

LOCAL TRANSPORTATION STUDY

MODERA MELROSE

Oceanside, California
October 10, 2022

LLG Ref. 3-21-3419

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EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Local Transportation Study (LTS) to determine and evaluate the potential impacts to the local roadway system due to the proposed Modera Melrose project, consistent with the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment*, August 2020. This City document provides guidance for the preparation of a Local Transportation Study (LTS) to identify any off-site infrastructure improvements in the project vicinity that may be triggered with the development of the project as well as to analyze site access and circulation and evaluate the local multi-modal network available to serve to project.

The Project is consistent with the City's adopted General Plan and is located in a Transit Priority Area. Therefore, a CEQA VMT Analysis is screened and was therefore not prepared for this Project and the CEQA VMT impact is presumed to be less than significant.

The Project proposes 323 apartments, and 2,336 SF of local serving retail. Vehicular access to the site is proposed via an access on Oceanside Boulevard, forming the fourth (south) leg of the signalized Sports Park Way / Oceanside Boulevard intersection.

The Project is calculated to generate 2,038 daily trips with 159 trips during the AM peak hour (33 inbound/ 126 outbound trips) and 183 trips during PM peak hour (127 inbound/ 56 outbound trips).

Per the City of Oceanside's thresholds for the determination of the need for roadway improvements, and the analysis methodology presented in this report, roadway improvements are not required since the increase in Project related delays at intersections and V/C on study area segments do not exceed the allowable thresholds.

The Project requires the provision of 170 parking spaces and will provide 526 parking spaces.

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LOCAL TRANSPORTATION STUDY

MODERA MELROSE

Oceanside, California

October 10, 2022

1.0 INTRODUCTION

Linscott, Law & Greenspan Engineers (LLG) has prepared this Local Transportation Study (LTS) to assess the potential impacts associated with the Modera Melrose Project (Project) in the City of Oceanside. The Project site is located on the southeast corner of the Oceanside Boulevard (W. Bobier Drive) / N. Melrose Drive intersection in the City of Oceanside. The Project proposes the development of 323 apartments, and 2,336 SF of retail. Since the analysis for this Project was conducted, the number of units and the retail square footage was changed. The analysis was conducted assuming 324 units and 2,338 SF and is therefore, slightly conservative. This report addresses the potential transportation impacts and impacts from the proposed Project.

The following sections are included in this report:

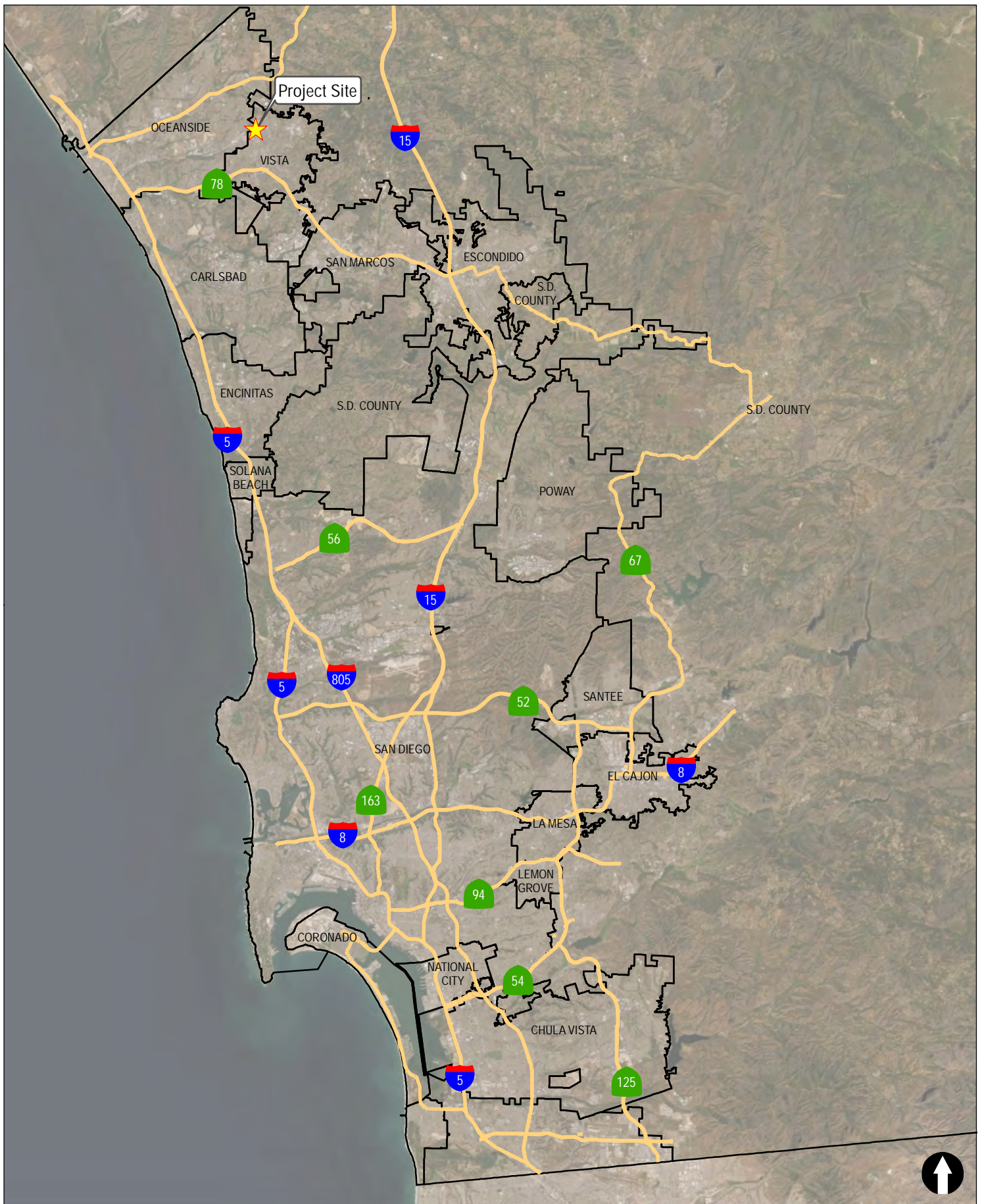
- Project Description
- CEQA VMT Assessment
- Local Transportation Assessment Methodology & Thresholds
- Existing Conditions Description
- Analysis of Existing Conditions
- Cumulative Projects
- Project Trip Generation/Distribution/Assignment
- Analysis of Existing + Project Conditions
- Analysis of Near-Term Conditions
- Analysis of Buildout Conditions
- Pedestrian, Transit and Bicycle Mobility Discussion
- Parking Assessment
- Conclusions

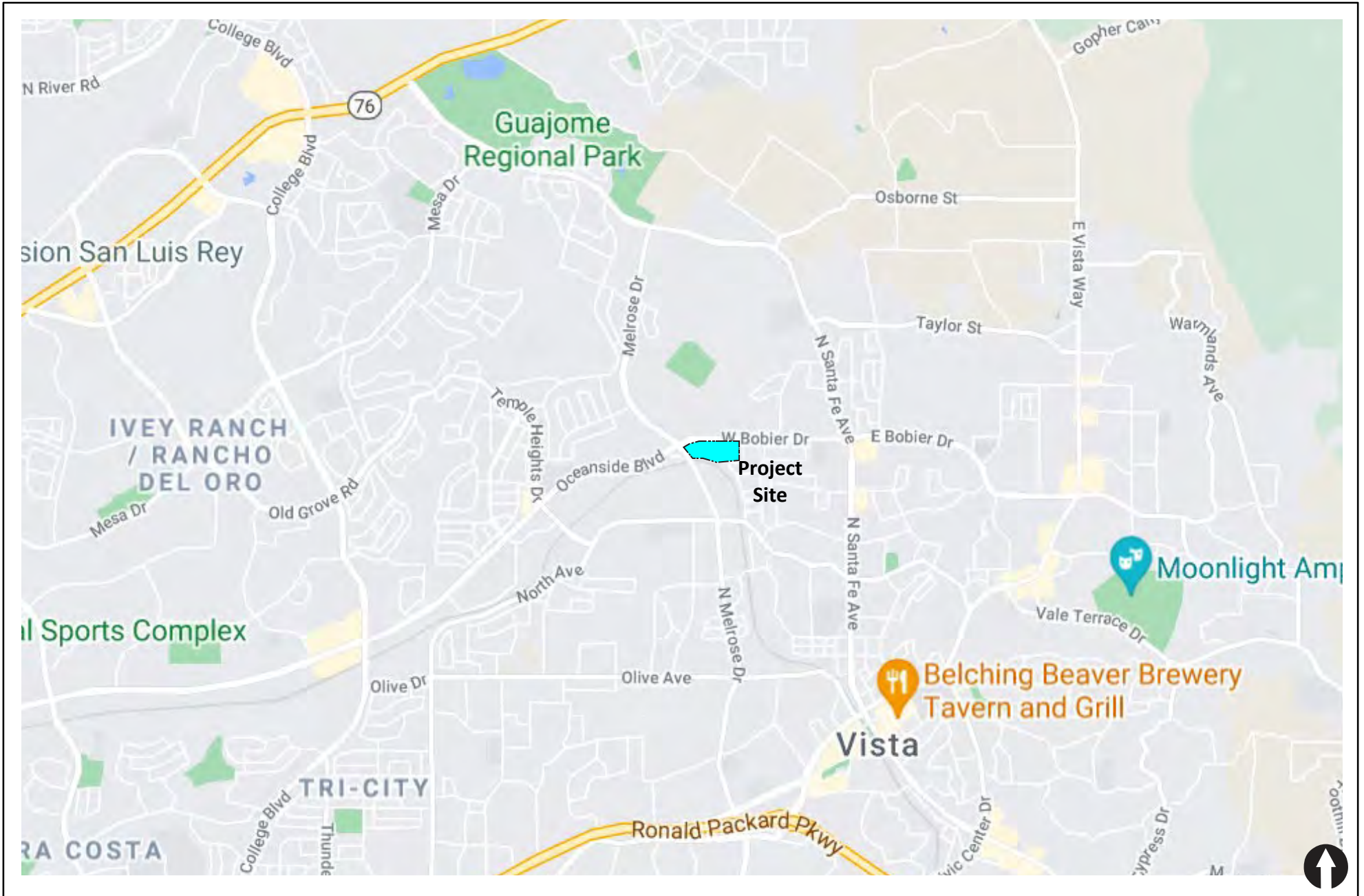
2.0 PROJECT DESCRIPTION

The Project site is located at the southeast corner of the Oceanside Boulevard / N. Melrose Drive intersection in the City of Oceanside. The Project is a proposed residential with retail development with surface and subterranean parking. The Project is located within a walking distance of approximately 1,500 feet from Melrose Drive Sprinter Light Rail Station.

The apartment Project proposes 151, 1-bedroom units, 160, 2-bedroom units and 12, 3-bedroom units, for a total of 323 units and 2.336 SF of retail with surface and subterranean parking. Vehicular access to the site is proposed via an access driveway forming the fourth/south leg of the signalized Bobier Drive / Sports Park Way intersection.

Figure 2-1 depicts the Project's Vicinity Map and *Figure 2-2* depicts a more detailed Project Area Map. *Figure 2-3* depicts the Project's conceptual site plan.





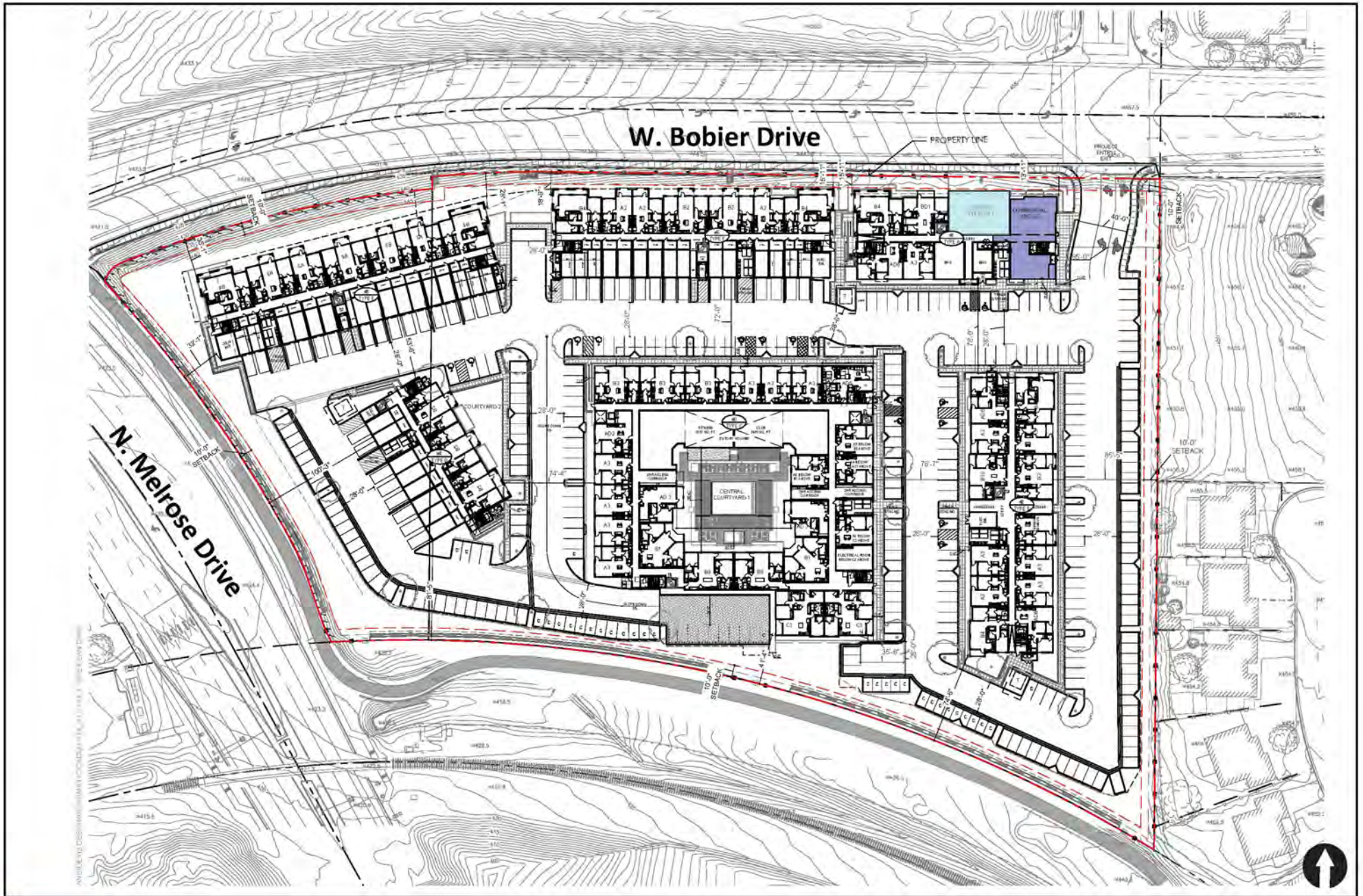


Figure 2-3
Site Plan
 Modera Melrose

3.0 LOCAL TRANSPORTATION ASSESSMENT METHODOLOGY & THRESHOLDS

A Project-Specific Local Transportation Study was prepared to analyze automobile delay and LOS. The LOS analysis was conducted to identify Project impacts on the roadway operations in the Project study area and to recommend Project improvements to address noted deficiencies; however, the CEQA impact significance determination for the proposed Project is based only on VMT and not on LOS.

The proposed Project generates over 1,000 ADT (see *Section 8.1*) and is consistent with the City's adopted General Plan. Therefore, a Local Transportation Study (LTS) was prepared consistent with the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment*.

3.1 Study Area

The following study area was developed based on the anticipated assignment of Project traffic and locations which will carry the most Project traffic and is per City of Oceanside staff coordination and scoping meetings. The study area meets and exceeds the trip-based criteria from the City's Guidelines, which state that:

- All signalized intersections and project driveways shall be analyzed if the project will add 50 or more new peak hour trips in either direction.
- All unsignalized intersections and project driveways shall be analyzed if the project will add 50 or more new peak hour trips in either direction.
- All freeway ramp intersections and signalized ramp meters shall be analyzed if the project all 20 or more new peak hour trips in either direction.

INTERSECTIONS

1. N. Melrose Drive / Meadowbrook Drive
2. Catalina Circle / Oceanside Boulevard
3. N. Melrose Drive / Oceanside Boulevard (W. Bobier Drive)
4. Sports Park Way (Future Project Driveway) / W. Bobier Drive
5. N. Santa Fe Avenue / W. Bobier Drive
6. N. Melrose Drive / North Avenue

STREET SEGMENTS

N. Melrose Drive

- North of Meadowbrook Drive
- Meadowbrook Drive to Oceanside Boulevard
- Oceanside Boulevard to North Avenue
- South of North Avenue

Oceanside Boulevard

West of Catalina Circle
Catalina Circle to N. Melrose Drive

W. Bobier Drive

N. Melrose Drive to Sports Park Way
Sports Park Way to N. Santa Fe Avenue
East of N. Santa Fe Avenue

3.2 Analysis Scenarios

This study includes analysis of the following scenarios:

- Existing Conditions
- Existing Conditions + Project
- Existing Conditions + Near-Term Cumulative Projects
- Existing Conditions + Near-Term Cumulative Projects + Project
- Buildout Conditions (2030)
- Buildout Conditions + Project

3.3 Analysis Methodology

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of Service provides an index to the operational qualities of a roadway segment or an intersection. Level of Service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of Service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

3.3.1 Intersections

Intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 18 of the *Highway Capacity Manual (HCM)*, with the assistance of the *Synchro* (version 10) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection Level of Service (LOS).

3.3.2 Street Segments

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of Oceanside's *Circulation Element Roadway Classification LOS & Capacity* table (Table 12 in the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment*, August 2020). This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The roadway classification table is attached in **Appendix A**.

3.4 Thresholds for the Determination of the Need for Roadway Improvements

Based on information contained in the City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment*, **Table 3-1** indicates when a project’s impact on the roadway system is considered to justify the need for roadway improvements. If a project’s traffic impact causes the values in *Table 3-1* to be exceeded, roadway improvements should be considered as follows on a case-by-case basis:

- Improvements should be consistent with the General Plan
- Improvements for transit, bike and pedestrian facilities should be given priority in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG.
- Projects in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG, that are consistent with the General Plan at the time of project application, should not be denied due to the inability to provide roadway improvements (i.e., existing right of way is constrained, etc.)

TABLE 3-1
CITY OF OCEANSIDE
DETERMINATION OF THE NEED FOR ROADWAY IMPROVEMENTS

Level of Service with Project	Allowable Change Due to Project Impact					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (MPH)	V/C	Speed (MPH)	Delay (Sec.)	Delay (Min.)
E & F (or ramp meter delays above 15 min)	0.01	1	0.02	1	2	2

Source: Table 13 Determination of the Need for Roadway Improvements, City of Oceanside *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment*, April 2020.

4.0 EXISTING VEHICULAR CONDITIONS

Effective evaluation of the traffic operations associated with the proposed Project requires an understanding of the existing transportation system within the project area. *Figure 4-1* shows an existing conditions diagram, including intersections and lane configurations.

4.1 Existing Street Network

The following is a description of the existing street network in the study area. The roadway classifications are based on field observations and a review of the Oceanside Circulation Element.

OCEANSIDE BOULEVARD

Oceanside Boulevard is classified as a Major Arterial from College Boulevard to Bobier Drive in the City of Oceanside Circulation Element. It is currently constructed as a four-lane divided roadway. The curb-to-curb distance is about 85 feet. Sidewalks are provided on both sides of the roadway measuring about 6 feet wide. Bike lanes are provided on both sides of the roadway. Curbside parking is not permitted. The posted speed limit is 50 mph.

WEST BOBIER DRIVE

West Bobier Drive is classified as a Major Arterial east of Sports Park Way in the City of Vista Circulation Element. It is currently constructed as a four-lane undivided roadway with a two-way left-turn lane. The curb-to-curb distance is about 80 feet. Sidewalks are provided on both sides of the roadway measuring about 5 feet wide. Bike lanes are provided on both sides of the roadway. Curbside parking is permitted on both sides of the roadway between Sports Park Way and North Santa Fe Avenue. The posted speed limit is 40 mph.

NORTH MELROSE DRIVE

North Melrose Drive is classified as a Major Arterial between Meadowbrook Drive and Oceanside Boulevard and as an Urban Major roadway between Oceanside Boulevard and North Avenue in the City of Vista Circulation Element in the project vicinity.

A section of the segment between Meadowbrook Drive and Oceanside Boulevard is currently constructed as a two-lane divided roadway. This section is being widened by the Melrose Heights Project to a four lane roadway, matching the remaining portion of this segment. Between Oceanside Boulevard and North Avenue, North Melrose Drive is built as a six-lane undivided roadway with two-way left-turn lanes.

North of Oceanside Boulevard, the curb-to-curb distance is about 60 feet. South of Oceanside Boulevard, the curb-to-curb distance is about 90 feet. Sidewalks are provided on both sides of the roadway measuring about 5 feet. Bike lanes are provided on both sides of the roadway. Curbside parking is not permitted. The posted speed limit is 45 mph.

4.2 Existing Traffic Volumes

Daily segment counts and peak hour (7:00-9:00 AM and 4:00-6:00 PM) intersection turning movement counts were conducted on August 31, 2021 within the Project study area, when schools were in session. Due to the ongoing Covid-19 pandemic, which has altered traffic patterns, a growth rate of 5% was applied to the August 2021 traffic counts in order to replicate pre-pandemic traffic volumes. This growth rate is based on historical traffic data on SR 78, since historical data was not available on the study area surface streets. Daily traffic volumes on SR 78 during the pre- and post-Covid time frames were compared and a “Covid” factor was developed. The Covid Factor of 5% was approved by City Staff. Additional information on how this rate was calculated is included in *Appendix B*.

Table 4-1 shows the existing street segment volumes. *Figure 4-2* shows the Existing Traffic Volumes. *Appendix C* contains the manual count sheets and *Appendix D* contains the signal timing plans.

TABLE 4-1
EXISTING STREET SEGMENT VOLUMES

Street Segment	2021 (During Covid Counts)	Covid Factor	ADT Volumes used in Analysis
N. Melrose Drive			
North of Meadowbrook Dr	19,840	5%	20,830
Meadowbrook Dr to Oceanside Blvd	20,320	5%	21,340
Oceanside Blvd to North Ave	29,700	5%	31,190
South of North Ave	32,660	5%	34,290
Oceanside Boulevard			
West of Catalina Cir	19,620	5%	20,600
Catalina Cir to N. Melrose Dr	19,920	5%	20,920
W. Bobier Way			
N. Melrose Dr to Sports Park Wy	21,570	5%	22,650
Sports Park Wy to N. Santa Fe Ave	19,660	5%	20,640
East of N. Santa Fe Ave	22,800	5%	23,940



Figure 4-1

Existing Conditions Diagram



Figure 4-2
Existing Traffic Volumes

5.0 ANALYSIS OF EXISTING CONDITIONS

5.1 Peak Hour Intersection Analysis

Table 5-1 summarizes the Existing peak hour intersection operations. As shown in *Table 5-1*, the study area intersections are calculated to currently operate acceptably at LOS D or better during the AM and PM peak hours except:

- N. Melrose Drive / Oceanside Boulevard (W. Bobier Drive) – LOS F during the AM peak and PM Peak hours

Appendix E contains the Existing intersection analysis worksheets.

**TABLE 5-1
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Delay ^a	LOS ^b
1. N. Melrose Dr / Meadowbrook Dr	Signal	AM	43.7	D
		PM	50.5	D
2. Catalina Cir / Oceanside Blvd	Signal	AM	10.6	B
		PM	11.0	B
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr)	Signal	AM	142.0	F
		PM	97.4	F
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr ^c	Signal	AM	27.8	C
		PM	21.9	C
5. N. Santa Fe Ave / W. Bobier Dr	Signal	AM	52.8	D
		PM	37.6	D
6. N. Melrose Dr / North Ave	Signal	AM	43.8	D
		PM	33.2	C

Footnotes:

- a. Average delay expressed in seconds per vehicle.
 b. Level of Service.
 c. Currently a signalized T-Intersection with no south leg. The Project Driveway forms the south leg.

SIGNALIZED	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

5.2 Daily Street Segment Operations

Table 5-2 summarizes the Existing, street segment operations under along the study area roadways. As shown in *Table 5-2*, the study area street segments are calculated to currently operate acceptably at LOS D or better.

**TABLE 5-2
EXISTING STREET SEGMENT OPERATIONS**

Street Segment	Jurisdiction	Functional Capacity	Capacity (LOS E) ^a	ADT ^b	LOS ^c	V/C ^d
N. Melrose Drive						
1. North of Meadow Brook Dr	Oceanside	4-Lane Major	40,000	20,830	B	0.521
2. Meadow Brook Dr to Oceanside Blvd	Oceanside	4-Lane Major ^e	30,000	21,340	C	0.711
3. Oceanside Blvd to North Ave	Oceanside / Vista	4-Lane Major ^f	40,000	31,190	D	0.780
4. South of North Ave	Vista	6-Lane Urban Major	50,000	34,290	B	0.686
Oceanside Boulevard						
5. West of Catalina Cir	Oceanside	4-Lane Major	40,000	20,600	B	0.515
6. Catalina Cir to N. Melrose Dr	Oceanside	4-Lane Major	40,000	20,920	B	0.523
W. Bobier Way						
7. N. Melrose Dr to Sports Park Wy	Oceanside	4-Lane Major	40,000	22,650	C	0.566
8. Sports Park Wy to N. Santa Fe Ave	Vista	4-Lane Major	40,000	20,640	A	0.516
9. East of N. Santa Fe Ave	Vista	4-Lane Major	40,000	23,940	A	0.599

Footnotes:

- a. Capacity at which the roadway currently functions and based on City of Oceanside and City of Vista Roadway Classification Tables as appropriate.
- b. Average Daily Traffic Volumes.
- c. Level of Service
- d. Volume to Capacity ratio.
- e. A short section of this roadway is not built to the width of a 4-Lane Major Street. Therefore, 75% of the capacity of a 4-Lane Major Road is assumed.
- f. A section of this roadway at the boundary between the City of Oceanside and City of Vista is not widened to a 6-Lane Major Road. Hence, the capacity of City of Oceanside 4-Lane Major Road is assumed.

6.0 CUMULATIVE PROJECTS

6.1 Summary of Cumulative Projects

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on information from City of Oceanside staff, the following seven cumulative projects were initially identified to be considered for inclusion in the analysis:

1. Ocean Ranch (D20 00014) – This project was withdrawn before the Council resolution and therefore, was not included.
2. North River Farm (GPA16-00002) – This Project is approved and consists of 395 residential units including commercial and restaurant uses, a local farm, and a hotel. This project was included in the Cumulative analysis.
3. Ocean Kamp T19-00004) – This Project is under review and is not likely to be built before the Opening Day of the subject Project and therefore it was not included.
4. El Corazon Mixed-Use (D19-00018) – This project is approved and not constructed. The Project is located more than 3 miles to the west of the subject project and hence is not expected to add traffic to the Project study area intersections and segments. Therefore, it was not included.
5. Melrose Heights (GPA 13-00003) – This Project is currently under construction and is located adjacent to the Subject Project across from Oceanside Boulevard. This project is currently under construction and is scheduled to be occupied by 2022. This project was included in the Cumulative analysis.
6. Warehouse Project - This project includes 50,000 SF warehouse building (with 1,500 sf of office space) and is located at the southeast corner of North Avenue and Vista Pacific Drive in Oceanside.

Melrose Heights Project

The Melrose Heights Project is located on the northeast and northwest corners of the N. Melrose Drive / Oceanside Boulevard intersection, in the City of Oceanside. The Project includes the development of 78 condominiums, 37 single family units, 198 townhomes, 10,000 SF of office and 10,000 SF of restaurant.

This project is currently under construction and is conditioned to implement the following improvements at the N. Melrose Drive / Oceanside Boulevard intersection by the first occupancy, by the Year 2022.

N. Melrose Drive / Oceanside Boulevard Intersection Improvements:

- A second SB left-turn lane,
- A third SB thru lane,
- A Right-Turn Overlap (RTOL) phase for the NB approach,

- Prohibit WB U-turn movement with a R3-4 (No U-Turn) sign, and
- Upgrade and relocate the affected existing signal hardware, conduit, fiber optic connections and pedestrian count down timer as appropriate.

N. Melrose Drive Segment: Meadowbrook Drive to Oceanside Boulevard Improvements:

- Construct the west side of N. Melrose Drive between Meadowbrook Drive and Oceanside Boulevard to 4-Lane Major Arterial standards with dedication to 6-Lane Prime Arterial standards with the development of PA-1.
- Construct the east side of N. Melrose Drive between Meadowbrook Drive and Oceanside Boulevard to 4-Lane Major Arterial standards with dedication to 6-Lane Prime Arterial standards with the development of PA-2 or PA-3.

North River Farm (GPA16-00002)

North River Farm project is located on a 176.63-acre site centered on North River Road east of the intersection of North River Road and College Boulevard with its eastern boundary marked by the southerly alignment of Wilshire Boulevard. This project proposes to develop the approximately 176.63-acre site with 395 residential units and would also include commercial and restaurant uses, a local farm, and a hotel. The residential portion of the Project proposes a mix of housing types including single-family detached homes, multi-family attached homes, and mixed-use residential units

Warehouse Project

The Warehouse project includes 50,000 SF warehouse building (with 1,500 SF of office space) and is located at the southeast corner of North Avenue and Vista Pacific Drive in Oceanside.

The above improvements will be completed prior to the opening of the subject Project.

Appendix F contains the Project traffic Assignment figure for the Melrose Heights Project and **Figure 6-1** depicts the Cumulative Projects only traffic volumes.

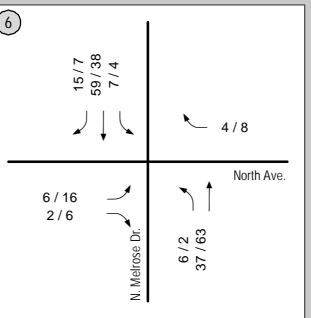
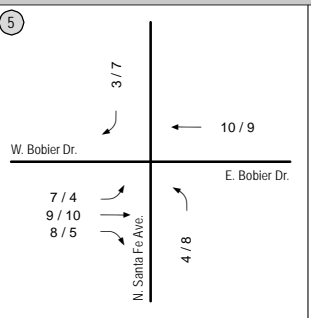
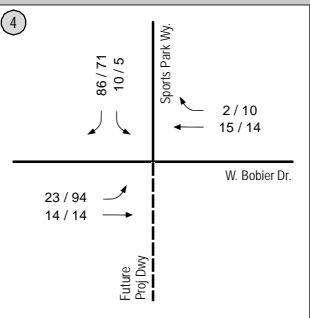
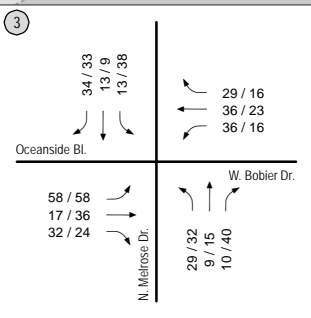
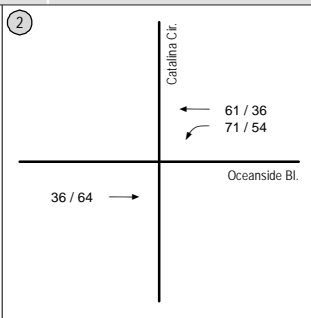
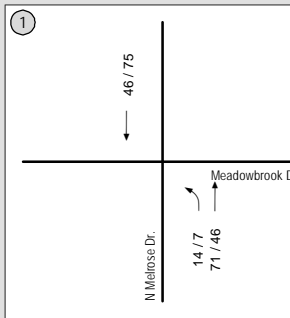


Figure 7-1

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

Trip generation rates were obtained from the (Not So) *Brief guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) by SANDAG. The “Residential, Apartment” (6 ADT / DU)” were used for the apartments, and the “Strip Commercial” (40 ADT /KSF)” trip rates were used for the local serving retail to estimate the Project trip generation.

Table 7–1 summarizes the trip generation for the Project. As shown in **Table 7–1**, the Project is calculated to generate 2,038 daily trips with 159 trips during the AM peak hour (33 inbound/ 126 outbound trips) and 183 trips during PM peak hour (127 inbound/ 56 outbound trips).

7.2 Trip Distribution and Assignment

Project traffic was distributed to the street system based on existing traffic patterns in the area, the Project’s proximity to freeways and arterials, locations of retail, places of employment, schools, and other shopping opportunities in the study area.

24% of the Project trips were assigned to the west on Oceanside Boulevard, 26% to the north on N. Melrose Drive, 28% to the south on N. Melrose Drove and 20% to the east on W. Bobier Drive. The remaining 2% of the Project trips were assigned on Sports Park Way, north of the site.

Figure 7–1 shows the Project trip distribution. **Figure 7–2** shows the Project traffic volumes. **Figure 7-3** shows the Existing + Project traffic volumes.

TABLE 7-1
PROJECT TRIP GENERATION

Use	Quantity	Daily Trip Ends (ADT) ^a		AM Peak Hour					PM Peak Hour				
		Rate ^b	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments	324 DU	6/ DU ^c	1,944	8%	2:8	31	125	156	9%	7:3	123	52	175
Retail ^c	2,338 SF	40/ KSF ^d	94	3%	6:4	2	1	3	9%	5:5	4	4	8
Total			2,038			33	126	159			127	56	183

Footnotes:

- a Average Daily Trips
- b Trip Generation Rate from the SANDAG's *Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, 2002.
- c Trip rates for Apartments used.
- d Trip rates for Strip Commercial used.

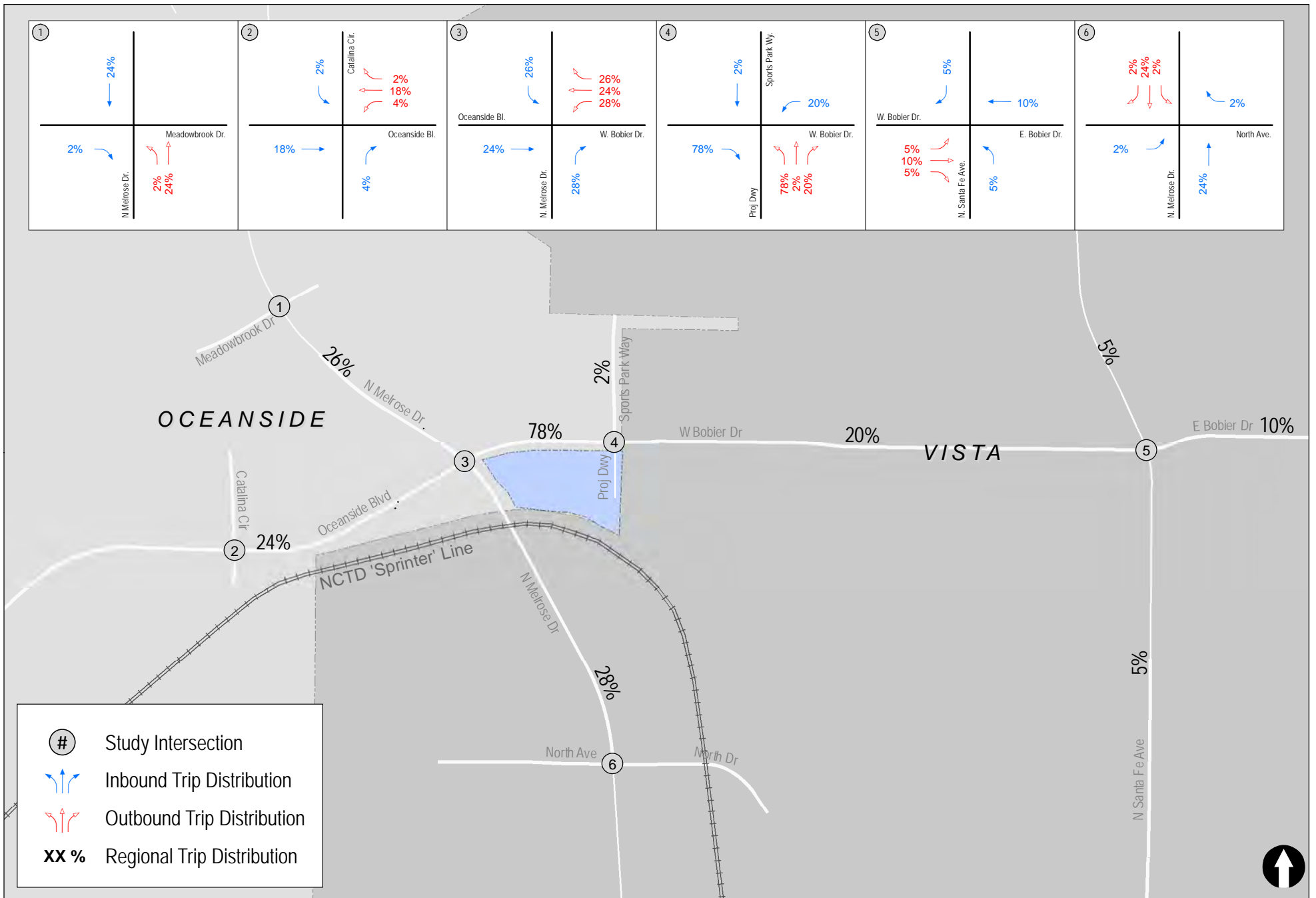


Figure 7-1

Project Traffic Distribution

Modera Melrose



Figure 7-2
Project Traffic Volumes

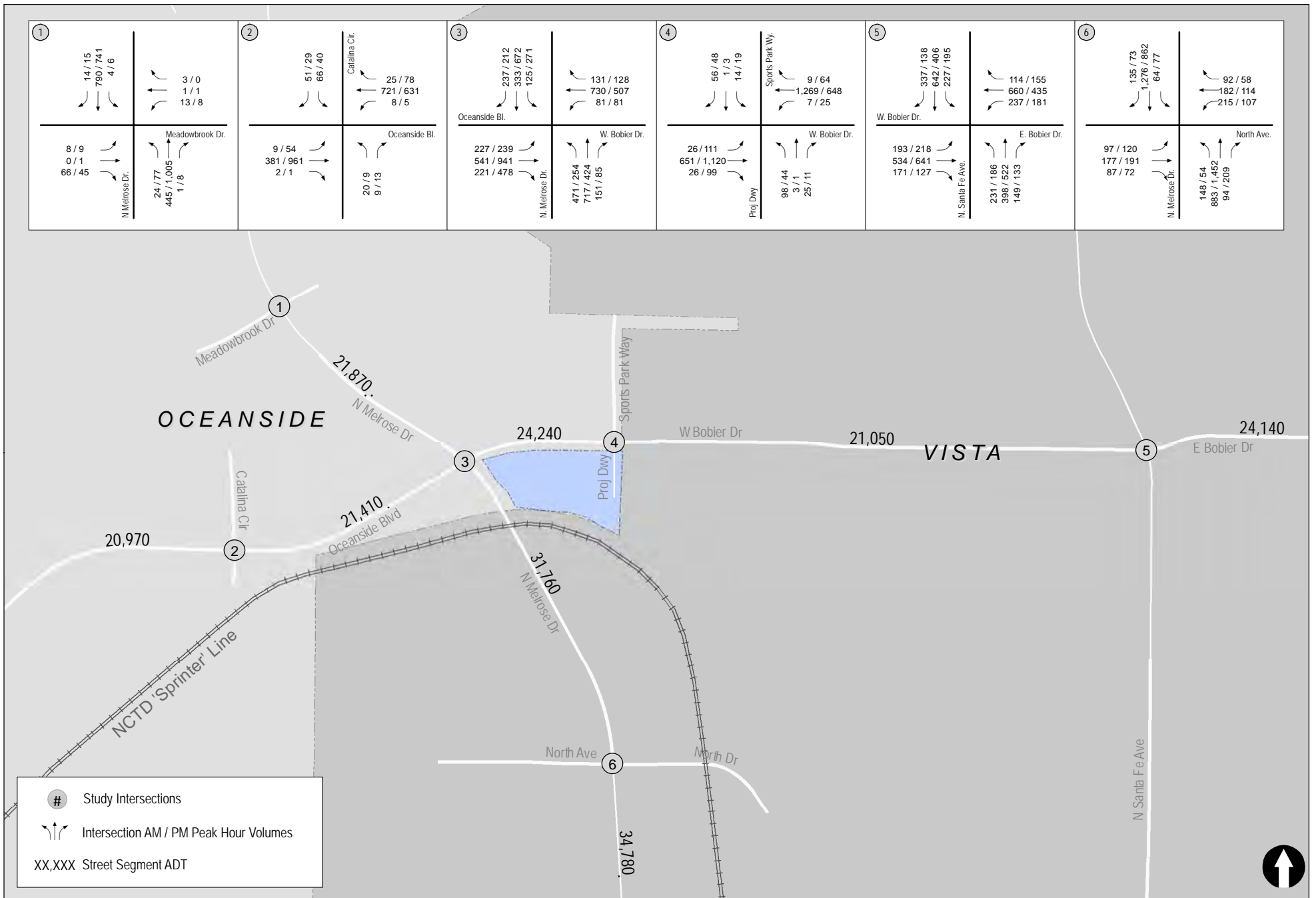


Figure 7-3

8.0 ANALYSIS OF EXISTING + PROJECT CONDITIONS

The currently under construction Melrose Heights Project located at the northeast and northwest corners of the Oceanside Boulevard / N. Melrose Drive intersection is conditioned to implement the following improvements at the N. Melrose Drive / Oceanside Boulevard intersection by the first occupancy, by 2022.

N. Melrose Drive / Oceanside Boulevard Intersection:

- A second SB left-turn lane,
- A third SB thru lane,
- A Right-Turn Overlap (RTOL) phase for the NB approach,
- Prohibit WB U-turn movement with a R3-4 (No U-Turn) sign, and
- Upgrade and relocate the affected existing signal hardware, conduit, fiber optic connections and pedestrian count down timer as appropriate.

N. Melrose Drive Segment: Meadowbrook Drive to Oceanside Blvd:

- Construct the west side of N. Melrose Drive between Meadowbrook Drive and Oceanside Boulevard to 4-Lane Major Arterial standards with dedication to 6-Lane Prime Arterial standards with the development of PA-1. Construct the east side of N. Melrose Drive between Meadowbrook Drive and Oceanside Boulevard to 4-Lane Major Arterial standards with dedication to 6-Lane Prime Arterial standards with the development of PA-2 or PA-3.

It has been ascertained that these improvements are currently built, and are therefore assumed as the base condition for all scenarios with Project traffic.

8.1 Peak Hour Intersection Analysis

Table 8-1 summarizes the peak hour intersection operations under Existing + Project conditions in the study area. As shown, the study area intersections are calculated to continue to operate acceptably at LOS D or better during the AM and PM peak hours with the addition of Project trips and therefore, based on the City of Oceanside's traffic thresholds and methodology summarized in *Section 4*, roadway improvements are not required. It may be noted that the improvements listed above at the Oceanside Boulevard / N. Melrose Drive intersection are assumed for the Existing + Project condition. Therefore, the delays decrease with the addition of Project traffic at this intersection.

Appendix G contains the Existing + Project intersection analysis worksheets.

