	3428	5066	1541	3428	5066	1538	4983	532	1101	3428	3526	1542
Grp Volume(v), veh/h	679	560	489	217	859	67	652	0	178	64	228	652
Grp Sat Flow(s),veh/h/ln	1714	1689	1541	1714	1689	1538	1661	0	1633	1714	1763	1542
Q Serve(g_s), s	15.6	10.3	38.0	7.5	18.1	4.0	10.6	0.0	8.8	2.2	5.4	42.0
Cycle Q Clear(g_c), s	15.6	10.3	38.0	7.5	18.1	4.0	10.6	0.0	8.8	2.2	5.4	42.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	443	1596	485	271	1341	407	438	0	661	106	1227	537
V/C Ratio(X)	1.53	0.35	1.01	0.80	0.64	0.16	1.49	0.00	0.27	0.60	0.19	1.21
Avail Cap(c_a), veh/h	443	1596	485	296	1341	407	438	0	661	151	1227	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	31.8	41.3	54.6	39.3	34.1	55.0	0.0	24.0	57.7	27.4	39.3
Incr Delay (d2), s/veh	250.4	0.6	42.7	12.0	2.4	0.9	231.9	0.0	0.3	2.0	0.2	112.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.1	4.3	20.0	3.7	7.8	1.6	13.8	0.0	3.5	1.0	2.3	32.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	302.9	32.4	84.1	66.6	41.6	35.0	287.0	0.0	24.3	59.8	27.6	152.1
LnGrp LOS	F	C	F	E	D	C	F	A	C	E	C	F
Approach Vol, veh/h		1728			1143			830			944	
Approach Delay, s/veh		153.3			46.0			230.6			115.8	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	44.4	15.0	47.3	20.0	38.3	8.1	54.2
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	10.4	* 38	10.6	42.0	15.6	31.3	5.3	47.3
Max Q Clear Time (g_c+I1), s	9.5	40.0	12.6	44.0	17.6	20.1	4.2	10.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	6.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	133.1
HCM 6th LOS	F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	122	0	283	740	31
Future Vol, veh/h	0	122	0	283	740	31
Conflicting Peds, #/hr	0	5	0	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	133	0	308	804	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	429	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	571	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	566	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	566	-	-
HCM Lane V/C Ratio	-	0.234	-	-
HCM Control Delay (s)	-	13.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.9	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	253	17	0	771
Future Vol, veh/h	0	30	253	17	0	771
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	33	275	18	0	838

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	147	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	870	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	870	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	870	-
HCM Lane V/C Ratio	-	-	0.037	-
HCM Control Delay (s)	-	-	9.3	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

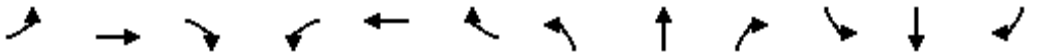
LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	113	6	3	371	3	56	5	3	2	5	70
Future Volume (veh/h)	67	113	6	3	371	3	56	5	3	2	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	73	123	7	3	403	3	61	5	3	2	5	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	95	1017	57	6	896	7	85	271	163	4	20	298
Arrive On Green	0.05	0.30	0.30	0.00	0.25	0.25	0.05	0.25	0.25	0.00	0.21	0.21
Sat Flow, veh/h	1767	3385	191	1767	3585	27	1767	1076	646	1767	95	1445
Grp Volume(v), veh/h	73	64	66	3	198	208	61	0	8	2	0	81
Grp Sat Flow(s),veh/h/ln	1767	1763	1813	1767	1763	1849	1767	0	1722	1767	0	1540
Q Serve(g_s), s	1.8	1.1	1.2	0.1	4.2	4.2	1.5	0.0	0.2	0.0	0.0	1.9
Cycle Q Clear(g_c), s	1.8	1.1	1.2	0.1	4.2	4.2	1.5	0.0	0.2	0.0	0.0	1.9
Prop In Lane	1.00		0.11	1.00		0.01	1.00		0.38	1.00		0.94
Lane Grp Cap(c), veh/h	95	530	545	6	441	462	85	0	434	4	0	318
V/C Ratio(X)	0.77	0.12	0.12	0.52	0.45	0.45	0.72	0.00	0.02	0.50	0.00	0.26
Avail Cap(c_a), veh/h	165	860	885	165	844	885	222	0	1233	165	0	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.5	11.1	11.1	21.8	13.9	13.9	20.6	0.0	12.3	21.9	0.0	14.6
Incr Delay (d2), s/veh	12.2	0.1	0.1	57.3	0.7	0.7	11.0	0.0	0.0	72.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.4	0.4	0.1	1.5	1.6	0.8	0.0	0.1	0.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	11.2	11.2	79.1	14.6	14.6	31.6	0.0	12.4	94.0	0.0	15.0
LnGrp LOS	C	B	B	E	B	B	C	A	B	F	A	B
Approach Vol, veh/h		203			409			69			83	
Approach Delay, s/veh		19.0			15.1			29.3			16.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	18.9	6.5	13.9	6.8	16.7	4.5	15.9
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 21	5.5	30.0	4.1	21.0	4.1	31.4
Max Q Clear Time (g_c+I1), s	2.1	3.2	3.5	3.9	3.8	6.2	2.0	2.2
Green Ext Time (p_c), s	0.0	0.6	0.0	0.4	0.0	2.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	921	145	509	624	0	0	0	0	1468	1	770
Future Volume (veh/h)	0	921	145	509	624	0	0	0	0	1468	1	770
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		0.97
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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1001	158	553	678	0				1597	0	837
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	1177	357	586	1554	0				1712	0	1479
Arrive On Green	0.00	0.23	0.23	0.17	0.44	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	5233	1536	3428	3618	0				3534	0	3054
Grp Volume(v), veh/h	0	1001	158	553	678	0				1597	0	837
Grp Sat Flow(s),veh/h/ln	0	1689	1536	1714	1763	0				1767	0	1527
Q Serve(g_s), s	0.0	22.7	10.6	19.1	16.0	0.0				51.0	0.0	23.4
Cycle Q Clear(g_c), s	0.0	22.7	10.6	19.1	16.0	0.0				51.0	0.0	23.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1177	357	586	1554	0				1712	0	1479
V/C Ratio(X)	0.00	0.85	0.44	0.94	0.44	0.00				0.93	0.00	0.57
Avail Cap(c_a), veh/h	0	1177	357	586	1554	0				1752	0	1514
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	1.00	1.00	0.57	0.57	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.1	39.4	49.2	23.2	0.0				29.1	0.0	22.0
Incr Delay (d2), s/veh	0.0	7.8	3.9	16.4	0.5	0.0				9.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	4.4	9.5	6.7	0.0				23.1	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	51.9	43.4	65.6	23.8	0.0				38.7	0.0	22.4
LnGrp LOS	A	D	D	E	C	A				D	A	C
Approach Vol, veh/h		1159			1231						2434	
Approach Delay, s/veh		50.7			42.5						33.1	
Approach LOS		D			D						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	25.0	32.4		62.6		57.4
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	20.5	26.5		59.5		51.5
Max Q Clear Time (g_c+I1), s	21.1	24.7		53.0		18.0
Green Ext Time (p_c), s	0.0	1.2		5.1		5.3

Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	540	1849	0	0	1018	1409	115	1	640	0	0	0
Future Volume (veh/h)	540	1849	0	0	1018	1409	115	1	640	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		0.97	1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	587	2010	0	0	1107	1532	125	1	696			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	640	3321	0	0	1477	1124	429	3	661			
Arrive On Green	0.19	0.66	0.00	0.00	0.42	0.42	0.24	0.24	0.24			
Sat Flow, veh/h	3428	5233	0	0	3618	2684	1754	14	2705			
Grp Volume(v), veh/h	587	2010	0	0	1107	1532	126	0	696			
Grp Sat Flow(s),veh/h/ln	1714	1689	0	0	1763	1342	1768	0	1353			
Q Serve(g_s), s	15.1	20.4	0.0	0.0	23.9	37.7	5.2	0.0	22.0			
Cycle Q Clear(g_c), s	15.1	20.4	0.0	0.0	23.9	37.7	5.2	0.0	22.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	640	3321	0	0	1477	1124	432	0	661			
V/C Ratio(X)	0.92	0.61	0.00	0.00	0.75	1.36	0.29	0.00	1.05			
Avail Cap(c_a), veh/h	640	3321	0	0	1477	1124	432	0	661			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.25	0.25	0.00	0.00	0.23	0.23	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.9	8.9	0.0	0.0	22.2	26.1	27.7	0.0	34.0			
Incr Delay (d2), s/veh	5.9	0.2	0.0	0.0	0.8	164.6	0.4	0.0	49.6			
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/ln	6.7	6.4	0.0	0.0	9.5	37.0	2.2	0.0	11.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	9.1	0.0	0.0	23.0	190.7	28.0	0.0	83.6			
LnGrp LOS	D	A	A	A	C	F	C	A	F			
Approach Vol, veh/h		2597			2639			822				
Approach Delay, s/veh		16.5			120.4			75.1				
Approach LOS		B			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.5			21.3	42.2		26.5				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		59.0			16.8	37.7		22.0				
Max Q Clear Time (g_c+I1), s		22.4			17.1	39.7		24.0				
Green Ext Time (p_c), s		22.8			0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			69.7									
HCM 6th LOS			E									