TABLE 8-1
EXISTING WITH PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ Delay ^c	Improvement Required?
			Delay ^a	LOS ^b	Delay	LOS		
1. N. Melrose Dr / Meadowbrook Dr	Signal	AM	43.7	D	43.9	D	0.2	No
		PM	50.5	D	50.5	D	0.0	No
2. Catalina Cir / Oceanside Blvd	Signal	AM	10.6	B	11.1	B	0.5	No
		PM	11.0	B	11.4	B	0.4	No
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr)	Signal	AM	142.0	F	52.1	D	^d	No
		PM	97.4	F	47.9	D	^d	No
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr	Signal	AM	27.8	C	26.8	C	^e	No
		PM	21.9	C	14.4	B	^e	No
5. N. Santa Fe Ave / W. Bobier Dr	Signal	AM	52.8	D	53.3	D	0.5	No
		PM	37.6	D	37.8	D	0.2	No
6. N. Melrose Dr / North Ave	Signal	AM	43.8	D	44.2	D	0.4	No
		PM	33.2	C	33.6	C	0.4	No

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Δ denotes the increase in delay due to Project.
- d. Improvements by the Melrose Heights Project are assumed to be implemented by the time the Project is built. Hence, the delay decreases with the addition of the Project traffic.
- e. Currently a signalized T-Intersection with no south leg. The Project Driveway forms the south leg. The fourth leg is assumed for the Existing + Project condition only.

SIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

8.2 Daily Street Segment Operations

Table 8-2 summarizes the street segment operations along the study area roadways under Existing + Project. As shown, the study area street segments are calculated to continue to operate acceptably at LOS D or better with the addition of Project trips and therefore, based on the City of Oceanside’s traffic thresholds and methodology summarized in *Section 4*, roadway improvements are not required.

It may be noted that the improvements listed above on the segment of N. Melrose Drive between Meadowbrook Drive and Oceanside Boulevard are assumed for the Existing + Project condition. Therefore, the delays decrease with the addition of Project traffic at this intersection.

TABLE 8-2
EXISTING WITH PROJECT STREET SEGMENT OPERATIONS

Street Segment	Jurisdiction	Functional Capacity	Capacity (LOS E) ^a	Existing			Existing + Project			Δ V/C ^e	Improvement Required?
				ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
N. Melrose Drive											
1. North of Meadow Brook Dr	Oceanside	4-Lane Major	40,000	20,830	B	0.521	21,320	C	0.533	0.012	No
2. Meadow Brook Dr to Oceanside Blvd	Oceanside	4-Lane Major ^f	30,000	21,340	C	0.711	21,870	C	0.729	0.018	No
3. Oceanside Blvd to North Ave	Oceanside / Vista	4-Lane Major ^g	40,000	31,190	D	0.780	31,760	D	0.794	0.014	No
4. South of North Ave	Vista	6-Lane Urban Major	50,000	34,290	B	0.686	34,780	B	0.696	0.010	No
Oceanside Boulevard											
5. West of Catalina Cir	Oceanside	4-Lane Major	40,000	20,600	B	0.515	20,970	B	0.524	0.009	No
6. Catalina Cir to N. Melrose Dr	Oceanside	4-Lane Major	40,000	20,920	B	0.523	21,410	C	0.535	0.012	No
W. Bobier Way											
7. N. Melrose Dr to Sports Park Wy	Oceanside	4-Lane Major	40,000	22,650	C	0.566	24,240	C	0.606	0.040	No
8. Sports Park Wy to N. Santa Fe Ave	Vista	4-Lane Major	40,000	20,640	A	0.516	21,050	A	0.526	0.010	No
9. East of N. Santa Fe Ave	Vista	4-Lane Major	40,000	23,940	A	0.599	24,140	B	0.604	0.005	No

Footnotes:

- a. Capacity at which the roadway currently functions and based on City of Oceanside and City of Vista Roadway Classification Tables as appropriate.
- b. Average Daily Traffic Volumes.
- c. Level of Service
- d. Volume to Capacity ratio.
- e. Δ denotes the increase in V/C due to Project.
- f. A short section of this roadway is not built to the width of a 4-Lane Major Street. Therefore, 75% of the capacity of a 4-Lane Major Road is assumed.
- g. A section of this roadway at the boundary between the City of Oceanside and City of Vista is not widened to a 6-Lane Major Road. Hence, the capacity of City of Oceanside 4-Lane Major Road is assumed.

9.0 ANALYSIS OF NEAR-TERM CONDITIONS

The following section presents the analysis of study area intersections and street segments under Near-Term conditions without and with the proposed Project.

9.1 Near-Term Traffic Volumes

Near-Term without Project traffic volumes were calculated by adding the cumulative project traffic volumes onto the Existing traffic volumes. Near-Term + Project traffic volumes were calculated by then adding the Project traffic volumes.

Figure 9-1 shows the Near-Term traffic volumes. *Figure 9-2* shows the Near-Term + Project traffic volumes.

9.2 Near-Term without Project Conditions

9.2.1 Peak Hour Intersection Analysis

Table 9-1 summarizes the peak hour intersection operations under Near-Term conditions. As shown, the study area intersections are calculated to operate acceptably at LOS D or better during the AM and PM peak hours, except:

- N. Melrose Drive / Oceanside Boulevard (W. Bobier Drive) LOS E during the AM peak hour

Appendix H contains the Near-Term intersection analysis worksheets.

9.2.2 Daily Street Segment Operations

Table 9-2 summarizes street segment operations along the study area roadways under Near-Term conditions. As shown, the study area street segments are calculated to operate acceptably at LOS D or better.

**TABLE 9-1
NEAR-TERM INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project		Δ Delay ^c	Improvement Required?
			Delay ^a	LOS ^b	Delay	LOS		
1. N. Melrose Dr / Meadowbrook Dr	Signal	AM	46.0	D	46.3	D	0.3	No
		PM	51.3	D	51.8	D	0.5	No
2. Catalina Cir / Oceanside Blvd	Signal	AM	13.9	B	14.6	B	0.7	No
		PM	13.2	B	13.6	B	0.4	No
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr) ^d	Signal	AM	56.9	E	58.4	E	1.5	No
		PM	50.4	D	51.2	D	0.8	No
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr	Signal ^d	AM	32.7	C	30.6	C	^e	No
		PM	26.3	C	40.0	D	^e	No
5. N. Santa Fe Ave / W. Bobier Dr	Signal	AM	53.6	D	54.3	D	0.7	No
		PM	37.9	D	38.1	D	0.2	No
6. N. Melrose Dr / North Ave	Signal	AM	45.4	D	45.9	D	0.5	No
		PM	34.3	C	34.7	C	0.4	No

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Δ denotes the increase in delay due to Project.
- d. Improvements by the Melrose Heights Project are assumed to be implemented by the time the Project is built.
- e. Currently a signalized T-Intersection with no south leg. The Project Driveway forms the south leg. The fourth leg is assumed for the Near-Term + Project condition only. Therefore, the increase in delay is not shown.

SIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

**TABLE 9-2
NEAR-TERM STREET SEGMENT OPERATIONS**

Street Segment	Functional Capacity	Capacity (LOS E) ^a	Near-Term Without Project			Near-Term With Project			Δ V/C ^e	Improvement Required?
			ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
N. Melrose Drive										
1. North of Meadow Brook Dr	4-Lane Major	40,000	22,220	C	0.556	22,710	C	0.568	0.013	No
2. Meadow Brook Dr to Oceanside Blvd	4-Lane Major	40,000	23,050	D	0.768	23,580	D	0.786	0.018	No
3. Oceanside Blvd to North Ave	4-Lane Major ^f	40,000	32,690	D	0.817	33,260	D	0.832	0.015	No
4. South of North Ave	6-Lane Urban Major	50,000	35,740	C	0.715	36,230	C	0.725	0.010	No
Oceanside Boulevard										
5. West of Catalina Cir	4-Lane Major	40,000	21,740	C	0.544	22,110	C	0.553	0.010	No
6. Catalina Cir to N. Melrose Dr	4-Lane Major	40,000	23,640	C	0.591	24,130	C	0.603	0.012	No
W. Bobier Way										
7. N. Melrose Dr to Sports Park Wy	4-Lane Major	40,000	24,290	C	0.607	25,880	C	0.647	0.040	No
8. Sports Park Wy to N. Santa Fe Ave	4-Lane Major	40,000	21,080	A	0.527	21,490	A	0.537	0.010	No
9. East of N. Santa Fe Ave	4-Lane Major	40,000	24,070	B	0.602	24,270	B	0.607	0.005	No

Footnotes:

- a. Capacity at which the roadway currently functions and based on City of Oceanside and City of Vista Roadway Classification Tables as appropriate.
- b. Average Daily Traffic Volumes.
- c. Level of Service
- d. Volume to Capacity ratio.
- e. Δ denotes the increase in V/C due to Project.
- f. A section of this roadway at the boundary between the City of Oceanside and City of Vista is not widened to a 6-Lane Major Road. Hence, the capacity of City of Oceanside 4-Lane Major Road is assumed.

9.3 Near-Term + Project Conditions

9.3.1 Peak Hour Intersection Analysis

Table 9–1 summarizes the peak hour intersection operations under Near-Term + Project conditions. As shown, the study area intersections are calculated to continue to operate acceptably at LOS D or better during the AM and PM peak hours with the addition of Project trips and therefore, based on the City of Oceanside’s traffic thresholds and methodology summarized in *Section 4*, roadway improvements are not required.

- N. Melrose Drive / Oceanside Boulevard (W. Bobier Drive) LOS E during the AM peak hour

The increase in delay due to Project traffic at the above intersection is less than the allowable City of Oceanside delay threshold of 2.0 seconds. Hence, the Project does not have any impact on the subject intersections. It is therefore concluded that no improvement is needed.

Appendix I contains the Near-Term + Project intersection analysis worksheets.

9.3.2 Daily Street Segment Operations

Table 9–2 summarizes the street segment operations along the study area roadways under Near-Term + Project conditions. As shown, the study area street segments are calculated to continue to operate acceptably at LOS B or better with the addition of Project trips.

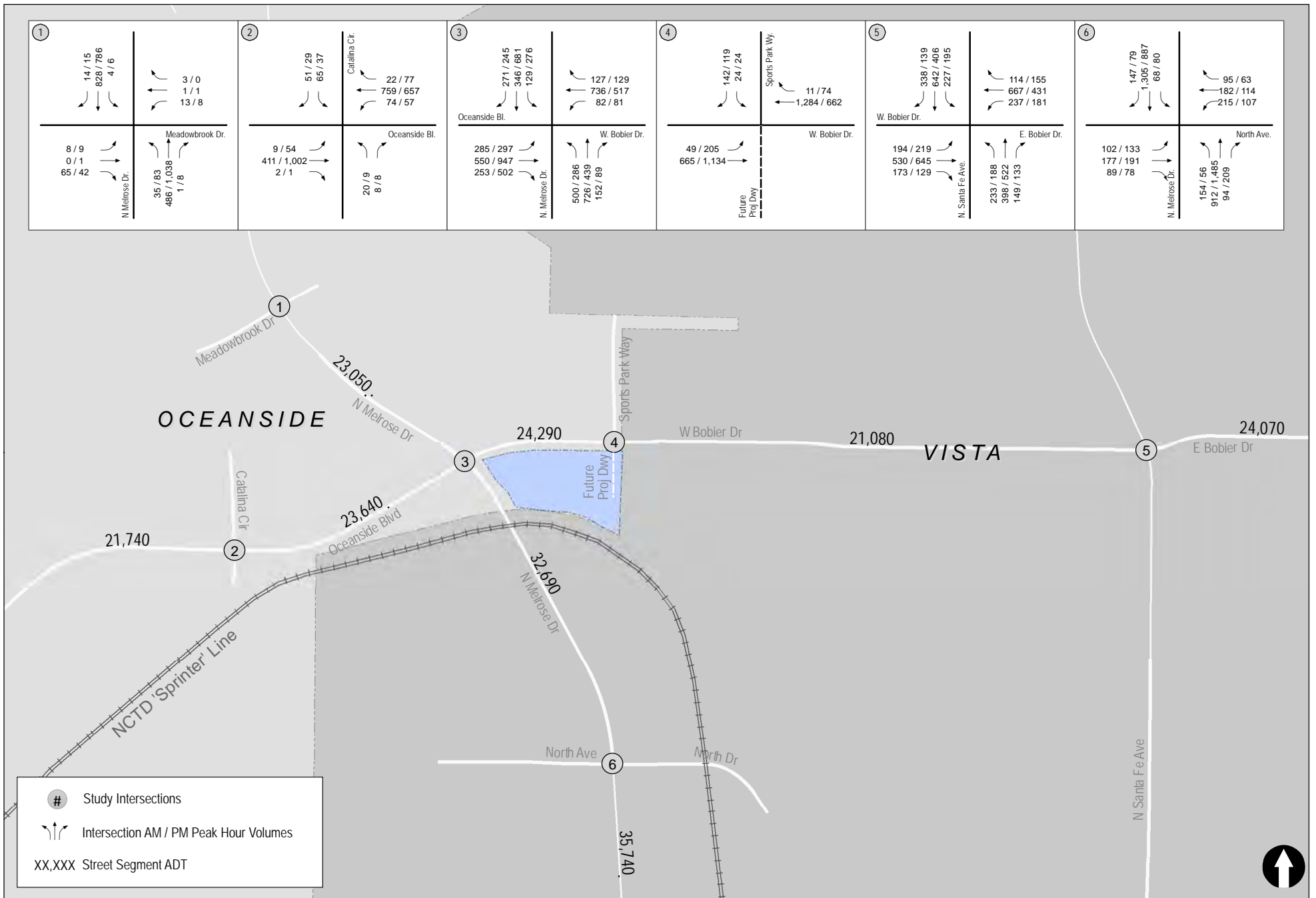


Figure 9-1

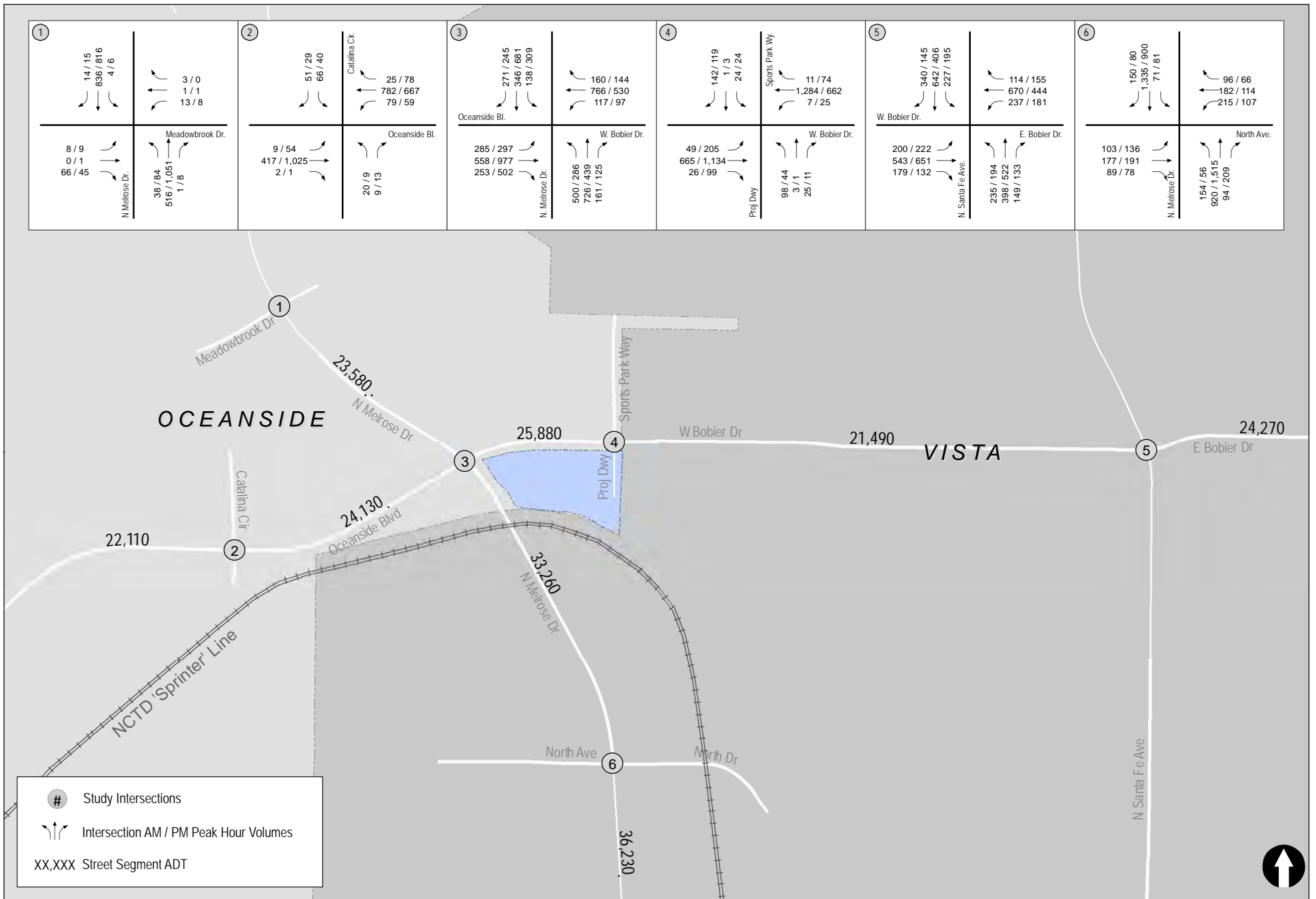


Figure 9-2

10.0 ANALYSIS OF BUILDOUT CONDITIONS

The following section presents the analysis of study area intersections and street segments under Buildout (Year 2030) conditions without and with the proposed Project.

10.1 Buildout Traffic Volumes

Peak hour intersection and daily segment Buildout Traffic Volumes were obtained from the *City of Oceanside Circulation Element Update (CE Update)*, April 2012. Volumes for only the N. Melrose Drive / Oceanside Boulevard intersection was available in this document. The volumes obtained from the CE Update were used in the buildout analysis for the N. Melrose Drive / Oceanside Boulevard intersection. The volumes for the remaining intersections were obtained as described in the following paragraph.

The SANDAG Series 14 model was used to forecast Year 2030 volumes for the remaining study area intersections. However, the SANDAG model output is not as accurate in determining peak hour intersection turn movements. Therefore, Year 2030 peak hour turning movement volumes were estimated using a template in EXCEL developed by LLG to determine peak hour traffic at an intersection from future ADT volumes using the relationship between existing peak hour turn movements and the existing ADT volumes. This same relationship can be assumed to generally continue in the future. For example, if the segment ADT on the roadway is forecast to double by the Year 2030, it is reasonable to assume that the peak hour intersection turning movement volumes will generally double. A copy of this template used to estimate the forecast volumes is included in *Appendix J* for reference.

Figure 10–1 shows the Buildout traffic volumes. *Figure 10–2* shows the Buildout + Project traffic volumes.

10.2 Buildout without Project Conditions

Currently under construction improvements at the N. Melrose Drive / Oceanside Boulevard intersection and the widening of N. Melrose Drive between Meadowbrook Drive and Oceanside Boulevard are assumed. For the other study area intersections and segments, existing and ground roadway conditions are assumed for the Year 2030 analysis. The SANDAG model outputs daily segment and peak hour volumes.

10.2.1 Peak Hour Intersection Analysis

Table 10–1 summarizes the peak hour intersection operations under Buildout conditions. As shown, the study area intersections are calculated to operate acceptably at LOS D or better during the AM and PM peak hours except for the following:

- N. Melrose Drive / Oceanside Boulevard (W. Bobier Drive) – LOS E during the AM peak and PM peak hours
- N. Santa Fe Avenue / W. Bobier Drive - LOS F during the AM and LOS E during the PM peak hours

- N. Melrose Drive / North Avenue – LOS E during the AM peak hour

Appendix J contains the Buildout intersection analysis worksheets.

10.2.2 Daily Street Segment Operations

Table 10–2 summarizes the Year 2030 without Project, street segment operations along the study area roadways. As shown, the following study area street segments are calculated to operate at LOS E or worse.

- **N. Melrose Drive:** North of Meadow Brook Drive (LOS E)
- **N. Melrose Drive:** Meadow Brook Drive to Oceanside Boulevard (LOS F)
- **N. Melrose Drive:** Oceanside Boulevard to North Avenue (LOS F)

10.3 Buildout + Project Conditions

10.3.1 Peak Hour Intersection Analysis

Table 10–1 summarizes the peak hour intersection operations under Buildout + Project conditions. As shown, the study area intersections are calculated to continue to operate acceptably at LOS D or better during the AM and PM peak hours except for the following:

- N. Melrose Drive / Oceanside Boulevard (W. Bobier Drive) – LOS E during the AM peak and PM peak hours
- N. Santa Fe Avenue / W. Bobier Drive - LOS F during the AM and LOS E during the PM peak hours
- N. Melrose Drive / North Avenue – LOS E during the AM peak hour

The increase in delay due to Project traffic at the above intersections is less than the allowable City of Oceanside delay threshold of 2.0 seconds. Hence, the Project does not have any impact on the subject intersections. It is therefore concluded that no improvement is needed.

Appendix K contains the Buildout + Project intersection analysis worksheets.

10.3.2 Daily Street Segment Operations

Table 10–2 summarizes the Year 2030 with Project, street segment operations along the study area roadways. As shown, the following study area street segments are calculated to operate at LOS E or worse with the addition of Project traffic.

- **N. Melrose Drive:** North of Meadow Brook Drive (LOS E)
- **N. Melrose Drive:** Meadow Brook Drive to Oceanside Boulevard (LOS F)
- **N. Melrose Drive:** Oceanside Boulevard to North Avenue (LOS F)

The increase in the v/c ratio due to Project traffic at the above segments is less than the allowable City of Oceanside v/c threshold of 0.02. Hence, the Project does not have any impact on the subject segments. It is therefore concluded that no improvement is needed.

**TABLE 10-1
BUILDOUT (YEAR 2030) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Buildout No Project		Buildout With Project		Δ Delay ^c	Improvement Required?
			Delay ^a	LOS ^b	Delay	LOS		
1. N. Melrose Dr / Meadowbrook Dr	Signal	AM	29.8	C	29.8	C	0.0	No
		PM	33.0	C	33.3	C	0.3	No
2. Catalina Cir / Oceanside Blvd	Signal	AM	12.8	B	13.0	B	0.2	No
		PM	12.4	B	12.5	B	0.1	No
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr)	Signal	AM	63.1	E	64.2	E	1.1	No
		PM	56.4	E	56.5	E	0.1	No
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr	Signal ^d	AM	16.2	B	45.8	D	29.6	No
		PM	18.7	B	53.7	D	35.0	No
5. N. Santa Fe Ave / W. Bobier Dr	Signal	AM	81.7	F	82.3	F	0.6	No
		PM	64.5	E	65.1	E	0.6	No
6. N. Melrose Dr / North Ave	Signal	AM	71.0	E	72.5	E	1.5	No
		PM	50.3	D	52.4	D	2.1	No

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Δ denotes the increase in delay due to Project.
- d. Currently a signalized T-Intersection with no south leg. The Project Driveway forms the south leg.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

**TABLE 10-2
BUILDOUT (YEAR 2030) STREET SEGMENT OPERATIONS**

Street Segment	Functional (On the Ground) Capacity	Capacity (LOS E) ^a	Buildout (Year 2030)			Buildout + Project			Δ V/C ^e	Improvement Required?
			ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
N. Melrose Drive										
1. North of Meadow Brook Dr	4-Lane Major	40,000	36,600	E	0.915	37,090	E	0.927	0.012	No
2. Meadow Brook Dr to Oceanside Blvd	4-Lane Major	30,000	36,600	F	1.220	37,130	F	1.238	0.018	No
3. Oceanside Blvd to North Ave	4-Lane Major ^f	40,000	43,800	F	1.095	44,370	F	1.109	0.014	No
4. South of North Ave	6-Lane Urban Major	50,000	40,700	D	0.814	41,190	D	0.824	0.010	No
Oceanside Boulevard										
5. West of Catalina Cir	4-Lane Major	40,000	29,400	C	0.735	29,770	C	0.744	0.009	No
6. Catalina Cir to N. Melrose Dr	4-Lane Major	40,000	29,400	C	0.735	29,890	C	0.747	0.012	No
W. Bobier Way										
7. N. Melrose Dr to Sports Park Wy	4-Lane Major	40,000	22,800	C	0.570	24,390	C	0.610	0.040	No
8. Sports Park Wy to N. Santa Fe Ave	4-Lane Major	40,000	28,400	C	0.710	28,810	C	0.720	0.010	No
9. East of N. Santa Fe Ave	4-Lane Major	40,000	21,300	A	0.533	21,500	A	0.538	0.005	No

Footnotes:

- a. Capacity at which the roadway currently functions and based on City of Oceanside and City of Vista Roadway Classification Tables as appropriate.
- b. Average Daily Traffic Volumes.
- c. Level of Service
- d. Volume to Capacity ratio.
- e. Δ denotes the increase in V/C due to Project.
- f. A section of this roadway at the boundary between the City of Oceanside and City of Vista is not widened to a 6-Lane Major Road. Hence, the capacity of City of Oceanside 4-Lane Major Road is assumed.

10.3.3 *Daily Street Segment Operations – City of Oceanside Circulation Element*

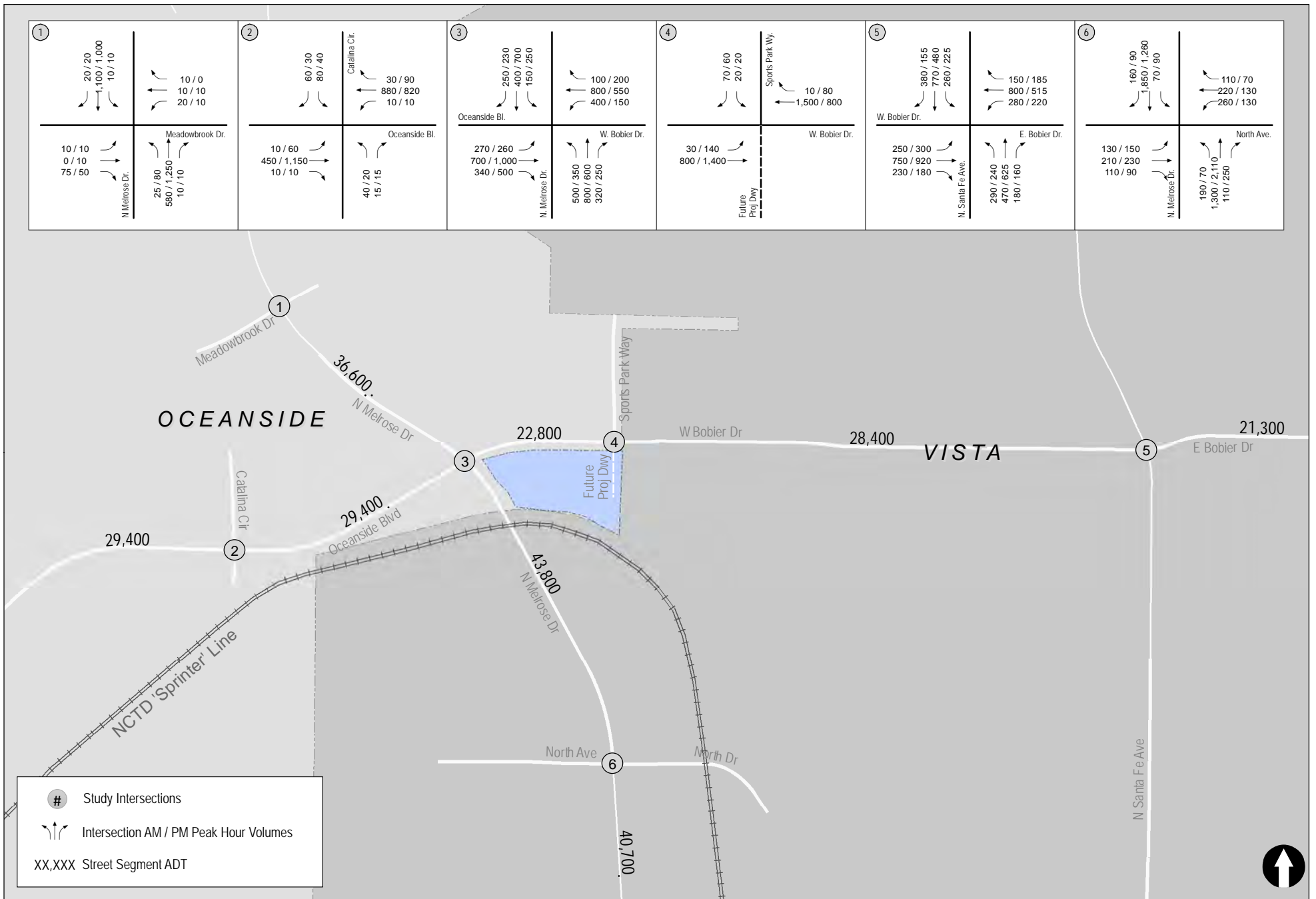
Table 10–3 summarizes the Year 2030 with Project street segment operations along the study area roadways assuming the City of Oceanside Circulation Element Classification and the City of Vista Circulation Element for Melrose Drive. As shown on *Table 10-3*, the segments of N. Melrose Drive between north of Meadowbrook Drive and south of North Avenue are calculated to operate at LOS D or better.

**TABLE 10-3
BUILDOUT (YEAR 2030) STREET SEGMENT OPERATIONS WITH CITY OF OCEANSIDE CIRCULATION ELEMENT CLASSIFICATION**

Street Segment	Functional Capacity	Capacity (LOS E) ^a	Buildout + Project		
			ADT ^b	LOS ^c	V/C ^d
N. Melrose Drive					
1. North of Meadow Brook Dr	6-Lane Prime	60,000	37,090	C	0.618
2. Meadow Brook Dr to Oceanside Blvd	6-Lane Prime	60,000	37,130	C	0.619
3. Oceanside Blvd to North Ave	6-Lane Prime	60,000	44,370	C	0.740
4. South of North Ave	6-Lane Urban Major	50,000	41,190	D	0.824

Footnotes:

- a. Capacity at which the roadway currently functions and based on City of Oceanside and City of Vista Roadway Classification Tables as appropriate.
- b. Average Daily Traffic Volumes.
- c. Level of Service
- d. Volume to Capacity ratio.



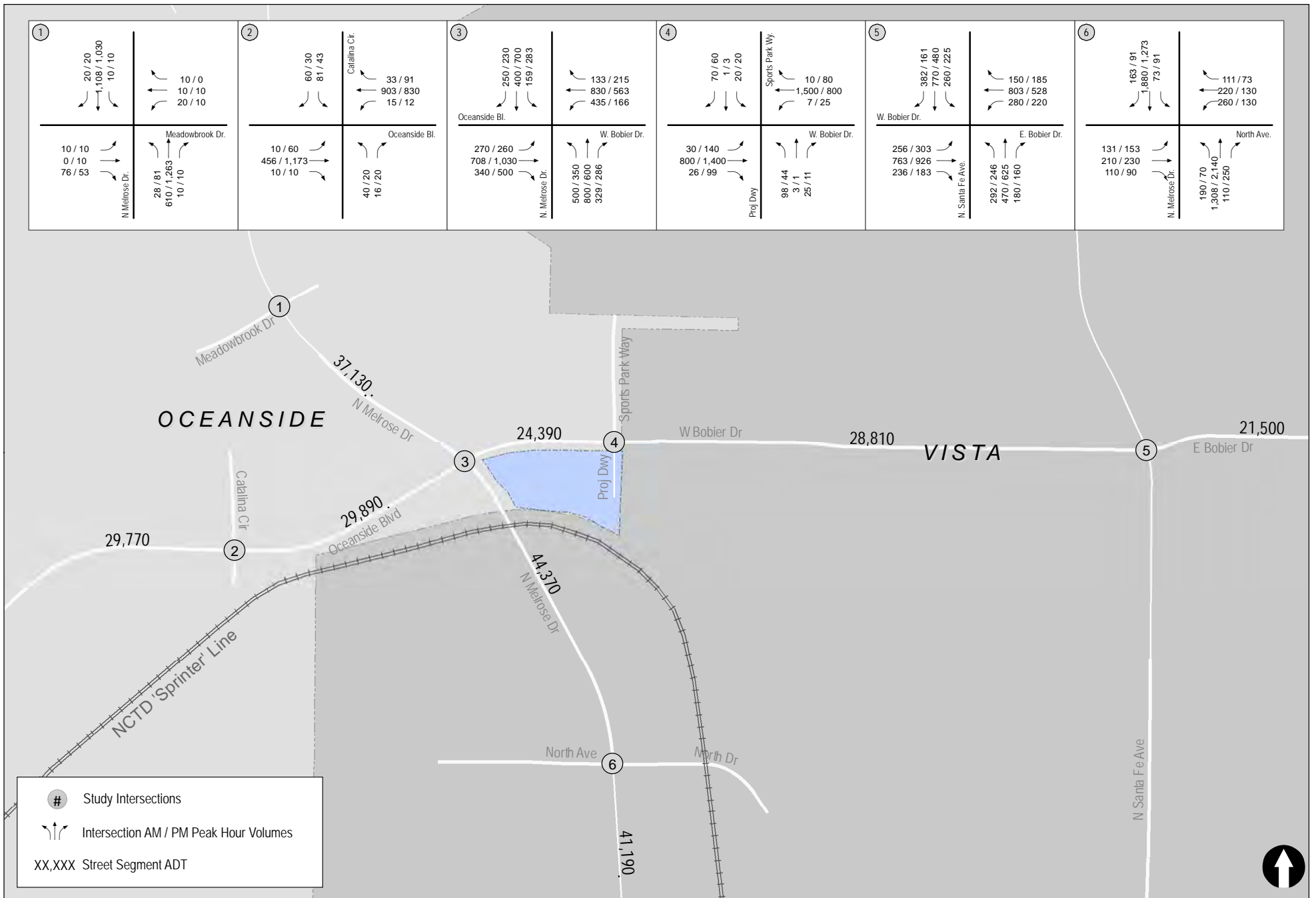


Figure 10-2

11.0 PEDESTRIAN, TRANSIT AND BICYCLE MOBILITY

11.1 Bicycle Access

11.1.1 *Existing Bicycle Conditions*

Class II bike lanes are provided along North Melrose drive, Oceanside Boulevard and West Bobier Drive, in the Project area. An existing bike trail begins at the southeast corner of the Oceanside Blvd / Melrose Drive intersection.

11.1.2 *Future Bicycle Improvements/Plans*

Based on the City of Oceanside Bicycle Master Plan, North Melrose Drive is planned to have a one-way cycle track or buffered bicycle lane.

11.2 Pedestrian Access

Sidewalks are provided on both sides of the roadways throughout the Project study area. The closest pedestrian crossing is at the West Bobier Drive / Sports Park Way intersection, the proposed project driveway. Another pedestrian crossing is at the North Melrose Drive / Oceanside Boulevard intersection, approximately 900 feet west of the proposed project driveway.

The Project will provide sidewalks along its frontage on Melrose Drive and Oceanside Boulevard and the existing sidewalk ramp at the southwest corner of the Project site will be upgraded to ADA compliance.

11.3 Transit Access

Transit service within the City of Oceanside and City of Vista is provided by North County Transit District (NCTD). 318 is the bus route that is within the vicinity of the project. The Sprinter is also located within the project vicinity.

ROUTE 318

Route 318 begins at Vista Transit Center and ends at Oceanside Transit Center. There are 52 stops along this route. It operates on the weekdays from approximately 5 AM to 7 PM. On Saturdays, it operates from approximately 6 AM to 7 PM. Services are at 45-minute frequencies.

Stops at the above route are located along Oceanside Boulevard, West Bobier Drive and North Melrose Drive, south of Oceanside Boulevard. The nearest bus stop at the project site is on West Bobier Drive, east of Marabou Lane, within a walking distance of 950 feet from the Project driveway.

SPRINTER

The sprinter operates east / west between the Escondido Transit Center and the Oceanside Transit Center on all weekdays, except holidays. Monday-Thursday services are at 30-minute frequency from approximately 4 AM to 9:30 PM. Friday service is at 30-minute frequency with extended hours from approximately 4 AM to 12:30 AM. The nearest trolley stop is located at North Melrose Drive, south of Oceanside Boulevard, within a walking distance of 1,500 feet from the Project Driveway.

12.0 PARKING ASSESSMENT

The Project proposes 323 apartments. A total of 526 parking spaces will be provided including 381 in the surface lot and garages and 145 subterranean spaces. *Table 12-1* summarizes the required parking and the proposed parking.

In compliance with California Government Code Section 65915(p) and the City of Oceanside Article 30 Site Regulations Section 3032 Affordable Housing Density Bonus Vehicular Parking Ratio, the project is requesting from the City of Oceanside as permitted the following maximum parking ratio inclusive of handicapped and guest parking for the condominium units not to exceed 0.5 spaces per dwelling unit. The project meets the requirements of Government Code Section 65915(p) and Oceanside Section 3032 in that the development:

- Includes the maximum percentage of low-income or very low-income units (i.e. 15% very low income),
- Is located within one-half mile of a major transit stop (i.e. Melrose Sprinter Station 0.3 miles),
- There is unobstructed access to the major transit stop from the development (i.e. public sidewalk) as there is no natural or constructed impediments from the proposed project to the Melrose Sprinter Station.

Also, in compliance with Article 31 Off-street Parking and Loading Regulations Section 3103 Off-Street Parking and Loading Spaces Require, the project is providing for the Commercial Space a parking ratio of 1 space per 300 SF of gross floor area. The following is the parking provided for residential and commercial per the requirements above:

TABLE 12-1
PARKING CALCULATIONS

Type of Use / Parking Space	Number of Units	Parking Required (Per State Density Bonus Rates for Residential Units Within ½ Mile of a Major Transit Stop)	
		Rate by Use	Spaces per Use
Parking Spaces Required			
1 Bedroom Unit	151	0.5/unit	76
2 Bedroom Unit	160	0.5/unit	80
3 Bedroom Unit	12	0.5/unit	6
Guest	-	0	0
Commercial	2,336 sf	1/300 sf	8
Total Spaces Required			170
Parking Spaces Provided			
Surface Standard			271
Surface Compact			32
Garage Space			39
Tandem			39
Subterranean			124
Subterranean Compact			21
Total Spaces Provided			526

13.0 CONCLUSIONS

The Project is consistent with the City's adopted General Plan and is located in a Transit Priority Area. Therefore, a CEQA VMT Analysis is screened and was therefore not prepared for this Project and the CEQA VMT impact is presumed to be less than significant.

Per the City of Oceanside's thresholds for the determination of the need for roadway improvements, and the analysis methodology presented in this report, roadway improvements are not required the since the increase in Project related delays at intersections and V/C on study area segments do not exceed the allowable thresholds.

The Project requires the provision of 170 parking spaces and will provide 526 parking spaces.

TECHNICAL APPENDICES TO THE
LOCAL TRANSPORTATION STUDY
MODERA MELROSE
Oceanside, California
October 5, 2022

LLG Ref. 3-21-3419

**Linscott, Law &
Greenspan, Engineers**

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APPENDICES

APPENDIX

- A. City of Oceanside Roadway Classification Table
- B. Growth Rate Factor Calculations
- C. Intersection and Segment Count Sheets
- D. Signal Timing Plans
- E. Peak Hour Intersection Analysis Worksheets – Existing Conditions
- F. Melrose Heights Project Traffic Assignment
- G. Peak Hour Intersection Analysis Worksheets – Existing + Project
- H. Peak Hour Intersection Analysis Worksheets – Near-Term
- I. Peak Hour Intersection Analysis Worksheets – Near-Term + Project
- J. Forecast Peak Hour Volumes Calculation Template and Peak Hour Intersection Analysis Worksheets – Buildout
- K. Peak Hour Intersection Analysis Worksheets – Buildout + Project

APPENDIX A

CITY OF OCEANSIDE ROADWAY CLASSIFICATION TABLE

City of Oceanside

Table 12 – Circulation Element Roadway Classification LOS & Capacity

Class	Lanes	Cross Section ⁽¹⁾	Level of Service (LOS)				
			A	B	C	D	E
Expressway	6	102/160 122/200	30,000	42,000	60,000	70,000	80,000
Expressway	4	102/160 122/200	25,000	35,000	50,000	55,000	60,000
Prime Arterial	6	104/124	25,000	35,000	50,000	55,000	60,000
6-Lane Major Arterial	6	104/124	20,000	28,000	40,000	45,000	50,000
5-Lane Major Arterial ⁽²⁾	5	102/122	17,500	24,500	35,000	40,000	45,000
4-Lane Major Arterial	4	80/100	15,000	21,000	30,000	35,000	40,000
Secondary Collector (4 lanes with 2-way left turn lane)	4	64/84	10,000	14,000	20,000	25,000	30,000
Secondary Collector (4 lanes without 2-way left-turn lane, with left turn pockets)	4	54/74 60/80	9,000	13,000	18,000	22,000	25,000
Collector (commercial fronting, 2-lanes with 2-way left turn lane) ⁽³⁾	2	50/70	5,000	7,000	10,000	13,000	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	2	40/60, 50/70	4,000	5,500	7,500	9,000	10,000
Local Street (residential streets NOT in the Circulation Element)	1	36/56 40/60	- -	- -	2,400 2,400	- -	- -

(1) Cross sections are listed as curd-to-curb width/total right of way width, in feet.

(2) Vandegrift Boulevard is the only Circulation Element roadway designated as a 5-lane Major Arterial. It is not intended that other roadways be built to 5-lane Major Arterial standards.

(3) This capacity will also be assumed for a two-lane one-way collector.