LOS Engineering, Inc.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	709	630	900	150	490	59	750	162	250	54	195	447
Future Volume (veh/h)	709	630	900	150	490	59	750	162	250	54	195	447
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	771	685	978	163	533	64	815	176	272	59	212	486
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	416	1762	536	131	1340	407	522	269	416	99	1194	522
Arrive On Green	0.12	0.35	0.35	0.04	0.26	0.26	0.10	0.41	0.41	0.03	0.34	0.34
Sat Flow, veh/h	3428	5066	1542	3428	5066	1538	4983	649	1004	3428	3526	1542
Grp Volume(v), veh/h	771	685	978	163	533	64	815	0	448	59	212	486
Grp Sat Flow(s),veh/h/ln	1714	1689	1542	1714	1689	1538	1661	0	1653	1714	1763	1542
Q Serve(g_s), s	14.6	12.3	41.8	4.6	10.4	3.8	12.6	0.0	26.2	2.0	5.1	36.6
Cycle Q Clear(g_c), s	14.6	12.3	41.8	4.6	10.4	3.8	12.6	0.0	26.2	2.0	5.1	36.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	416	1762	536	131	1340	407	522	0	685	99	1194	522
V/C Ratio(X)	1.85	0.39	1.82	1.24	0.40	0.16	1.56	0.00	0.65	0.59	0.18	0.93
Avail Cap(c_a), veh/h	416	1762	536	131	1340	407	522	0	685	151	1232	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	29.6	39.2	57.8	36.3	33.9	53.8	0.0	28.3	57.7	28.0	38.4
Incr Delay (d2), s/veh	392.3	0.6	378.0	157.7	0.9	0.8	261.3	0.0	2.6	2.1	0.2	23.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.0	5.1	71.8	4.9	4.4	1.5	17.9	0.0	10.7	0.9	2.2	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	445.1	30.2	417.2	215.5	37.2	34.7	315.1	0.0	30.9	59.8	28.1	62.2
LnGrp LOS	F	C	F	F	D	C	F	A	C	E	C	E
Approach Vol, veh/h		2434			760			1263			757	
Approach Delay, s/veh		317.1			75.2			214.3			52.5	
Approach LOS		F			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	48.2	17.0	46.0	19.0	38.2	7.9	55.1
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	4.6	* 42	12.6	42.0	14.6	30.3	5.3	49.3
Max Q Clear Time (g_c+I1), s	6.6	43.8	14.6	38.6	16.6	12.4	4.0	28.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	5.3	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	218.5
HCM 6th LOS	F

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	57	0	791	390	133
Future Vol, veh/h	0	57	0	791	390	133
Conflicting Peds, #/hr	0	5	0	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #0		-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	62	0	860	424	145

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	295	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	698	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	692	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	692	-	-
HCM Lane V/C Ratio	-	0.09	-	-
HCM Control Delay (s)	-	10.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.1

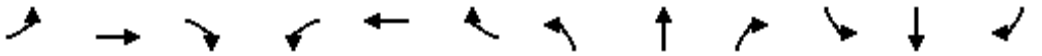
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	731	41	0	523
Future Vol, veh/h	0	11	731	41	0	523
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	12	795	45	0	568

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	420	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	579	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	579	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	579	-
HCM Lane V/C Ratio	-	-	0.021	-
HCM Control Delay (s)	-	-	11.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

LOS Engineering, Inc.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	331	30	10	193	4	36	3	7	1	5	38
Future Volume (veh/h)	244	331	30	10	193	4	36	3	7	1	5	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	265	360	33	11	210	4	39	3	8	1	5	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	329	1278	116	20	770	15	59	95	252	3	31	253
Arrive On Green	0.19	0.39	0.39	0.01	0.22	0.22	0.03	0.22	0.22	0.00	0.18	0.18
Sat Flow, veh/h	1767	3257	297	1767	3535	67	1767	439	1171	1767	168	1381
Grp Volume(v), veh/h	265	194	199	11	104	110	39	0	11	1	0	46
Grp Sat Flow(s),veh/h/ln	1767	1763	1791	1767	1763	1839	1767	0	1611	1767	0	1550
Q Serve(g_s), s	7.3	3.8	3.9	0.3	2.5	2.5	1.1	0.0	0.3	0.0	0.0	1.3
Cycle Q Clear(g_c), s	7.3	3.8	3.9	0.3	2.5	2.5	1.1	0.0	0.3	0.0	0.0	1.3
Prop In Lane	1.00		0.17	1.00		0.04	1.00		0.73	1.00		0.89
Lane Grp Cap(c), veh/h	329	692	703	20	384	401	59	0	347	3	0	284
V/C Ratio(X)	0.81	0.28	0.28	0.55	0.27	0.27	0.66	0.00	0.03	0.29	0.00	0.16
Avail Cap(c_a), veh/h	519	1132	1150	142	742	774	142	0	946	142	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	10.6	10.6	25.1	16.6	16.6	24.4	0.0	15.8	25.5	0.0	17.6
Incr Delay (d2), s/veh	5.0	0.2	0.2	21.5	0.4	0.4	12.1	0.0	0.0	40.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.3	1.3	0.2	1.0	1.0	0.6	0.0	0.1	0.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	10.8	10.8	46.6	17.0	17.0	36.5	0.0	15.9	66.1	0.0	17.8
LnGrp LOS	C	B	B	D	B	B	D	A	B	E	A	B
Approach Vol, veh/h		658			225			50			47	
Approach Delay, s/veh		16.5			18.4			31.9			18.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	25.8	6.1	14.3	13.9	16.8	4.5	15.9
Change Period (Y+Rc), s	4.4	* 5.7	4.4	4.9	4.4	5.7	4.4	4.9
Max Green Setting (Gmax), s	4.1	* 33	4.1	30.0	15.0	21.5	4.1	30.0
Max Q Clear Time (g_c+I1), s	2.3	5.9	3.1	3.3	9.3	4.5	2.0	2.3
Green Ext Time (p_c), s	0.0	2.4	0.0	0.2	0.4	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

LOS Engineering, Inc.

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	L	LT	R	R
Maximum Queue (ft)	225	484	482	74	180	179	90	115	521	473	94	92
Average Queue (ft)	220	370	252	44	79	100	35	48	350	262	59	47
95th Queue (ft)	234	584	471	68	144	156	77	90	483	417	91	81
Link Distance (ft)		469	469		506	506	506	506	1650	1650		
Upstream Blk Time (%)		8	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	200			350							700	700
Storage Blk Time (%)	42	0	0									
Queuing Penalty (veh)	127	0	0									

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	R	LT	R
Maximum Queue (ft)	261	295	154	138	171	137	115	114	305	225	138	139
Average Queue (ft)	167	178	58	59	89	61	35	47	113	133	49	75
95th Queue (ft)	249	255	123	116	168	128	82	85	198	207	109	124
Link Distance (ft)	506	506	506	506	506	1118	1118	1118	1118			1450
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)										200	550	
Storage Blk Time (%)									0	0		
Queuing Penalty (veh)									3	1		

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	111
Average Queue (ft)	52
95th Queue (ft)	82
Link Distance (ft)	1450
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dennery Rd & Palm Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1151	1132	1173	178	185	254	472	413	512	255
Average Queue (ft)	278	294	956	489	393	97	56	96	233	381	479	114
95th Queue (ft)	329	331	1570	1253	1228	169	139	188	461	445	500	317
Link Distance (ft)			1118	1118	1118				400	400	400	
Upstream Blk Time (%)			35	3	1				5	2	79	
Queuing Penalty (veh)			203	19	7				0	0	0	
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	13	58	0		0	0		0	2		84	0
Queuing Penalty (veh)	22	99	0		0	0		1	5		52	0