APPENDIX B
GROWTH RATE FACTOR CALCULATIONS

APPENDIX C
INTERSECTION AND SEGMENT COUNT SHEETS

Intersection Turning Movement - Peak Hour Vehicle Count



Location: #01 R	File Name: ITM-21-042-01R
Intersection: North Melrose Drive & Meadowbrook Drive	Project: LLG Ref. 3-21-3419
Date of Count: Tuesday, August 31, 2021	Modera - Oceanside

AM	N. Melrose Drive Southbound			Meadowbrook Drive Westbound			N. Melrose Drive Northbound			Meadowbrook Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	179	3	4	0	0	4	102	0	3	0	9	304
7:15	2	183	6	2	1	0	5	84	0	1	0	13	297
7:30	0	217	1	3	0	0	3	106	1	4	0	22	357
7:45	2	164	3	3	0	3	8	102	0	0	0	18	303
8:00	1	142	1	2	0	0	1	61	0	2	0	14	224
8:15	0	179	2	3	0	1	3	107	2	3	0	15	315
8:30	1	185	3	4	0	0	9	89	2	1	0	12	306
8:45	1	166	2	1	0	0	9	82	1	0	0	13	275
Total	7	1415	21	22	1	4	42	733	6	14	0	116	2381
Approach%	0.5	98.1	1.5	81.5	3.7	14.8	5.4	93.9	0.8	10.8	-	89.2	
Total%	0.3	59.4	0.9	0.9	0.0	0.2	1.8	30.8	0.3	0.6	-	4.9	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	4	743	13	12	1	3	20	394	1	8	-	62	1,261
Approach%	0.5	97.8	1.7	75.0	6.3	18.8	4.8	94.9	0.2	11.4	-	88.6	
Total%	0.3	58.9	1.0	1.0	0.1	0.2	1.6	31.2	0.1	0.6	-	4.9	
PHF			0.87			0.67			0.94			0.67	0.88

PM	N. Melrose Drive Southbound			Meadowbrook Drive Westbound			N. Melrose Drive Northbound			Meadowbrook Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	3	143	3	1	1	0	21	218	3	4	0	11	408
16:15	4	136	0	3	1	0	20	246	4	3	0	20	437
16:30	2	181	8	2	0	0	7	263	2	1	0	12	478
16:45	3	123	1	0	0	0	24	204	4	4	0	10	373
17:00	0	189	3	2	0	0	15	244	1	1	1	10	466
17:15	1	182	2	4	1	0	26	231	1	3	0	8	459
17:30	1	112	2	1	0	3	8	228	2	3	1	18	379
17:45	3	143	4	1	0	1	12	199	2	2	1	12	380
Total	17	1209	23	14	3	4	133	1833	19	21	3	101	3380
Approach%	1.4	96.8	1.8	66.7	14.3	19.0	6.7	92.3	1.0	16.8	2.4	80.8	
Total%	0.5	35.8	0.7	0.4	0.1	0.1	3.9	54.2	0.6	0.6	0.1	3.0	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	6	675	14	8	1	-	72	942	8	9	1	40	1,776
Approach%	0.9	97.1	2.0	88.9	11.1	-	7.0	92.2	0.8	18.0	2.0	80.0	
Total%	0.3	38.0	0.8	0.5	0.1	-	4.1	53.0	0.5	0.5	0.1	2.3	
PHF			0.90			0.45			0.94			0.89	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #01 R	File Name: ITM-21-042-01R
Intersection: North Melrose Drive & Meadowbrook Drive	Project: LLG Ref. 3-21-3419
Date of Count: Tuesday, August 31, 2021	Modera - Oceanside

AM	N. Melrose Drive Southbound				Meadowbrook Drive Westbound				N. Melrose Drive Northbound				Meadowbrook Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
7:45	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
8:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Ped Total	6				0				2				1				9	
Bike Total		0	0	0		0	0	0		0	1	0		0	0	0		1

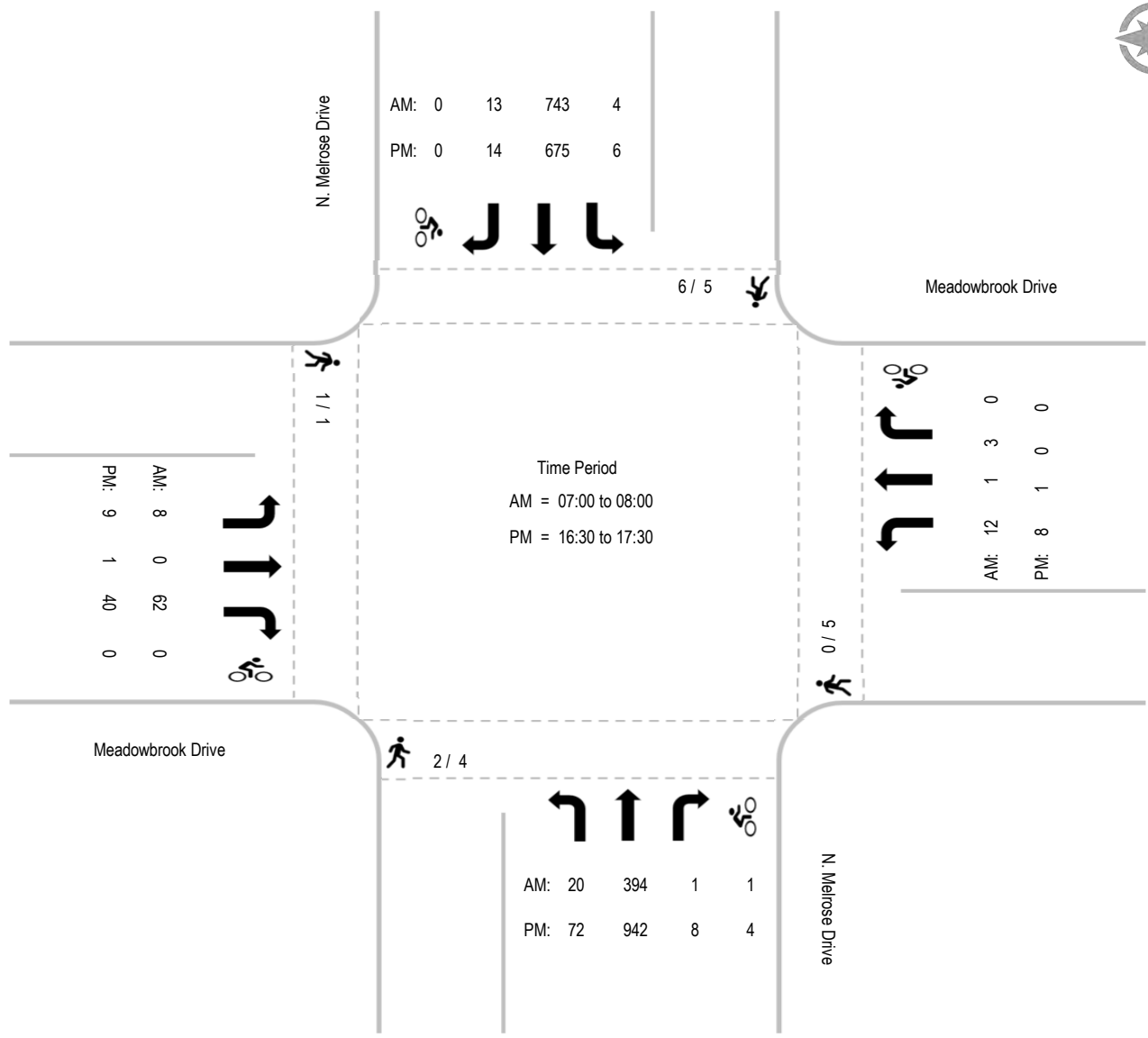
PM	N. Melrose Drive Southbound				Meadowbrook Drive Westbound				N. Melrose Drive Northbound				Meadowbrook Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
17:30	5	0	0	0	4	0	0	0	2	0	1	0	0	0	0	0	11	1
17:45	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	4	0
Ped Total	5				5				4				1				15	
Bike Total		0	0	0		0	0	0		0	4	0		0	0	0		4

Intersection Turning Movement - Peak Hour Summary



Location: #01 R
Intersection: North Melrose Drive & Meadowbrook Drive
Date of Count: Tuesday, August 31, 2021

File Name: ITM-21-042-01R
Project: LLG Ref. 3-21-3419
 Modera - Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #02 R	File Name: ITM-21-042-02R
Intersection: Catalina Circle & Oceanside Boulevard	Project: LLG Ref. 3-21-3419
Date of Count: Tuesday, August 31, 2021	Modera - Oceanside

AM	Catalina Circle Southbound			Oceanside Boulevard Westbound			Business Driveway Northbound			Oceanside Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	15	0	8	3	108	7	3	0	0	2	76	0	222
7:15	20	0	10	0	139	5	4	0	1	3	68	1	251
7:30	17	0	17	2	155	3	5	0	2	1	83	1	286
7:45	24	0	4	1	233	8	6	0	1	2	94	1	374
8:00	11	0	11	0	141	4	4	0	2	5	101	0	279
8:15	10	0	16	0	134	6	4	0	3	1	78	0	252
8:30	12	0	6	0	135	4	3	0	2	2	84	1	249
8:45	6	0	4	0	118	9	1	0	1	3	113	1	256
Total	115	0	76	6	1163	46	30	0	12	19	697	5	2169
Approach%	60.2	-	39.8	0.5	95.7	3.8	71.4	-	28.6	2.6	96.7	0.7	
Total%	5.3	-	3.5	0.3	53.6	2.1	1.4	-	0.6	0.9	32.1	0.2	

AM Intersection Peak Hour: 07:30 to 08:30

Volume	62	-	48	3	663	21	19	-	8	9	356	2	1,191
Approach%	56.4	-	43.6	0.4	96.5	3.1	70.4	-	29.6	2.5	97.0	0.5	
Total%	5.2	-	4.0	0.3	55.7	1.8	1.6	-	0.7	0.8	29.9	0.2	
PHF			0.81			0.71			0.96			0.87	0.80

PM	Catalina Circle Southbound			Oceanside Boulevard Westbound			Business Driveway Northbound			Oceanside Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	9	0	7	2	140	12	12	0	13	7	208	0	410
16:15	7	0	8	2	140	22	2	0	1	12	187	0	381
16:30	5	0	4	0	136	15	4	0	2	13	237	0	416
16:45	12	0	11	1	137	22	1	0	1	11	185	1	382
17:00	4	0	8	1	162	20	3	0	4	14	258	0	474
17:15	14	0	5	1	155	16	1	0	1	13	211	0	417
17:30	11	0	8	0	140	15	0	0	0	12	193	0	379
17:45	21	0	6	0	119	11	0	0	1	14	145	0	317
Total	83	0	57	7	1129	133	23	0	23	96	1624	1	3176
Approach%	59.3	-	40.7	0.6	89.0	10.5	50.0	-	50.0	5.6	94.4	0.1	
Total%	2.6	-	1.8	0.2	35.5	4.2	0.7	-	0.7	3.0	51.1	0.0	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	35	-	28	3	590	73	9	-	8	51	891	1	1,689
Approach%	55.6	-	44.4	0.5	88.6	11.0	52.9	-	47.1	5.4	94.5	0.1	
Total%	2.1	-	1.7	0.2	34.9	4.3	0.5	-	0.5	3.0	52.8	0.1	
PHF			0.68			0.91			0.61			0.87	0.89

Intersection Turning Movement - Bicycle & Pedestrian Count

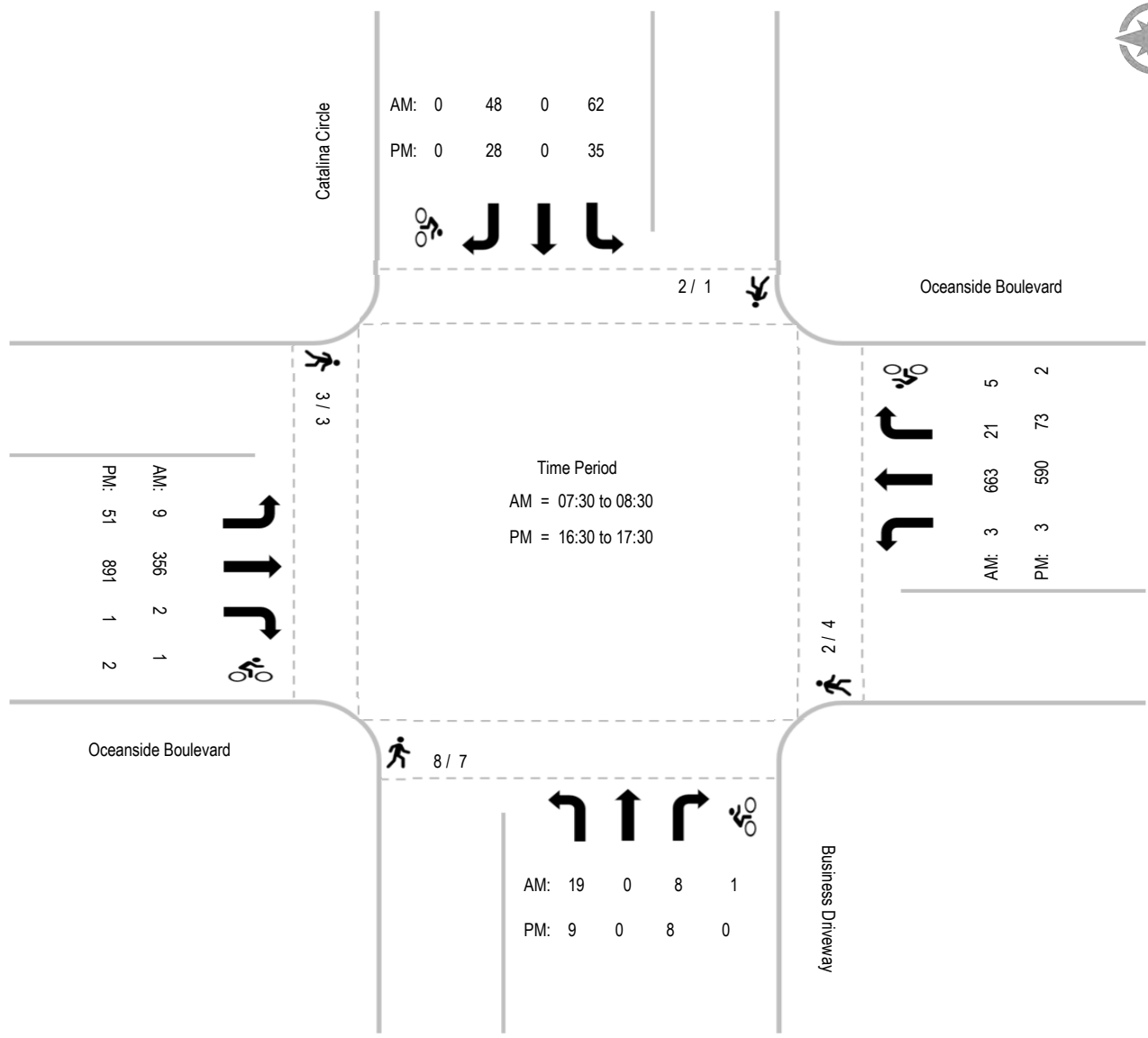
LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #02 R	File Name: ITM-21-042-02R
	Intersection: Catalina Circle & Oceanside Boulevard	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera - Oceanside

AM	Catalina Circle Southbound				Oceanside Boulevard Westbound				Business Driveway Northbound				Oceanside Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	
7:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:30	1	0	0	0	2	0	1	0	1	0	0	0	1	0	0	0	5	1
7:45	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
8:00	0	0	0	0	0	0	1	0	4	0	0	0	1	0	0	0	5	1
8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1
Ped Total	2				2				8				3				15	
Bike Total		0	0	0		0	5	0		1	0	0		1	0	0		7

PM	Catalina Circle Southbound				Oceanside Boulevard Westbound				Business Driveway Northbound				Oceanside Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	4	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1
17:30	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	3	1
17:45	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	3	1
Ped Total	1				4				7				3				15	
Bike Total		0	0	0		0	2	0		0	0	0		0	2	0		4

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #02 R	File Name: ITM-21-042-02R
	Intersection: Catalina Circle & Oceanside Boulevard	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera - Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #03	File Name: ITM-21-046-03
	Intersection: Melrose Drive & W. Bobier Drive & Oceanside Boulevard	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	Melrose Drive Southbound			W. Bobier Drive Westbound			Melrose Drive Northbound			Oceanside Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	38	127	33	13	165	28	100	89	21	30	149	84	877
7:15	32	80	31	7	162	22	108	138	28	47	144	77	876
7:30	40	55	51	9	181	22	115	174	35	62	126	29	899
7:45	18	78	70	14	165	24	101	220	39	57	124	52	962
8:00	20	103	73	14	157	25	123	149	33	50	112	52	911
8:15	29	66	53	21	192	20	65	97	7	56	106	48	760
8:30	29	76	51	7	179	30	81	103	9	26	94	41	726
8:45	33	66	34	6	139	27	63	72	6	29	51	51	577
Total	239	651	396	91	1340	198	756	1042	178	357	906	434	6588
Approach%	18.6	50.6	30.8	5.6	82.3	12.2	38.3	52.7	9.0	21.0	53.4	25.6	
Total%	3.6	9.9	6.0	1.4	20.3	3.0	11.5	15.8	2.7	5.4	13.8	6.6	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	110	316	225	44	665	93	447	681	135	216	506	210	3,648
Approach%	16.9	48.5	34.6	5.5	82.9	11.6	35.4	53.9	10.7	23.2	54.3	22.5	
Total%	3.0	8.7	6.2	1.2	18.2	2.5	12.3	18.7	3.7	5.9	13.9	5.8	
PHF			0.83			0.95			0.88			0.87	0.95

PM	Melrose Drive Southbound			W. Bobier Drive Westbound			Melrose Drive Northbound			Oceanside Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	51	126	39	12	140	23	57	108	6	63	171	110	906
16:15	53	149	39	12	160	26	47	92	13	53	196	105	945
16:30	57	160	58	20	98	28	50	111	12	54	209	116	973
16:45	45	150	28	15	140	20	69	104	10	50	217	103	951
17:00	63	157	68	17	116	29	61	76	13	62	220	114	996
17:15	61	171	47	10	115	30	61	112	12	61	219	121	1020
17:30	46	142	27	14	131	19	48	83	7	65	188	89	859
17:45	38	133	31	15	108	20	55	109	7	55	174	104	849
Total	414	1188	337	115	1008	195	448	795	80	463	1594	862	7499
Approach%	21.4	61.3	17.4	8.7	76.5	14.8	33.9	60.1	6.0	15.9	54.6	29.5	
Total%	5.5	15.8	4.5	1.5	13.4	2.6	6.0	10.6	1.1	6.2	21.3	11.5	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	226	638	201	62	469	107	241	403	47	227	865	454	3,940
Approach%	21.2	59.9	18.9	9.7	73.5	16.8	34.9	58.3	6.8	14.7	56.0	29.4	
Total%	5.7	16.2	5.1	1.6	11.9	2.7	6.1	10.2	1.2	5.8	22.0	11.5	
PHF			0.92			0.91			0.93			0.96	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #03	File Name: ITM-21-046-03
	Intersection: Melrose Drive & W. Bobier Drive & Oceanside Boulevard	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	Melrose Drive Southbound				W. Bobier Drive Westbound				Melrose Drive Northbound				Oceanside Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	2	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	1
7:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	1	3
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	3				0				0				4				7	
Bike Total		1	2	0		0	1	0		0	1	0		0	0	0		5

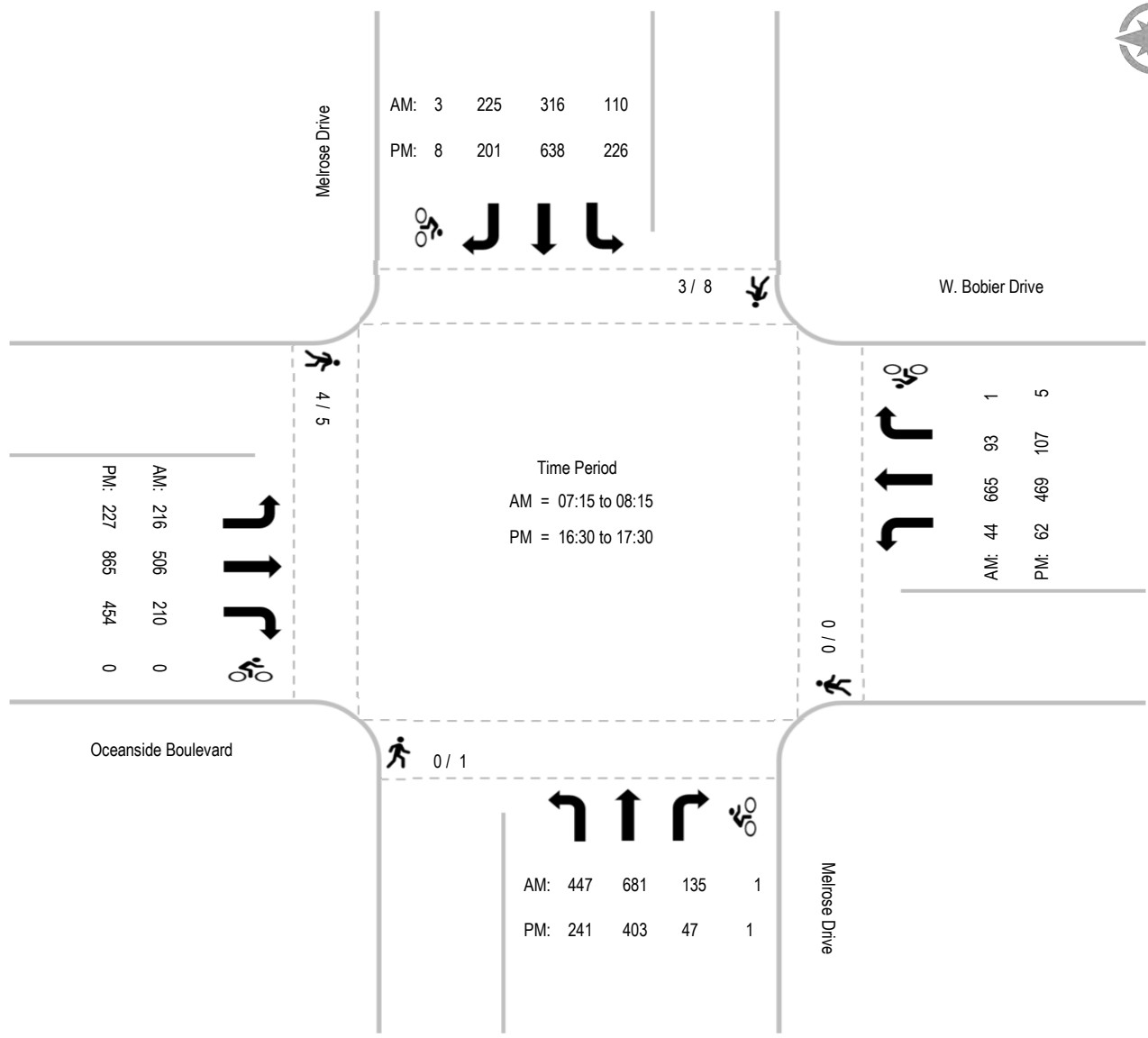
PM	Melrose Drive Southbound				W. Bobier Drive Westbound				Melrose Drive Northbound				Oceanside Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
16:15	1	1	0	0	0	0	0	1	0	0	0	0	3	0	0	0	4	2
16:30	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	2	1
16:45	4	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	5	1
17:00	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
17:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:30	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
17:45	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	2
Ped Total	8				0				1				5				14	
Bike Total		4	3	1		1	3	1		0	1	0		0	0	0		14

Intersection Turning Movement - Peak Hour Summary



Location: #03
 Intersection: Melrose Drive & W. Bobier Drive & Oceanside Boulevard
 Date of Count: Tuesday, August 31, 2021

File Name: ITM-21-046-03
 Project: LLG Ref. 3-21-3419
 Modera 2 - Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #04	File Name: ITM-21-046-04
	Intersection: Sports Park Way (Future Project Drwy) W. Bobier Drive	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	Sports Park Way Southbound			W. Bobier Drive Westbound			Future Project Drwy Northbound			W. Bobier Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	1	0	14	0	206	6	0	0	0	7	220	0	454
7:15	3	0	12	0	277	0	0	0	0	9	164	0	465
7:30	4	0	13	0	355	0	0	0	0	3	99	0	474
7:45	5	0	14	0	368	3	0	0	0	6	135	0	531
8:00	2	0	11	0	219	2	0	0	0	8	157	0	399
8:15	4	0	7	0	182	4	0	0	0	8	134	0	339
8:30	1	0	4	0	178	9	0	0	0	5	120	0	317
8:45	2	0	4	0	125	3	0	0	0	3	121	0	258
Total	22	0	79	0	1910	27	0	0	0	49	1150	0	3237
Approach%	21.8	-	78.2	-	98.6	1.4	-	-	-	4.1	95.9	-	
Total%	0.7	-	2.4	-	59.0	0.8	-	-	-	1.5	35.5	-	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	13	-	53	-	1,206	9	-	-	-	25	618	-	1,924
Approach%	19.7	-	80.3	-	99.3	0.7	-	-	-	3.9	96.1	-	
Total%	0.7	-	2.8	-	62.7	0.5	-	-	-	1.3	32.1	-	
PHF			0.87			0.82			#DIV/0!			0.71	0.91

PM	Sports Park Way Southbound			W. Bobier Drive Westbound			Future Project Drwy Northbound			W. Bobier Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	2	0	8	0	157	2	0	0	0	13	240	0	422
16:15	2	0	9	0	155	5	0	0	0	14	250	0	435
16:30	5	0	6	0	150	3	0	0	0	25	296	0	485
16:45	4	0	6	0	167	19	0	0	0	25	241	0	462
17:00	2	0	23	0	153	15	0	0	0	21	269	0	483
17:15	7	0	11	0	146	24	0	0	0	34	258	0	480
17:30	6	0	14	0	148	9	0	0	0	27	226	0	430
17:45	7	0	9	0	144	14	0	0	0	31	213	0	418
Total	35	0	86	0	1220	91	0	0	0	190	1993	0	3615
Approach%	28.9	-	71.1	-	93.1	6.9	-	-	-	8.7	91.3	-	
Total%	1.0	-	2.4	-	33.7	2.5	-	-	-	5.3	55.1	-	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	18	-	46	-	616	61	-	-	-	105	1,064	-	1,910
Approach%	28.1	-	71.9	-	91.0	9.0	-	-	-	9.0	91.0	-	
Total%	0.9	-	2.4	-	32.3	3.2	-	-	-	5.5	55.7	-	
PHF			0.64			0.91			#DIV/0!			0.91	0.98

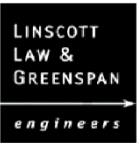
Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers	Location: #04	File Name: ITM-21-046-04
	Intersection: Sports Park Way (Future Project Drwy) W. Bobier Drive	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	Sports Park Way Southbound				W. Bobier Drive Westbound				Future Project Drwy Northbound				W. Bobier Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	1				0				0				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	2	0		2

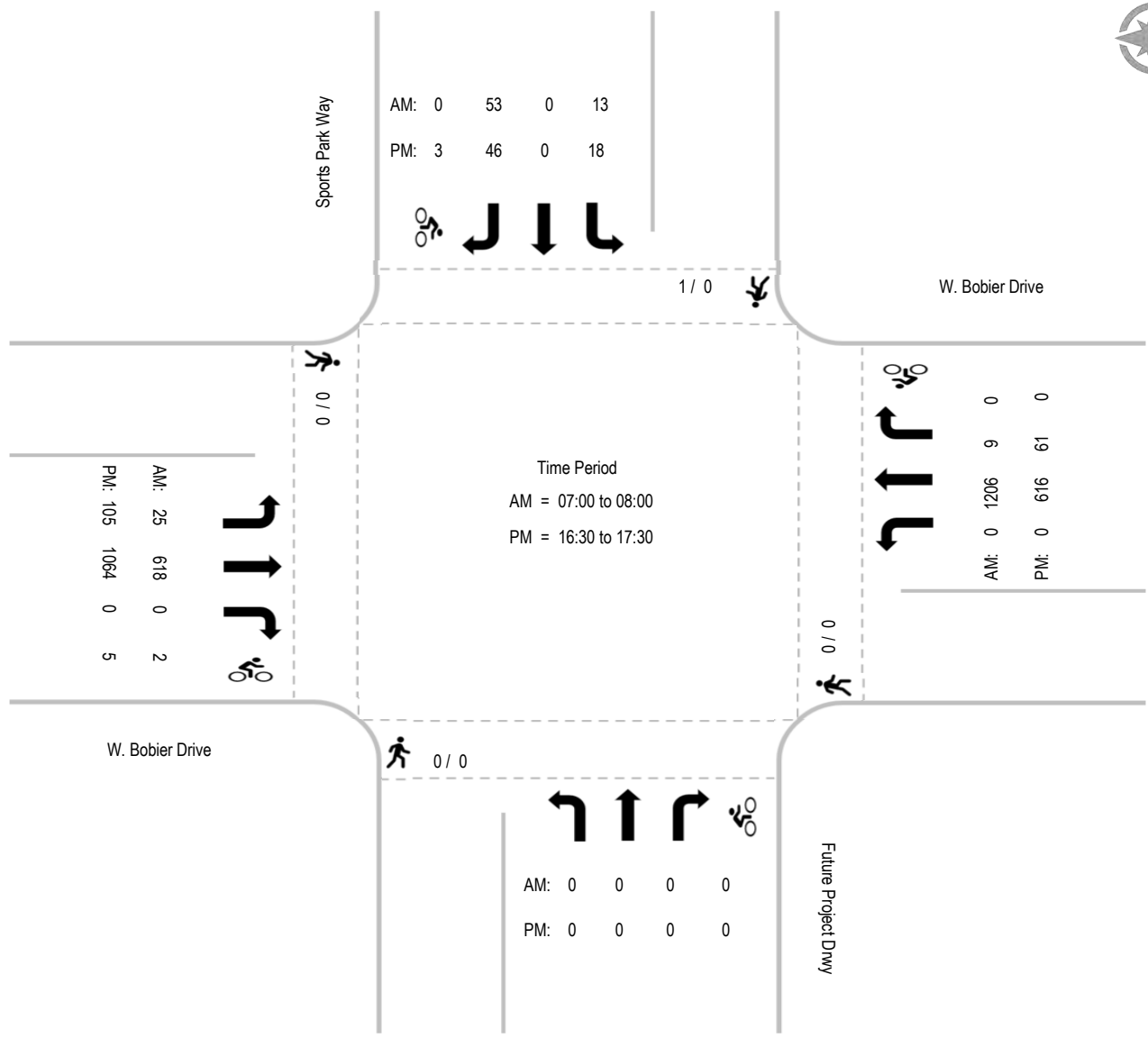
PM	Sports Park Way Southbound				W. Bobier Drive Westbound				Future Project Drwy Northbound				W. Bobier Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
16:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		3	0	0		0	0	0		0	0	0		0	5	0		8

Intersection Turning Movement - Peak Hour Summary

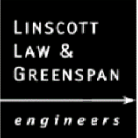


Location: #04
 Intersection: Sports Park Way (Future Project Drwy) W. Bobier Drive
 Date of Count: Tuesday, August 31, 2021

File Name: ITM-21-046-04
 Project: LLG Ref. 3-21-3419
 Modera 2 - Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count



Location:	#05	File Name:	ITM-21-046-05
Intersection:	North Santa Fe Avenue & Bobier Drive	Project:	LLG Ref. 3-21-3419
Date of Count:	Tuesday, August 31, 2021		Modera 2 - Oceanside

AM	N Santa Fe Avenue Southbound			East Bobier Drive Westbound			N Santa Fe Avenue Northbound			West Bobier Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	57	92	47	38	105	31	31	101	70	35	134	16	757
7:15	49	124	67	71	173	26	39	155	70	54	173	23	1024
7:30	57	156	88	75	163	32	80	117	33	40	99	42	982
7:45	45	189	100	37	157	26	63	61	22	43	93	53	889
8:00	65	141	63	42	131	24	36	45	17	41	130	39	774
8:15	55	112	32	36	91	24	45	73	31	17	108	22	646
8:30	36	98	34	41	84	20	27	51	28	19	96	25	559
8:45	44	78	32	27	68	20	28	52	26	20	96	21	512
Total	408	990	463	367	972	203	349	655	297	269	929	241	6143
Approach%	21.9	53.2	24.9	23.8	63.0	13.2	26.8	50.3	22.8	18.7	64.6	16.7	
Total%	6.6	16.1	7.5	6.0	15.8	3.3	5.7	10.7	4.8	4.4	15.1	3.9	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	216	610	318	225	624	108	218	378	142	178	495	157	3,669
Approach%	18.9	53.3	27.8	23.5	65.2	11.3	29.5	51.2	19.2	21.4	59.6	18.9	
Total%	5.9	16.6	8.7	6.1	17.0	2.9	5.9	10.3	3.9	4.9	13.5	4.3	
PHF			0.86			0.89			0.70			0.83	0.92

PM	N Santa Fe Avenue Southbound			East Bobier Drive Westbound			N Santa Fe Avenue Northbound			West Bobier Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	35	92	48	40	96	39	48	116	37	48	159	36	794
16:15	62	120	23	51	108	49	53	112	26	44	150	23	821
16:30	45	87	22	44	100	23	31	126	32	61	148	28	747
16:45	43	87	32	37	97	36	39	142	31	51	146	31	772
17:00	52	81	23	46	125	56	27	114	30	57	132	16	759
17:15	45	100	21	36	135	30	36	111	29	31	182	30	786
17:30	47	83	24	51	126	39	47	115	34	50	155	30	801
17:45	47	79	22	37	92	32	40	114	49	48	141	35	736
Total	376	729	215	342	879	304	321	950	268	390	1213	229	6216
Approach%	28.5	55.2	16.3	22.4	57.6	19.9	20.9	61.7	17.4	21.3	66.2	12.5	
Total%	6.0	11.7	3.5	5.5	14.1	4.9	5.2	15.3	4.3	6.3	19.5	3.7	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	185	386	125	172	401	147	171	496	126	204	603	118	3,134
Approach%	26.6	55.5	18.0	23.9	55.7	20.4	21.6	62.5	15.9	22.1	65.2	12.8	
Total%	5.9	12.3	4.0	5.5	12.8	4.7	5.5	15.8	4.0	6.5	19.2	3.8	
PHF			0.85			0.87			0.94			0.95	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #05	File Name: ITM-21-046-05
	Intersection: North Santa Fe Avenue & Bobier Drive	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	N Santa Fe Avenue Southbound				East Bobier Drive Westbound				N Santa Fe Avenue Northbound				West Bobier Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	3	0	0	0	5	0	0	0	9	0	0	0	5	0	1	0	22	1
7:15	4	0	0	0	7	0	1	0	23	0	0	0	5	0	0	0	39	1
7:30	0	0	0	0	0	0	0	0	2	0	0	0	22	0	0	0	24	0
7:45	2	0	0	0	0	0	0	0	2	0	0	0	16	0	0	0	20	0
8:00	1	0	0	0	1	0	0	0	3	0	0	0	9	0	0	0	14	0
8:15	0	0	0	0	3	0	0	0	2	0	0	0	4	0	0	0	9	0
8:30	1	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	5	0
8:45	0	0	0	0	1	0	0	0	2	0	0	0	4	0	0	0	7	0
Ped Total	11				17				45				67				140	
Bike Total		0	0	0		0	1	0		0	0	0		0	1	0		2

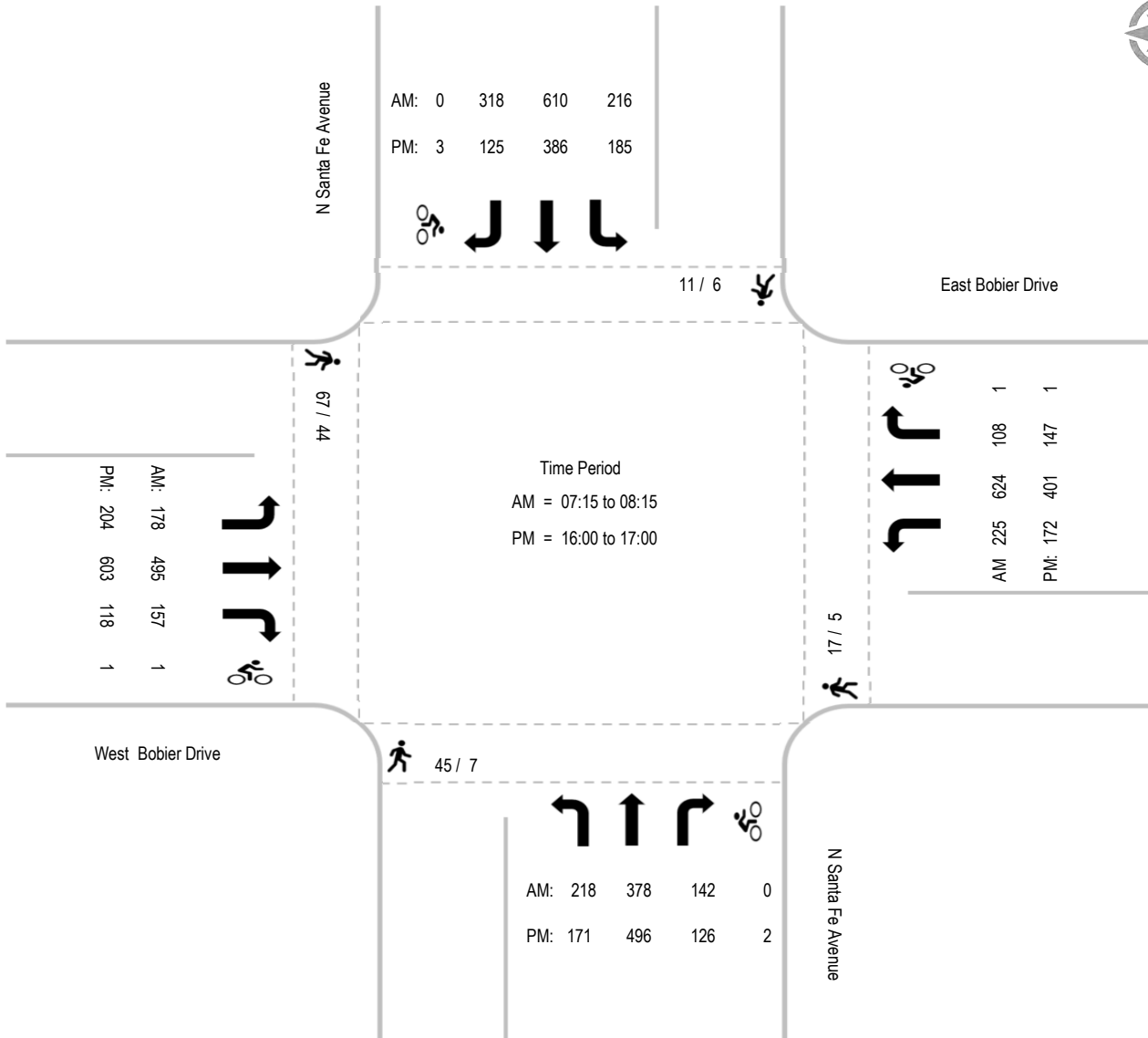
PM	N Santa Fe Avenue Southbound				East Bobier Drive Westbound				N Santa Fe Avenue Northbound				West Bobier Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	4	0	0	0	0	0	0	0	1	0	1	0	7	0	0	0	12	1
16:15	0	0	1	0	0	0	0	0	2	0	0	0	7	0	0	0	9	1
16:30	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	1	8	1
16:45	0	0	0	0	0	0	0	0	1	0	1	0	10	0	0	0	11	1
17:00	1	0	0	1	3	0	0	0	0	0	0	0	4	0	0	0	8	1
17:15	0	0	0	0	1	1	0	0	0	0	0	0	4	0	0	0	5	1
17:30	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1
17:45	1	0	0	0	1	0	0	0	0	0	0	0	5	0	0	0	7	0
Ped Total	6				5				7				44				62	
Bike Total		0	2	1		1	0	0		0	2	0		0	0	1		7

Intersection Turning Movement - Peak Hour Summary



Location: #05
 Intersection: North Santa Fe Avenue & Bobier Drive
 Date of Count: Tuesday, August 31, 2021

File Name: ITM-21-046-05
 Project: LLG Ref. 3-21-3419
 Modera 2 - Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #06	File Name: ITM-21-046-06
	Intersection: North Melrose Drive & North Avenue	Project: LLG Ref. 3-21-3419
	Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	North Melrose Drive Southbound			North Avenue Westbound			North Melrose Drive Northbound			North Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	8	266	28	47	23	16	17	201	13	21	18	11	669
7:15	16	306	24	48	39	24	37	241	19	25	21	16	816
7:30	17	273	37	57	52	21	39	192	16	28	41	16	789
7:45	14	301	39	51	55	17	43	203	27	16	51	25	842
8:00	11	304	25	48	27	24	22	195	27	22	55	26	786
8:15	20	273	20	29	23	14	28	145	24	17	35	26	654
8:30	15	227	11	29	20	8	11	138	19	6	16	11	511
8:45	9	229	17	32	13	12	15	133	14	9	18	17	518
Total	110	2179	201	341	252	136	212	1448	159	144	255	148	5585
Approach%	4.4	87.5	8.1	46.8	34.6	18.7	11.7	79.6	8.7	26.3	46.6	27.1	
Total%	2.0	39.0	3.6	6.1	4.5	2.4	3.8	25.9	2.8	2.6	4.6	2.6	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	58	1,184	125	204	173	86	141	831	89	91	168	83	3,233
Approach%	4.2	86.6	9.1	44.1	37.4	18.6	13.3	78.3	8.4	26.6	49.1	24.3	
Total%	1.8	36.6	3.9	6.3	5.4	2.7	4.4	25.7	2.8	2.8	5.2	2.6	
PHF			0.97			0.89			0.89			0.83	0.96

PM	North Melrose Drive Southbound			North Avenue Westbound			North Melrose Drive Northbound			North Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	9	190	29	28	25	13	7	303	47	23	33	22	729
16:15	16	210	16	22	26	15	11	347	39	23	46	9	780
16:30	17	188	15	29	26	14	12	335	41	31	53	20	781
16:45	14	219	18	25	32	11	14	330	52	22	37	14	788
17:00	14	184	22	26	25	12	17	333	61	31	39	15	779
17:15	27	216	13	22	25	15	8	353	45	27	52	19	822
17:30	14	187	21	23	29	13	16	326	63	20	35	14	761
17:45	14	174	13	28	22	16	13	315	57	18	43	12	725
Total	125	1568	147	203	210	109	98	2642	405	195	338	125	6165
Approach%	6.8	85.2	8.0	38.9	40.2	20.9	3.1	84.0	12.9	29.6	51.4	19.0	
Total%	2.0	25.4	2.4	3.3	3.4	1.8	1.6	42.9	6.6	3.2	5.5	2.0	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	72	807	68	102	108	52	51	1,351	199	111	181	68	3,170
Approach%	7.6	85.2	7.2	38.9	41.2	19.8	3.2	84.4	12.4	30.8	50.3	18.9	
Total%	2.3	25.5	2.1	3.2	3.4	1.6	1.6	42.6	6.3	3.5	5.7	2.1	
PHF			0.92			0.95			0.97			0.87	0.96

Intersection Turning Movement - Bicycle & Pedestrian Count

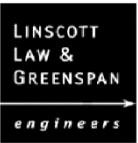


Location: #06	File Name: ITM-21-046-06
Intersection: North Melrose Drive & North Avenue	Project: LLG Ref. 3-21-3419
Date of Count: Tuesday, August 31, 2021	Modera 2 - Oceanside

AM	North Melrose Drive Southbound				North Avenue Westbound				North Melrose Drive Northbound				North Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
7:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
7:30	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
7:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
8:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
8:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ped Total	0				2				16					1				19
Bike Total		1	1	0		0	0	0		0	0	0		0	1	0		3

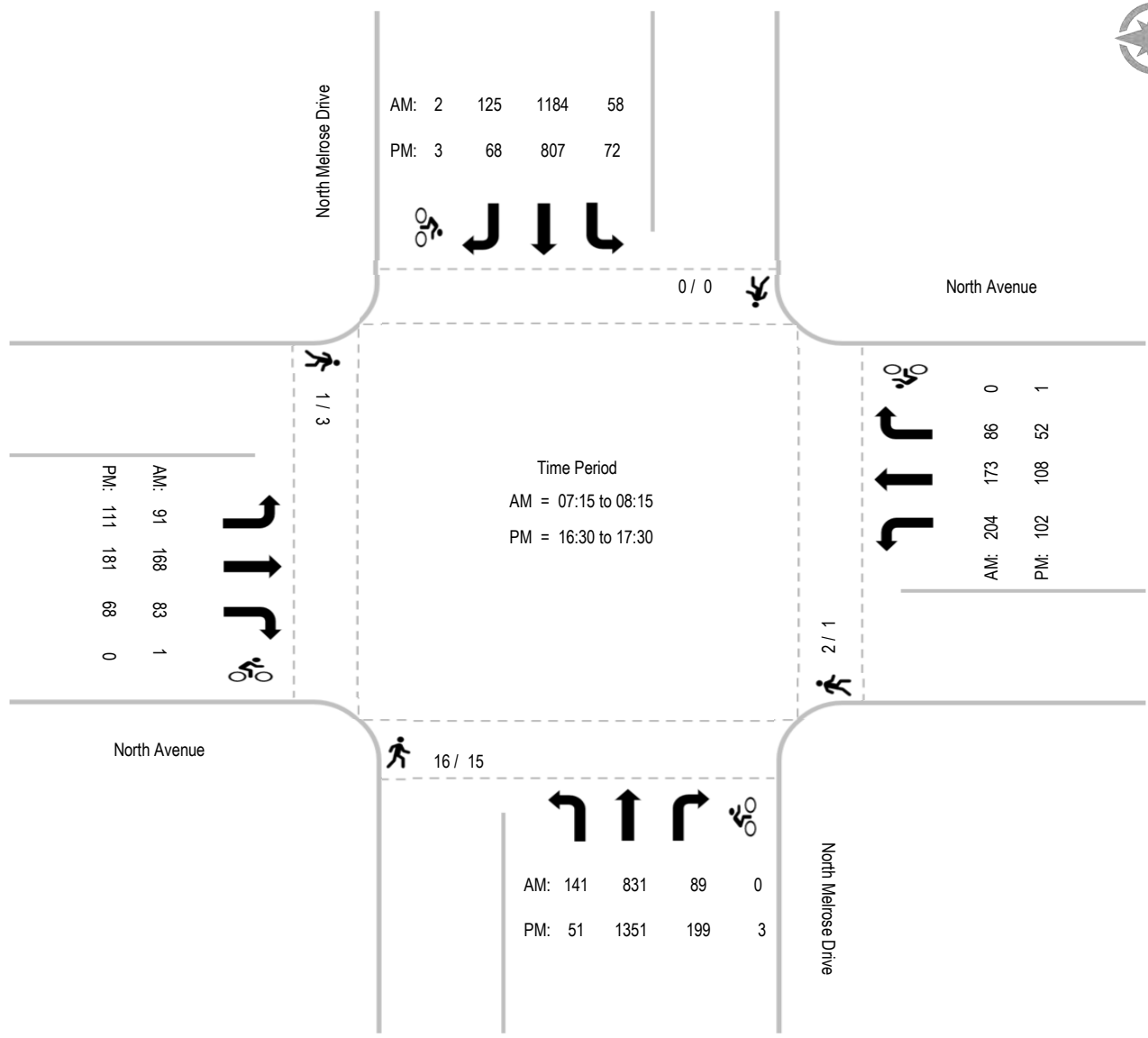
PM	North Melrose Drive Southbound				North Avenue Westbound				North Melrose Drive Northbound				North Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
16:30	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	2
17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:15	0	0	3	0	0	0	0	0	1	0	2	0	0	1	0	0	0	2
17:30	0	0	0	0	0	0	0	0	6	0	0	1	0	1	0	0	0	7
17:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Ped Total	0				1				15					3				19
Bike Total		0	3	0		0	0	1		0	2	1		0	0	0		7

Intersection Turning Movement - Peak Hour Summary



Location: #06
Intersection: North Melrose Drive & North Avenue
Date of Count: Tuesday, August 31, 2021

File Name: ITM-21-046-06
Project: LLG Ref. 3-21-3419
 Modera 2 - Oceanside



Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #A N. Melrose Dr, North of Meadowbrook Dr**

Date: Tuesday, August 31, 2021		Total Daily Volume: 19837																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
93	61	54	88	238	670	1074	1692	1221	894	834	863	866	1088	1409	1749	1664	1626	1322	859	601	453	263	155
22	11	13	10	33	89	205	469	375	235	228	191	207	247	300	422	395	434	331	222	155	182	75	52
26	12	14	19	43	158	249	429	322	225	192	207	205	265	313	490	425	452	359	214	137	102	73	27
27	20	12	30	85	209	292	438	298	226	210	213	214	272	377	440	402	393	316	218	146	93	72	32
18	18	15	29	77	214	328	356	226	208	204	252	240	304	419	397	442	347	316	205	163	76	43	44

Date: Tuesday, August 31, 2021		Total Daily Volume: 10230																				Description: Northbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
53	40	24	35	54	174	340	818	512	349	368	392	434	602	824	1031	1003	1012	773	490	375	269	151	107
13	9	5	6	7	29	67	229	185	86	99	85	97	126	165	243	232	279	178	131	93	108	41	33
15	9	6	8	13	43	83	205	123	90	89	88	98	137	182	277	250	290	224	119	89	58	45	19
16	14	6	12	22	45	75	209	115	90	86	91	112	157	203	269	256	228	188	136	89	57	41	24
9	8	7	9	12	57	115	175	89	83	94	128	127	182	274	242	265	215	183	104	104	46	24	31

Date: Tuesday, August 31, 2021		Total Daily Volume: 9607																				Description: Southbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
40	21	30	53	184	496	734	874	709	545	466	471	432	486	585	718	661	614	549	369	226	184	112	48
9	2	8	4	26	60	138	240	190	149	129	106	110	121	135	179	163	155	153	91	62	74	34	19
11	3	8	11	30	115	166	224	199	135	103	119	107	128	131	213	175	162	135	95	48	44	28	8
11	6	6	18	63	164	217	229	183	136	124	122	102	115	174	171	146	165	128	82	57	36	31	8
9	10	8	20	65	157	213	181	137	125	110	124	113	122	145	155	177	132	133	101	59	30	19	13

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #B N. Melrose Dr, between Meadowbrook Dr and Oceanside Blvd**

Date: Tuesday, August 31, 2021		Total Daily Volume: 20323																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
95	67	63	88	252	684	1132	1706	1418	865	735	739	766	986	1512	1830	1728	1709	1395	925	674	501	290	163
23	15	12	8	38	88	212	463	417	238	204	162	201	203	309	429	399	470	363	268	177	177	90	54
28	12	15	19	42	164	263	428	381	217	177	183	176	227	348	530	435	472	373	214	160	121	75	28
24	20	15	30	81	214	316	443	357	211	175	183	193	264	404	417	445	402	320	235	153	109	70	34
20	20	21	31	91	218	341	372	263	199	179	211	196	292	451	454	449	365	339	208	184	94	55	47

Date: Tuesday, August 31, 2021		Total Daily Volume: 9912																				Description: Northbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
54	44	29	35	56	169	359	824	550	267	208	231	267	457	842	1087	1027	1054	817	522	432	297	171	113
13	13	5	3	9	27	72	218	205	74	56	54	57	80	167	257	227	302	194	147	107	104	52	35
17	9	6	8	11	40	83	206	129	71	51	48	61	88	185	305	245	305	221	115	105	70	47	20
13	14	8	13	21	47	83	226	129	58	46	53	68	136	208	243	289	227	190	150	95	62	40	25
11	8	10	11	15	55	121	174	87	64	55	76	81	153	282	282	266	220	212	110	125	61	32	33

Date: Tuesday, August 31, 2021		Total Daily Volume: 10411																				Description: Southbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
41	23	34	53	196	515	773	882	868	598	527	508	499	529	670	743	701	655	578	403	242	204	119	50
10	2	7	5	29	61	140	245	212	164	148	108	144	123	142	172	172	168	169	121	70	73	38	19
11	3	9	11	31	124	180	222	252	146	126	135	115	139	163	225	190	167	152	99	55	51	28	8
11	6	7	17	60	167	233	217	228	153	129	130	125	128	196	174	156	175	130	85	58	47	30	9
9	12	11	20	76	163	220	198	176	135	124	135	115	139	169	172	183	145	127	98	59	33	23	14

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #C N. Melrose Dr, between Oceanside Blvd and North Ave**

Date: Tuesday, August 31, 2021		Total Daily Volume: 29693																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
129	88	77	130	330	862	1466	2350	1997	1381	1284	1341	1475	1662	2125	2508	2433	2431	1886	1314	1012	692	448	272
34	21	13	18	49	120	268	589	602	368	356	341	368	371	472	571	560	665	522	364	279	204	147	85
36	20	19	36	53	202	322	607	525	351	293	327	360	429	519	701	635	628	543	318	254	183	131	60
39	22	20	37	94	267	410	604	472	338	321	315	377	416	559	635	598	584	392	343	220	166	106	64
20	25	25	39	134	273	466	550	398	324	314	358	370	446	575	601	640	554	429	289	259	139	64	63

Date: Tuesday, August 31, 2021		Total Daily Volume: 15098																				Description: Northbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
87	46	40	45	77	209	454	1012	738	548	563	634	728	885	1182	1452	1508	1545	1083	769	644	406	267	176
24	14	7	9	14	32	76	265	242	139	159	155	196	205	268	332	329	412	306	222	176	119	86	52
23	11	10	11	11	50	102	280	195	145	120	155	167	214	293	404	403	401	318	175	169	104	80	41
27	12	12	11	23	50	117	248	160	134	139	148	180	217	284	365	382	371	213	206	132	90	64	45
13	9	11	14	29	77	159	219	141	130	145	176	185	249	337	351	394	361	246	166	167	93	37	38

Date: Tuesday, August 31, 2021		Total Daily Volume: 14595																				Description: Southbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
42	42	37	85	253	653	1012	1338	1259	833	721	707	747	777	943	1056	925	886	803	545	368	286	181	96
10	7	6	9	35	88	192	324	360	229	197	186	172	166	204	239	231	253	216	142	103	85	61	33
13	9	9	25	42	152	220	327	330	206	173	172	193	215	226	297	232	227	225	143	85	79	51	19
12	10	8	26	71	217	293	356	312	204	182	167	197	199	275	270	216	213	179	137	88	76	42	19
7	16	14	25	105	196	307	331	257	194	169	182	185	197	238	250	246	193	183	123	92	46	27	25

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #D N. Melrose Dr, South of North Ave**

Date: Tuesday, August 31, 2021		Total Daily Volume: 31661																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
137	95	81	141	356	960	1560	2417	2114	1500	1365	1451	1583	1811	2269	2740	2566	2581	1977	1399	1051	748	476	283
45	26	12	18	56	140	275	597	614	387	362	351	396	403	483	675	615	688	557	386	281	217	149	79
35	19	12	37	54	222	349	616	544	387	313	346	381	448	559	716	669	656	581	354	281	193	136	59
37	24	25	43	115	285	424	575	498	356	354	356	393	451	621	697	634	625	429	348	233	185	118	79
20	26	32	43	131	313	512	629	458	370	336	398	413	509	606	652	648	612	410	311	256	153	73	66

Date: Tuesday, August 31, 2021		Total Daily Volume: 16043																				Description: Northbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
94	54	45	50	91	238	469	1021	778	568	590	677	757	968	1239	1587	1571	1627	1155	839	681	450	300	194
32	17	8	9	16	38	79	270	231	145	170	160	194	223	260	393	362	428	340	238	169	129	87	54
24	11	5	13	6	53	107	260	208	147	131	158	180	223	310	421	415	413	344	207	192	119	90	42
26	15	14	13	35	48	116	237	185	129	137	170	186	232	304	396	400	401	238	211	148	107	78	58
12	11	18	15	34	99	167	254	154	147	152	189	197	290	365	377	394	385	233	183	172	95	45	40

Date: Tuesday, August 31, 2021		Total Daily Volume: 15618																				Description: Southbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
43	41	36	91	265	722	1091	1396	1336	932	775	774	826	843	1030	1153	995	954	822	560	370	298	176	89
13	9	4	9	40	102	196	327	383	242	192	191	202	180	223	282	253	260	217	148	112	88	62	25
11	8	7	24	48	169	242	356	336	240	182	188	201	225	249	295	254	243	237	147	89	74	46	17
11	9	11	30	80	237	308	338	313	227	217	186	207	219	317	301	234	224	191	137	85	78	40	21
8	15	14	28	97	214	345	375	304	223	184	209	216	219	241	275	254	227	177	128	84	58	28	26

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #E Oceanside Blvd, West of Catalina Cir**

Date: Tuesday, August 31, 2021		Total Daily Volume: 19617																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
77	63	49	68	153	465	739	1561	1303	923	903	935	949	1078	1479	1656	1676	1674	1302	967	706	475	274	142
26	20	5	9	10	64	119	330	395	225	217	234	234	266	316	379	386	454	322	285	194	152	98	54
14	13	17	17	25	99	159	325	321	226	232	213	247	250	350	430	415	461	353	237	178	132	68	30
13	18	9	22	45	114	215	418	331	242	205	241	219	253	415	429	487	402	315	240	174	104	66	36
24	12	18	20	73	188	246	488	256	230	249	247	249	309	398	418	388	357	312	205	160	87	42	22

Date: Tuesday, August 31, 2021		Total Daily Volume: 9965																				Description: Eastbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
37	42	20	26	44	135	288	597	613	412	461	471	487	522	821	880	971	973	762	515	389	261	161	77
13	8	3	6	3	18	59	180	173	92	113	133	109	139	157	204	195	300	184	146	105	85	54	34
10	11	4	7	12	34	50	130	150	93	115	102	128	116	220	214	249	270	199	125	89	67	41	16
5	15	4	7	14	33	80	133	169	127	102	107	117	122	221	223	300	216	186	139	101	62	40	19
9	8	9	6	15	50	99	154	121	100	131	129	133	145	223	239	227	187	193	105	94	47	26	8

Date: Tuesday, August 31, 2021		Total Daily Volume: 9652																				Description: Westbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
40	21	29	42	109	330	451	964	690	511	442	464	462	556	658	776	705	701	540	452	317	214	113	65
13	12	2	3	7	46	60	150	222	133	104	101	125	127	159	175	191	154	138	139	89	67	44	20
4	2	13	10	13	65	109	195	171	133	117	111	119	134	130	216	166	191	154	112	89	65	27	14
8	3	5	15	31	81	135	285	162	115	103	134	102	131	194	206	187	186	129	101	73	42	26	17
15	4	9	14	58	138	147	334	135	130	118	118	116	164	175	179	161	170	119	100	66	40	16	14

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #F Oceanside Blvd, between Catalina Cir and N. Melrose Dr**

Date: Tuesday, August 31, 2021		Total Daily Volume: 19922																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
80	67	52	75	160	498	779	1605	1295	932	895	919	943	1074	1487	1688	1692	1736	1325	963	731	489	291	146
28	20	8	14	12	69	130	334	385	215	210	228	227	261	314	387	398	461	330	291	197	158	104	48
15	14	14	19	25	108	166	355	331	229	229	208	239	253	346	438	423	474	353	241	177	137	71	30
12	18	11	23	47	127	212	431	326	244	217	246	231	257	431	449	471	421	324	230	187	108	71	38
25	15	19	19	76	194	271	485	253	244	239	237	246	303	396	414	400	380	318	201	170	86	45	30

Date: Tuesday, August 31, 2021		Total Daily Volume: 10278																				Description: Eastbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
35	44	24	33	53	171	327	671	637	437	478	472	500	542	829	910	968	986	770	508	378	262	164	79
14	8	4	6	4	26	65	201	182	99	116	125	111	141	159	203	206	300	184	147	96	89	57	30
8	12	2	11	11	41	51	151	155	97	115	105	127	126	223	228	245	265	196	123	83	64	40	17
3	14	7	10	19	45	93	146	167	132	116	114	132	129	232	234	287	224	194	131	101	65	42	19
10	10	11	6	19	59	118	173	133	109	131	128	130	146	215	245	230	197	196	107	98	44	25	13

Date: Tuesday, August 31, 2021		Total Daily Volume: 9644																				Description: Westbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
45	23	28	42	107	327	452	934	658	495	417	447	443	532	658	778	724	750	555	455	353	227	127	67
14	12	4	8	8	43	65	133	203	116	94	103	116	120	155	184	192	161	146	144	101	69	47	18
7	2	12	8	14	67	115	204	176	132	114	103	112	127	123	210	178	209	157	118	94	73	31	13
9	4	4	13	28	82	119	285	159	112	101	132	99	128	199	215	184	197	130	99	86	43	29	19
15	5	8	13	57	135	153	312	120	135	108	109	116	157	181	169	170	183	122	94	72	42	20	17

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #G W. Bobier Dr, between N. Melrose Dr and Sports Park Way**

Date: Tuesday, August 31, 2021		Total Daily Volume: 21571																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
86	58	36	83	159	438	819	2007	1359	912	911	961	999	1130	1618	1853	1788	1793	1505	1159	827	563	361	146
31	18	9	17	18	59	159	443	434	227	227	235	277	280	333	428	442	456	387	357	240	181	121	55
17	15	10	20	22	98	175	502	347	225	229	221	235	271	386	490	419	491	415	271	213	146	93	35
21	15	8	19	50	121	198	497	328	233	225	243	251	271	504	487	482	430	343	298	179	125	89	31
17	10	9	27	69	160	287	565	250	227	230	262	236	308	395	448	445	416	360	233	195	111	58	25

Date: Tuesday, August 31, 2021		Total Daily Volume: 11189																				Description: Eastbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
53	33	19	34	32	98	257	719	583	401	477	503	530	581	911	1020	1131	1137	929	658	473	310	213	87
20	6	6	9	5	12	59	237	159	94	121	116	155	151	187	239	274	298	243	202	133	100	74	35
13	12	4	6	4	22	50	207	159	105	100	123	124	141	239	244	276	308	256	159	128	78	53	24
13	9	5	6	13	23	58	125	143	105	119	118	132	134	271	271	312	284	205	163	94	69	54	19
7	6	4	13	10	41	90	150	122	97	137	146	119	155	214	266	269	247	225	134	118	63	32	9

Date: Tuesday, August 31, 2021		Total Daily Volume: 10382																				Description: Westbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
33	25	17	49	127	340	562	1288	776	511	434	458	469	549	707	833	657	656	576	501	354	253	148	59
11	12	3	8	13	47	100	206	275	133	106	119	122	129	146	189	168	158	144	155	107	81	47	20
4	3	6	14	18	76	125	295	188	120	129	98	111	130	147	246	143	183	159	112	85	68	40	11
8	6	3	13	37	98	140	372	185	128	106	125	119	137	233	216	170	146	138	135	85	56	35	12
10	4	5	14	59	119	197	415	128	130	93	116	117	153	181	182	176	169	135	99	77	48	26	16

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #H W. Bobier Dr, between Sports Park Way and N. Santa Fe Ave**

Date: Tuesday, August 31, 2021					Total Daily Volume: 19658																	Description: Total Volume				
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00			
86	55	31	66	139	405	722	1781	1239	838	817	907	934	1036	1553	1735	1633	1605	1290	1030	731	516	348	161			
30	16	6	11	16	50	141	392	367	196	197	221	262	249	315	414	404	410	324	310	205	156	117	60			
20	16	9	20	23	87	148	442	316	215	207	219	211	253	380	475	373	435	381	244	199	137	88	35			
20	13	8	15	41	116	186	448	307	212	206	234	237	247	471	431	428	387	280	270	164	120	88	43			
16	10	8	20	59	152	247	499	249	215	207	233	224	287	387	415	428	373	305	206	163	103	55	23			

Date: Tuesday, August 31, 2021					Total Daily Volume: 10026																	Description: Eastbound Volume				
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00			
49	32	16	26	32	98	220	686	541	379	429	477	487	514	874	937	976	948	743	563	413	301	198	87			
19	5	4	5	5	10	41	226	147	88	103	115	148	129	189	227	236	240	185	175	116	96	66	34			
14	12	4	7	4	20	42	192	143	95	96	114	110	127	235	236	234	265	221	135	111	78	52	24			
10	8	4	5	13	28	50	131	125	98	109	114	118	124	238	234	262	243	166	132	87	71	52	21			
6	7	4	9	10	40	87	137	126	98	121	134	111	134	212	240	244	200	171	121	99	56	28	8			

Date: Tuesday, August 31, 2021					Total Daily Volume: 9632																	Description: Westbound Volume				
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00			
37	23	15	40	107	307	502	1095	698	459	388	430	447	522	679	798	657	657	547	467	318	215	150	74			
11	11	2	6	11	40	100	166	220	108	94	106	114	120	126	187	168	170	139	135	89	60	51	26			
6	4	5	13	19	67	106	250	173	120	111	105	101	126	145	239	139	170	160	109	88	59	36	11			
10	5	4	10	28	88	136	317	182	114	97	120	119	123	233	197	166	144	114	138	77	49	36	22			
10	3	4	11	49	112	160	362	123	117	86	99	113	153	175	175	184	173	134	85	64	47	27	15			

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 21-046 ADT #I W. Bobier Drive, East of N. Santa Fe Ave**

Date: Tuesday, August 31, 2021		Total Daily Volume: 22795																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
99	52	40	71	133	470	840	2354	1441	891	945	1027	1063	1158	1895	1858	1842	1862	1512	1176	820	643	411	192
38	15	11	8	18	70	171	530	419	235	233	257	297	273	337	453	478	474	394	330	243	182	119	63
21	11	9	31	19	122	162	712	377	219	247	253	236	274	485	464	453	502	444	282	221	160	120	58
24	17	8	14	44	124	218	564	346	205	227	253	257	288	582	499	453	436	333	309	175	144	95	42
16	9	12	18	52	154	289	548	299	232	238	264	273	323	491	442	458	450	341	255	181	157	77	29

Date: Tuesday, August 31, 2021		Total Daily Volume: 11737																				Description: Eastbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
57	29	21	28	44	196	368	1097	758	435	472	538	545	584	1031	1006	1005	946	799	639	447	373	224	95
20	5	6	4	9	24	70	294	204	111	117	126	163	130	192	221	260	233	204	177	133	118	64	31
14	6	3	11	5	55	70	382	220	99	118	116	116	130	282	263	252	239	228	151	132	104	71	29
14	13	5	4	17	50	88	258	176	105	114	143	133	161	312	266	249	242	179	172	77	77	51	24
9	5	7	9	13	67	140	163	158	120	123	153	133	163	245	256	244	232	188	139	105	74	38	11

Date: Tuesday, August 31, 2021		Total Daily Volume: 11058																				Description: Westbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
42	23	19	43	89	274	472	1257	683	456	473	489	518	574	864	852	837	916	713	537	373	270	187	97
18	10	5	4	9	46	101	236	215	124	116	131	134	143	145	232	218	241	190	153	110	64	55	32
7	5	6	20	14	67	92	330	157	120	129	137	120	144	203	201	201	263	216	131	89	56	49	29
10	4	3	10	27	74	130	306	170	100	113	110	124	127	270	233	204	194	154	137	98	67	44	18
7	4	5	9	39	87	149	385	141	112	115	111	140	160	246	186	214	218	153	116	76	83	39	18

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APPENDIX D

SIGNAL TIMING PLANS

INTERSECTION: Melrose & Meadowbrook

Group Assignment: **NONE**
 Field Master Assignment: **NONE**
 System Reference Number: **170**

N/S Street Name: **Not Assigned**
 E/W Street Name: **Not Assigned**

Last Database Change: **3/22/2018 9:16**

Change Record					
Change	By	Date	Change	By	Date

Notes: _____

Drop Number	4	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	170	<C+0+3>
QuicNet Channel	Serial:COM22:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	14	0	24	0	14	0	24
2	Min Green	6	10	3	8	6	10	3	8
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
5	Veh Extension	3.0	5.0	0.5	3.0	3.0	5.0	0.5	3.0
6	Max Gap	3.0	6.0	0.5	3.0	3.0	6.0	0.5	3.0
7	Min Gap	3.0	3.0	0.5	3.0	3.0	3.0	0.5	3.0
8	Max Limit	20	40	17	25	20	40	17	25
9	Max Limit 2	20	40	30	25	20	40	30	25
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
D	Reduce Every	0.0	1.2	1.0	0.0	0.0	1.2	1.0	0.0
E	Yellow Change	4.4	5.0	3.0	3.7	4.4	5.0	3.0	3.7
F	Red Clear	1.0	2.0	0.0	1.0	1.0	2.0	0.0	1.0

Phase Timing - Bank 1 <F Page>

E		F	
RR-1 Delay	0	Permit	12_456_8
RR-1 Clear	10	Red Lock	_____
EV-A Delay	0	Yellow Lock	_____
EV-A Clear	5	Min Recall	_2_6_
EV-B Delay	0	Ped Recall	_____
EV-B Clear	0	View Set Peds	-----
EV-C Delay	0	Rest In Walk	_____
EV-C Clear	5	Red Rest	_____
EV-D Delay	0	Dual Entry	_2_4_6_8
EV-D Clear	0	Max Recall	_____
RR-2 Delay	0	Soft Recall	_____
RR-2 Clear	10	Max 2	_____
View EV Delay	---	Cond. Service	_____
View EV Clear	---	Man Cntrl Calls	_____
View RR Delay	---	Yellow Start	1_5_
View RR Clear	---	First Phases	_2_6_

Preempt Timing <F Page>

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

		Plan								
Column Numbers ---->		1	2	3	4	5	6	7	8	9
Row	Plan Name ---->									
0	Cycle Length	100	100	100	100	100	100	100	100	100
1	Phase 1 - ForceOff	55	60	60	63	60	61	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	20	15	20	25	20	25	25	25	25
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40
5	Phase 5 - ForceOff	55	60	60	61	60	63	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	20	15	20	25	20	25	25	25	25
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination <C Page>

(* = Coordination Recall)

	E	Row
Plan 1 - Sync	2_6	1
Plan 2 - Sync	2_6	2
Plan 3 - Sync	2_6	3
Plan 4 - Sync	2_6	4
Plan 5 - Sync	2_6	5
Plan 6 - Sync	2_6	6
Plan 7 - Sync	2_6	7
Plan 8 - Sync	2_6	8
Plan 9 - Sync	2_6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases <C Page>

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	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2_5
B	EV-B Phases	4
C	EV-C Phases	1_6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1_4
F	IC Select (Interconnect)	2

Configuration <E Page>

	F
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	6
Ped 4P	4
Ped 8P	8
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration <E Page>

- Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

- Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type 0

TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

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

	F	Row
Free Lag	2_4_6_8	0
Plan 1 - Lag	2_4_6_8	1
Plan 2 - Lag	2_4_6_8	2
Plan 3 - Lag	2_4_6_8	3
Plan 4 - Lag	2_4_6_8	4
Plan 5 - Lag	2_4_6_8	5
Plan 6 - Lag	2_4_6_8	6
Plan 7 - Lag	2_4_6_8	7
Plan 8 - Lag	2_4_6_8	8
Plan 9 - Lag	2_4_6_8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases <C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

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

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A	0	0	0	
B	0	0	0	
C	0	0	0	

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	5.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	20.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	15.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	2.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	2.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	2.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load- Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>
----------------	---	---------

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Melrose & Meadowbrook

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

		Phase								Row
Column Numbers ---->		1	2	3	4	5	6	7	8	
	Phase Names ---->									
	Ped Walk	0	7	0	7	0	7	0	7	0
	Ped FDW	0	10	0	10	0	10	0	10	1
	Min Green	3	7	3	7	3	7	3	7	2
	Type 3 Limit	0	0	0	0	0	0	0	0	3
	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
	Max Limit	17	40	17	40	17	40	17	40	8
	Max Limit 2	30	70	30	70	30	70	30	70	9
	-----	0	0	0	0	0	0	0	0	A
	Call To Phase	0	0	0	0	0	0	0	0	B
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F	Row
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output	
0		0	---	---	---	---	---	---	---	---	0
1		0	0	=====	=====	=====	=====	=====	=====	=====	1
2		0	0	=====	=====	=====	=====	=====	=====	=====	2
3		0	0	=====	=====	=====	=====	=====	=====	=====	3
4		0	0	=====	=====	=====	=====	=====	=====	=====	4
5		0	0	=====	=====	=====	=====	=====	=====	=====	5
6		0	0	=====	=====	=====	=====	=====	=====	=====	6
7		0	0	=====	=====	=====	=====	=====	=====	=====	7
8		0	0	=====	=====	=====	=====	=====	=====	=====	8
9	Limited Service Int. ---->	0	0	=====	=====	=====	=====	=====	=====	=====	9
A		---	0	=====	=====	=====	=====	=====	=====	=====	A
B		0	0	=====	=====	=====	=====	=====	=====	=====	B
C		0	0	=====	=====	=====	=====	=====	=====	=====	C
D		0	0	=====	=====	=====	=====	=====	=====	=====	D
E		0	0	=====	=====	=====	=====	=====	=====	=====	E
F		0	0	=====	=====	=====	=====	=====	=====	=====	F

Special Event Schedule <C Page with F+9+F=22>

<--- Limited Service Interval (Set Dwell = 255)

INTERSECTION: Oceanside & Catalina Circle

Group Assignment: **NONE**
 Field Master Assignment: **NONE**
 System Reference Number: **59**

N/S Street Name: **Not Assigned**
 E/W Street Name: **Not Assigned**

Last Database Change: **8/1/2018 11:39**

Change Record					
Change	By	Date	Change	By	Date

Notes: _____

Drop Number	1	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	59	<C+0+3>
QuicNet Channel	Serial:COM22:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	4	0	4	0	4	0	4
1	Ped FDW	0	12	0	25	0	12	0	25
2	Min Green	5	10	3	6	5	10	4	6
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
5	Veh Extension	2.0	4.0	0.5	3.0	2.0	4.0	3.0	3.0
6	Max Gap	2.0	6.0	0.5	3.0	2.0	6.0	3.0	3.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	3.0	3.0
8	Max Limit	25	50	17	20	25	50	17	20
9	Max Limit 2	15	51	30	20	15	50	30	25
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
D	Reduce Every	0.0	1.3	1.0	0.0	0.0	1.3	1.0	0.0
E	Yellow Change	4.4	5.2	3.0	3.6	4.4	5.2	3.0	3.6
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 1 <F Page>

E		F	
RR-1 Delay	0	Permit	12_456_8
RR-1 Clear	10	Red Lock	_____
EV-A Delay	0	Yellow Lock	_____
EV-A Clear	5	Min Recall	_2_6_
EV-B Delay	0	Ped Recall	_____
EV-B Clear	0	View Set Peds	-----
EV-C Delay	0	Rest In Walk	_____
EV-C Clear	5	Red Rest	_____
EV-D Delay	0	Dual Entry	_2_4_6_8
EV-D Clear	0	Max Recall	_____
RR-2 Delay	0	Soft Recall	_____
RR-2 Clear	10	Max 2	_____
View EV Delay	---	Cond. Service	_____
View EV Clear	---	Man Cntrl Calls	_____
View RR Delay	---	Yellow Start	_2_6_
View RR Clear	---	First Phases	_4_8

Preempt Timing <F Page>

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

		Plan								
Column Numbers ---->		1	2	3	4	5	6	7	8	9
Row	Plan Name ---->									
0	Cycle Length	95	90	100	80	80	90	100	100	100
1	Phase 1 - ForceOff	55	50	50	45	45	50	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	0	0	0	0	0	0	25	25	25
4	Phase 4 - ForceOff	30	30	30	25	25	30	40	40	40
5	Phase 5 - ForceOff	46	46	46	45	45	50	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	0	0	0	0	0	0	25	25	25
8	Phase 8 - ForceOff	30	30	30	25	25	25	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	34	30	32	68	40	69	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	12
E	Hold Release	85	70	90	255	255	255	255	255	255
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination <C Page>

(* = Coordination Recall)

	E	Row
Plan 1 - Sync	<u>2</u> <u>6</u>	0
Plan 2 - Sync	<u>2</u> <u>6</u>	1
Plan 3 - Sync	<u>2</u> <u>6</u>	2
Plan 4 - Sync	<u>2</u> <u>6</u>	3
Plan 5 - Sync	<u>2</u> <u>6</u>	4
Plan 6 - Sync	<u>2</u> <u>6</u>	5
Plan 7 - Sync	<u>2</u> <u>6</u>	6
Plan 8 - Sync	<u>2</u> <u>6</u>	7
Plan 9 - Sync	<u>2</u> <u>6</u>	8
Coord Ped *		9
NEMA Hold		A
		B
		C
		D
		E
		F

Sync Phases <C Page>

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	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>3</u> <u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration <E Page>

	F
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	<u>8</u>
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration <E Page>

- Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

- Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust **5**

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type **0**

TBC Transition <C+D+D>

- Transition Type
 0 = Shortway
 Non-zero = Lengthen

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

	F	Row
Free Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases <C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:00	1	A	
2	09:00	2	A	
3	15:00	3	A	
4	19:00	E	A	
5	15:55	E	A	
6	16:10	3	A	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
06:00	E	1234567	7_
22:00	E	1234567	
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		
00:00	0		

TOD Function
<7 Key> <D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A	0	0	0	
B	0	0	0	
C	0	0	0	

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	12.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	12.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	5.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	3.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load- Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>
----------------	---	---------

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

		Phase								Row
Column Numbers ---->		1	2	3	4	5	6	7	8	
	Phase Names ---->									
	Ped Walk	0	7	0	7	0	7	0	7	0
	Ped FDW	0	10	0	10	0	10	0	10	1
	Min Green	3	7	3	7	3	7	3	7	2
	Type 3 Limit	0	0	0	0	0	0	0	0	3
	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
	Max Limit	17	40	17	40	17	40	17	40	8
	Max Limit 2	30	70	30	70	30	70	30	70	9
	-----	0	0	0	0	0	0	0	0	A
	Call To Phase	0	0	0	0	0	0	0	0	B
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F	Row
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output	
0		0	---	---	---	---	---	---	---	---	0
1		0	0	=====	=====	=====	=====	=====	=====	=====	1
2		0	0	=====	=====	=====	=====	=====	=====	=====	2
3		0	0	=====	=====	=====	=====	=====	=====	=====	3
4		0	0	=====	=====	=====	=====	=====	=====	=====	4
5		0	0	=====	=====	=====	=====	=====	=====	=====	5
6		0	0	=====	=====	=====	=====	=====	=====	=====	6
7		0	0	=====	=====	=====	=====	=====	=====	=====	7
8		0	0	=====	=====	=====	=====	=====	=====	=====	8
9	Limited Service Int. ---->	0	0	=====	=====	=====	=====	=====	=====	=====	9
A		---	0	=====	=====	=====	=====	=====	=====	=====	A
B		0	0	=====	=====	=====	=====	=====	=====	=====	B
C		0	0	=====	=====	=====	=====	=====	=====	=====	C
D		0	0	=====	=====	=====	=====	=====	=====	=====	D
E		0	0	=====	=====	=====	=====	=====	=====	=====	E
F		0	0	=====	=====	=====	=====	=====	=====	=====	F

Special Event Schedule <C Page with F+9+F=22>

<--- Limited Service Interval (Set Dwell = 255)

INTERSECTION: Oceanside & Melrose

Group Assignment: **NONE**
 Field Master Assignment: **NONE**
 System Reference Number: **60**

N/S Street Name: **Not Assigned**
 E/W Street Name: **Not Assigned**

Last Database Change: **1/21/2020 8:30**

Change Record					
Change	By	Date	Change	By	Date

Notes: _____

Drop Number	2	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	60	<C+0+3>
QuicNet Channel	Serial:COM22:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	24	0	26	0	26	0	26
2	Min Green	6	10	8	10	6	10	8	10
3	Type 3 Limit	0	0	0	99	0	99	0	99
4	Added Initial	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	3.0	4.0	3.0	5.0	3.0	4.0	3.0	5.0
6	Max Gap	3.0	7.0	3.0	7.0	3.0	7.0	3.0	7.0
7	Min Gap	3.0	5.0	3.0	3.0	3.0	5.0	3.0	3.0
8	Max Limit	25	35	20	30	25	35	20	30
9	Max Limit 2	25	45	20	40	25	45	20	40
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
D	Reduce Every	0.0	0.7	0.0	0.8	0.0	0.7	0.0	0.8
E	Yellow Change	4.4	5.0	4.4	5.2	4.4	5.0	4.4	5.2
F	Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

Phase Timing - Bank 1 <F Page>

E		F	
RR-1 Delay	0	Permit	12345678
RR-1 Clear	10	Red Lock	_____
EV-A Delay	0	Yellow Lock	_____
EV-A Clear	5	Min Recall	<u> 2 </u> <u> 6 </u>
EV-B Delay	0	Ped Recall	_____
EV-B Clear	5	View Set Peds	-----
EV-C Delay	0	Rest In Walk	_____
EV-C Clear	5	Red Rest	_____
EV-D Delay	0	Dual Entry	<u> 2 </u> <u> 4 </u> <u> 6 </u> <u> 8 </u>
EV-D Clear	5	Max Recall	_____
RR-2 Delay	0	Soft Recall	_____
RR-2 Clear	10	Max 2	_____
View EV Delay	---	Cond. Service	_____
View EV Clear	---	Man Cntrl Calls	_____
View RR Delay	---	Yellow Start	<u> 3 </u> <u> 7 </u>
View RR Clear	---	First Phases	<u> 4 </u> <u> 8 </u>

Preempt Timing <F Page>

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

		Plan								
Column Numbers ---->		1	2	3	4	5	6	7	8	9
Row	Plan Name ---->									
0	Cycle Length	95	90	100	80	80	90	100	100	100
1	Phase 1 - ForceOff	36	36	36	15	15	40	65	65	65
2	Phase 2 - ForceOff	60	60	60	40	40	65	0	0	0
3	Phase 3 - ForceOff	78	78	76	60	60	20	25	25	25
4	Phase 4 - ForceOff	0	0	0	0	0	0	40	40	40
5	Phase 5 - ForceOff	36	36	40	15	15	40	65	65	65
6	Phase 6 - ForceOff	60	60	60	40	40	65	0	0	0
7	Phase 7 - ForceOff	16	18	18	60	60	85	25	25	25
8	Phase 8 - ForceOff	0	0	0	0	0	0	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	2	5	13	0	20	2	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	10	10	10	12	12	12	12	12	0
E	Hold Release	90	85	100	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination <C Page>

(* = Coordination Recall)

	E	Row
Plan 1 - Sync	<u>4</u> <u>8</u>	1
Plan 2 - Sync	<u>4</u> <u>8</u>	2
Plan 3 - Sync	<u>4</u> <u>8</u>	3
Plan 4 - Sync	<u>4</u> <u>8</u>	4
Plan 5 - Sync	<u>4</u> <u>8</u>	5
Plan 6 - Sync	<u>4</u> <u>8</u>	6
Plan 7 - Sync	<u>4</u> <u>8</u>	7
Plan 8 - Sync	<u>4</u> <u>8</u>	8
Plan 9 - Sync	<u>4</u> <u>8</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases <C Page>

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	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>4</u> <u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>3</u> <u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration <E Page>

	F
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	<u>8</u>
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration <E Page>

- Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

- Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5
------------------	---

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0
-----------------	---

TBC Transition <C+D+D>

- Transition Type
 0 = Shortway
 Non-zero = Lengthen

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

	F	Row
Free Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>7</u>	1
Plan 2 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>7</u>	2
Plan 3 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>7</u>	3
Plan 4 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag	<u>23</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *		A
Coord Lag *	<u>7</u>	B
		C
		D
		E
		F

Lag Phases <C Page>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load- Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>
----------------	---	---------

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

		Phase								Row
Column Numbers ---->		1	2	3	4	5	6	7	8	
	Phase Names ---->									
	Ped Walk	0	7	0	7	0	7	0	7	0
	Ped FDW	0	10	0	10	0	10	0	10	1
	Min Green	3	7	3	7	3	7	3	7	2
	Type 3 Limit	0	0	0	0	0	0	0	0	3
	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
	Max Limit	17	40	17	40	17	40	17	40	8
	Max Limit 2	30	70	30	70	30	70	30	70	9
	-----	0	0	0	0	0	0	0	0	A
	Call To Phase	0	0	0	0	0	0	0	0	B
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F	Row
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output	
0		0	---	---	---	---	---	---	---	---	0
1		0	0	=====	=====	=====	=====	=====	=====	=====	1
2		0	0	=====	=====	=====	=====	=====	=====	=====	2
3		0	0	=====	=====	=====	=====	=====	=====	=====	3
4		0	0	=====	=====	=====	=====	=====	=====	=====	4
5		0	0	=====	=====	=====	=====	=====	=====	=====	5
6		0	0	=====	=====	=====	=====	=====	=====	=====	6
7		0	0	=====	=====	=====	=====	=====	=====	=====	7
8		0	0	=====	=====	=====	=====	=====	=====	=====	8
9	Limited Service Int. ---->	0	0	=====	=====	=====	=====	=====	=====	=====	9
A		---	0	=====	=====	=====	=====	=====	=====	=====	A
B		0	0	=====	=====	=====	=====	=====	=====	=====	B
C		0	0	=====	=====	=====	=====	=====	=====	=====	C
D		0	0	=====	=====	=====	=====	=====	=====	=====	D
E		0	0	=====	=====	=====	=====	=====	=====	=====	E
F		0	0	=====	=====	=====	=====	=====	=====	=====	F

Special Event Schedule <C Page with F+9+F=22>

<--- Limited Service Interval (Set Dwell = 255)

INTERSECTION: Oceanside Blvd. & Sports Park

Group Assignment: **NONE**
 Field Master Assignment: **NONE**
 System Reference Number: **163**

N/S Street Name: **Not Assigned**
 E/W Street Name: **Not Assigned**

Last Database Change: **1/22/2018 10:44**

Change Record					
Change	By	Date	Change	By	Date

Notes: _____

Drop Number	3	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	163	<C+0+3>
QuicNet Channel	Serial:COM22:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	5.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	7	0	7	0	7
1	Ped FDW	0	0	0	20	0	14	0	10
2	Min Green	3	10	3	8	5	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	1.2
5	Veh Extension	0.5	5.0	0.5	3.0	2.5	5.0	0.5	3.5
6	Max Gap	0.5	6.0	0.5	3.0	2.5	6.0	0.5	5.0
7	Min Gap	0.5	2.5	0.5	3.0	2.5	2.5	0.5	2.0
8	Max Limit	17	40	17	30	30	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.8	3.0	3.6	4.1	4.8	3.0	4.0
F	Red Clear	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 1 <F Page>

E		F	
RR-1 Delay	0	Permit	<u>2_456_</u>
RR-1 Clear	10	Red Lock	_____
EV-A Delay	0	Yellow Lock	_____
EV-A Clear	5	Min Recall	<u>2_6_</u>
EV-B Delay	0	Ped Recall	_____
EV-B Clear	5	View Set Peds	-----
EV-C Delay	0	Rest In Walk	_____
EV-C Clear	5	Red Rest	_____
EV-D Delay	0	Dual Entry	<u>2_6_</u>
EV-D Clear	5	Max Recall	_____
RR-2 Delay	0	Soft Recall	_____
RR-2 Clear	10	Max 2	_____
View EV Delay	---	Cond. Service	_____
View EV Clear	---	Man Cntrl Calls	_____
View RR Delay	---	Yellow Start	<u>2_6_</u>
View RR Clear	---	First Phases	<u>4_</u>

Preempt Timing <F Page>

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

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

		Plan								
Column Numbers ---->		1	2	3	4	5	6	7	8	9
Row	Plan Name ---->									
0	Cycle Length	100	100	100	100	100	100	100	100	100
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	25
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	25
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination <C Page>

(* = Coordination Recall)

	E	Row
Plan 1 - Sync	<u>2 6</u>	1
Plan 2 - Sync	<u>2 6</u>	2
Plan 3 - Sync	<u>2 6</u>	3
Plan 4 - Sync	<u>2 6</u>	4
Plan 5 - Sync	<u>2 6</u>	5
Plan 6 - Sync	<u>2 6</u>	6
Plan 7 - Sync	<u>2 6</u>	7
Plan 8 - Sync	<u>2 6</u>	8
Plan 9 - Sync	<u>2 6</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases <C Page>

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	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2 5</u>
B	EV-B Phases	<u>4</u>
C	EV-C Phases	<u>1 6</u>
D	EV-D Phases	
E	Extra 1 Config. Bits	<u>1 34</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration <E Page>

	F
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration <E Page>

- Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

- Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type 0

TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

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

	F	Row
Free Lag	<u>2 4 6 8</u>	0
Plan 1 - Lag	<u>2 4 6 8</u>	1
Plan 2 - Lag	<u>2 4 6 8</u>	2
Plan 3 - Lag	<u>2 4 6 8</u>	3
Plan 4 - Lag	<u>2 4 6 8</u>	4
Plan 5 - Lag	<u>2 4 6 8</u>	5
Plan 6 - Lag	<u>2 4 6 8</u>	6
Plan 7 - Lag	<u>2 4 6 8</u>	7
Plan 8 - Lag	<u>2 4 6 8</u>	8
Plan 9 - Lag	<u>2 4 6 8</u>	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases <C Page>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	10.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	2.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load- Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>
----------------	---	---------