Intersection: 3: Dennery Rd & Palm Ave

Movement	B14	B14	NB	NB	NB	NB	SB	SB	SB	SB	SB	
Directions Served	T	T	L	L	L	TR	L	L	T	T	R	
Maximum Queue (ft)	345	358	272	292	300	821	68	150	517	868	120	
Average Queue (ft)	300	323	90	281	299	778	11	42	171	519	119	
95th Queue (ft)	400	358	221	344	301	796	41	117	392	865	124	
Link Distance (ft)	306	306				758			1884	1884		
Upstream Blk Time (%)	42	77				89						
Queuing Penalty (veh)	0	0				0						
Storage Bay Dist (ft)			275	275	275		125	125			95	
Storage Blk Time (%)			0	12	84	0		0	7	6	65	
Queuing Penalty (veh)			0	19	137	1		0	4	34	69	

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR	
Maximum Queue (ft)	73	52	97	31	140	126	71	31	31	56	
Average Queue (ft)	42	17	30	6	70	63	40	1	2	33	
95th Queue (ft)	79	43	77	26	119	113	69	10	14	54	
Link Distance (ft)		413	413		873	873		390	231	231	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	190			160			75				
Storage Blk Time (%)							2				
Queuing Penalty (veh)							0				

Network Summary

Network wide Queuing Penalty: 811

Intersection: 1: I-805 SB Ramp & Palm Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	L	LT	R	R
Maximum Queue (ft)	225	484	406	375	241	303	224	231	1028	1013	725	155
Average Queue (ft)	196	281	228	52	149	162	99	113	557	496	141	84
95th Queue (ft)	268	468	353	154	214	234	174	179	916	859	463	137
Link Distance (ft)		469	469		506	506	506	506	1650	1650		
Upstream Blk Time (%)		4										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	200			350							700	700
Storage Blk Time (%)	28	3	0							1	0	
Queuing Penalty (veh)	87	8	0							8	0	

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	R	LT	R
Maximum Queue (ft)	280	498	506	532	513	265	247	141	619	225	144	501
Average Queue (ft)	148	201	254	238	263	131	108	89	159	128	72	195
95th Queue (ft)	225	394	460	427	421	218	187	142	330	215	129	354
Link Distance (ft)	506	506	506	506	506	1118	1118	1118	1118			1450
Upstream Blk Time (%)		0	0	1	0							
Queuing Penalty (veh)		0	1	3	1							
Storage Bay Dist (ft)										200	550	
Storage Blk Time (%)									1	0		
Queuing Penalty (veh)									7	1		

Intersection: 2: I-805 NB Ramp & Palm Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	459
Average Queue (ft)	179
95th Queue (ft)	330
Link Distance (ft)	1450
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dennery Rd & Palm Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	292	305	1142	1167	1168	215	140	156	136	266	304	255
Average Queue (ft)	288	302	1088	710	739	207	65	102	75	95	179	55
95th Queue (ft)	302	308	1258	1487	1331	254	134	150	126	186	274	183
Link Distance (ft)			1118	1118	1118				400	400	400	
Upstream Blk Time (%)			36	9	2							
Queuing Penalty (veh)			300	78	18							
Storage Bay Dist (ft)	280	280				190	230	230				230
Storage Blk Time (%)	24	64	3		1	49					4	0
Queuing Penalty (veh)	50	135	19		13	104					3	0

Intersection: 3: Dennery Rd & Palm Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	TR	L	L	T	T	R
Maximum Queue (ft)	282	292	300	810	130	149	270	435	120
Average Queue (ft)	99	274	298	780	13	49	92	150	109
95th Queue (ft)	242	363	303	798	56	103	181	322	139
Link Distance (ft)				758			1884	1884	
Upstream Blk Time (%)				81					
Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	275	275	275		125	125			95
Storage Blk Time (%)	0	14	79	0	0	0	3	5	28
Queuing Penalty (veh)	1	59	326	1	0	0	2	24	27

Intersection: 6: Red Coral Ln/Red Fin Ln & Dennery Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	TR
Maximum Queue (ft)	215	302	139	31	94	75	68	31	50
Average Queue (ft)	126	50	64	11	45	42	30	5	19
95th Queue (ft)	207	143	126	34	73	85	61	24	45
Link Distance (ft)		413	413		873	873		390	231
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	190			160			75		
Storage Blk Time (%)	3						0		
Queuing Penalty (veh)	6						0		

Network Summary

Network wide Queuing Penalty: 1653