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

		Phase								Row
Column Numbers ---->		1	2	3	4	5	6	7	8	
	Phase Names ---->									
	Ped Walk	0	7	0	7	0	7	0	7	0
	Ped FDW	0	10	0	10	0	10	0	10	1
	Min Green	3	7	3	7	3	7	3	7	2
	Type 3 Limit	0	0	0	0	0	0	0	0	3
	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
	Max Limit	17	40	17	40	17	40	17	40	8
	Max Limit 2	30	70	30	70	30	70	30	70	9
	-----	0	0	0	0	0	0	0	0	A
	Call To Phase	0	0	0	0	0	0	0	0	B
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F	Row
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output	
0		0	---	---	---	---	---	---	---	---	0
1		0	0	=====	=====	=====	=====	=====	=====	=====	1
2		0	0	=====	=====	=====	=====	=====	=====	=====	2
3		0	0	=====	=====	=====	=====	=====	=====	=====	3
4		0	0	=====	=====	=====	=====	=====	=====	=====	4
5		0	0	=====	=====	=====	=====	=====	=====	=====	5
6		0	0	=====	=====	=====	=====	=====	=====	=====	6
7		0	0	=====	=====	=====	=====	=====	=====	=====	7
8		0	0	=====	=====	=====	=====	=====	=====	=====	8
9	Limited Service Int. ---->	0	0	=====	=====	=====	=====	=====	=====	=====	9
A		---	0	=====	=====	=====	=====	=====	=====	=====	A
B		0	0	=====	=====	=====	=====	=====	=====	=====	B
C		0	0	=====	=====	=====	=====	=====	=====	=====	C
D		0	0	=====	=====	=====	=====	=====	=====	=====	D
E		0	0	=====	=====	=====	=====	=====	=====	=====	E
F		0	0	=====	=====	=====	=====	=====	=====	=====	F

Special Event Schedule <C Page with F+9+F=22>

<--- Limited Service Interval (Set Dwell = 255)



332 CABINET

N Santa Fe Ave @ Bobier Dr

Phase Timing and Options

Unit Information

Controller Number	20
Software	Intelight MAXTIME 2.X
Main Street	N Santa Fe Ave
Side Street	Bobier Ave
IP Address	10.9.12.130

Unit Parameters

Extended Mode	Disable
Startup Flash	0
Auto Ped Clear	Disable
Red Revert	5
Backup Time	600
Startup All Red	0
Man. Control Seq.	1
MCE Enable	Enable
Start Yel. Override	0
Start Red Override	0
Free Sequence	1
All Red Flash Exit	5
Local CVM Flash	Disable
All Red Flash Sns	Disable
All Dark Flash Sns	Disable

Phase Timing

Phase	1	2	3	4	5	6	7	8
Description	nb left	sb	eb left	wb	sb left	nb	wb left	eb
Walk		7		7		7		7
Ped Clear		30		27		30		27
Steady Don't Walk								
Min Green	5	10	5	7	5	10	5	7
Min Green 2								
Passage	2.0	2.5	2.0	2.5	2.0	2.5	2.0	2.5
Passage 2								
Max Green 1	20	30	20	25	30	30	20	25
Max Green 2			30	30			30	30
Yellow Change	3.0	4.1	3.0	4.4	3.0	4.1	3.0	4.4
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Added Initial								
Maximum Initial								
Time B4 Reduction								
Cars B4 Reduction								
Time To Reduce								
Reduce By								
Minimum Gap								
Advance Walk								
Delayed Ped								

Phase Options

Phase	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X	X	X
Auto Flash Entry	.	.	.	X	.	.	.	X
Auto Flash Exit	.	X	.	.	.	X	.	.
Non Lock Detector	X	X	X	X	X	X	X	X
Min Vehicle Recall	.	X	.	.	.	X	.	.
Max Vehicle Recall	.	.	.	X	.	.	.	X
Ped Recall
Soft Vehicle Recall
Dual Entry
Sim. Gap Disable
Actuated Rest in Walk	.	X	.	X	.	X	.	X
Conditional Svc Enable
Add Initial Calculation
Ped Clear During Yellow
Ped Clear During Red Clr
Yellow Min Override
No Startup Call
No Ped Startup Call
Min Green 2
Max Green 2
Red Rest
Ped Recycle

Phase Configuration

Phase	Startup	Description
1	Phase Not On	nb left
2	Secondary Start	sb
3	Phase Not On	eb left
4	YellowChange	wb
5	Phase Not On	sb left
6	Secondary Start	nb
7	Phase Not On	wb left
8	YellowChange	eb

Global Phase Recalls

Phase	1	2	3	4	5	6	7	8
Min
Max
Ped

Notes

Sequences

Sequence 1		Sequence 2		Sequence 3		Sequence 4		Sequence 5		Sequence 6	
Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence
1	1,2,a,3,4,b	1	2,1,a,3,4,b	1	1,2,a,4,3,b	1	2,1,a,4,3,b	1	1,2,a,3,4,b	1	1,2,a,3,4,b
2	5,6,a,7,8,b	2	5,6,a,7,8,b	2	5,6,a,7,8,b	2	5,6,a,7,8,b	2	5,6,a,7,8,b	2	5,6,a,7,8,b
3		3		3		3		3		3	
4		4		4		4		4		4	

Sequence 7		Sequence 8		Sequence 9		Sequence 10		Sequence 11		Sequence 12	
Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence
1	1,2,a,4,3,b	1	2,1,a,4,3,b	1	1,2,a,3,4,b	1	2,1,a,3,4,b	1	1,2,a,4,3,b	1	2,1,a,4,3,b
2	6,5,a,7,8,b	2	6,5,a,7,8,b	2	5,6,a,8,7,b	2	5,6,a,8,7,b	2	5,6,a,8,7,b	2	5,6,a,8,7,b
3		3		3		3		3		3	
4		4		4		4		4		4	

Sequence 13		Sequence 14		Sequence 15		Sequence 16	
Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence
1	1,2,a,3,4,b	1	2,1,a,3,4,b	1	1,2,a,4,3,b	1	2,1,a,4,3,b
2	6,5,a,8,7,b	2	6,5,a,8,7,b	2	6,5,a,8,7,b	2	6,5,a,8,7,b
3		3		3		3	
4		4		4		4	

Overlaps

Overlap	1	2	3	4	5	6
Enabled	Enabled	Enabled	Enabled	Enabled	Disabled	Disabled
Description	sb right	sb right	wb right	wb right		
Type	Minus Green Yellow	Minus Green Yellow	Minus Green Yellow	Minus Green Yellow	Off	Off
Included Phs	1,8	2,3	4,5	6,7		
Modifier Phs	8	2				
Negative Phs						
Negative Orig						
Negative Ped						
Green Suppr						
Trail Green						
Trail Yellow						
Trail Red						
Walk						
Ped Clear						
Delay						
Startup Call						
Recall						
Call for Svc						

Backup Prevention / No Serve Phases

Sequence 1												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 2												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 3												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 4												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 5												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 6												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 7												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 8												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Sequence 9												
Backup Protection Plan												
Backup phase								Call Phs		No Serve		
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1												
2												
3												
4												
5												
6												
7												
8												
Thru Red									No			

Detector Configuration

Vehicle Detectors

Detector	Slot	C1 Pin Number	Call Phase	Call O/L	Addnl Call PH	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall	Description
1	I-1	C1-56	1											None	
2	I-2U	C1-39	2											None	
3	I-2L	C1-43	2											None	
4	I-3U	C1-63	2											None	
5	I-3L	C1-76	2											None	
6	I-4	C1-47	2											None	
7	I-5	C1-58	3											None	
8	I-6U	C1-41	4											None	
9	I-6L	C1-45	4											None	
10	I-7U	C1-65	4											None	
11	I-7L	C1-78	4											None	
12	I-8	C1-49	4											None	
13	I-9U	C1-60	1											None	
14	I-9L	C1-62	3											None	
15	J-1	C1-55	5											None	
16	J-2U	C1-40	6											None	
17	J-2L	C1-44	6											None	
18	J-3U	C1-64	6											None	
19	J-3L	C1-77	6											None	
20	J-4	C1-48	6											None	
21	J-5	C1-57	7											None	
22	J-6U	C1-42	8											None	
23	J-6L	C1-46	8											None	
24	J-7U	C1-66	8											None	
25	J-7L	C1-79	8											None	
26	J-8	C1-50	8											None	
27	J-9U	C1-59	5											None	
28	J-9L	C1-61	7											None	

Pedestrian Detectors

Detector	Slot	C1 Pin Number	Call PH	Call O/L	Addnl Call PH	No Act	Max Pres	Erratic Count
1	-----	-----						
2	I-12U	C1-67	2					
3	-----	-----						
4	I-12L	C1-69	4					
5	-----	-----						
6	I-13U	C1-68	6					
7	-----	-----						
8	I-13L	C1-70	8					

Global Vehicle Detector Parameters

Global No Activity	
Global Max Presence	20
Global Erratic Count	
Global Failed Recall	Max Recall
Detector Reset Enable	Disabled

Global Ped Detector Parameters

Global No Activity	
Global Max Pres.	5
Global Erratic Ct	

Vehicle Detection Options

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Volume	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Lock Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Lock Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Extend	X	X	X	X	X	.	X	X	X	X	X	.	X	X	X	X	X	X	X	.	X	X	X	X	X	.	X	X
Added Initial	X	X	X	X	X	.	X	X	X	X	X	.	X	X	X	X	X	X	X	.	X	X	X	X	X	.	X	X
Queue	.	.	.	.	.	X	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.	X	.	.
Call	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
Min Green 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passage 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Coordination Configuration

Coordination Parameters		Patterns							Phs	Det	Fied	OL	Description	
Operational Mode	Manual Free	Patn	Cycle	Offset 1	Split	Seq	Reference	Coord Mode	FO Mode	Max Mode	Pln	Pln		Pln
Coord Mode	Full Permissive	1					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Maximum Mode	Per Pattern	2					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Force Mode	Per Pattern	3					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Correction Mode	Shortway (Auto)	4					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Max Cyc Limit %	25	5					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Min Cyc Limit %	25	6					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Max Dwell	0	7					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Trans. Cover Ped	Pattern	8					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
		9					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1

Split Parameters

Split 1							Split 2							Split 3									
PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode	PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode	PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode
1				-	-	Fixed	None	1				-	-	Fixed	None	1				-	-	Fixed	None
2				-	-	Fixed	None	2				-	-	Fixed	None	2				-	-	Fixed	None
3				-	-	Fixed	None	3				-	-	Fixed	None	3				-	-	Fixed	None
4				-	-	Fixed	None	4				-	-	Fixed	None	4				-	-	Fixed	None
5				-	-	Fixed	None	5				-	-	Fixed	None	5				-	-	Fixed	None
6				-	-	Fixed	None	6				-	-	Fixed	None	6				-	-	Fixed	None
7				-	-	Fixed	None	7				-	-	Fixed	None	7				-	-	Fixed	None
8				-	-	Fixed	None	8				-	-	Fixed	None	8				-	-	Fixed	None

Split 4							Split 5							Split 6									
PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode	PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode	PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode
1				-	-	Fixed	None	1				-	-	Fixed	None	1				-	-	Fixed	None
2				-	-	Fixed	None	2				-	-	Fixed	None	2				-	-	Fixed	None
3				-	-	Fixed	None	3				-	-	Fixed	None	3				-	-	Fixed	None
4				-	-	Fixed	None	4				-	-	Fixed	None	4				-	-	Fixed	None
5				-	-	Fixed	None	5				-	-	Fixed	None	5				-	-	Fixed	None
6				-	-	Fixed	None	6				-	-	Fixed	None	6				-	-	Fixed	None
7				-	-	Fixed	None	7				-	-	Fixed	None	7				-	-	Fixed	None
8				-	-	Fixed	None	8				-	-	Fixed	None	8				-	-	Fixed	None

Split 7							Split 8							Split 9									
PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode	PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode	PH	Time	Min	Max	Coord Phase	Ref Phase	FO Mode	Mode
1				-	-	Fixed	None	1				-	-	Fixed	None	1				-	-	Fixed	None
2				-	-	Fixed	None	2				-	-	Fixed	None	2				-	-	Fixed	None
3				-	-	Fixed	None	3				-	-	Fixed	None	3				-	-	Fixed	None
4				-	-	Fixed	None	4				-	-	Fixed	None	4				-	-	Fixed	None
5				-	-	Fixed	None	5				-	-	Fixed	None	5				-	-	Fixed	None
6				-	-	Fixed	None	6				-	-	Fixed	None	6				-	-	Fixed	None
7				-	-	Fixed	None	7				-	-	Fixed	None	7				-	-	Fixed	None
8				-	-	Fixed	None	8				-	-	Fixed	None	8				-	-	Fixed	None

Advanced Coord Options	Pattern	1	2	3	4	5	6	7	8	9
Ring Plan										
Allow Split Underrun										
Allow Split Overrun										
Allow No Coord Phase										
Coord Now										

Ring Plans

Ring Plan 1				Ring Plan 2				Ring Plan 3				Ring Plan 4				Ring Plan 5			
Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap	
1				1				1				1				1			
2				2				2				2				2			
3				3				3				3				3			
4				4				4				4				4			

Ring Plan 6				Ring Plan 7				Ring Plan 8				Ring Plan 9			
Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap	
1				1				1				1			
2				2				2				2			
3				3				3				3			
4				4				4				4			

Preempt Configuration

Preemption Configuration

Preempt	1	2	3	4	5	6
Enabled	Enabled	Disabled	Enabled	Enabled	Enabled	Enabled
Type	Rail Road	Rail Road	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh
Description	BBS Low Battery					
Track Phase						
Track 2 Phases						
Track Overlap						
Track 2 Overlap						
Dwell Phase			2,5	4,7	1,6	3,8
Dwell Ped						
Dwell Overlap						
Cycling Phase						
Cycling Ped						
Cycling Overlap						
Exit Phase						
Exit Overlaps						
Recovery Exit Omit						

Preemption Options

Preempt	1	2	3	4	5	6
Non Lock Mem	.	.	X	X	X	X
Not Override Flash	.	.	X	X	X	X
Not Override Next Preempt	.	.	X	X	X	X
Flash Dwell
Ped Recycle in Dwell Cycle
Immediate Ped Clear
Dwell Only Status Output
All Red Flash Dwell	X	.	.	.	.	.
Allow All Overlaps
Require All Red Entry
Require Gate Down Track Exit
Require Gate Up Dwell Exit
Use Normal On/Normal Off Input

Preemption Parameters

Preempt	1	2	3	4	5	6
Link						
Delay						
Min Duration						
Min Presence						
Max Presence			255	255	255	255
Max Presence Action	Terminate	Terminate	All Red Flash	All Red Flash	All Red Flash	All Red Flash
Enter Min Green						
Enter Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Enter Min Walk						
Enter Ped Clear			255	255	255	255
Track Green						
Track Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Green						
Track 2 Yellow	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Red	25.5	25.5	25.5	25.5	25.5	25.5
Track Ext. Gate Down						

Preempt Parameters

Preempt	1	2	3	4	5	6
Dwell Green			5	5	5	5
Exit Ped Clear	255	255	255	255	255	255
Exit Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Ext Time						
Max Exit Green						
Exit Type	Exit Phases	Exit Phases	Phase Skip	Phase Skip	Phase Skip	Phase Skip
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Exit Max Apply Time						
Veh Exit Calls						
Ped Exit Calls						

Advanced I/O Configuration

Channel Configuration			Ch			Control Type			Source		
Ch	Control Type	Source	Ch	Control Type	Source	Ch	Control Type	Source	Ch	Control Type	Source
1	Phase Vehicle	1	9	None							
2	Phase Vehicle	2	10	None							
3	Phase Vehicle	3	11	Overlap	3						
4	Phase Vehicle	4	12	Overlap	4						
5	Phase Vehicle	5	13	Phase Ped	2						
6	Phase Vehicle	6	14	Phase Ped	4						
7	Phase Vehicle	7	15	Phase Ped	6						
8	Phase Vehicle	8	16	Phase Ped	8						

Concurrency Mode	
Concurrency Mode	
Auto	

Auto Concurrency	
Ch	Concurrency
1	5,6,11,12,15
2	5,6,11,12,13,15
3	7,8,12,16
4	7,8,11,12,14,16
5	11,13
6	12,13,15
7	11,12,14
8	11,14,16
9	
10	
11	13,16
12	13,14
13	15
14	16
15	
16	

Channel Options																
Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flash Yellow																
Flash Red	X	X	X	X	X	X	X	X	X							
Flash Alternate Half Hertz	X			X	X			X								

Cabinet Configuration

IO Modules	
IO Module	Type
1	Caltrans 332

Input Points				Input				Input				Input			
Input	C1 Pin	Input Type	Idx	Input	C1 Pin	Input Type	Idx	Input	C1 Pin	Input Type	Idx	Input	C1 Pin	Input Type	Idx
1	C1-39	Vehicle Det Call	2	17	C1-55	Vehicle Det Call	15	33	C1-67	Ped Det Call	2	49	C11-15	Not Active	
2	C1-40	Vehicle Det Call	16	18	C1-56	Vehicle Det Call	1	34	C1-68	Ped Det Call	6	50	C11-16	Not Active	
3	C1-41	Vehicle Det Call	8	19	C1-57	Vehicle Det Call	21	35	C1-69	Ped Det Call	4	51	C11-17	Not Active	
4	C1-42	Vehicle Det Call	22	20	C1-58	Vehicle Det Call	7	36	C1-70	Ped Det Call	8	52	C11-18	Not Active	
5	C1-43	Vehicle Det Call	3	21	C1-59	Vehicle Det Call	27	37	C1-71	reempt High Prioritor Lc	3	53	C11-19	Not Active	
6	C1-44	Vehicle Det Call	17	22	C1-60	Vehicle Det Call	13	38	C1-72	reempt High Prioritor Lc	4	54	C11-20	Not Active	
7	C1-45	Vehicle Det Call	9	23	C1-61	Vehicle Det Call	28	39	C1-73	reempt High Prioritor Lc	5	55	C11-21	Not Active	
8	C1-46	Vehicle Det Call	23	24	C1-62	Vehicle Det Call	14	40	C1-74	reempt High Prioritor Lc	6	56	C11-22	Not Active	
9	C1-47	Vehicle Det Call	6	25	C11-10	Not Active		41	C1-75	Not Active		57	C11-23	Not Active	
10	C1-48	Vehicle Det Call	20	26	C11-11	Not Active		42	C1-76	Vehicle Det Call	5	58	C11-24	Not Active	
11	C1-49	Vehicle Det Call	12	27	C11-12	Not Active		43	C1-77	Vehicle Det Call	19	59	C11-25	Not Active	
12	C1-50	Vehicle Det Call	26	28	C11-13	Not Active		44	C1-78	Vehicle Det Call	11	60	C11-26	Not Active	
13	C1-51	Preempt Input	1	29	C1-63	Vehicle Det Call	4	45	C1-79	Vehicle Det Call	25	61	C11-27	Not Active	
14	C1-52	Preempt Input	2	30	C1-64	Vehicle Det Call	18	46	C1-80	Unit Interval Advance	1	62	C11-28	Not Active	
15	C1-53	Init Manual Control Enabl	1	31	C1-65	Vehicle Det Call	10	47	C1-81	Unit Local Flash Sense	1	63	C11-29	Not Active	
16	C1-54	Not Active		32	C1-66	Vehicle Det Call	24	48	C1-82	Unit Stop Time	1	64	C11-30	Not Active	

Cabinet Configuration

Output Points			
Output	C1 Pin	Output Type	Idx
1	C1-2	Channel Red Do Not Walk Driver	14
2	C1-3	Channel Green Walk Driver	14
3	C1-4	Channel Red Do Not Walk Driver	4
4	C1-5	Channel Yellow Ped Clear Driver	4
5	C1-6	Channel Green Walk Driver	4
6	C1-7	Channel Red Do Not Walk Driver	3
7	C1-8	Channel Yellow Ped Clear Driver	3
8	C1-9	Channel Green Walk Driver	3
9	C1-10	Channel Red Do Not Walk Driver	13
10	C1-11	Channel Green Walk Driver	13
11	C1-12	Channel Red Do Not Walk Driver	2
12	C1-13	Channel Yellow Ped Clear Driver	2
13	C1-15	Channel Green Walk Driver	2
14	C1-16	Channel Red Do Not Walk Driver	1
15	C1-17	Channel Yellow Ped Clear Driver	1
16	C1-18	Channel Green Walk Driver	1
17	C1-19	Channel Red Do Not Walk Driver	16
18	C1-20	Channel Green Walk Driver	16
19	C1-21	Channel Red Do Not Walk Driver	8
20	C1-22	Channel Yellow Ped Clear Driver	8
21	C1-23	Channel Green Walk Driver	8
22	C1-24	Channel Red Do Not Walk Driver	7
23	C1-25	Channel Yellow Ped Clear Driver	7
24	C1-26	Channel Green Walk Driver	7
25	C1-27	Channel Red Do Not Walk Driver	15
26	C1-28	Channel Green Walk Driver	15
27	C1-29	Channel Red Do Not Walk Driver	6
28	C1-30	Channel Yellow Ped Clear Driver	6
29	C1-31	Channel Green Walk Driver	6
30	C1-32	Channel Red Do Not Walk Driver	5
31	C1-33	Channel Yellow Ped Clear Driver	5
32	C1-34	Channel Green Walk Driver	5

Output Points			
Output	C1 Pin	Output Type	Idx
33	C1-35	Overlap Green	1
34	C1-36	Overlap Green	2
35	C1-37	Overlap Yellow	1
36	C1-38	Overlap Yellow	2
37	C1-100	Channel Yellow Ped Clear Driver	18
38	C1-101	Channel Yellow Ped Clear Driver	17
39	C1-102	Detector Reset	1
40	C1-103	Watchdog	
41	C1-83	Channel Red Do Not Walk Driver	18
42	C1-84	Channel Green Walk Driver	18
43	C1-85	Channel Red Do Not Walk Driver	12
44	C1-86	Channel Yellow Ped Clear Driver	12
45	C1-87	Channel Green Walk Driver	12
46	C1-88	Channel Red Do Not Walk Driver	11
47	C1-89	Channel Yellow Ped Clear Driver	11
48	C1-90	Channel Green Walk Driver	11
49	C1-91	Channel Red Do Not Walk Driver	17
50	C1-93	Channel Green Walk Driver	17
51	C1-94	Channel Red Do Not Walk Driver	10
52	C1-95	Channel Yellow Ped Clear Driver	10
53	C1-96	Channel Green Walk Driver	10
54	C1-97	Channel Red Do Not Walk Driver	9
55	C1-98	Channel Yellow Ped Clear Driver	9
56	C1-99	Channel Green Walk Driver	9
57	C11-1	Not Active	
58	C11-2	Not Active	
59	C11-3	Not Active	
60	C11-4	Not Active	
61	C11-5	Not Active	
62	C11-6	Not Active	
63	C11-7	Not Active	
64	C11-8	Not Active	

User Programs

Program 1

Enabled

Line	Result	Idx	Operation	Parameter A	Idx	Parameter B	Idx	Dly	Ext	Description
1	Unit Stop Time	1	Result=A	Aux Switch State						AUX switch stop time
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										



332 CABINET

N Melrose Dr @ North Ave

Phase Timing and Options

Unit Information

Controller Number	64
Software	Intelight MAXTIME 2.X
Main Street	N Melrose Dr
Side Street	North Ave
IP Address	10.9.8.60

Unit Parameters

Extended Mode	Disable
Startup Flash	0
Auto Ped Clear	Disable
Red Revert	5
Backup Time	600
Startup All Red	0
Man. Control Seq.	1
MCE Enable	Enable
Start Yel. Override	0
Start Red Override	0
Free Sequence	1
All Red Flash Exit	5
Local CVM Flash	Disable
All Red Flash Sns	Disable
All Dark Flash Sns	Disable

Phase Timing

Phase	1	2	3	4	5	6	7	8
Description								
Walk		6		6		6		
Ped Clear		15		20		18		
Steady Don't Walk								
Min Green	5	10	7	7	5	10		
Min Green 2								
Passage	2.0	3.0	2.5	2.5	2.0	3.0		
Passage 2								
Max Green 1	20	30	33	23	20	30		
Max Green 2								
Yellow Change	4.8	4.8	4.1	4.1	4.8	4.8		
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0		
Added Initial								
Maximum Initial								
Time B4 Reduction								
Cars B4 Reduction								
Time To Reduce				5				
Reduce By								
Minimum Gap				2.0				
Advance Walk								
Delayed Ped								

Phase Options

Phase	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X	.	.
Auto Flash Entry	.	.	.	X	.	.	.	.
Auto Flash Exit	.	X	.	.	.	X	.	.
Non Lock Detector	X	X	X	X	X	X	.	.
Min Vehicle Recall	.	X	.	.	.	X	.	.
Max Vehicle Recall
Ped Recall
Soft Vehicle Recall
Dual Entry
Sim. Gap Disable
Actuated Rest in Walk
Conditional Svc Enable
Add Initial Calculation
Ped Clear During Yellow
Ped Clear During Red Clr
Yellow Min Override
No Startup Call
No Ped Startup Call
Min Green 2
Max Green 2
Red Rest
Ped Recycle

Phase Configuration

Phase	Startup	Description
1	Phase Not On	
2	Secondary Start	
3	Phase Not On	
4	YellowChange	
5	Phase Not On	
6	Secondary Start	
7	None	
8	None	

Global Phase Recalls

Phase	1	2	3	4	5	6	7	8
Min
Max
Ped

Notes

Sequences

Sequence 1		Sequence 2		Sequence 3		Sequence 4		Sequence 5		Sequence 6	
Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence
1	1,2,a,3,4,b	1	2,1,a,3,4,b	1	1,2,a,4,3,b	1	2,1,a,4,3,b	1	1,2,a,3,4,b	1	1,2,a,3,4,b
2	5,6,a,b	2	5,6,a,b	2	5,6,a,b	2	5,6,a,b	2	5,6,a,b	2	5,6,a,b
3		3		3		3		3		3	
4		4		4		4		4		4	

Sequence 7		Sequence 8		Sequence 9		Sequence 10		Sequence 11		Sequence 12	
Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence
1	1,2,a,4,3,b	1	2,1,a,4,3,b	1	1,2,a,3,4,b	1	2,1,a,3,4,b	1	1,2,a,4,3,b	1	2,1,a,4,3,b
2	6,5,a,b	2	6,5,a,b	2	5,6,a,b	2	5,6,a,b	2	5,6,a,8,7,b	2	5,6,a,8,7,b
3		3		3		3		3		3	
4		4		4		4		4		4	

Sequence 13		Sequence 14		Sequence 15		Sequence 16	
Ring	Sequence	Ring	Sequence	Ring	Sequence	Ring	Sequence
1	1,2,a,3,4,b	1	2,1,a,3,4,b	1	1,2,a,4,3,b	1	2,1,a,4,3,b
2	6,5,a,8,7,b	2	6,5,a,8,7,b	2	6,5,a,8,7,b	2	6,5,a,8,7,b
3		3		3		3	
4		4		4		4	

Overlaps

Standard Overlaps	1	2	3	4	5	6
Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description						
Type	Off	Off	Off	Off	Off	Off
Included Phs						
Modifier Phs						
Negative Phs						
Negative Orig						
Negative Ped						
Green Suppr						
Trail Green						
Trail Yellow						
Trail Red						
Walk						
Ped Clear						
Delay						
Startup Call						
Recall						
Call for Svc						

Backup Prevention / No Serve Phases

Sequence 1												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 2												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 3												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 4												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 5												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 6												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 7												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 8												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Sequence 9												
Backup Protection Plan												
Serve Phase	Backup phase								Call Phs		No Serve	
	1	2	3	4	5	6	7	8	Ph	Call Ph	Ph	No Srv
1									1		1	
2									2		2	
3									3		3	
4									4		4	
5									5		5	
6									6		6	
7									7		7	
8									8		8	
Thru Red No												

Detector Configuration

Vehicle Detectors

Detector	Slot	C1 Pin Number	Call Phase	Call O/L	Addnl Call PH	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall	Description
1	I-1	C1-56	1											None	
2	I-2U	C1-39	2											None	
3	I-2L	C1-43	2					1.0						None	
4	I-3U	C1-63	2											None	
5	I-3L	C1-76	2											None	
6	I-4	C1-47	2											None	
7	I-5	C1-58	3											None	
8	I-6U	C1-41	4											None	
9	I-6L	C1-45	4											None	
10	I-7U	C1-65	4											None	
11	I-7L	C1-78	4											None	
12	I-8	C1-49	4											None	
13	I-9U	C1-60	1											None	
14	I-9L	C1-62	3											None	
15	J-1	C1-55	5											None	
16	J-2U	C1-40	6											None	
17	J-2L	C1-44	6					1.0						None	
18	J-3U	C1-64	6											None	
19	J-3L	C1-77	6											None	
20	J-4	C1-48	6											None	
21	J-5	C1-57	7											None	
22	J-6U	C1-42	8											None	
23	J-6L	C1-46	8											None	
24	J-7U	C1-66	8											None	
25	J-7L	C1-79	8											None	
26	J-8	C1-50	8											None	
27	J-9U	C1-59	5											None	
28	J-9L	C1-61	7											None	

Pedestrian Detectors

Detector	Slot	C1 Pin Number	Call PH	Call O/L	Addnl Call PH	No Act	Max Pres	Erratic Count
1	-----	-----						
2	I-12U	C1-67	2					
3	-----	-----						
4	I-12L	C1-69	4					
5	-----	-----						
6	I-13U	C1-68	6					
7	-----	-----						
8	I-13L	C1-70	8					

Global Vehicle Detector Parameters

Global No Activity	
Global Max Presence	20
Global Erratic Count	
Global Failed Recall	Max Recall
Detector Reset Enable	Disabled

Global Ped Detector Parameters

Global No Activity	
Global Max Pres.	5
Global Erratic Ct	

Vehicle Detection Options

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Volume	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Lock Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Lock Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Extend	X	X	X	X	X	.	X	X	X	X	X	.	X	X	X	X	X	X	X	.	X	X	X	X	X	.	X	X
Added Initial	X	X	X	X	X	.	X	X	X	X	X	.	X	X	X	X	X	X	X	.	X	X	X	X	X	.	X	X
Queue	.	.	.	.	.	X	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.	X	.	.
Call	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
Min Green 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passage 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Coordination Configuration

Coordination Parameters		Patterns							Phs	Det	Fied	OL	Description	
Operational Mode	Automatic	Patn	Cycle	Offset 1	Split	Seq	Reference	Coord Mode	FO Mode	Max Mode	Pin	Pin		Pin
Coord Mode	Full Permissive	1					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Maximum Mode	Per Pattern	2					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Force Mode	Per Pattern	3					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Correction Mode	Shortway (Auto)	4					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Max Cyc Limit %	25	5	100	91	5	5	Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Min Cyc Limit %	25	6	130	124	6	5	Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Max Dwell	0	7	120	3	7	5	Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
Trans. Cover Ped	Pattern	8					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1
		9					Yellow	Full Permissive	Fixed	Max Inhibit	1	1	1	1

Split Parameters

Split 1										Split 2										Split 3									
PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode	PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode	PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode
1								Fixed	None	1	11							Fixed	None	1								Fixed	None
2								Fixed	None	2								Fixed	None	2								Fixed	None
3								Fixed	None	3								Fixed	None	3								Fixed	None
4								Fixed	None	4								Fixed	None	4								Fixed	None
5								Fixed	None	5								Fixed	None	5								Fixed	None
6								Fixed	None	6								Fixed	None	6								Fixed	None
7								Fixed	None	7								Fixed	None	7								Fixed	None
8								Fixed	None	8								Fixed	None	8								Fixed	None

Split 4										Split 5										Split 6									
PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode	PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode	PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode
1								Fixed	None	1	11			X				Fixed	None	2	60			X				Fixed	None
2								Fixed	None	2	39							Fixed	None	3	25							Fixed	None
3								Fixed	None	3	25							Fixed	None	4	25							Fixed	None
4								Fixed	None	4	25							Fixed	None	5	20							Fixed	None
5								Fixed	None	5	20							Fixed	None	6	30			X	X			Fixed	None
6								Fixed	None	6	30			X	X			Fixed	None	7								Fixed	None
7								Fixed	None	7								Fixed	None	8								Fixed	None
8								Fixed	None	8								Fixed	None									Fixed	None

Split 7										Split 8										Split 9									
PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode	PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode	PH	Time	Min	Max	Coord	Phase	Ref	Phase	FO Mode	Mode
1	17							Fixed	None	1								Fixed	None	1								Fixed	None
2	49			X				Fixed	None	2								Fixed	None	2								Fixed	None
3	23							Fixed	None	3								Fixed	None	3								Fixed	None
4	31							Fixed	None	4								Fixed	None	4								Fixed	None
5	17							Fixed	None	5								Fixed	None	5								Fixed	None
6	49			X	X			Fixed	None	6								Fixed	None	6								Fixed	None
7								Fixed	None	7								Fixed	None	7								Fixed	None
8								Fixed	None	8								Fixed	None	8								Fixed	None

Advanced Coord Options	Pattern	1	2	3	4	5	6	7	8	9
Ring Plan										
Allow Split Underrun										
Allow Split Overrun										
Allow No Coord Phase										
Coord Now										

Ring Plans

Ring Plan 1				Ring Plan 2				Ring Plan 3				Ring Plan 4				Ring Plan 5			
Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap	
1				1				1				1				1			
2				2				2				2				2			
3				3				3				3				3			
4				4				4				4				4			

Ring Plan 6				Ring Plan 7				Ring Plan 8				Ring Plan 9			
Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap		Ring	Offset	Early Gap	
1				1				1				1			
2				2				2				2			
3				3				3				3			
4				4				4				4			

Preempt Configuration

Preemption Configuration

Preempt	1	2	3	4	5	6
Enabled	Enabled	Disabled	Enabled	Enabled	Enabled	Enabled
Type	Rail Road	Rail Road	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh
Description	bbs low battery					
Track Phase						
Track 2 Phases						
Track Overlap						
Track 2 Overlap						
Dwell Phase			2,5	4	1,6	3
Dwell Ped						
Dwell Overlap						
Cycling Phase						
Cycling Ped						
Cycling Overlap						
Exit Phase						
Exit Overlaps						
Recovery Exit Omit						

Preemption Options

Preempt	1	2	3	4	5	6
Non Lock Mem	.	.	X	X	X	X
Not Override Flash	.	.	X	X	X	X
Not Override Next Preempt	.	.	X	X	X	X
Flash Dwell
Ped Recycle in Dwell Cycle
Immediate Ped Clear
Dwell Only Status Output
All Red Flash Dwell	X	.	.	.	.	.
Allow All Overlaps
Require All Red Entry
Require Gate Down Track Exit
Require Gate Up Dwell Exit
Use Normal On/Normal Off Input

Preemption Parameters

Preempt	1	2	3	4	5	6
Link						
Delay						
Min Duration						
Min Presence						
Max Presence			255	255	255	255
Max Presence Action	Terminate	Terminate	All Red Flash	All Red Flash	All Red Flash	All Red Flash
Enter Min Green						
Enter Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Enter Min Walk						
Enter Ped Clear			255	255	255	255
Track Green						
Track Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Green						
Track 2 Yellow	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Red	25.5	25.5	25.5	25.5	25.5	25.5
Track Ext. Gate Down						

Preempt Parameters

Preempt	1	2	3	4	5	6
Dwell Green			1	1	1	1
Exit Ped Clear	255	255	255	255	255	255
Exit Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Ext Time						
Max Exit Green						
Exit Type	Exit Phases	Exit Phases	Phase Skip	Phase Skip	Phase Skip	Phase Skip
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Exit Max Apply Time						
Veh Exit Calls						
Ped Exit Calls						

Advanced I/O Configuration

Channel Configuration			Ch			Control Type			Source		
Ch	Control Type	Source	Ch	Control Type	Source	Ch	Control Type	Source	Ch	Control Type	Source
1	Phase Vehicle	1	9	None							
2	Phase Vehicle	2	10	None							
3	Phase Vehicle	3	11	None							
4	Phase Vehicle	4	12	None							
5	Phase Vehicle	5	13	Phase Ped	2						
6	Phase Vehicle	6	14	Phase Ped	4						
7	Phase Vehicle	7	15	Phase Ped	6						
8	Phase Vehicle	8	16	Phase Ped	8						

Concurrency Mode	
Concurrency Mode	
Auto	

Auto Concurrency	
Ch	Concurrency
1	5,6,15
2	5,6,13,15
3	
4	14
5	13
6	13,15
7	
8	16
9	
10	
11	
12	
13	15
14	
15	
16	

Channel Options																
Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flash Yellow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flash Red	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-
Flash Alternate Half Hertz	X	-	-	X	X	-	-	X	-	-	-	-	-	-	-	-

Cabinet Configuration

IO Modules	
IO Module	Type
1	Caltrans 332

Input Points				Input				Input				Input			
Input	C1 Pin	Input Type	Idx	Input	C1 Pin	Input Type	Idx	Input	C1 Pin	Input Type	Idx	Input	C1 Pin	Input Type	Idx
1	C1-39	Vehicle Det Call	2	17	C1-55	Vehicle Det Call	15	33	C1-67	Ped Det Call	2	49	C11-15	Not Active	
2	C1-40	Vehicle Det Call	16	18	C1-56	Vehicle Det Call	1	34	C1-68	Ped Det Call	6	50	C11-16	Not Active	
3	C1-41	Vehicle Det Call	8	19	C1-57	Vehicle Det Call	21	35	C1-69	Ped Det Call	4	51	C11-17	Not Active	
4	C1-42	Vehicle Det Call	22	20	C1-58	Vehicle Det Call	7	36	C1-70	Ped Det Call	8	52	C11-18	Not Active	
5	C1-43	Vehicle Det Call	3	21	C1-59	Vehicle Det Call	27	37	C1-71	reempt High Prioritor Lc	3	53	C11-19	Not Active	
6	C1-44	Vehicle Det Call	17	22	C1-60	Vehicle Det Call	13	38	C1-72	reempt High Prioritor Lc	4	54	C11-20	Not Active	
7	C1-45	Vehicle Det Call	9	23	C1-61	Vehicle Det Call	28	39	C1-73	reempt High Prioritor Lc	5	55	C11-21	Not Active	
8	C1-46	Vehicle Det Call	23	24	C1-62	Vehicle Det Call	14	40	C1-74	reempt High Prioritor Lc	6	56	C11-22	Not Active	
9	C1-47	Vehicle Det Call	6	25	C11-10	Not Active		41	C1-75	Not Active		57	C11-23	Not Active	
10	C1-48	Vehicle Det Call	20	26	C11-11	Not Active		42	C1-76	Vehicle Det Call	5	58	C11-24	Not Active	
11	C1-49	Vehicle Det Call	12	27	C11-12	Not Active		43	C1-77	Vehicle Det Call	19	59	C11-25	Not Active	
12	C1-50	Vehicle Det Call	26	28	C11-13	Not Active		44	C1-78	Vehicle Det Call	11	60	C11-26	Not Active	
13	C1-51	Preempt Input	1	29	C1-63	Vehicle Det Call	4	45	C1-79	Vehicle Det Call	25	61	C11-27	Not Active	
14	C1-52	Preempt Input	2	30	C1-64	Vehicle Det Call	18	46	C1-80	Unit Interval Advance	1	62	C11-28	Not Active	
15	C1-53	Init Manual Control Enabl	1	31	C1-65	Vehicle Det Call	10	47	C1-81	Unit Local Flash Sense	1	63	C11-29	Not Active	
16	C1-54	Not Active		32	C1-66	Vehicle Det Call	24	48	C1-82	Unit Stop Time	1	64	C11-30	Not Active	

Cabinet Configuration

Output Points			
Output	C1 Pin	Output Type	Idx
1	C1-2	Channel Red Do Not Walk Driver	14
2	C1-3	Channel Green Walk Driver	14
3	C1-4	Channel Red Do Not Walk Driver	4
4	C1-5	Channel Yellow Ped Clear Driver	4
5	C1-6	Channel Green Walk Driver	4
6	C1-7	Channel Red Do Not Walk Driver	3
7	C1-8	Channel Yellow Ped Clear Driver	3
8	C1-9	Channel Green Walk Driver	3
9	C1-10	Channel Red Do Not Walk Driver	13
10	C1-11	Channel Green Walk Driver	13
11	C1-12	Channel Red Do Not Walk Driver	2
12	C1-13	Channel Yellow Ped Clear Driver	2
13	C1-15	Channel Green Walk Driver	2
14	C1-16	Channel Red Do Not Walk Driver	1
15	C1-17	Channel Yellow Ped Clear Driver	1
16	C1-18	Channel Green Walk Driver	1
17	C1-19	Channel Red Do Not Walk Driver	16
18	C1-20	Channel Green Walk Driver	16
19	C1-21	Channel Red Do Not Walk Driver	8
20	C1-22	Channel Yellow Ped Clear Driver	8
21	C1-23	Channel Green Walk Driver	8
22	C1-24	Channel Red Do Not Walk Driver	7
23	C1-25	Channel Yellow Ped Clear Driver	7
24	C1-26	Channel Green Walk Driver	7
25	C1-27	Channel Red Do Not Walk Driver	15
26	C1-28	Channel Green Walk Driver	15
27	C1-29	Channel Red Do Not Walk Driver	6
28	C1-30	Channel Yellow Ped Clear Driver	6
29	C1-31	Channel Green Walk Driver	6
30	C1-32	Channel Red Do Not Walk Driver	5
31	C1-33	Channel Yellow Ped Clear Driver	5
32	C1-34	Channel Green Walk Driver	5

Output Points			
Output	C1 Pin	Output Type	Idx
33	C1-35	Not Active	
34	C1-36	Not Active	
35	C1-37	Not Active	
36	C1-38	Not Active	
37	C1-100	Channel Yellow Ped Clear Driver	18
38	C1-101	Channel Yellow Ped Clear Driver	17
39	C1-102	Detector Reset	1
40	C1-103	Watchdog	
41	C1-83	Channel Red Do Not Walk Driver	18
42	C1-84	Channel Green Walk Driver	18
43	C1-85	Channel Red Do Not Walk Driver	12
44	C1-86	Channel Yellow Ped Clear Driver	12
45	C1-87	Channel Green Walk Driver	12
46	C1-88	Channel Red Do Not Walk Driver	11
47	C1-89	Channel Yellow Ped Clear Driver	11
48	C1-90	Channel Green Walk Driver	11
49	C1-91	Channel Red Do Not Walk Driver	17
50	C1-93	Channel Green Walk Driver	17
51	C1-94	Channel Red Do Not Walk Driver	10
52	C1-95	Channel Yellow Ped Clear Driver	10
53	C1-96	Channel Green Walk Driver	10
54	C1-97	Channel Red Do Not Walk Driver	9
55	C1-98	Channel Yellow Ped Clear Driver	9
56	C1-99	Channel Green Walk Driver	9
57	C11-1	Not Active	
58	C11-2	Not Active	
59	C11-3	Not Active	
60	C11-4	Not Active	
61	C11-5	Not Active	
62	C11-6	Not Active	
63	C11-7	Not Active	
64	C11-8	Not Active	

User Programs

Program 1























Enabled

Line	Result	Idx	Operation	Parameter A	Idx	Parameter B	Idx	Dly	Ext	Description
1	Unit Stop Time	1	Result=A	Aux Switch State						AUX switch stop time
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
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22										
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24										
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26										
27										
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29										
30										
31										
32										
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38										
39										
40										

APPENDIX E
PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS –
EXISTING CONDITIONS

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Existing AM
09/30/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	65	13	1	3	21	415	1	4	782	14
Future Volume (veh/h)	8	0	65	13	1	3	21	415	1	4	782	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	0	97	19	1	4	22	441	1	5	899	16
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	0	347	119	5	347	572	1096	2	537	1005	18
Arrive On Green	0.23	0.00	0.23	0.23	0.23	0.23	0.32	0.30	0.30	0.30	0.28	0.28
Sat Flow, veh/h	227	0	1530	215	20	1530	1781	3637	8	1781	3568	64
Grp Volume(v), veh/h	12	0	97	20	0	4	22	215	227	5	448	467
Grp Sat Flow(s),veh/h/ln	227	0	1530	235	0	1530	1781	1777	1868	1781	1777	1855
Q Serve(g_s), s	0.8	0.0	5.2	1.3	0.0	0.2	0.8	9.6	9.6	0.2	24.2	24.2
Cycle Q Clear(g_c), s	19.8	0.0	5.2	20.1	0.0	0.2	0.8	9.6	9.6	0.2	24.2	24.2
Prop In Lane	1.00		1.00	0.95		1.00	1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	123	0	347	123	0	347	572	535	563	537	500	522
V/C Ratio(X)	0.10	0.00	0.28	0.16	0.00	0.01	0.04	0.40	0.40	0.01	0.89	0.89
Avail Cap(c_a), veh/h	352	0	597	338	0	597	572	535	563	537	515	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	31.9	44.9	0.0	30.0	23.3	27.8	27.8	24.5	34.5	34.5
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.6	0.0	0.0	0.0	0.5	0.5	0.0	18.8	18.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	0.5	0.0	0.1	0.3	4.0	4.2	0.1	12.4	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	0.0	32.4	45.5	0.0	30.0	23.4	28.3	28.3	24.5	53.3	52.7
LnGrp LOS	D	A	C	D	A	C	C	C	C	C	D	D
Approach Vol, veh/h		109			24			464			920	
Approach Delay, s/veh		34.0			42.9			28.1			52.8	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.9	37.1		28.0	36.9	35.2		28.0				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	11.6		21.8	2.8	26.2		22.1				
Green Ext Time (p_c), s	0.0	4.0		0.3	0.0	2.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			43.7									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
2: Catalina Circle & Oceanside Boulevard

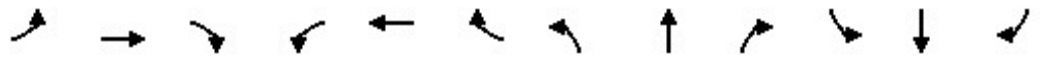
Existing AM
09/30/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	375	2	3	698	22	20	0	8	65	0	51
Future Volume (veh/h)	9	375	2	3	698	22	20	0	8	65	0	51
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	0.99		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	431	2	4	983	31	21	0	8	80	0	63
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2254	10	9	2158	68	243	12	68	192	19	110
Arrive On Green	0.01	0.62	0.62	0.01	0.61	0.61	0.17	0.00	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1781	3627	17	1781	3512	111	971	71	397	713	109	648
Grp Volume(v), veh/h	10	211	222	4	497	517	29	0	0	143	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1846	1440	0	0	1470	0	0
Q Serve(g_s), s	0.4	4.1	4.1	0.2	12.0	12.0	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.1	4.1	0.2	12.0	12.0	1.2	0.0	0.0	7.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.72		0.28	0.56		0.44
Lane Grp Cap(c), veh/h	22	1105	1160	9	1092	1134	323	0	0	321	0	0
V/C Ratio(X)	0.45	0.19	0.19	0.42	0.46	0.46	0.09	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	114	1105	1160	114	1092	1134	588	0	0	599	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.2	6.5	6.5	39.7	8.3	8.3	28.0	0.0	0.0	30.3	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.4	0.4	1.0	0.1	0.1	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	1.3	0.1	3.3	3.5	0.5	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	6.9	6.9	40.7	8.4	8.4	28.1	0.0	0.0	31.3	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C	A	A	C	A	A
Approach Vol, veh/h		443			1018			29				143
Approach Delay, s/veh		7.7			8.5			28.1				31.3
Approach LOS		A			A			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	55.9		18.2	6.4	55.4		18.2				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	2.2	6.1		9.0	2.4	14.0		3.2				
Green Ext Time (p_c), s	0.0	3.2		0.7	0.0	7.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				10.6								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Existing AM
 09/30/2021

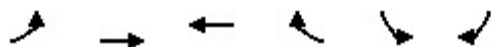


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑	↖	↖	↑↑	↖
Traffic Volume (veh/h)	227	533	221	46	700	98	471	717	142	116	333	237
Future Volume (veh/h)	227	533	221	46	700	98	471	717	142	116	333	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	613	254	48	737	103	535	815	161	140	401	286
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	468	1099	476	403	905	126	197	991	429	102	991	429
Arrive On Green	0.14	0.31	0.31	0.12	0.29	0.29	0.06	0.28	0.28	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	1540	3456	3118	435	3456	3554	1537	1781	3554	1537
Grp Volume(v), veh/h	261	613	254	48	420	420	535	815	161	140	401	286
Grp Sat Flow(s),veh/h/ln	1728	1777	1540	1728	1777	1776	1728	1777	1537	1781	1777	1537
Q Serve(g_s), s	7.4	15.1	14.3	1.3	23.1	23.1	6.0	22.5	8.9	6.0	9.6	17.3
Cycle Q Clear(g_c), s	7.4	15.1	14.3	1.3	23.1	23.1	6.0	22.5	8.9	6.0	9.6	17.3
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	468	1099	476	403	516	516	197	991	429	102	991	429
V/C Ratio(X)	0.56	0.56	0.53	0.12	0.81	0.81	2.71	0.82	0.38	1.38	0.40	0.67
Avail Cap(c_a), veh/h	468	1117	484	403	558	558	197	1083	468	102	1117	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.41	0.41	0.41
Uniform Delay (d), s/veh	42.4	30.3	30.0	41.5	34.6	34.6	49.5	35.4	30.5	49.5	30.8	33.5
Incr Delay (d2), s/veh	1.5	1.0	2.1	0.1	10.0	10.0	783.4	5.2	0.8	192.3	0.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	6.2	5.3	0.5	10.7	10.7	24.0	10.0	3.2	8.0	4.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	31.3	32.1	41.7	44.6	44.7	832.9	40.6	31.3	241.8	30.9	35.0
LnGrp LOS	D	C	C	D	D	D	F	D	C	F	C	D
Approach Vol, veh/h		1128			888			1511			827	
Approach Delay, s/veh		34.4			44.5			320.1			68.0	
Approach LOS		C			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	36.3	17.6	39.7	11.4	36.3	19.6	37.7				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	6.0	32.0	8.0	33.0	6.0	33.0	8.0	33.0				
Max Q Clear Time (g_c+I1), s	8.0	24.5	3.3	17.1	8.0	19.3	9.4	25.1				
Green Ext Time (p_c), s	0.0	4.2	0.0	7.3	0.0	4.1	0.0	4.5				

Intersection Summary												
HCM 6th Ctrl Delay	142.0											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

Existing AM
09/30/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	651	1269	9	14	56
Future Volume (veh/h)	26	651	1269	9	14	56
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	917	1548	11	16	64
Peak Hour Factor	0.71	0.71	0.82	0.82	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	57	1947	1681	12	631	561
Arrive On Green	0.03	0.55	0.46	0.46	0.35	0.35
Sat Flow, veh/h	1781	3647	3709	26	1781	1585
Grp Volume(v), veh/h	37	917	760	799	16	64
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1865	1781	1585
Q Serve(g_s), s	2.1	15.7	40.0	40.1	0.6	2.7
Cycle Q Clear(g_c), s	2.1	15.7	40.0	40.1	0.6	2.7
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	57	1947	826	867	631	561
V/C Ratio(X)	0.65	0.47	0.92	0.92	0.03	0.11
Avail Cap(c_a), veh/h	326	1947	826	867	631	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.53	0.53	1.00	1.00
Uniform Delay (d), s/veh	47.8	13.8	25.0	25.0	21.1	21.7
Incr Delay (d2), s/veh	8.8	0.8	10.4	10.1	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.9	17.7	18.5	0.3	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.6	14.6	35.4	35.1	21.1	22.2
LnGrp LOS	E	B	D	D	C	C
Approach Vol, veh/h		954	1559		80	
Approach Delay, s/veh		16.2	35.2		22.0	
Approach LOS		B	D		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.6		39.4	8.3	52.3
Change Period (Y+Rc), s		5.8		4.0	5.1	5.8
Max Green Setting (Gmax), s		54.8		35.4	18.3	31.4
Max Q Clear Time (g_c+I1), s		17.7		4.7	4.1	42.1
Green Ext Time (p_c), s		14.1		0.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			27.8			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Existing AM
 09/30/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	187	521	165	237	657	114	229	398	149	227	642	335
Future Volume (veh/h)	187	521	165	237	657	114	229	398	149	227	642	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	628	199	266	738	128	327	569	213	264	747	390
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	846	663	291	928	643	354	1073	698	290	946	605
Arrive On Green	0.14	0.24	0.24	0.16	0.26	0.26	0.20	0.30	0.30	0.16	0.27	0.27
Sat Flow, veh/h	1781	3554	1465	1781	3554	1473	1781	3554	1452	1781	3554	1437
Grp Volume(v), veh/h	225	628	199	266	738	128	327	569	213	264	747	390
Grp Sat Flow(s),veh/h/ln	1781	1777	1465	1781	1777	1473	1781	1777	1452	1781	1777	1437
Q Serve(g_s), s	17.2	22.6	12.3	20.3	26.8	7.6	25.0	18.4	12.7	20.2	27.0	30.6
Cycle Q Clear(g_c), s	17.2	22.6	12.3	20.3	26.8	7.6	25.0	18.4	12.7	20.2	27.0	30.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	846	663	291	928	643	354	1073	698	290	946	605
V/C Ratio(X)	0.90	0.74	0.30	0.91	0.79	0.20	0.92	0.53	0.31	0.91	0.79	0.64
Avail Cap(c_a), veh/h	305	885	679	347	970	660	424	1093	706	352	950	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	48.8	25.4	56.9	47.7	25.2	54.5	40.2	23.2	57.0	47.2	33.5
Incr Delay (d2), s/veh	24.5	3.2	0.3	25.0	4.5	0.2	23.6	0.5	0.2	24.1	4.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	10.3	4.3	11.0	12.3	2.7	13.4	8.1	4.3	11.0	12.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	52.1	25.7	81.9	52.2	25.3	78.1	40.6	23.4	81.1	51.7	35.8
LnGrp LOS	F	D	C	F	D	C	E	D	C	F	D	D
Approach Vol, veh/h		1052			1132			1109			1401	
Approach Delay, s/veh		53.7			56.1			48.4			52.8	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.5	42.0	23.5	41.6	26.5	46.9	26.7	38.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	33.0	37.0	23.7	37.8	27.4	42.6	27.0	34.5				
Max Q Clear Time (g_c+I1), s	27.0	32.6	19.2	28.8	22.2	20.4	22.3	24.6				
Green Ext Time (p_c), s	0.5	2.5	0.2	3.5	0.4	4.6	0.3	3.4				

Intersection Summary

HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Existing AM
09/30/2021



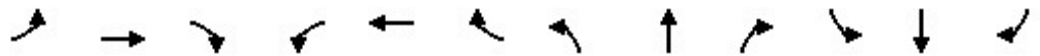
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	177	87	215	182	91	148	875	94	61	1246	132
Future Volume (veh/h)	96	177	87	215	182	91	148	875	94	61	1246	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	213	105	242	204	102	166	983	106	63	1285	136
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	286	229	352	229	114	192	2031	218	81	1744	185
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.11	0.44	0.44	0.05	0.37	0.37
Sat Flow, veh/h	1781	1870	1495	1781	1155	578	1781	4659	501	1781	4666	494
Grp Volume(v), veh/h	116	213	105	242	0	306	166	717	372	63	938	483
Grp Sat Flow(s),veh/h/ln	1781	1870	1495	1781	0	1733	1781	1702	1756	1781	1702	1755
Q Serve(g_s), s	7.7	14.2	8.3	16.4	0.0	22.4	11.9	19.6	19.7	4.5	30.9	30.9
Cycle Q Clear(g_c), s	7.7	14.2	8.3	16.4	0.0	22.4	11.9	19.6	19.7	4.5	30.9	30.9
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.29	1.00		0.28
Lane Grp Cap(c), veh/h	272	286	229	352	0	343	192	1484	765	81	1273	656
V/C Ratio(X)	0.43	0.74	0.46	0.69	0.00	0.89	0.87	0.48	0.49	0.77	0.74	0.74
Avail Cap(c_a), veh/h	411	432	345	411	0	400	233	1484	765	233	1273	656
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	52.6	50.2	48.4	0.0	50.8	57.1	26.2	26.2	61.4	35.2	35.2
Incr Delay (d2), s/veh	1.1	3.8	1.4	3.9	0.0	19.6	23.8	1.1	2.2	14.4	3.8	7.2
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	3.5	7.0	3.2	7.7	0.0	11.6	6.5	7.9	8.4	2.3	13.0	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	56.5	51.6	52.3	0.0	70.4	80.9	27.3	28.4	75.7	39.0	42.4
LnGrp LOS	D	E	D	D	A	E	F	C	C	E	D	D
Approach Vol, veh/h		434			548			1255			1484	
Approach Delay, s/veh		53.8			62.4			34.7			41.7	
Approach LOS		D			E			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	62.5		25.0	19.8	54.4		30.8				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	6.5	21.7		16.2	13.9	32.9		24.4				
Green Ext Time (p_c), s	0.1	4.5		1.6	0.1	0.0		1.4				

Intersection Summary

HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 1: N Melrose Dr & Meadowbrook Dr

Existing PM
 09/30/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	9	1	42	8	1	0	76	992	8	6	711	15
Future Volume (veh/h)	9	1	42	8	1	0	76	992	8	6	711	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		1.00	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1	47	18	2	0	81	1055	9	7	790	17
Peak Hour Factor	0.89	0.89	0.89	0.45	0.45	0.45	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	21	195	222	21	206	773	1113	9	696	942	20
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.43	0.31	0.31	0.39	0.27	0.27
Sat Flow, veh/h	1300	159	1504	1181	163	1585	1781	3609	31	1781	3552	76
Grp Volume(v), veh/h	11	0	47	20	0	0	81	519	545	7	395	412
Grp Sat Flow(s),veh/h/ln	1459	0	1504	1344	0	1585	1781	1777	1863	1781	1777	1852
Q Serve(g_s), s	0.0	0.0	2.8	1.0	0.0	0.0	2.7	28.6	28.6	0.2	21.0	21.0
Cycle Q Clear(g_c), s	0.5	0.0	2.8	1.5	0.0	0.0	2.7	28.6	28.6	0.2	21.0	21.0
Prop In Lane	0.91		1.00	0.90		1.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	258	0	195	243	0	206	773	548	574	696	471	491
V/C Ratio(X)	0.04	0.00	0.24	0.08	0.00	0.00	0.10	0.95	0.95	0.01	0.84	0.84
Avail Cap(c_a), veh/h	627	0	587	599	0	618	773	548	574	696	515	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	0.00	1.00	1.00	0.00	0.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	39.1	38.6	0.0	0.0	16.8	33.8	33.8	18.6	34.7	34.7
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.1	0.0	0.0	0.0	23.3	22.5	0.0	12.6	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.1	0.4	0.0	0.0	1.0	15.0	15.6	0.1	10.2	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	39.7	38.7	0.0	0.0	16.8	57.1	56.3	18.6	47.3	46.9
LnGrp LOS	D	A	D	D	A	A	B	E	E	B	D	D
Approach Vol, veh/h		58			20			1145			814	
Approach Delay, s/veh		39.4			38.7			53.9			46.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	44.5	37.8		17.7	48.8	33.5		17.7				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	30.6		4.8	4.7	23.0		3.5				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.1	3.5		0.1				

Intersection Summary

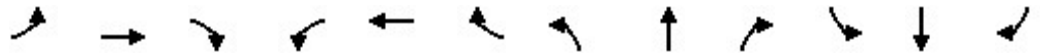
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 2: Catalina Circle & Oceanside Boulevard

Existing PM
 09/30/2021



































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	938	1	3	621	77	9	0	8	37	0	29
Future Volume (veh/h)	54	938	1	3	621	77	9	0	8	37	0	29
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	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1078	1	3	682	85	15	0	13	54	0	43
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.61	0.61	0.61	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	2364	2	7	1919	239	170	19	104	170	19	94
Arrive On Green	0.05	0.65	0.65	0.00	0.61	0.61	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	1781	3643	3	1781	3166	394	699	134	722	688	128	650
Grp Volume(v), veh/h	62	526	553	3	382	385	28	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1781	1777	1783	1555	0	0	1467	0	0
Q Serve(g_s), s	2.8	11.8	11.8	0.1	8.6	8.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	2.8	11.8	11.8	0.1	8.6	8.7	1.2	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.22	0.54		0.46	0.56		0.44
Lane Grp Cap(c), veh/h	83	1153	1213	7	1077	1081	294	0	0	282	0	0
V/C Ratio(X)	0.74	0.46	0.46	0.42	0.36	0.36	0.10	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	114	1153	1213	114	1077	1081	604	0	0	596	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.7	7.0	7.0	39.7	7.9	7.9	29.8	0.0	0.0	31.2	0.0	0.0
Incr Delay (d2), s/veh	9.6	1.3	1.2	8.4	0.6	0.6	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.4	3.6	0.1	2.6	2.6	0.5	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	8.3	8.2	48.1	8.5	8.5	29.9	0.0	0.0	31.9	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1141			770			28				97
Approach Delay, s/veh		10.4			8.6			29.9				31.9
Approach LOS		B			A			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	58.1		16.2	9.1	54.7		16.2				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	2.1	13.8		6.7	4.8	10.7		3.2				
Green Ext Time (p_c), s	0.0	7.7		0.5	0.0	5.8		0.1				

Intersection Summary												
HCM 6th Ctrl Delay											11.0	
HCM 6th LOS											B	

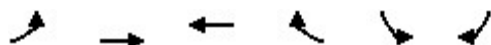
HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Existing PM
 09/30/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	 
Traffic Volume (veh/h)	239	911	478	65	494	113	254	424	49	238	672	212
Future Volume (veh/h)	239	911	478	65	494	113	254	424	49	238	672	212
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		0.97	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	949	498	71	543	124	273	456	53	259	730	230
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	440	1117	484	407	871	198	197	970	419	102	970	419
Arrive On Green	0.13	0.31	0.31	0.12	0.30	0.30	0.06	0.27	0.27	0.06	0.27	0.27
Sat Flow, veh/h	3456	3554	1540	3456	2858	650	3456	3554	1536	1781	3554	1536
Grp Volume(v), veh/h	249	949	498	71	337	330	273	456	53	259	730	230
Grp Sat Flow(s),veh/h/ln	1728	1777	1540	1728	1777	1731	1728	1777	1536	1781	1777	1536
Q Serve(g_s), s	7.1	26.2	33.0	1.9	17.1	17.2	6.0	11.2	2.7	6.0	19.7	13.4
Cycle Q Clear(g_c), s	7.1	26.2	33.0	1.9	17.1	17.2	6.0	11.2	2.7	6.0	19.7	13.4
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	1117	484	407	541	527	197	970	419	102	970	419
V/C Ratio(X)	0.57	0.85	1.03	0.17	0.62	0.63	1.38	0.47	0.13	2.54	0.75	0.55
Avail Cap(c_a), veh/h	440	1117	484	407	558	544	197	1083	468	102	1117	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57
Uniform Delay (d), s/veh	43.1	33.7	36.0	41.7	31.3	31.4	49.5	31.8	28.8	49.5	34.9	32.6
Incr Delay (d2), s/veh	1.5	6.3	46.4	0.2	3.1	3.2	200.4	0.5	0.2	711.2	1.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	11.5	17.7	0.8	7.3	7.2	8.0	4.7	1.0	22.7	8.3	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	40.0	82.4	41.9	34.4	34.6	249.9	32.4	28.9	760.7	36.6	33.6
LnGrp LOS	D	D	F	D	C	C	F	C	C	F	D	C
Approach Vol, veh/h		1696			738			782			1219	
Approach Delay, s/veh		53.1			35.2			108.1			189.9	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	35.6	17.8	40.2	11.4	35.6	18.8	39.2				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	6.0	32.0	8.0	33.0	6.0	33.0	8.0	33.0				
Max Q Clear Time (g_c+I1), s	8.0	13.2	3.9	35.0	8.0	21.7	9.1	19.2				
Green Ext Time (p_c), s	0.0	3.8	0.0	0.0	0.0	5.4	0.0	5.4				
Intersection Summary												
HCM 6th Ctrl Delay			97.4									
HCM 6th LOS			F									

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

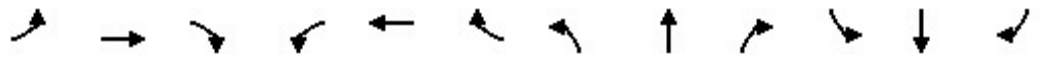
Existing PM
09/30/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	111	1120	648	64	19	48
Future Volume (veh/h)	111	1120	648	64	19	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1231	712	70	30	75
Peak Hour Factor	0.91	0.91	0.91	0.91	0.64	0.64
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	152	1947	1339	132	631	561
Arrive On Green	0.09	0.55	0.41	0.41	0.35	0.35
Sat Flow, veh/h	1781	3647	3347	320	1781	1585
Grp Volume(v), veh/h	122	1231	389	393	30	75
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1797	1781	1585
Q Serve(g_s), s	6.7	24.0	16.5	16.5	1.1	3.2
Cycle Q Clear(g_c), s	6.7	24.0	16.5	16.5	1.1	3.2
Prop In Lane	1.00			0.18	1.00	1.00
Lane Grp Cap(c), veh/h	152	1947	731	739	631	561
V/C Ratio(X)	0.80	0.63	0.53	0.53	0.05	0.13
Avail Cap(c_a), veh/h	326	1947	731	739	631	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	44.9	15.6	22.2	22.2	21.2	21.9
Incr Delay (d2), s/veh	7.0	1.6	2.3	2.3	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	9.1	6.9	7.0	0.5	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.9	17.2	24.5	24.5	21.4	22.4
LnGrp LOS	D	B	C	C	C	C
Approach Vol, veh/h		1353	782		105	
Approach Delay, s/veh		20.3	24.5		22.1	
Approach LOS		C	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.6		39.4	13.7	46.9
Change Period (Y+Rc), s		5.8		4.0	5.1	5.8
Max Green Setting (Gmax), s		54.8		35.4	18.3	31.4
Max Q Clear Time (g_c+l1), s		26.0		5.2	8.7	18.5
Green Ext Time (p_c), s		17.5		0.0	0.1	6.3
Intersection Summary						
HCM 6th Ctrl Delay			21.9			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

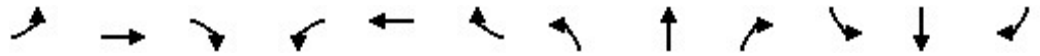
Existing PM
 09/30/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	215	635	124	181	422	155	180	522	133	195	406	132
Future Volume (veh/h)	215	635	124	181	422	155	180	522	133	195	406	132
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	668	131	208	485	178	191	555	141	229	478	155
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	895	586	242	858	605	225	1055	657	264	1133	707
Arrive On Green	0.15	0.25	0.25	0.14	0.24	0.24	0.13	0.30	0.30	0.15	0.32	0.32
Sat Flow, veh/h	1781	3554	1534	1781	3554	1532	1781	3554	1486	1781	3554	1491
Grp Volume(v), veh/h	226	668	131	208	485	178	191	555	141	229	478	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1781	1777	1532	1781	1777	1486	1781	1777	1491
Q Serve(g_s), s	13.7	19.2	6.4	12.6	13.3	8.9	11.6	14.4	6.6	13.9	11.7	6.9
Cycle Q Clear(g_c), s	13.7	19.2	6.4	12.6	13.3	8.9	11.6	14.4	6.6	13.9	11.7	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	895	586	242	858	605	225	1055	657	264	1133	707
V/C Ratio(X)	0.87	0.75	0.22	0.86	0.57	0.29	0.85	0.53	0.21	0.87	0.42	0.22
Avail Cap(c_a), veh/h	451	1236	734	435	1204	754	423	1188	712	467	1275	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	38.1	23.4	46.8	36.9	23.3	47.3	32.4	19.7	46.1	29.7	17.7
Incr Delay (d2), s/veh	8.6	1.6	0.2	8.6	0.6	0.3	8.6	0.4	0.2	8.4	0.3	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	6.5	8.3	2.3	6.0	5.7	3.1	5.6	6.1	2.2	6.7	5.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	39.8	23.6	55.4	37.5	23.6	55.9	32.8	19.8	54.5	29.9	17.8
LnGrp LOS	D	D	C	E	D	C	E	C	B	D	C	B
Approach Vol, veh/h		1025			871			887			862	
Approach Delay, s/veh		41.0			38.9			35.7			34.3	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	40.4	20.2	32.1	20.4	37.9	19.0	33.3				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	26.3	39.7	28.0	37.5	29.0	37.0	27.0	38.5				
Max Q Clear Time (g_c+I1), s	13.6	13.7	15.7	15.3	15.9	16.4	14.6	21.2				
Green Ext Time (p_c), s	0.4	3.8	0.5	3.6	0.5	4.1	0.4	4.4				
Intersection Summary												
HCM 6th Ctrl Delay			37.6									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Existing PM
09/30/2021



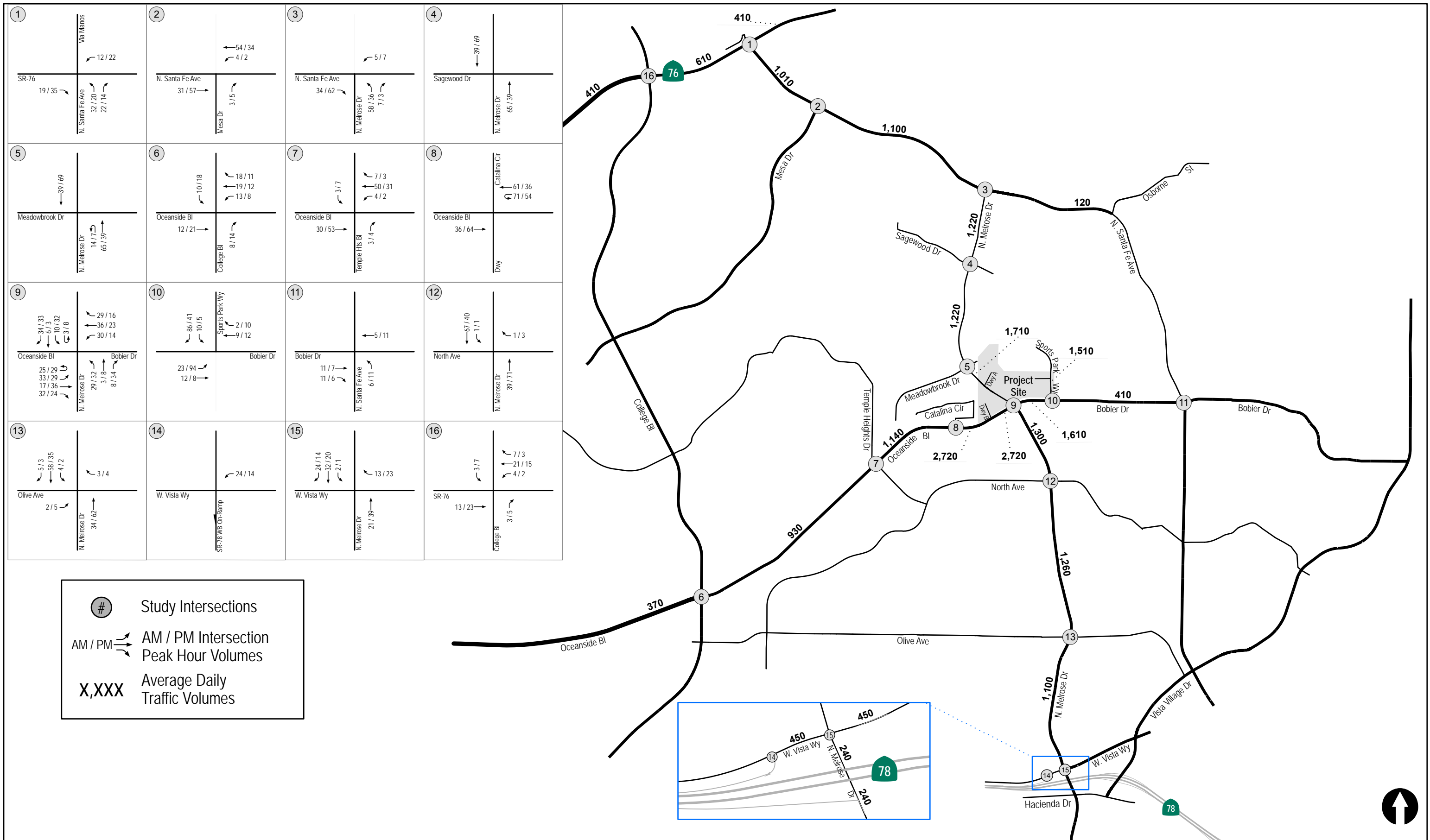
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	191	72	107	114	55	54	1422	209	76	849	72
Future Volume (veh/h)	117	191	72	107	114	55	54	1422	209	76	849	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	220	83	113	120	58	56	1466	215	83	923	78
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	290	232	223	145	70	73	2206	323	105	2446	206
Arrive On Green	0.15	0.15	0.15	0.13	0.13	0.13	0.04	0.49	0.49	0.06	0.51	0.51
Sat Flow, veh/h	1781	1870	1499	1781	1162	562	1781	4472	655	1781	4781	403
Grp Volume(v), veh/h	134	220	83	113	0	178	56	1116	565	83	656	345
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	0	1724	1781	1702	1722	1781	1702	1780
Q Serve(g_s), s	8.9	14.6	6.4	7.7	0.0	13.1	4.0	32.1	32.2	6.0	15.2	15.3
Cycle Q Clear(g_c), s	8.9	14.6	6.4	7.7	0.0	13.1	4.0	32.1	32.2	6.0	15.2	15.3
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.38	1.00		0.23
Lane Grp Cap(c), veh/h	276	290	232	223	0	216	73	1679	850	105	1742	911
V/C Ratio(X)	0.49	0.76	0.36	0.51	0.00	0.83	0.77	0.66	0.67	0.79	0.38	0.38
Avail Cap(c_a), veh/h	411	432	346	411	0	398	233	1679	850	233	1742	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	52.6	49.1	53.1	0.0	55.5	61.7	24.8	24.8	60.4	19.2	19.2
Incr Delay (d2), s/veh	1.3	4.4	0.9	1.8	0.0	7.8	15.7	2.1	4.1	12.3	0.6	1.2
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	4.1	7.2	2.5	3.6	0.0	6.2	2.1	12.7	13.4	3.0	5.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	57.0	50.1	54.9	0.0	63.3	77.4	26.9	28.9	72.7	19.8	20.4
LnGrp LOS	D	E	D	D	A	E	E	C	C	E	B	C
Approach Vol, veh/h		437			291			1737			1084	
Approach Delay, s/veh		54.0			60.0			29.2			24.1	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	69.9		25.2	11.1	72.3		21.4				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	8.0	34.2		16.6	6.0	17.3		15.1				
Green Ext Time (p_c), s	0.1	0.0		1.6	0.1	5.1		1.2				

Intersection Summary

HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

APPENDIX F

MELROSE HEIGHTS PROJECT TRAFFIC ASSIGNMENT

























APPENDIX G

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING + PROJECT

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Existing + Project AM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	66	13	1	3	24	445	1	4	790	14
Future Volume (veh/h)	8	0	66	13	1	3	24	445	1	4	790	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	0	99	19	1	4	26	473	1	5	908	16
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	0	347	119	5	347	570	1112	2	528	1009	18
Arrive On Green	0.23	0.00	0.23	0.23	0.23	0.23	0.32	0.31	0.31	0.30	0.28	0.28
Sat Flow, veh/h	228	0	1530	216	20	1530	1781	3638	8	1781	3569	63
Grp Volume(v), veh/h	12	0	99	20	0	4	26	231	243	5	452	472
Grp Sat Flow(s),veh/h/ln	228	0	1530	236	0	1530	1781	1777	1869	1781	1777	1855
Q Serve(g_s), s	0.8	0.0	5.3	1.3	0.0	0.2	1.0	10.4	10.4	0.2	24.5	24.5
Cycle Q Clear(g_c), s	19.8	0.0	5.3	20.1	0.0	0.2	1.0	10.4	10.4	0.2	24.5	24.5
Prop In Lane	1.00		1.00	0.95		1.00	1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	124	0	347	124	0	347	570	543	571	528	502	524
V/C Ratio(X)	0.10	0.00	0.29	0.16	0.00	0.01	0.05	0.43	0.43	0.01	0.90	0.90
Avail Cap(c_a), veh/h	352	0	597	337	0	597	570	543	571	528	515	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	32.0	44.9	0.0	30.0	23.5	27.7	27.7	24.8	34.5	34.5
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.6	0.0	0.0	0.0	0.7	0.7	0.0	19.5	18.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	0.5	0.0	0.1	0.4	4.3	4.5	0.1	12.7	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	0.0	32.4	45.5	0.0	30.0	23.5	28.4	28.4	24.8	54.0	53.4
LnGrp LOS	D	A	C	D	A	C	C	C	C	C	D	D
Approach Vol, veh/h		111			24			500			929	
Approach Delay, s/veh		34.0			42.9			28.2			53.6	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.4	37.6		28.0	36.7	35.3		28.0				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	12.4		21.8	3.0	26.5		22.1				
Green Ext Time (p_c), s	0.0	4.2		0.3	0.0	1.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 2: Catalina Circle & Oceanside Boulevard

Existing + Project AM
 10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	381	2	8	721	25	20	0	9	66	0	51
Future Volume (veh/h)	9	381	2	8	721	25	20	0	9	66	0	51
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	0.99		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	438	2	11	1015	35	21	0	9	81	0	63
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2222	10	24	2148	74	237	13	74	193	19	110
Arrive On Green	0.01	0.61	0.61	0.01	0.61	0.61	0.17	0.00	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1781	3627	17	1781	3500	121	939	77	435	718	108	642
Grp Volume(v), veh/h	10	215	225	11	515	535	30	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1844	1450	0	0	1469	0	0
Q Serve(g_s), s	0.4	4.3	4.3	0.5	12.6	12.6	0.0	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.3	4.3	0.5	12.6	12.6	1.2	0.0	0.0	7.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.07	0.70		0.30	0.56		0.44
Lane Grp Cap(c), veh/h	22	1089	1144	24	1091	1132	325	0	0	322	0	0
V/C Ratio(X)	0.45	0.20	0.20	0.46	0.47	0.47	0.09	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	114	1089	1144	114	1091	1132	590	0	0	599	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.32	0.32	0.32	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.2	6.8	6.8	39.2	8.4	8.4	28.0	0.0	0.0	30.3	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.4	0.4	1.6	0.5	0.5	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.4	0.2	3.6	3.7	0.5	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	7.2	7.2	40.8	8.9	8.9	28.1	0.0	0.0	31.3	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C	A	A	C	A	A
Approach Vol, veh/h		450			1061			30				144
Approach Delay, s/veh		8.0			9.2			28.1				31.3
Approach LOS		A			A			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	55.2		18.3	6.4	55.3		18.3				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	2.5	6.3		9.1	2.4	14.6		3.2				
Green Ext Time (p_c), s	0.0	3.2		0.7	0.0	7.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				11.1								
HCM 6th LOS				B								

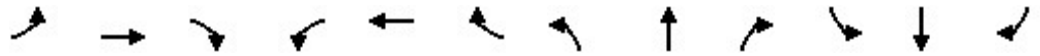
HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Existing + Project AM
 10/20/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	541	221	81	730	131	471	717	151	125	333	237
Future Volume (veh/h)	227	541	221	81	730	131	471	717	151	125	333	237
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		0.97	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	622	254	85	768	138	535	815	172	151	401	286
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	462	1056	457	368	807	145	570	1197	688	206	1183	355
Arrive On Green	0.13	0.30	0.30	0.11	0.27	0.27	0.16	0.34	0.34	0.06	0.23	0.23
Sat Flow, veh/h	3456	3554	1539	3456	2993	538	3456	3554	1542	3456	5106	1531
Grp Volume(v), veh/h	261	622	254	85	456	450	535	815	172	151	401	286
Grp Sat Flow(s),veh/h/ln	1728	1777	1539	1728	1777	1753	1728	1777	1542	1728	1702	1531
Q Serve(g_s), s	8.8	18.6	17.4	2.8	31.5	31.5	19.1	24.7	8.7	5.4	8.2	22.1
Cycle Q Clear(g_c), s	8.8	18.6	17.4	2.8	31.5	31.5	19.1	24.7	8.7	5.4	8.2	22.1
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	462	1056	457	368	479	473	570	1197	688	206	1183	355
V/C Ratio(X)	0.56	0.59	0.56	0.23	0.95	0.95	0.94	0.68	0.25	0.73	0.34	0.81
Avail Cap(c_a), veh/h	462	1056	457	368	480	474	570	1234	704	282	1348	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40
Uniform Delay (d), s/veh	50.7	37.4	37.0	51.2	44.8	44.8	51.6	35.7	21.8	57.8	40.0	45.4
Incr Delay (d2), s/veh	1.6	1.3	2.5	0.3	29.5	29.8	23.7	1.7	0.3	2.6	0.1	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	8.0	6.6	1.2	17.2	17.0	9.9	10.6	3.1	2.4	3.4	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	38.8	39.5	51.5	74.3	74.6	75.3	37.3	22.1	60.4	40.1	50.1
LnGrp LOS	D	D	D	D	E	E	E	D	C	E	D	D
Approach Vol, veh/h		1137			991			1522			838	
Approach Delay, s/veh		42.0			72.5			49.0			47.2	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	49.1	18.7	44.3	26.0	36.0	22.1	40.9				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	10.2	43.4	10.0	36.4	20.6	33.0	12.6	33.8				
Max Q Clear Time (g_c+I1), s	7.4	26.7	4.8	20.6	21.1	24.1	10.8	33.5				
Green Ext Time (p_c), s	0.1	7.3	0.1	7.4	0.0	3.2	0.2	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				52.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
 4: Project Dwy/Sports Park Way & W Bobier Dr

























Existing + Project AM
 10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	26	651	26	7	1269	9	98	3	25	14	1	56
Future Volume (veh/h)	26	651	26	7	1269	9	98	3	25	14	1	56
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		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	917	37	9	1548	11	108	3	27	16	1	64
Peak Hour Factor	0.71	0.71	0.71	0.82	0.82	0.82	0.91	0.91	0.91	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	1806	73	20	1778	13	136	11	97	383	5	302
Arrive On Green	0.03	0.52	0.52	0.01	0.49	0.49	0.08	0.07	0.07	0.22	0.20	0.20
Sat Flow, veh/h	1781	3480	140	1781	3616	26	1781	161	1449	1781	24	1506
Grp Volume(v), veh/h	37	468	486	9	760	799	108	0	30	16	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1843	1781	1777	1865	1781	0	1610	1781	0	1530
Q Serve(g_s), s	2.1	17.2	17.2	0.5	38.0	38.1	6.0	0.0	1.8	0.7	0.0	3.5
Cycle Q Clear(g_c), s	2.1	17.2	17.2	0.5	38.0	38.1	6.0	0.0	1.8	0.7	0.0	3.5
Prop In Lane	1.00		0.08	1.00		0.01	1.00		0.90	1.00		0.98
Lane Grp Cap(c), veh/h	57	922	957	20	874	917	136	0	108	383	0	307
V/C Ratio(X)	0.65	0.51	0.51	0.46	0.87	0.87	0.79	0.00	0.28	0.04	0.00	0.21
Avail Cap(c_a), veh/h	89	922	957	89	874	917	226	0	290	383	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.51	0.51	0.51	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.8	15.7	15.7	49.1	22.6	22.6	45.4	0.0	44.3	31.1	0.0	33.4
Incr Delay (d2), s/veh	8.8	2.0	1.9	8.2	6.3	6.1	9.9	0.0	1.4	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.9	7.1	0.3	15.9	16.6	3.0	0.0	0.7	0.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	17.7	17.6	57.3	28.9	28.7	55.3	0.0	45.7	31.3	0.0	33.7
LnGrp LOS	E	B	B	E	C	C	E	A	D	C	A	C
Approach Vol, veh/h		991			1568			138				81
Approach Delay, s/veh		19.1			29.0			53.2				33.2
Approach LOS		B			C			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	57.7	12.2	24.6	8.3	55.0	25.5	11.2				
Change Period (Y+Rc), s	4.5	5.8	4.5	4.5	5.1	5.8	4.0	4.5				
Max Green Setting (Gmax), s	5.0	36.7	12.7	26.3	5.0	36.1	21.5	18.0				
Max Q Clear Time (g_c+I1), s	2.5	19.2	8.0	5.5	4.1	40.1	2.7	3.8				
Green Ext Time (p_c), s	0.0	9.4	0.1	0.3	0.0	0.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay				26.8								
HCM 6th LOS				C								
























HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Existing + Project AM
 10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	534	171	237	660	114	231	398	149	227	642	337
Future Volume (veh/h)	193	534	171	237	660	114	231	398	149	227	642	337
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	643	206	266	742	128	330	569	213	264	747	392
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	846	666	291	912	635	356	1076	699	290	943	611
Arrive On Green	0.14	0.24	0.24	0.16	0.26	0.26	0.20	0.30	0.30	0.16	0.27	0.27
Sat Flow, veh/h	1781	3554	1465	1781	3554	1472	1781	3554	1453	1781	3554	1437
Grp Volume(v), veh/h	233	643	206	266	742	128	330	569	213	264	747	392
Grp Sat Flow(s),veh/h/ln	1781	1777	1465	1781	1777	1472	1781	1777	1453	1781	1777	1437
Q Serve(g_s), s	17.9	23.4	12.8	20.4	27.3	7.7	25.3	18.5	12.8	20.3	27.2	30.8
Cycle Q Clear(g_c), s	17.9	23.4	12.8	20.4	27.3	7.7	25.3	18.5	12.8	20.3	27.2	30.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	846	666	291	912	635	356	1076	699	290	943	611
V/C Ratio(X)	0.90	0.76	0.31	0.91	0.81	0.20	0.93	0.53	0.30	0.91	0.79	0.64
Avail Cap(c_a), veh/h	315	882	681	346	943	648	423	1089	704	351	946	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	49.3	25.5	57.2	48.5	25.7	54.6	40.2	23.2	57.2	47.5	33.2
Incr Delay (d2), s/veh	24.4	3.7	0.3	25.2	5.4	0.2	24.1	0.5	0.2	24.3	4.7	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	10.7	4.4	11.1	12.6	2.7	13.6	8.1	4.4	11.0	12.6	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	53.0	25.8	82.4	53.9	25.8	78.7	40.7	23.5	81.5	52.2	35.5
LnGrp LOS	F	D	C	F	D	C	E	D	C	F	D	D
Approach Vol, veh/h		1082			1136			1112			1403	
Approach Delay, s/veh		54.3			57.4			48.7			53.0	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.8	42.0	24.2	41.1	26.6	47.2	26.7	38.5				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	33.0	37.0	24.6	36.9	27.4	42.6	27.0	34.5				
Max Q Clear Time (g_c+I1), s	27.3	32.8	19.9	29.3	22.3	20.5	22.4	25.4				
Green Ext Time (p_c), s	0.5	2.4	0.3	3.1	0.4	4.6	0.3	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			53.3									
HCM 6th LOS			D									























HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Existing + Project AM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	177	87	215	182	92	148	883	94	64	1276	135
Future Volume (veh/h)	97	177	87	215	182	92	148	883	94	64	1276	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	213	105	242	204	103	166	992	106	66	1315	139
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	286	229	353	228	115	192	2020	215	85	1742	184
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.11	0.43	0.43	0.05	0.37	0.37
Sat Flow, veh/h	1781	1870	1495	1781	1151	581	1781	4664	497	1781	4666	493
Grp Volume(v), veh/h	117	213	105	242	0	307	166	723	375	66	959	495
Grp Sat Flow(s),veh/h/ln	1781	1870	1495	1781	0	1732	1781	1702	1757	1781	1702	1755
Q Serve(g_s), s	7.7	14.2	8.3	16.4	0.0	22.4	11.9	19.9	20.0	4.8	32.0	32.0
Cycle Q Clear(g_c), s	7.7	14.2	8.3	16.4	0.0	22.4	11.9	19.9	20.0	4.8	32.0	32.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.28	1.00		0.28
Lane Grp Cap(c), veh/h	273	286	229	353	0	344	192	1475	761	85	1271	655
V/C Ratio(X)	0.43	0.74	0.46	0.68	0.00	0.89	0.87	0.49	0.49	0.78	0.75	0.75
Avail Cap(c_a), veh/h	411	432	345	411	0	400	233	1475	761	233	1271	655
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	52.6	50.2	48.3	0.0	50.8	57.1	26.5	26.5	61.2	35.6	35.6
Incr Delay (d2), s/veh	1.1	3.8	1.4	3.8	0.0	19.8	23.8	1.2	2.3	13.9	4.2	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	7.0	3.2	7.7	0.0	11.6	6.5	8.0	8.5	2.4	13.5	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	56.5	51.6	52.2	0.0	70.5	80.9	27.7	28.8	75.1	39.8	43.4
LnGrp LOS	D	E	D	D	A	E	F	C	C	E	D	D
Approach Vol, veh/h		435			549			1264			1520	
Approach Delay, s/veh		53.8			62.4			35.0			42.5	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	62.1		25.0	19.8	54.3		30.9				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	6.8	22.0		16.2	13.9	34.0		24.4				
Green Ext Time (p_c), s	0.1	4.4		1.6	0.1	0.0		1.3				
Intersection Summary												
HCM 6th Ctrl Delay				44.2								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Existing + Project PM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1	45	8	1	0	77	1005	8	6	741	15
Future Volume (veh/h)	9	1	45	8	1	0	77	1005	8	6	741	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		1.00	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1	51	18	2	0	82	1069	9	7	823	17
Peak Hour Factor	0.89	0.89	0.89	0.45	0.45	0.45	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	21	196	222	21	207	762	1134	10	685	963	20
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.43	0.31	0.31	0.38	0.27	0.27
Sat Flow, veh/h	1300	159	1504	1177	163	1585	1781	3610	30	1781	3556	73
Grp Volume(v), veh/h	11	0	51	20	0	0	82	526	552	7	411	429
Grp Sat Flow(s),veh/h/ln	1459	0	1504	1340	0	1585	1781	1777	1863	1781	1777	1852
Q Serve(g_s), s	0.0	0.0	3.1	1.0	0.0	0.0	2.8	28.9	28.9	0.2	22.0	22.0
Cycle Q Clear(g_c), s	0.5	0.0	3.1	1.5	0.0	0.0	2.8	28.9	28.9	0.2	22.0	22.0
Prop In Lane	0.91		1.00	0.90		1.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	259	0	196	243	0	207	762	558	585	685	481	502
V/C Ratio(X)	0.04	0.00	0.26	0.08	0.00	0.00	0.11	0.94	0.94	0.01	0.85	0.85
Avail Cap(c_a), veh/h	627	0	587	597	0	618	762	558	585	685	515	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	0.00	1.00	1.00	0.00	0.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	39.1	38.5	0.0	0.0	17.2	33.4	33.4	19.0	34.6	34.6
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.1	0.0	0.0	0.1	22.6	21.9	0.0	14.1	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	0.4	0.0	0.0	1.1	15.1	15.7	0.1	10.8	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	39.8	38.6	0.0	0.0	17.2	56.0	55.3	19.0	48.7	48.2
LnGrp LOS	D	A	D	D	A	A	B	E	E	B	D	D
Approach Vol, veh/h		62			20			1160			847	
Approach Delay, s/veh		39.5			38.6			52.9			48.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	43.8	38.4		17.8	48.2	34.1		17.8				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	30.9		5.1	4.8	24.0		3.5				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.1	3.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			50.5									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
 2: Catalina Circle & Oceanside Boulevard

























Existing + Project PM
 10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	961	1	5	631	78	9	0	13	40	0	29
Future Volume (veh/h)	54	961	1	5	631	78	9	0	13	40	0	29
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	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1105	1	5	693	86	15	0	21	59	0	43
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.61	0.61	0.61	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	2344	2	12	1910	237	137	23	134	178	18	91
Arrive On Green	0.05	0.64	0.64	0.01	0.60	0.60	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1781	3643	3	1781	3167	393	493	156	908	724	121	615
Grp Volume(v), veh/h	62	539	567	5	388	391	36	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1781	1777	1783	1556	0	0	1460	0	0
Q Serve(g_s), s	2.8	12.4	12.4	0.2	8.9	8.9	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	2.8	12.4	12.4	0.2	8.9	8.9	1.5	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.22	0.42		0.58	0.58		0.42
Lane Grp Cap(c), veh/h	83	1143	1203	12	1072	1075	294	0	0	287	0	0
V/C Ratio(X)	0.74	0.47	0.47	0.43	0.36	0.36	0.12	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	114	1143	1203	114	1072	1075	604	0	0	594	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.68	0.68	0.68	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.7	7.3	7.3	39.6	8.1	8.1	29.7	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	9.6	1.4	1.3	6.1	0.6	0.6	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.6	3.8	0.1	2.7	2.7	0.6	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	8.7	8.6	45.7	8.7	8.7	29.9	0.0	0.0	31.8	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1168			784			36			102	
Approach Delay, s/veh		10.7			9.0			29.9			31.8	
Approach LOS		B			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	57.7		16.4	9.1	54.4		16.4				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	2.2	14.4		6.9	4.8	10.9		3.5				
Green Ext Time (p_c), s	0.0	7.7		0.5	0.0	5.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				11.4								
HCM 6th LOS				B								

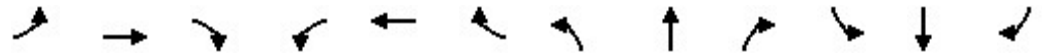
HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Existing + Project PM
 10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	941	478	81	507	128	254	424	85	271	672	212
Future Volume (veh/h)	239	941	478	81	507	128	254	424	85	271	672	212
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		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	980	498	89	557	141	273	456	91	295	730	230
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	571	1212	526	492	888	224	330	762	553	353	1129	338
Arrive On Green	0.17	0.34	0.34	0.14	0.32	0.32	0.10	0.21	0.21	0.10	0.22	0.22
Sat Flow, veh/h	3456	3554	1542	3456	2792	704	3456	3554	1528	3456	5106	1529
Grp Volume(v), veh/h	249	980	498	89	354	344	273	456	91	295	730	230
Grp Sat Flow(s),veh/h/ln	1728	1777	1542	1728	1777	1720	1728	1777	1528	1728	1702	1529
Q Serve(g_s), s	8.1	31.4	39.3	2.8	21.2	21.4	9.7	14.5	5.1	10.5	16.2	17.2
Cycle Q Clear(g_c), s	8.1	31.4	39.3	2.8	21.2	21.4	9.7	14.5	5.1	10.5	16.2	17.2
Prop In Lane	1.00		1.00	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	571	1212	526	492	565	547	330	762	553	353	1129	338
V/C Ratio(X)	0.44	0.81	0.95	0.18	0.63	0.63	0.83	0.60	0.16	0.84	0.65	0.68
Avail Cap(c_a), veh/h	571	1217	528	492	565	547	404	910	617	431	1348	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53
Uniform Delay (d), s/veh	46.9	37.5	40.1	47.2	36.3	36.4	55.5	44.2	27.5	55.1	44.2	44.6
Incr Delay (d2), s/veh	0.5	4.3	25.1	0.2	3.1	3.3	11.2	1.1	0.2	6.4	0.6	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	13.6	17.7	1.2	9.3	9.1	4.6	6.3	1.8	4.8	6.7	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	41.7	65.2	47.4	39.4	39.7	66.7	45.3	27.7	61.4	44.8	47.0
LnGrp LOS	D	D	E	D	D	D	E	D	C	E	D	D
Approach Vol, veh/h		1727			787			820			1255	
Approach Delay, s/veh		49.3			40.4			50.5			49.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.2	33.8	23.2	49.8	17.4	34.6	26.1	46.9				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	15.6	32.0	9.6	42.8	14.6	33.0	16.6	35.8				
Max Q Clear Time (g_c+I1), s	12.5	16.5	4.8	41.3	11.7	19.2	10.1	23.4				
Green Ext Time (p_c), s	0.3	3.7	0.1	1.3	0.3	6.1	0.4	5.3				
Intersection Summary												
HCM 6th Ctrl Delay				47.9								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
 4: W Bobier Dr & Sports Park Way

























Existing + Project PM
 10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	111	1120	0	0	648	64	0	0	0	19	0	48
Future Volume (veh/h)	111	1120	0	0	648	64	0	0	0	19	0	48
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		0.96	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1231	0	0	712	70	0	0	0	30	0	75
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.98	0.98	0.98	0.64	0.64	0.64
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	2441	0	2	1795	176	2	2	0	383	0	321
Arrive On Green	0.08	0.69	0.00	0.00	0.55	0.55	0.00	0.00	0.00	0.22	0.00	0.21
Sat Flow, veh/h	1781	3647	0	1781	3256	320	1781	1870	0	1781	0	1527
Grp Volume(v), veh/h	122	1231	0	0	388	394	0	0	0	30	0	75
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1799	1781	1870	0	1781	0	1527
Q Serve(g_s), s	6.7	16.6	0.0	0.0	12.5	12.6	0.0	0.0	0.0	1.3	0.0	4.1
Cycle Q Clear(g_c), s	6.7	16.6	0.0	0.0	12.5	12.6	0.0	0.0	0.0	1.3	0.0	4.1
Prop In Lane	1.00		0.00	1.00		0.18	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	2441	0	2	980	992	2	2	0	383	0	321
V/C Ratio(X)	0.81	0.50	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.08	0.00	0.23
Avail Cap(c_a), veh/h	183	2441	0	89	980	992	89	337	0	383	0	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(l)	1.00	1.00	0.00	0.00	0.83	0.83	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.0	7.5	0.0	0.0	12.9	12.9	0.0	0.0	0.0	31.3	0.0	32.8
Incr Delay (d2), s/veh	18.3	0.7	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.4	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	3.7	5.3	0.0	0.0	4.8	4.9	0.0	0.0	0.0	0.6	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	8.2	0.0	0.0	13.9	13.9	0.0	0.0	0.0	31.7	0.0	33.2
LnGrp LOS	E	A	A	A	B	B	A	A	A	C	A	C
Approach Vol, veh/h		1353			782			0				105
Approach Delay, s/veh		13.2			13.9			0.0				32.8
Approach LOS		B			B							C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	74.5	0.0	25.5	13.6	60.9	25.5	0.0				
Change Period (Y+Rc), s	4.5	5.8	4.5	4.5	5.1	5.8	4.0	4.5				
Max Green Setting (Gmax), s	5.0	36.7	5.0	34.0	10.3	30.8	21.5	18.0				
Max Q Clear Time (g_c+I1), s	0.0	18.6	0.0	6.1	8.7	14.6	3.3	0.0				
Green Ext Time (p_c), s	0.0	12.6	0.0	0.4	0.0	7.3	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								

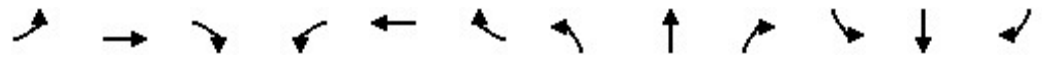
HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Existing + Project PM
 10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	641	127	181	435	155	186	522	133	195	406	138
Future Volume (veh/h)	218	641	127	181	435	155	186	522	133	195	406	138
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	675	134	208	500	178	198	555	141	229	478	162
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	899	595	242	856	604	232	1053	656	264	1116	703
Arrive On Green	0.15	0.25	0.25	0.14	0.24	0.24	0.13	0.30	0.30	0.15	0.31	0.31
Sat Flow, veh/h	1781	3554	1534	1781	3554	1532	1781	3554	1486	1781	3554	1490
Grp Volume(v), veh/h	229	675	134	208	500	178	198	555	141	229	478	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1781	1777	1532	1781	1777	1486	1781	1777	1490
Q Serve(g_s), s	13.9	19.4	6.6	12.7	13.8	8.9	12.1	14.5	6.6	13.9	11.8	7.3
Cycle Q Clear(g_c), s	13.9	19.4	6.6	12.7	13.8	8.9	12.1	14.5	6.6	13.9	11.8	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	899	595	242	856	604	232	1053	656	264	1116	703
V/C Ratio(X)	0.87	0.75	0.23	0.86	0.58	0.29	0.85	0.53	0.22	0.87	0.43	0.23
Avail Cap(c_a), veh/h	465	1233	739	433	1169	739	432	1185	711	465	1252	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	38.2	23.1	46.9	37.2	23.4	47.2	32.6	19.8	46.2	30.2	18.0
Incr Delay (d2), s/veh	8.5	1.7	0.2	8.6	0.6	0.3	8.6	0.4	0.2	8.5	0.3	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	6.6	8.4	2.3	6.1	5.9	3.2	5.8	6.2	2.2	6.7	5.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	40.0	23.3	55.5	37.9	23.7	55.8	33.0	19.9	54.7	30.4	18.2
LnGrp LOS	D	D	C	E	D	C	E	C	B	D	C	B
Approach Vol, veh/h		1038			886			894			869	
Approach Delay, s/veh		41.1			39.2			36.0			34.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	40.0	20.4	32.1	20.4	38.0	19.1	33.5				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	26.9	39.1	29.0	36.5	29.0	37.0	27.0	38.5				
Max Q Clear Time (g_c+I1), s	14.1	13.8	15.9	15.8	15.9	16.5	14.7	21.4				
Green Ext Time (p_c), s	0.4	3.8	0.5	3.7	0.5	4.1	0.4	4.5				
Intersection Summary												
HCM 6th Ctrl Delay				37.8								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Existing + Project PM
10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	191	72	107	114	58	54	1452	209	77	862	73
Future Volume (veh/h)	120	191	72	107	114	58	54	1452	209	77	862	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	220	83	113	120	61	56	1497	215	84	937	79
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	290	232	226	145	74	73	2201	316	106	2437	205
Arrive On Green	0.15	0.15	0.15	0.13	0.13	0.13	0.04	0.49	0.49	0.06	0.51	0.51
Sat Flow, veh/h	1781	1870	1499	1781	1140	580	1781	4486	643	1781	4782	402
Grp Volume(v), veh/h	138	220	83	113	0	181	56	1135	577	84	666	350
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	0	1720	1781	1702	1725	1781	1702	1780
Q Serve(g_s), s	9.2	14.6	6.4	7.7	0.0	13.3	4.0	33.1	33.3	6.0	15.5	15.6
Cycle Q Clear(g_c), s	9.2	14.6	6.4	7.7	0.0	13.3	4.0	33.1	33.3	6.0	15.5	15.6
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.37	1.00		0.23
Lane Grp Cap(c), veh/h	276	290	232	226	0	218	73	1670	846	106	1734	907
V/C Ratio(X)	0.50	0.76	0.36	0.50	0.00	0.83	0.77	0.68	0.68	0.79	0.38	0.39
Avail Cap(c_a), veh/h	411	432	346	411	0	397	233	1670	846	233	1734	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	52.6	49.1	52.9	0.0	55.4	61.7	25.3	25.3	60.3	19.4	19.5
Incr Delay (d2), s/veh	1.4	4.3	0.9	1.7	0.0	7.8	15.7	2.3	4.4	12.2	0.6	1.2
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	4.2	7.2	2.5	3.6	0.0	6.3	2.1	13.2	13.9	3.0	6.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	56.9	50.1	54.6	0.0	63.2	77.4	27.6	29.7	72.5	20.1	20.7
LnGrp LOS	D	E	D	D	A	E	E	C	C	E	C	C
Approach Vol, veh/h		441			294			1768			1100	
Approach Delay, s/veh		54.0			59.9			29.8			24.3	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.6	69.6		25.2	11.1	72.0		21.6				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	8.0	35.3		16.6	6.0	17.6		15.3				
Green Ext Time (p_c), s	0.1	0.0		1.6	0.1	5.2		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				33.6								
HCM 6th LOS				C								

APPENDIX H
PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS –
NEAR-TERM

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Existing + Near-Term Cumulative Projects AM

09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (veh/h)	8	0	65	13	1	3	35	486	1	4	828	14
Future Volume (veh/h)	8	0	65	13	1	3	35	486	1	4	828	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	0	97	19	1	4	37	517	1	5	952	16
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	0	347	119	5	347	561	1157	2	507	1026	17
Arrive On Green	0.23	0.00	0.23	0.23	0.23	0.23	0.32	0.32	0.32	0.28	0.29	0.29
Sat Flow, veh/h	227	0	1530	215	20	1530	1781	3638	7	1781	3573	60
Grp Volume(v), veh/h	12	0	97	20	0	4	37	252	266	5	473	495
Grp Sat Flow(s),veh/h/ln	227	0	1530	235	0	1530	1781	1777	1869	1781	1777	1856
Q Serve(g_s), s	0.8	0.0	5.2	1.3	0.0	0.2	1.5	11.3	11.3	0.2	25.9	25.9
Cycle Q Clear(g_c), s	19.8	0.0	5.2	20.1	0.0	0.2	1.5	11.3	11.3	0.2	25.9	25.9
Prop In Lane	1.00		1.00	0.95		1.00	1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	123	0	347	123	0	347	561	565	594	507	510	533
V/C Ratio(X)	0.10	0.00	0.28	0.16	0.00	0.01	0.07	0.45	0.45	0.01	0.93	0.93
Avail Cap(c_a), veh/h	352	0	597	338	0	597	561	565	594	507	515	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	31.9	44.9	0.0	30.0	23.9	27.1	27.1	25.7	34.6	34.6
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.6	0.0	0.0	0.0	0.7	0.7	0.0	23.8	23.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	0.5	0.0	0.1	0.6	4.6	4.9	0.1	13.9	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	0.0	32.4	45.5	0.0	30.0	24.0	27.8	27.8	25.7	58.4	57.7
LnGrp LOS	D	A	C	D	A	C	C	C	C	C	E	E
Approach Vol, veh/h		109			24			555			973	
Approach Delay, s/veh		34.0			42.9			27.6			57.9	
Approach LOS		C			D			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.2	38.8		28.0	36.3	35.7		28.0				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	13.3		21.8	3.5	27.9		22.1				
Green Ext Time (p_c), s	0.0	4.5		0.3	0.0	0.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
2: Catalina Circle & Oceanside Boulevard

Existing + Near-Term Cumulative Projects AM

09/30/2022

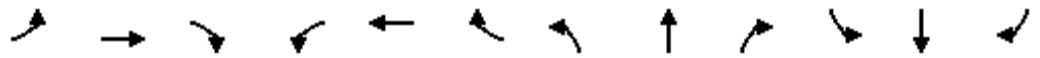


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Traffic Volume (veh/h)	9	411	2	74	759	22	20	0	8	65	0	51
Future Volume (veh/h)	9	411	2	74	759	22	20	0	8	65	0	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	0.99		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	472	2	104	1069	31	21	0	8	80	0	63
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2043	9	114	2164	63	243	12	68	192	19	110
Arrive On Green	0.01	0.56	0.56	0.06	0.61	0.61	0.17	0.00	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1781	3628	15	1781	3522	102	971	71	397	713	109	648
Grp Volume(v), veh/h	10	231	243	104	539	561	29	0	0	143	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1848	1440	0	0	1470	0	0
Q Serve(g_s), s	0.4	5.2	5.2	4.6	13.4	13.4	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.2	5.2	4.6	13.4	13.4	1.2	0.0	0.0	7.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.72		0.28	0.56		0.44
Lane Grp Cap(c), veh/h	22	1001	1051	114	1092	1135	323	0	0	321	0	0
V/C Ratio(X)	0.45	0.23	0.23	0.92	0.49	0.49	0.09	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	114	1001	1051	114	1092	1135	588	0	0	599	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.21	0.21	0.21	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.2	8.8	8.8	37.2	8.5	8.5	28.0	0.0	0.0	30.3	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.5	0.5	20.0	0.3	0.3	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	1.8	2.5	3.8	4.0	0.5	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	9.3	9.3	57.3	8.9	8.9	28.1	0.0	0.0	31.3	0.0	0.0
LnGrp LOS	D	A	A	E	A	A	C	A	A	C	A	A
Approach Vol, veh/h		484			1204			29				143
Approach Delay, s/veh		10.0			13.0			28.1				31.3
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	51.3		18.2	6.4	55.4		18.2				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	6.6	7.2		9.0	2.4	15.4		3.2				
Green Ext Time (p_c), s	0.0	3.5		0.7	0.0	7.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects AM
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr 09/30/2022



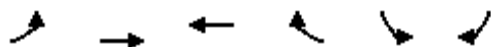
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↔		↖↗	↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	285	550	253	82	736	127	500	726	152	129	346	271
Future Volume (veh/h)	285	550	253	82	736	127	500	726	152	129	346	271
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	328	632	291	86	775	134	568	825	173	155	417	327
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	1103	478	292	795	137	542	1224	665	210	1268	381
Arrive On Green	0.13	0.31	0.31	0.08	0.26	0.26	0.16	0.34	0.34	0.06	0.25	0.25
Sat Flow, veh/h	3456	3554	1540	3456	3013	521	3456	3554	1542	3456	5106	1533
Grp Volume(v), veh/h	328	632	291	86	457	452	568	825	173	155	417	327
Grp Sat Flow(s),veh/h/ln	1728	1777	1540	1728	1777	1757	1728	1777	1542	1728	1702	1533
Q Serve(g_s), s	11.4	18.6	20.1	2.9	31.9	31.9	19.6	24.8	9.0	5.5	8.4	25.5
Cycle Q Clear(g_c), s	11.4	18.6	20.1	2.9	31.9	31.9	19.6	24.8	9.0	5.5	8.4	25.5
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	1103	478	292	469	464	542	1224	665	210	1268	381
V/C Ratio(X)	0.73	0.57	0.61	0.29	0.97	0.97	1.05	0.67	0.26	0.74	0.33	0.86
Avail Cap(c_a), veh/h	452	1103	478	292	469	464	542	1231	668	285	1389	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Uniform Delay (d), s/veh	52.2	36.2	36.6	53.7	45.6	45.6	52.7	35.0	23.0	57.7	38.5	44.9
Incr Delay (d2), s/veh	5.6	1.2	3.3	0.6	35.1	35.4	51.9	1.6	0.3	2.2	0.1	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	7.9	7.7	1.3	18.0	17.8	12.2	10.6	3.2	2.4	3.4	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	37.3	39.9	54.3	80.7	80.9	104.6	36.6	23.3	60.0	38.5	51.0
LnGrp LOS	E	D	D	D	F	F	F	D	C	E	D	D
Approach Vol, veh/h		1251			995			1566			899	
Approach Delay, s/veh		43.3			78.5			59.8			46.7	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	50.0	16.0	46.0	25.0	38.0	21.8	40.2				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	10.3	43.3	9.3	37.1	19.6	34.0	13.4	33.0				
Max Q Clear Time (g_c+I1), s	7.5	26.8	4.9	22.1	21.6	27.5	13.4	33.9				
Green Ext Time (p_c), s	0.1	7.3	0.1	7.5	0.0	2.7	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay											56.9	
HCM 6th LOS											E	

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

Existing + Near-Term Cumulative Projects AM

09/30/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↶↶	↶↶		↶	↶
Traffic Volume (veh/h)	49	665	1284	11	24	142
Future Volume (veh/h)	49	665	1284	11	24	142
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	937	1566	13	28	163
Peak Hour Factor	0.71	0.71	0.82	0.82	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	90	1947	1613	13	631	561
Arrive On Green	0.05	0.55	0.45	0.45	0.35	0.35
Sat Flow, veh/h	1781	3647	3704	30	1781	1585
Grp Volume(v), veh/h	69	937	770	809	28	163
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1864	1781	1585
Q Serve(g_s), s	3.8	16.2	42.3	42.4	1.0	7.4
Cycle Q Clear(g_c), s	3.8	16.2	42.3	42.4	1.0	7.4
Prop In Lane	1.00			0.02	1.00	1.00
Lane Grp Cap(c), veh/h	90	1947	794	832	631	561
V/C Ratio(X)	0.77	0.48	0.97	0.97	0.04	0.29
Avail Cap(c_a), veh/h	326	1947	794	832	631	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.50	0.50	1.00	1.00
Uniform Delay (d), s/veh	46.9	13.9	27.0	27.0	21.2	23.3
Incr Delay (d2), s/veh	9.9	0.9	16.5	16.3	0.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.1	20.0	21.0	0.5	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.8	14.7	43.6	43.3	21.3	24.6
LnGrp LOS	E	B	D	D	C	C
Approach Vol, veh/h		1006	1579		191	
Approach Delay, s/veh		17.6	43.4		24.1	
Approach LOS		B	D		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.6		39.4	10.1	50.5
Change Period (Y+Rc), s		5.8		4.0	5.1	5.8
Max Green Setting (Gmax), s		54.8		35.4	18.3	31.4
Max Q Clear Time (g_c+I1), s		18.2		9.4	5.8	44.4
Green Ext Time (p_c), s		14.5		0.0	0.1	0.0
Intersection Summary						
HCM 6th Ctrl Delay			32.7			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Existing + Near-Term Cumulative Projects AM
09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	530	173	237	667	114	233	398	149	227	642	338
Future Volume (veh/h)	194	530	173	237	667	114	233	398	149	227	642	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	639	208	266	749	128	333	569	213	264	747	393
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	844	667	291	908	634	359	1079	700	290	941	611
Arrive On Green	0.15	0.24	0.24	0.16	0.26	0.26	0.20	0.30	0.30	0.16	0.26	0.26
Sat Flow, veh/h	1781	3554	1464	1781	3554	1471	1781	3554	1453	1781	3554	1436
Grp Volume(v), veh/h	234	639	208	266	749	128	333	569	213	264	747	393
Grp Sat Flow(s),veh/h/ln	1781	1777	1464	1781	1777	1471	1781	1777	1453	1781	1777	1436
Q Serve(g_s), s	18.0	23.3	12.9	20.5	27.7	7.7	25.6	18.5	12.8	20.3	27.3	30.9
Cycle Q Clear(g_c), s	18.0	23.3	12.9	20.5	27.7	7.7	25.6	18.5	12.8	20.3	27.3	30.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	844	667	291	908	634	359	1079	700	290	941	611
V/C Ratio(X)	0.90	0.76	0.31	0.91	0.83	0.20	0.93	0.53	0.30	0.91	0.79	0.64
Avail Cap(c_a), veh/h	316	880	682	345	939	646	422	1087	703	350	944	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.6	49.4	25.6	57.3	48.9	25.8	54.6	40.2	23.2	57.4	47.7	33.4
Incr Delay (d2), s/veh	24.5	3.7	0.3	25.3	5.9	0.2	24.5	0.5	0.2	24.4	4.7	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	10.6	4.5	11.1	12.8	2.7	13.8	8.1	4.4	11.0	12.6	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	53.1	25.8	82.6	54.9	26.0	79.1	40.7	23.4	81.7	52.4	35.7
LnGrp LOS	F	D	C	F	D	C	E	D	C	F	D	D
Approach Vol, veh/h		1081			1143			1115			1404	
Approach Delay, s/veh		54.3			58.1			48.9			53.2	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.1	42.0	24.3	41.0	26.6	47.4	26.8	38.5				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	33.0	37.0	24.7	36.8	27.4	42.6	27.0	34.5				
Max Q Clear Time (g_c+I1), s	27.6	32.9	20.0	29.7	22.3	20.5	22.5	25.3				
Green Ext Time (p_c), s	0.5	2.3	0.3	3.0	0.3	4.6	0.3	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			53.6									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Existing + Near-Term Cumulative Projects AM
09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	177	89	215	182	95	154	912	94	68	1305	147
Future Volume (veh/h)	102	177	89	215	182	95	154	912	94	68	1305	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	213	107	242	204	107	173	1025	106	70	1345	152
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	286	229	357	228	119	199	2004	207	90	1699	192
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.11	0.43	0.43	0.05	0.37	0.37
Sat Flow, veh/h	1781	1870	1496	1781	1134	595	1781	4681	483	1781	4629	523
Grp Volume(v), veh/h	123	213	107	242	0	311	173	745	386	70	989	508
Grp Sat Flow(s),veh/h/ln	1781	1870	1496	1781	0	1729	1781	1702	1760	1781	1702	1748
Q Serve(g_s), s	8.2	14.1	8.5	16.3	0.0	22.8	12.4	20.8	20.9	5.0	33.7	33.7
Cycle Q Clear(g_c), s	8.2	14.1	8.5	16.3	0.0	22.8	12.4	20.8	20.9	5.0	33.7	33.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.27	1.00		0.30
Lane Grp Cap(c), veh/h	273	286	229	357	0	347	199	1457	753	90	1249	642
V/C Ratio(X)	0.45	0.74	0.47	0.68	0.00	0.90	0.87	0.51	0.51	0.78	0.79	0.79
Avail Cap(c_a), veh/h	411	432	345	411	0	399	233	1457	753	233	1249	642
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	52.6	50.2	48.1	0.0	50.6	56.8	27.2	27.2	61.0	36.7	36.7
Incr Delay (d2), s/veh	1.2	3.8	1.5	3.7	0.0	20.4	25.4	1.3	2.5	13.4	5.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	7.0	3.3	7.6	0.0	11.8	6.9	8.4	9.0	2.6	14.3	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	56.4	51.7	51.7	0.0	71.1	82.2	28.5	29.7	74.4	41.9	46.4
LnGrp LOS	D	E	D	D	A	E	F	C	C	E	D	D
Approach Vol, veh/h		443			553			1304			1567	
Approach Delay, s/veh		53.8			62.6			36.0			44.8	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	61.5		25.0	20.3	53.5		31.2				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	7.0	22.9		16.1	14.4	35.7		24.8				
Green Ext Time (p_c), s	0.1	4.2		1.7	0.1	0.0		1.3				

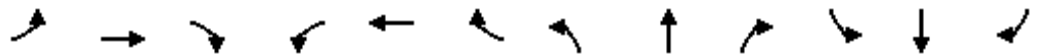
Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Existing + Near-Term Cumulative Projects PM

09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	9	1	42	8	1	0	83	1038	8	6	786	15
Future Volume (veh/h)	9	1	42	8	1	0	83	1038	8	6	786	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		1.00	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1	47	18	2	0	88	1104	9	7	873	17
Peak Hour Factor	0.89	0.89	0.89	0.45	0.45	0.45	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	21	195	222	21	206	750	1165	9	671	991	19
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.42	0.32	0.32	0.38	0.28	0.28
Sat Flow, veh/h	1300	159	1504	1181	163	1585	1781	3611	29	1781	3561	69
Grp Volume(v), veh/h	11	0	47	20	0	0	88	543	570	7	436	454
Grp Sat Flow(s),veh/h/ln	1459	0	1504	1344	0	1585	1781	1777	1863	1781	1777	1854
Q Serve(g_s), s	0.0	0.0	2.8	1.0	0.0	0.0	3.0	29.8	29.8	0.2	23.4	23.4
Cycle Q Clear(g_c), s	0.5	0.0	2.8	1.5	0.0	0.0	3.0	29.8	29.8	0.2	23.4	23.4
Prop In Lane	0.91		1.00	0.90		1.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	258	0	195	243	0	206	750	573	601	671	495	516
V/C Ratio(X)	0.04	0.00	0.24	0.08	0.00	0.00	0.12	0.95	0.95	0.01	0.88	0.88
Avail Cap(c_a), veh/h	627	0	587	599	0	618	750	573	601	671	515	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	39.1	38.6	0.0	0.0	17.6	33.1	33.1	19.5	34.5	34.5
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.1	0.0	0.0	0.1	22.4	21.7	0.0	17.0	16.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.1	0.4	0.0	0.0	1.2	15.5	16.1	0.1	11.8	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	39.7	38.7	0.0	0.0	17.7	55.4	54.7	19.5	51.5	50.9
LnGrp LOS	D	A	D	D	A	A	B	E	D	B	D	D
Approach Vol, veh/h		58			20			1201			897	
Approach Delay, s/veh		39.4			38.7			52.3			51.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	43.1	39.3		17.7	47.5	34.8		17.7				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	31.8		4.8	5.0	25.4		3.5				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.1	2.4		0.1				

Intersection Summary

HCM 6th Ctrl Delay	51.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
2: Catalina Circle & Oceanside Boulevard

Existing + Near-Term Cumulative Projects PM

09/30/2022

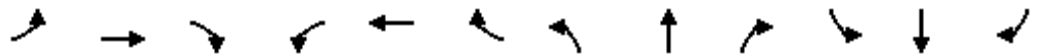


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	1002	1	57	657	77	9	0	8	37	0	29
Future Volume (veh/h)	54	1002	1	57	657	77	9	0	8	37	0	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1152	1	63	722	85	15	0	13	54	0	43
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.61	0.61	0.61	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	2207	2	84	1933	227	170	19	104	170	19	94
Arrive On Green	0.05	0.61	0.61	0.05	0.61	0.61	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	1781	3643	3	1781	3189	375	699	134	722	688	128	650
Grp Volume(v), veh/h	62	562	591	63	402	405	28	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1781	1777	1787	1555	0	0	1467	0	0
Q Serve(g_s), s	2.8	14.6	14.6	2.8	9.2	9.2	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	2.8	14.6	14.6	2.8	9.2	9.2	1.2	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.21	0.54		0.46	0.56		0.44
Lane Grp Cap(c), veh/h	83	1076	1133	84	1077	1083	294	0	0	282	0	0
V/C Ratio(X)	0.74	0.52	0.52	0.75	0.37	0.37	0.10	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	114	1076	1133	114	1077	1083	604	0	0	596	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.7	9.1	9.1	37.7	8.0	8.0	29.8	0.0	0.0	31.2	0.0	0.0
Incr Delay (d2), s/veh	9.6	1.8	1.7	7.1	0.6	0.6	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.6	4.8	1.3	2.8	2.8	0.5	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	10.9	10.8	44.7	8.7	8.7	29.9	0.0	0.0	31.9	0.0	0.0
LnGrp LOS	D	B	B	D	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1215			870			28				97
Approach Delay, s/veh		12.7			11.3			29.9				31.9
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	54.7		16.2	9.1	54.7		16.2				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	4.8	16.6		6.7	4.8	11.2		3.2				
Green Ext Time (p_c), s	0.0	7.2		0.5	0.0	6.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects PM
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr 09/30/2022



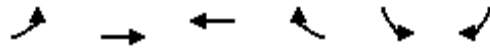
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	297	947	502	81	517	129	286	439	89	276	681	245
Future Volume (veh/h)	297	947	502	81	517	129	286	439	89	276	681	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	986	523	89	568	142	308	472	96	300	740	266
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	575	1188	516	436	824	205	365	834	560	361	1193	358
Arrive On Green	0.17	0.33	0.33	0.13	0.29	0.29	0.11	0.23	0.23	0.10	0.23	0.23
Sat Flow, veh/h	3456	3554	1542	3456	2800	697	3456	3554	1532	3456	5106	1531
Grp Volume(v), veh/h	309	986	523	89	360	350	308	472	96	300	740	266
Grp Sat Flow(s),veh/h/ln	1728	1777	1542	1728	1777	1720	1728	1777	1532	1728	1702	1531
Q Serve(g_s), s	10.2	31.9	41.8	2.9	22.4	22.6	10.9	14.7	5.3	10.6	16.2	20.1
Cycle Q Clear(g_c), s	10.2	31.9	41.8	2.9	22.4	22.6	10.9	14.7	5.3	10.6	16.2	20.1
Prop In Lane	1.00		1.00	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	575	1188	516	436	523	506	365	834	560	361	1193	358
V/C Ratio(X)	0.54	0.83	1.01	0.20	0.69	0.69	0.84	0.57	0.17	0.83	0.62	0.74
Avail Cap(c_a), veh/h	575	1188	516	436	523	506	431	890	584	478	1348	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	0.44	0.44	0.44
Uniform Delay (d), s/veh	47.7	38.3	41.6	49.0	39.0	39.1	54.9	42.2	27.2	54.9	42.9	44.4
Incr Delay (d2), s/veh	0.8	4.8	40.0	0.2	4.9	5.1	12.4	1.0	0.2	4.2	0.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	14.0	20.7	1.2	10.1	9.8	5.3	6.4	1.9	4.7	6.7	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	43.1	81.6	49.2	43.9	44.2	67.3	43.2	27.4	59.1	43.3	47.7
LnGrp LOS	D	D	F	D	D	D	E	D	C	E	D	D
Approach Vol, veh/h		1818			799			876			1306	
Approach Delay, s/veh		55.1			44.6			49.9			47.9	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	36.3	21.2	49.0	18.6	36.2	26.2	44.0				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	17.3	31.3	9.6	41.8	15.6	33.0	16.4	35.0				
Max Q Clear Time (g_c+I1), s	12.6	16.7	4.9	43.8	12.9	22.1	12.2	24.6				
Green Ext Time (p_c), s	0.4	3.8	0.1	0.0	0.3	5.4	0.4	4.8				

Intersection Summary												
HCM 6th Ctrl Delay			50.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

Existing + Near-Term Cumulative Projects PM

09/30/2022

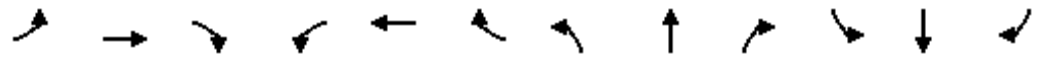


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	205	1134	662	74	24	119
Future Volume (veh/h)	205	1134	662	74	24	119
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	1246	727	81	38	186
Peak Hour Factor	0.91	0.91	0.91	0.91	0.64	0.64
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	258	1947	1129	126	631	561
Arrive On Green	0.15	0.55	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	3647	3300	357	1781	1585
Grp Volume(v), veh/h	225	1246	403	405	38	186
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1787	1781	1585
Q Serve(g_s), s	12.4	24.4	19.0	19.0	1.4	8.6
Cycle Q Clear(g_c), s	12.4	24.4	19.0	19.0	1.4	8.6
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	258	1947	625	629	631	561
V/C Ratio(X)	0.87	0.64	0.64	0.64	0.06	0.33
Avail Cap(c_a), veh/h	326	1947	625	629	631	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	1.00
Uniform Delay (d), s/veh	41.8	15.7	27.1	27.2	21.3	23.6
Incr Delay (d2), s/veh	17.4	1.6	4.2	4.2	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	9.3	8.4	8.4	0.6	8.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.2	17.4	31.4	31.4	21.5	25.2
LnGrp LOS	E	B	C	C	C	C
Approach Vol, veh/h		1471	808		224	
Approach Delay, s/veh		23.8	31.4		24.6	
Approach LOS		C	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.6		39.4	19.6	41.0
Change Period (Y+Rc), s		5.8		4.0	5.1	5.8
Max Green Setting (Gmax), s		54.8		35.4	18.3	31.4
Max Q Clear Time (g_c+I1), s		26.4		10.6	14.4	21.0
Green Ext Time (p_c), s		17.6		0.1	0.2	5.6
Intersection Summary						
HCM 6th Ctrl Delay			26.3			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Existing + Near-Term Cumulative Projects PM

09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	219	645	129	181	431	155	188	522	133	195	406	139
Future Volume (veh/h)	219	645	129	181	431	155	188	522	133	195	406	139
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	231	679	136	208	495	178	200	555	141	229	478	164
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	902	598	242	855	603	234	1051	655	264	1111	702
Arrive On Green	0.15	0.25	0.25	0.14	0.24	0.24	0.13	0.30	0.30	0.15	0.31	0.31
Sat Flow, veh/h	1781	3554	1534	1781	3554	1532	1781	3554	1486	1781	3554	1490
Grp Volume(v), veh/h	231	679	136	208	495	178	200	555	141	229	478	164
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1781	1777	1532	1781	1777	1486	1781	1777	1490
Q Serve(g_s), s	14.1	19.6	6.7	12.7	13.7	8.9	12.2	14.5	6.6	14.0	11.9	7.4
Cycle Q Clear(g_c), s	14.1	19.6	6.7	12.7	13.7	8.9	12.2	14.5	6.6	14.0	11.9	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	902	598	242	855	603	234	1051	655	264	1111	702
V/C Ratio(X)	0.87	0.75	0.23	0.86	0.58	0.30	0.85	0.53	0.22	0.87	0.43	0.23
Avail Cap(c_a), veh/h	465	1230	739	433	1167	738	434	1183	710	465	1243	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	38.3	23.1	47.0	37.3	23.5	47.2	32.7	19.8	46.3	30.4	18.1
Incr Delay (d2), s/veh	8.5	1.8	0.2	8.6	0.6	0.3	8.6	0.4	0.2	8.5	0.3	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	6.7	8.5	2.4	6.1	5.9	3.2	5.9	6.2	2.2	6.7	5.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	40.1	23.3	55.6	37.9	23.8	55.9	33.1	20.0	54.8	30.6	18.3
LnGrp LOS	D	D	C	E	D	C	E	C	B	D	C	B
Approach Vol, veh/h		1046			881			896			871	
Approach Delay, s/veh		41.1			39.2			36.1			34.6	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.6	39.9	20.6	32.1	20.5	38.0	19.1	33.6				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	27.1	38.9	29.0	36.5	29.0	37.0	27.0	38.5				
Max Q Clear Time (g_c+I1), s	14.2	13.9	16.1	15.7	16.0	16.5	14.7	21.6				
Green Ext Time (p_c), s	0.4	3.8	0.5	3.6	0.5	4.1	0.4	4.5				

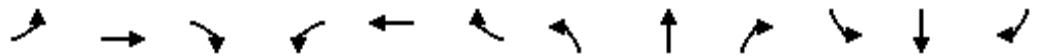
Intersection Summary

HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Existing + Near-Term Cumulative Projects PM

09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	191	78	107	114	63	56	1485	209	80	887	79
Future Volume (veh/h)	133	191	78	107	114	63	56	1485	209	80	887	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	220	90	113	120	66	58	1531	215	87	964	86
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	291	233	232	144	79	75	2183	306	110	2399	213
Arrive On Green	0.16	0.16	0.16	0.13	0.13	0.13	0.04	0.49	0.49	0.06	0.50	0.50
Sat Flow, veh/h	1781	1870	1499	1781	1106	608	1781	4501	631	1781	4756	423
Grp Volume(v), veh/h	153	220	90	113	0	186	58	1157	589	87	689	361
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	0	1714	1781	1702	1728	1781	1702	1775
Q Serve(g_s), s	10.3	14.6	7.0	7.7	0.0	13.8	4.2	34.5	34.6	6.3	16.4	16.4
Cycle Q Clear(g_c), s	10.3	14.6	7.0	7.7	0.0	13.8	4.2	34.5	34.6	6.3	16.4	16.4
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.37	1.00		0.24
Lane Grp Cap(c), veh/h	277	291	233	232	0	223	75	1651	838	110	1717	895
V/C Ratio(X)	0.55	0.76	0.39	0.49	0.00	0.83	0.77	0.70	0.70	0.79	0.40	0.40
Avail Cap(c_a), veh/h	411	432	346	411	0	395	233	1651	838	233	1717	895
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	52.6	49.3	52.5	0.0	55.1	61.6	26.1	26.2	60.2	20.0	20.0
Incr Delay (d2), s/veh	1.7	4.3	1.0	1.6	0.0	7.8	15.2	2.5	4.9	12.0	0.7	1.4
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	4.8	7.2	2.7	3.5	0.0	6.4	2.2	13.8	14.6	3.1	6.4	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	56.9	50.4	54.1	0.0	63.0	76.9	28.6	31.1	72.2	20.7	21.4
LnGrp LOS	D	E	D	D	A	E	E	C	C	E	C	C
Approach Vol, veh/h		463			299			1804			1137	
Approach Delay, s/veh		54.1			59.6			31.0			24.9	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	68.9		25.3	11.3	71.4		22.0				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	8.3	36.6		16.6	6.2	18.4		15.8				
Green Ext Time (p_c), s	0.1	0.0		1.7	0.1	5.2		1.2				

Intersection Summary

HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

APPENDIX I
PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS –
NEAR-TERM + PROJECT

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project AM
 1: N Melrose Dr & Meadowbrook Dr 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (veh/h)	8	0	66	13	1	3	38	516	1	4	836	14
Future Volume (veh/h)	8	0	66	13	1	3	38	516	1	4	836	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	0	99	19	1	4	40	549	1	5	961	16
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	0	347	119	5	347	560	1167	2	502	1029	17
Arrive On Green	0.23	0.00	0.23	0.23	0.23	0.23	0.31	0.32	0.32	0.28	0.29	0.29
Sat Flow, veh/h	228	0	1530	216	20	1530	1781	3639	7	1781	3573	59
Grp Volume(v), veh/h	12	0	99	20	0	4	40	268	282	5	478	499
Grp Sat Flow(s),veh/h/ln	228	0	1530	236	0	1530	1781	1777	1869	1781	1777	1856
Q Serve(g_s), s	0.8	0.0	5.3	1.3	0.0	0.2	1.6	12.1	12.1	0.2	26.2	26.2
Cycle Q Clear(g_c), s	19.8	0.0	5.3	20.1	0.0	0.2	1.6	12.1	12.1	0.2	26.2	26.2
Prop In Lane	1.00		1.00	0.95		1.00	1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	124	0	347	124	0	347	560	570	599	502	512	535
V/C Ratio(X)	0.10	0.00	0.29	0.16	0.00	0.01	0.07	0.47	0.47	0.01	0.93	0.93
Avail Cap(c_a), veh/h	352	0	597	337	0	597	560	570	599	502	515	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	32.0	44.9	0.0	30.0	24.1	27.2	27.2	25.9	34.7	34.7
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.6	0.0	0.0	0.0	0.8	0.7	0.0	24.9	24.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	0.5	0.0	0.1	0.6	5.0	5.2	0.1	14.1	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	0.0	32.4	45.5	0.0	30.0	24.1	28.0	27.9	25.9	59.5	58.8
LnGrp LOS	D	A	C	D	A	C	C	C	C	C	E	E
Approach Vol, veh/h		111			24			590			982	
Approach Delay, s/veh		34.0			42.9			27.7			59.0	
Approach LOS		C			D			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	39.1		28.0	36.2	35.8		28.0				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	14.1		21.8	3.6	28.2		22.1				
Green Ext Time (p_c), s	0.0	4.7		0.3	0.0	0.6		0.0				

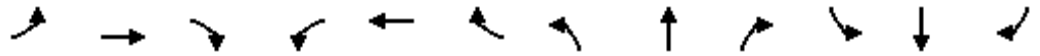
Intersection Summary

HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

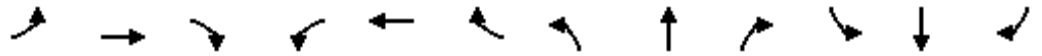
HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project AM
 2: Catalina Circle & Oceanside Boulevard 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	↖
Traffic Volume (veh/h)	9	417	2	79	782	25	20	0	9	66	0	51
Future Volume (veh/h)	9	417	2	79	782	25	20	0	9	66	0	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	0.99		0.96	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	479	2	111	1101	35	21	0	9	81	0	63
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2041	9	114	2155	68	237	13	74	193	19	110
Arrive On Green	0.01	0.56	0.56	0.06	0.61	0.61	0.17	0.00	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1781	3629	15	1781	3511	112	939	77	435	718	108	642
Grp Volume(v), veh/h	10	234	247	111	557	579	30	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1846	1450	0	0	1469	0	0
Q Serve(g_s), s	0.4	5.3	5.3	5.0	14.1	14.1	0.0	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.3	5.3	5.0	14.1	14.1	1.2	0.0	0.0	7.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.70		0.30	0.56		0.44
Lane Grp Cap(c), veh/h	22	1000	1050	114	1091	1133	325	0	0	322	0	0
V/C Ratio(X)	0.45	0.23	0.23	0.98	0.51	0.51	0.09	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	114	1000	1050	114	1091	1133	590	0	0	599	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.18	0.18	0.18	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.2	8.8	8.8	37.4	8.7	8.7	28.0	0.0	0.0	30.3	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.6	0.5	30.0	0.3	0.3	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	1.8	3.0	4.0	4.1	0.5	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	9.4	9.3	67.4	9.0	9.0	28.1	0.0	0.0	31.3	0.0	0.0
LnGrp LOS	D	A	A	E	A	A	C	A	A	C	A	A
Approach Vol, veh/h		491			1247			30				144
Approach Delay, s/veh		10.1			14.2			28.1				31.3
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	51.2		18.3	6.4	55.3		18.3				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	7.0	7.3		9.1	2.4	16.1		3.2				
Green Ext Time (p_c), s	0.0	3.5		0.7	0.0	7.3		0.1				

Intersection Summary												
HCM 6th Ctrl Delay				14.6								
HCM 6th LOS				B								

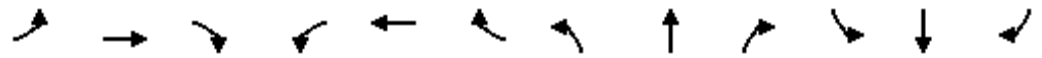
HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project AM
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	285	558	253	117	766	160	500	726	161	138	346	271
Future Volume (veh/h)	285	558	253	117	766	160	500	726	161	138	346	271
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		0.97	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	328	641	291	123	806	168	568	825	183	166	417	327
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1095	474	278	787	164	570	1235	664	221	1260	378
Arrive On Green	0.12	0.31	0.31	0.08	0.27	0.27	0.16	0.35	0.35	0.06	0.25	0.25
Sat Flow, veh/h	3456	3554	1540	3456	2909	606	3456	3554	1543	3456	5106	1533
Grp Volume(v), veh/h	328	641	291	123	492	482	568	825	183	166	417	327
Grp Sat Flow(s),veh/h/ln	1728	1777	1540	1728	1777	1738	1728	1777	1543	1728	1702	1533
Q Serve(g_s), s	11.6	19.0	20.2	4.2	33.8	33.8	20.5	24.7	9.6	5.9	8.4	25.5
Cycle Q Clear(g_c), s	11.6	19.0	20.2	4.2	33.8	33.8	20.5	24.7	9.6	5.9	8.4	25.5
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	1095	474	278	480	470	570	1235	664	221	1260	378
V/C Ratio(X)	0.80	0.59	0.61	0.44	1.02	1.02	1.00	0.67	0.28	0.75	0.33	0.86
Avail Cap(c_a), veh/h	408	1095	474	278	480	470	570	1235	664	282	1348	405
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	0.32	0.32	0.32
Uniform Delay (d), s/veh	53.7	36.5	36.9	54.8	45.6	45.6	52.2	34.6	23.2	57.5	38.6	45.1
Incr Delay (d2), s/veh	10.9	1.3	3.4	1.1	47.5	47.9	37.0	1.6	0.3	2.7	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	8.1	7.7	1.8	20.5	20.1	11.6	10.5	3.4	2.6	3.4	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	37.8	40.3	55.9	93.1	93.5	89.2	36.2	23.5	60.3	38.7	51.5
LnGrp LOS	E	D	D	E	F	F	F	D	C	E	D	D
Approach Vol, veh/h		1260			1097			1576			910	
Approach Delay, s/veh		45.3			89.1			53.8			47.2	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	50.5	15.5	45.7	26.0	37.8	20.2	41.0				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	10.2	43.4	10.0	36.4	20.6	33.0	12.6	33.8				
Max Q Clear Time (g_c+I1), s	7.9	26.7	6.2	22.2	22.5	27.5	13.6	35.8				
Green Ext Time (p_c), s	0.1	7.4	0.1	7.3	0.0	2.4	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay				58.4								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project AM
 4: Project Dwy/Sports Park Way & W Bobier Dr 09/30/2022



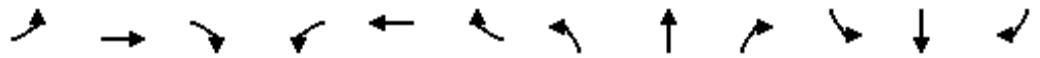
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	49	665	26	7	1284	11	98	3	25	24	1	142
Future Volume (veh/h)	49	665	26	7	1284	11	98	3	25	24	1	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	937	37	9	1566	13	108	3	27	28	1	163
Peak Hour Factor	0.71	0.71	0.71	0.82	0.82	0.82	0.91	0.91	0.91	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	1807	71	20	1712	14	136	11	97	383	2	305
Arrive On Green	0.05	0.52	0.52	0.01	0.47	0.47	0.08	0.07	0.07	0.22	0.20	0.20
Sat Flow, veh/h	1781	3483	138	1781	3610	30	1781	161	1449	1781	9	1518
Grp Volume(v), veh/h	69	478	496	9	770	809	108	0	30	28	0	164
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1864	1781	0	1610	1781	0	1527
Q Serve(g_s), s	3.8	17.7	17.7	0.5	40.2	40.3	6.0	0.0	1.8	1.3	0.0	9.6
Cycle Q Clear(g_c), s	3.8	17.7	17.7	0.5	40.2	40.3	6.0	0.0	1.8	1.3	0.0	9.6
Prop In Lane	1.00		0.07	1.00		0.02	1.00		0.90	1.00		0.99
Lane Grp Cap(c), veh/h	89	922	957	20	842	884	136	0	108	383	0	306
V/C Ratio(X)	0.78	0.52	0.52	0.46	0.91	0.92	0.79	0.00	0.28	0.07	0.00	0.54
Avail Cap(c_a), veh/h	89	922	957	89	842	884	226	0	290	383	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.50	0.50	0.50	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	15.8	15.8	49.1	24.4	24.4	45.4	0.0	44.3	31.3	0.0	35.8
Incr Delay (d2), s/veh	33.4	2.1	2.0	8.0	9.2	8.9	9.9	0.0	1.4	0.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.1	7.3	0.3	17.5	18.3	3.0	0.0	0.7	0.6	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.3	17.9	17.8	57.2	33.6	33.4	55.3	0.0	45.7	31.7	0.0	37.2
LnGrp LOS	F	B	B	E	C	C	E	A	D	C	A	D
Approach Vol, veh/h		1043			1588			138				192
Approach Delay, s/veh		22.0			33.6			53.2				36.4
Approach LOS		C			C			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	57.7	12.2	24.6	10.1	53.2	25.5	11.2				
Change Period (Y+Rc), s	4.5	5.8	4.5	4.5	5.1	5.8	4.0	4.5				
Max Green Setting (Gmax), s	5.0	36.7	12.7	26.3	5.0	36.1	21.5	18.0				
Max Q Clear Time (g_c+I1), s	2.5	19.7	8.0	11.6	5.8	42.3	3.3	3.8				
Green Ext Time (p_c), s	0.0	9.4	0.1	0.8	0.0	0.0	0.0	0.1				

Intersection Summary												
HCM 6th Ctrl Delay				30.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project AM
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr 09/30/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	543	179	237	670	114	235	398	149	227	642	340
Future Volume (veh/h)	200	543	179	237	670	114	235	398	149	227	642	340
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	654	216	266	753	128	336	569	213	264	747	395
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	844	670	291	894	627	362	1082	701	289	937	615
Arrive On Green	0.15	0.24	0.24	0.16	0.25	0.25	0.20	0.30	0.30	0.16	0.26	0.26
Sat Flow, veh/h	1781	3554	1464	1781	3554	1470	1781	3554	1453	1781	3554	1436
Grp Volume(v), veh/h	241	654	216	266	753	128	336	569	213	264	747	395
Grp Sat Flow(s),veh/h/ln	1781	1777	1464	1781	1777	1470	1781	1777	1453	1781	1777	1436
Q Serve(g_s), s	18.6	24.0	13.5	20.5	28.1	7.8	25.9	18.5	12.8	20.4	27.4	31.1
Cycle Q Clear(g_c), s	18.6	24.0	13.5	20.5	28.1	7.8	25.9	18.5	12.8	20.4	27.4	31.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	844	670	291	894	627	362	1082	701	289	937	615
V/C Ratio(X)	0.91	0.78	0.32	0.91	0.84	0.20	0.93	0.53	0.30	0.91	0.80	0.64
Avail Cap(c_a), veh/h	313	877	683	344	938	645	420	1083	702	349	940	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	49.8	25.7	57.5	49.7	26.3	54.7	40.3	23.2	57.6	48.0	33.2
Incr Delay (d2), s/veh	26.0	4.2	0.3	25.5	6.8	0.2	25.0	0.5	0.2	24.6	4.8	2.3
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	10.2	11.0	4.7	11.2	13.1	2.7	14.0	8.2	4.4	11.1	12.7	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	54.1	25.9	83.0	56.4	26.4	79.7	40.8	23.4	82.2	52.8	35.5
LnGrp LOS	F	D	C	F	E	C	E	D	C	F	D	D
Approach Vol, veh/h		1111			1147			1118			1406	
Approach Delay, s/veh		55.2			59.3			49.2			53.5	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.4	42.0	24.9	40.6	26.7	47.7	26.8	38.6				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	33.0	37.0	24.6	36.9	27.4	42.6	27.0	34.5				
Max Q Clear Time (g_c+I1), s	27.9	33.1	20.6	30.1	22.4	20.5	22.5	26.0				
Green Ext Time (p_c), s	0.5	2.3	0.2	2.9	0.3	4.6	0.3	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			54.3									
HCM 6th LOS			D									

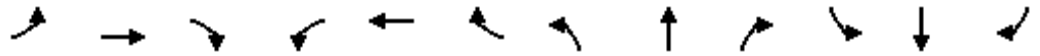
HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project AM
 6: N Melrose Dr & North Ave 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	103	177	89	215	182	96	154	920	94	71	1335	150
Future Volume (veh/h)	103	177	89	215	182	96	154	920	94	71	1335	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	213	107	242	204	108	173	1034	106	73	1376	155
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	286	229	358	227	120	199	1994	204	93	1697	191
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.11	0.43	0.43	0.05	0.37	0.37
Sat Flow, veh/h	1781	1870	1496	1781	1130	598	1781	4685	479	1781	4631	522
Grp Volume(v), veh/h	124	213	107	242	0	312	173	751	389	73	1011	520
Grp Sat Flow(s),veh/h/ln	1781	1870	1496	1781	0	1729	1781	1702	1760	1781	1702	1749
Q Serve(g_s), s	8.2	14.1	8.5	16.3	0.0	22.9	12.4	21.1	21.2	5.3	34.8	34.8
Cycle Q Clear(g_c), s	8.2	14.1	8.5	16.3	0.0	22.9	12.4	21.1	21.2	5.3	34.8	34.8
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.27	1.00		0.30
Lane Grp Cap(c), veh/h	273	286	229	358	0	348	199	1448	749	93	1247	641
V/C Ratio(X)	0.45	0.74	0.47	0.68	0.00	0.90	0.87	0.52	0.52	0.78	0.81	0.81
Avail Cap(c_a), veh/h	411	432	345	411	0	399	233	1448	749	233	1247	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	52.6	50.2	48.0	0.0	50.6	56.8	27.5	27.5	60.9	37.1	37.1
Incr Delay (d2), s/veh	1.2	3.8	1.5	3.6	0.0	20.6	25.4	1.3	2.6	13.1	5.8	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.0	3.3	7.6	0.0	11.9	6.9	8.5	9.1	2.7	14.9	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	56.4	51.7	51.6	0.0	71.2	82.2	28.8	30.1	73.9	42.9	47.8
LnGrp LOS	D	E	D	D	A	E	F	C	C	E	D	D
Approach Vol, veh/h		444			554			1313			1604	
Approach Delay, s/veh		53.8			62.6			36.3			45.9	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	61.1		25.0	20.3	53.4		31.3				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	7.3	23.2		16.1	14.4	36.8		24.9				
Green Ext Time (p_c), s	0.1	4.1		1.7	0.1	0.0		1.3				

Intersection Summary												
HCM 6th Ctrl Delay											45.9	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project PM
 1: N Melrose Dr & Meadowbrook Dr 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↕		↖	↕	
Traffic Volume (veh/h)	9	1	45	8	1	0	84	1051	8	6	816	15
Future Volume (veh/h)	9	1	45	8	1	0	84	1051	8	6	816	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		1.00	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	1	51	18	2	0	89	1118	9	7	907	17
Peak Hour Factor	0.89	0.89	0.89	0.45	0.45	0.45	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	21	196	222	21	207	741	1181	10	662	1008	19
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.42	0.33	0.33	0.37	0.28	0.28
Sat Flow, veh/h	1300	159	1504	1177	163	1585	1781	3611	29	1781	3564	67
Grp Volume(v), veh/h	11	0	51	20	0	0	89	550	577	7	452	472
Grp Sat Flow(s),veh/h/ln	1459	0	1504	1340	0	1585	1781	1777	1863	1781	1777	1854
Q Serve(g_s), s	0.0	0.0	3.1	1.0	0.0	0.0	3.1	30.2	30.2	0.2	24.5	24.5
Cycle Q Clear(g_c), s	0.5	0.0	3.1	1.5	0.0	0.0	3.1	30.2	30.2	0.2	24.5	24.5
Prop In Lane	0.91		1.00	0.90		1.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	259	0	196	243	0	207	741	581	609	662	502	524
V/C Ratio(X)	0.04	0.00	0.26	0.08	0.00	0.00	0.12	0.95	0.95	0.01	0.90	0.90
Avail Cap(c_a), veh/h	627	0	587	597	0	618	741	581	609	662	515	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	39.1	38.5	0.0	0.0	18.0	32.8	32.8	19.8	34.5	34.5
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.1	0.0	0.0	0.1	21.6	20.9	0.0	19.6	18.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	0.4	0.0	0.0	1.2	15.5	16.2	0.1	12.7	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	39.8	38.6	0.0	0.0	18.0	54.4	53.7	19.8	54.1	53.4
LnGrp LOS	D	A	D	D	A	A	B	D	D	B	D	D
Approach Vol, veh/h		62			20			1216			931	
Approach Delay, s/veh		39.5			38.6			51.4			53.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	42.5	39.7		17.8	47.0	35.3		17.8				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	14.9	29.0		* 39	14.9	29.0		* 39				
Max Q Clear Time (g_c+I1), s	2.2	32.2		5.1	5.1	26.5		3.5				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.1	1.8		0.1				

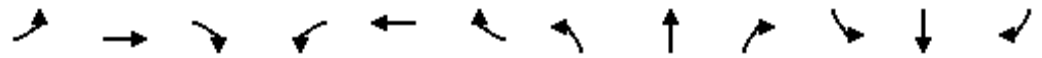
Intersection Summary

HCM 6th Ctrl Delay	51.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project PM
 2: Catalina Circle & Oceanside Boulevard 09/30/2022




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	54	1025	1	59	667	78	9	0	13	40	0	29
Future Volume (veh/h)	54	1025	1	59	667	78	9	0	13	40	0	29
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	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1178	1	65	733	86	15	0	21	59	0	43
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.61	0.61	0.61	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	2194	2	85	1924	226	137	23	134	178	18	91
Arrive On Green	0.05	0.60	0.60	0.05	0.60	0.60	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1781	3643	3	1781	3190	374	493	156	908	724	121	615
Grp Volume(v), veh/h	62	574	605	65	408	411	36	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1781	1777	1787	1556	0	0	1460	0	0
Q Serve(g_s), s	2.8	15.2	15.2	2.9	9.5	9.5	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	2.8	15.2	15.2	2.9	9.5	9.5	1.5	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.21	0.42		0.58	0.58		0.42
Lane Grp Cap(c), veh/h	83	1070	1126	85	1072	1078	294	0	0	287	0	0
V/C Ratio(X)	0.74	0.54	0.54	0.76	0.38	0.38	0.12	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	114	1070	1126	114	1072	1078	604	0	0	594	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.7	9.4	9.4	37.6	8.2	8.2	29.7	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	9.6	1.9	1.8	8.1	0.6	0.6	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.9	5.1	1.4	2.9	2.9	0.6	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	11.3	11.2	45.8	8.8	8.8	29.9	0.0	0.0	31.8	0.0	0.0
LnGrp LOS	D	B	B	D	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1241			884			36				102
Approach Delay, s/veh		13.0			11.5			29.9				31.8
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	54.4		16.4	9.1	54.4		16.4				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	29.6		29.1	5.1	29.6		29.1				
Max Q Clear Time (g_c+I1), s	4.9	17.2		6.9	4.8	11.5		3.5				
Green Ext Time (p_c), s	0.0	7.2		0.5	0.0	6.1		0.1				

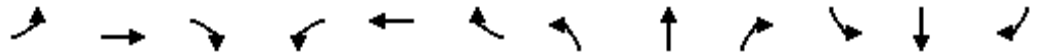
Intersection Summary

HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project PM
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr 09/30/2022

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		  	  	
Traffic Volume (veh/h)	297	977	502	97	530	144	286	439	125	309	681	245
Future Volume (veh/h)	297	977	502	97	530	144	286	439	125	309	681	245
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		0.96	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	1018	523	107	582	158	308	472	134	336	740	266
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	563	1217	528	432	836	226	321	776	532	394	1224	367
Arrive On Green	0.16	0.34	0.34	0.13	0.30	0.30	0.09	0.22	0.22	0.11	0.24	0.24
Sat Flow, veh/h	3456	3554	1542	3456	2745	743	3456	3554	1529	3456	5106	1532
Grp Volume(v), veh/h	309	1018	523	107	376	364	308	472	134	336	740	266
Grp Sat Flow(s),veh/h/ln	1728	1777	1542	1728	1777	1711	1728	1777	1529	1728	1702	1532
Q Serve(g_s), s	10.3	33.0	42.2	3.5	23.3	23.5	11.1	15.0	7.9	11.9	16.1	20.0
Cycle Q Clear(g_c), s	10.3	33.0	42.2	3.5	23.3	23.5	11.1	15.0	7.9	11.9	16.1	20.0
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	563	1217	528	432	541	521	321	776	532	394	1224	367
V/C Ratio(X)	0.55	0.84	0.99	0.25	0.69	0.70	0.96	0.61	0.25	0.85	0.60	0.72
Avail Cap(c_a), veh/h	563	1217	528	432	541	521	321	910	590	459	1511	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	48.1	37.9	40.9	49.4	38.3	38.4	56.5	44.0	29.5	54.3	42.3	43.7
Incr Delay (d2), s/veh	0.9	4.9	33.2	0.3	4.9	5.2	39.6	1.2	0.3	5.4	0.3	2.1
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	4.4	14.4	19.9	1.5	10.5	10.2	6.5	6.5	2.8	5.4	6.6	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	42.7	74.1	49.7	43.2	43.6	96.1	45.2	29.9	59.8	42.5	45.8
LnGrp LOS	D	D	E	D	D	D	F	D	C	E	D	D
Approach Vol, veh/h		1850			847			914			1342	
Approach Delay, s/veh		52.7			44.2			60.1			47.5	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.6	34.3	21.0	50.0	17.0	37.0	25.8	45.3				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	16.6	32.0	8.6	42.8	11.6	37.0	14.6	36.8				
Max Q Clear Time (g_c+I1), s	13.9	17.0	5.5	44.2	13.1	22.0	12.3	25.5				
Green Ext Time (p_c), s	0.3	4.0	0.1	0.0	0.0	6.7	0.2	5.3				
Intersection Summary												
HCM 6th Ctrl Delay			51.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project PM
 4: W Bobier Dr & Sports Park Way 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	205	1134	99	25	662	74	44	1	11	24	3	119
Future Volume (veh/h)	205	1134	99	25	662	74	44	1	11	24	3	119
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		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	1246	109	27	727	81	45	1	11	38	5	186
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.98	0.98	0.98	0.64	0.64	0.64
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1663	145	47	1350	150	64	9	99	383	10	362
Arrive On Green	0.10	0.50	0.50	0.03	0.42	0.42	0.04	0.07	0.07	0.22	0.24	0.24
Sat Flow, veh/h	1781	3304	288	1781	3208	357	1781	134	1472	1781	40	1499
Grp Volume(v), veh/h	225	669	686	27	402	406	45	0	12	38	0	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1815	1781	1777	1788	1781	0	1605	1781	0	1540
Q Serve(g_s), s	10.3	30.0	30.2	1.5	17.0	17.0	2.5	0.0	0.7	1.7	0.0	10.7
Cycle Q Clear(g_c), s	10.3	30.0	30.2	1.5	17.0	17.0	2.5	0.0	0.7	1.7	0.0	10.7
Prop In Lane	1.00		0.16	1.00		0.20	1.00		0.92	1.00		0.97
Lane Grp Cap(c), veh/h	183	895	914	47	748	753	64	0	108	383	0	372
V/C Ratio(X)	1.23	0.75	0.75	0.57	0.54	0.54	0.71	0.00	0.11	0.10	0.00	0.51
Avail Cap(c_a), veh/h	183	895	914	89	748	753	89	0	289	383	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.8	19.8	19.8	48.1	21.7	21.7	47.7	0.0	43.8	31.5	0.0	32.8
Incr Delay (d2), s/veh	140.4	5.7	5.7	8.8	2.3	2.3	13.9	0.0	0.5	0.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	12.6	13.0	0.8	7.1	7.2	1.3	0.0	0.3	0.8	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.3	25.4	25.5	56.9	24.0	24.0	61.6	0.0	44.3	32.0	0.0	33.9
LnGrp LOS	F	C	C	E	C	C	E	A	D	C	A	C
Approach Vol, veh/h		1580			835			57				229
Approach Delay, s/veh		48.2			25.0			58.0				33.6
Approach LOS		D			C			E				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	56.1	8.1	28.6	15.4	47.9	25.5	11.2				
Change Period (Y+Rc), s	4.5	5.8	4.5	4.5	5.1	5.8	4.0	4.5				
Max Green Setting (Gmax), s	5.0	36.7	5.0	34.0	10.3	30.8	21.5	18.0				
Max Q Clear Time (g_c+I1), s	3.5	32.2	4.5	12.7	12.3	19.0	3.7	2.7				
Green Ext Time (p_c), s	0.0	3.9	0.0	1.2	0.0	6.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				40.0								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project PM
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr 09/30/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	651	132	181	444	155	194	522	133	195	406	145
Future Volume (veh/h)	222	651	132	181	444	155	194	522	133	195	406	145
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	685	139	208	510	178	206	555	141	229	478	171
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	906	605	242	852	602	240	1049	654	264	1097	699
Arrive On Green	0.15	0.25	0.25	0.14	0.24	0.24	0.13	0.30	0.30	0.15	0.31	0.31
Sat Flow, veh/h	1781	3554	1534	1781	3554	1532	1781	3554	1486	1781	3554	1489
Grp Volume(v), veh/h	234	685	139	208	510	178	206	555	141	229	478	171
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1781	1777	1532	1781	1777	1486	1781	1777	1489
Q Serve(g_s), s	14.3	19.8	6.8	12.7	14.2	9.0	12.6	14.5	6.7	14.0	12.0	7.8
Cycle Q Clear(g_c), s	14.3	19.8	6.8	12.7	14.2	9.0	12.6	14.5	6.7	14.0	12.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	906	605	242	852	602	240	1049	654	264	1097	699
V/C Ratio(X)	0.87	0.76	0.23	0.86	0.60	0.30	0.86	0.53	0.22	0.87	0.44	0.24
Avail Cap(c_a), veh/h	463	1227	743	431	1163	736	430	1179	708	463	1246	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	38.3	22.8	47.1	37.6	23.6	47.2	32.8	19.9	46.4	30.8	18.4
Incr Delay (d2), s/veh	8.8	1.9	0.2	8.7	0.7	0.3	8.6	0.4	0.2	8.5	0.3	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	6.8	8.6	2.4	6.1	6.1	3.2	6.1	6.2	2.3	6.7	5.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	40.2	23.0	55.8	38.3	23.9	55.8	33.2	20.1	54.9	31.1	18.6
LnGrp LOS	E	D	C	E	D	C	E	C	C	D	C	B
Approach Vol, veh/h		1058			896			902			878	
Approach Delay, s/veh		41.2			39.5			36.3			34.9	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	39.5	20.8	32.1	20.5	38.0	19.1	33.8				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	26.9	39.1	29.0	36.5	29.0	37.0	27.0	38.5				
Max Q Clear Time (g_c+I1), s	14.6	14.0	16.3	16.2	16.0	16.5	14.7	21.8				
Green Ext Time (p_c), s	0.4	3.8	0.5	3.7	0.5	4.1	0.4	4.5				
Intersection Summary												
HCM 6th Ctrl Delay				38.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary Existing + Near-Term Cumulative Projects + Project PM
 6: N Melrose Dr & North Ave 09/30/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	136	191	78	107	114	66	56	1515	209	81	900	80
Future Volume (veh/h)	136	191	78	107	114	66	56	1515	209	81	900	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	220	90	113	120	69	58	1562	215	88	978	87
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	291	233	236	144	83	75	2178	299	111	2390	212
Arrive On Green	0.16	0.16	0.16	0.13	0.13	0.13	0.04	0.48	0.48	0.06	0.50	0.50
Sat Flow, veh/h	1781	1870	1499	1781	1086	624	1781	4514	620	1781	4757	422
Grp Volume(v), veh/h	156	220	90	113	0	189	58	1177	600	88	699	366
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	0	1710	1781	1702	1730	1781	1702	1775
Q Serve(g_s), s	10.5	14.6	7.0	7.6	0.0	14.0	4.2	35.6	35.7	6.3	16.7	16.8
Cycle Q Clear(g_c), s	10.5	14.6	7.0	7.6	0.0	14.0	4.2	35.6	35.7	6.3	16.7	16.8
Prop In Lane	1.00		1.00	1.00		0.37	1.00		0.36	1.00		0.24
Lane Grp Cap(c), veh/h	277	291	233	236	0	226	75	1642	835	111	1710	892
V/C Ratio(X)	0.56	0.76	0.39	0.48	0.00	0.84	0.77	0.72	0.72	0.79	0.41	0.41
Avail Cap(c_a), veh/h	411	432	346	411	0	395	233	1642	835	233	1710	892
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	52.5	49.3	52.2	0.0	55.0	61.6	26.6	26.7	60.1	20.3	20.3
Incr Delay (d2), s/veh	1.8	4.3	1.0	1.5	0.0	7.9	15.2	2.7	5.3	12.0	0.7	1.4
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	4.9	7.2	2.7	3.5	0.0	6.5	2.2	14.2	15.1	3.2	6.5	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	56.8	50.4	53.8	0.0	62.9	76.9	29.3	32.0	72.1	21.0	21.7
LnGrp LOS	D	E	D	D	A	E	E	C	C	E	C	C
Approach Vol, veh/h		466			302			1835			1153	
Approach Delay, s/veh		54.2			59.5			31.7			25.1	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.9	68.5		25.3	11.3	71.1		22.3				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	17.0	31.2		30.0	17.0	31.2		30.0				
Max Q Clear Time (g_c+I1), s	8.3	37.7		16.6	6.2	18.8		16.0				
Green Ext Time (p_c), s	0.1	0.0		1.7	0.1	5.2		1.2				

Intersection Summary												
HCM 6th Ctrl Delay				34.7								
HCM 6th LOS				C								

APPENDIX J

FORECAST PEAK HOUR VOLUMES CALCULATION TEMPLATE AND PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – BUILDOUT

INTERSECTION	DIRECTION	LEG	EXISTING TRAFFIC VOLUMES						CALCULATED			EXISTING ADT		APPROACH %ADT					
									AM	PM	AVERAGE	COUNTED	SELECTED	Ram	Rpm	Tam	Tpm	Lam	Lpm
			8%	8%		Ram	Rpm	Tam	Tpm	Lam	Lpm								
1. N. Melrose Dr / Meadowbrook Dr	Sb	North	14	15	782	711	4	6	15325	21662.5	18493.75	19470	19470	0.07%	0.08%	4.02%	3.65%	0.02%	0.03%
	Wb	East	3	0	1	1	13	8	275	300	287.5	290	290	1.03%	0.00%	0.34%	0.34%	4.48%	2.76%
	Nb	South	1	8	415	992	21	76	16212.5	22962.5	19587.5	20150	20150	0.00%	0.04%	2.06%	4.92%	0.10%	0.38%
	Eb	West	65	42	0	1	8	9	1362.5	1800	1581.25	1580	1580	4.11%	2.66%	0.00%	0.06%	0.51%	0.57%
2. Catalina Circle / Oceanside Blvd	Sb	North	51	29	0	0	65	37	1837.5	2462.5	2150	2150	2150	2.37%	1.35%	0.00%	0.00%	3.02%	1.72%
	Wb	East	22	77	698	621	3	3	14637.5	21050	17843.75	19370	19370	0.11%	0.40%	3.60%	3.21%	0.02%	0.02%
	Nb	South	8	8	0	0	20	9	412.5	262.5	337.5	340	340	2.35%	2.35%	0.00%	0.00%	5.88%	2.65%
	Eb	West	2	1	375	938	9	54	14437.5	20650	17543.75	19130	19130	0.01%	0.01%	1.96%	4.90%	0.05%	0.28%
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr)	Sb	North	237	212	333	672	116	238	21600	23725	22662.5	22660	22660	1.05%	0.94%	1.47%	2.97%	0.51%	1.05%
	Wb	East	98	113	700	494	46	65	20437.5	23375	21906.25	19670	19670	0.50%	0.57%	3.56%	2.51%	0.23%	0.33%
	Nb	South	142	49	717	424	471	254	24125	24275	24200	24200	24200	0.59%	0.20%	2.96%	1.75%	1.95%	1.05%
	Eb	West	221	478	533	911	227	239	29862.5	32350	31106.25	19370	19370	1.14%	2.47%	2.75%	4.70%	1.17%	1.23%
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr	Sb	North	56	48	0	0	14	19	1312.5	3025	2168.75	2170	2170	2.58%	2.21%	0.00%	0.00%	0.65%	0.88%
	Wb	East	9	64	1269	648	0	0	24287.5	23137.5	23712.5	18290	18290	0.05%	0.35%	6.94%	3.54%	0.00%	0.00%
	Nb	South	0	0	0	0	0	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Eb	West	0	0	651	1120	26	111	25025	24087.5	24556.25	19670	19670	0.00%	0.00%	3.31%	5.69%	0.13%	0.56%
5. N. Santa Fe Ave / W. Bobier Dr	Sb	North	335	132	642	406	227	195	23787.5	20312.5	22050	22050	22050	1.52%	0.60%	2.91%	1.84%	1.03%	0.88%
	Wb	East	114	155	657	422	237	181	23812.5	21512.5	22662.5	20820	20820	0.55%	0.74%	3.16%	2.03%	1.14%	0.87%
	Nb	South	149	133	398	522	229	180	22750	19325	21037.5	21040	21040	0.71%	0.63%	1.89%	2.48%	1.09%	0.86%
	Eb	West	165	124	521	635	187	215	26175	21350	23762.5	18290	18290	0.90%	0.68%	2.85%	3.47%	1.02%	1.18%
6. N. Melrose Dr / North Ave	Sb	North	132	72	1246	849	61	76	31262.5	32387.5	31825	28690	28690	0.46%	0.25%	4.34%	2.96%	0.21%	0.26%
	Wb	East	91	55	182	114	215	107	10250	9400	9825	9830	9830	0.93%	0.56%	1.85%	1.16%	2.19%	1.09%
	Nb	South	94	209	875	1422	148	54	33312.5	33912.5	33612.5	30530	30530	0.31%	0.68%	2.87%	4.66%	0.48%	0.18%
	Eb	West	87	72	177	191	96	117	10275	7750	9012.5	9010	9010	0.97%	0.80%	1.96%	2.12%	1.07%	1.30%

INTERSECTION	DIRECTION	LEG	DEPARTURE %ADT						2035 ADT	GROWTH FACTOR	2030 APPROACH TRAFFIC VOLUMES						2030 DEPARTURE TRAFFIC VOLUMES					
			Ram	Rpm	Tam	Tpm	Lam	Lpm	FORECAST		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1. N. Melrose Dr / Meadowbrook Dr	Sb	North	0.89%	0.95%	3.88%	3.53%	1.38%	2.07%	36600	1.88	26	28	1,470	1,337	8	11	18	19	1420	1291	6	8
	Wb	East	0.02%	0.00%	0.06%	0.06%	0.06%	0.04%	400	1.38	4	0	1	1	18	11	6	0	1	1	24	15
	Nb	South	0.34%	2.76%	2.13%	5.10%	1.33%	4.81%	36600	1.82	2	15	754	1,802	38	138	1	11	780	1865	27	96
	Eb	West	0.32%	0.21%	0.00%	0.34%	0.04%	0.05%	2000	1.27	82	53	0	1	10	11	118	76	0	1	15	17
2. Catalina Circle / Oceanside Blvd	Sb	North	0.27%	0.15%	0.00%	0.00%	0.34%	0.19%	2400	1.12	57	32	0	0	73	41	79	45	0	0	99	56
	Wb	East	1.02%	3.58%	3.65%	3.25%	0.88%	0.88%	29500	1.52	34	117	1,063	946	5	5	25	86	1076	958	9	9
	Nb	South	0.04%	0.04%	0.00%	0.00%	0.10%	0.05%	1000	2.94	24	24	0	0	59	26	12	12	0	0	31	14
	Eb	West	0.59%	0.29%	1.94%	4.84%	0.42%	2.51%	29500	1.54	3	2	578	1,446	14	83	6	3	571	1429	10	60
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr)	Sb	North	1.22%	1.09%	1.38%	2.78%	0.59%	1.21%	36600	1.62	383	342	538	1,085	187	384	343	306	603	1216	174	357
	Wb	East	0.43%	0.50%	3.61%	2.55%	0.19%	0.27%	29500	1.50	147	169	1,050	741	69	97	158	183	1012	714	83	118
	Nb	South	0.72%	0.25%	3.16%	1.87%	2.43%	1.31%	43800	1.81	257	89	1,298	767	852	460	213	73	1158	685	681	367
	Eb	West	0.91%	1.98%	2.71%	4.63%	1.00%	1.05%	28000	1.45	319	691	770	1,317	328	345	400	865	799	1366	367	386
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr	Sb	North	0.28%	0.24%	0.00%	0.00%	0.08%	0.10%	2600	1.20	67	58	0	0	17	23	80	68	0	0	21	28
	Wb	East	0.41%	2.95%	6.45%	3.29%	0.00%	0.00%	27000	1.48	13	94	1,873	957	0	0	11	77	1806	922	0	0
	Nb	South	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	#DIV/0!	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	West	0.00%	0.00%	3.56%	6.12%	1.20%	5.12%	28000	1.42	0	0	927	1,594	37	158	0	0	961	1653	31	133
5. N. Santa Fe Ave / W. Bobier Dr	Sb	North	1.83%	0.72%	3.05%	1.93%	1.09%	0.94%	30000	1.36	456	180	873	552	309	265	495	195	915	579	322	276
	Wb	East	0.52%	0.70%	3.59%	2.31%	1.13%	0.86%	29500	1.42	162	220	931	598	336	256	155	211	970	623	338	258
	Nb	South	0.72%	0.64%	1.80%	2.37%	1.25%	0.98%	30000	1.43	212	190	567	744	327	257	211	188	541	710	338	266
	Eb	West	0.78%	0.59%	2.50%	3.05%	0.85%	0.98%	27000	1.48	244	183	769	937	276	317	235	177	738	900	254	293
6. N. Melrose Dr / North Ave	Sb	North	1.47%	0.80%	4.08%	2.78%	0.62%	0.77%	43800	1.53	202	110	1,902	1,296	93	116	164	90	1788	1218	68	85
	Wb	East	0.32%	0.19%	2.02%	1.27%	0.70%	0.35%	11000	1.12	102	62	204	128	241	120	139	84	226	142	308	154
	Nb	South	0.96%	2.13%	3.05%	4.96%	1.64%	0.60%	43800	1.43	135	300	1,255	2,040	212	77	105	234	1336	2171	184	67
	Eb	West	0.28%	0.24%	1.80%	1.94%	0.33%	0.41%	11200	1.24	108	90	220	237	119	145	125	103	198	214	147	179

INTERSECTION	DIRECTION	LEG	2030 WEIGHTED AVERAGE TRAFFIC VOLUMES						2030 ROUNDED TRAFFIC VOLUMES						CHECK					
			Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1. N. Melrose Dr / Meadowbrook Dr	Sb	North	18	20	1446	1314	6	8	20	20	1100	1000	10	10						
	Wb	East	4	0	1	1	18	11	10	0	10	10	20	10						
	Nb	South	1	11	767	1834	27	99	10	10	580	1250	25	80						
	Eb	West	85	55	0	1	10	12	75	50	0	10	10	10						
2. Catalina Circle / Oceanside Blvd	Sb	North	59	34	0	0	75	43	60	30	0	0	80	40						
	Wb	East	25	89	1070	952	9	9	30	90	880	820	10	10						
	Nb	South	23	23	0	0	58	26	15	15	0	0	40	20						
	Eb	West	6	3	575	1438	10	63	10	10	450	1150	10	60						
3. N. Melrose Dr / Oceanside Blvd (W. Bobier Dr)	Sb	North	361	323	569	1149	180	370	250	230	400	700	150	250						
	Wb	East	152	176	1031	727	75	107	100	200	800	550	400	150						
	Nb	South	233	80	1226	725	757	408	320	250	800	600	500	350						
	Eb	West	355	768	785	1341	346	364	340	500	700	1000	270	260						
4. Sports Park Wy (Future Project Dwy) / W. Bobier Dr	Sb	North	68	59	0	0	17	23	70	60	0	0	20	20						
	Wb	East	11	79	1841	940	0	0	10	80	1500	800	0	0						
	Nb	South	0	0	0	0	0	0	0	0	0	0	0	0						
	Eb	West	0	0	944	1625	32	135	0	0	800	1400	30	140						
5. N. Santa Fe Ave / W. Bobier Dr	Sb	North	477	188	895	566	315	271	380	155	770	480	260	225						
	Wb	East	158	215	952	611	337	257	150	185	800	515	280	220						
	Nb	South	212	189	555	728	333	262	180	160	470	625	290	240						
	Eb	West	240	180	755	920	266	306	230	180	750	920	250	300						
6. N. Melrose Dr / North Ave	Sb	North	173	94	1847	1258	75	93	160	90	1850	1260	70	90						
	Wb	East	111	67	215	135	257	128	110	70	220	130	260	130						
	Nb	South	112	250	1297	2108	190	69	110	250	1300	2110	190	70						
	Eb	West	112	93	210	226	126	153	110	90	210	230	130	150						

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Year 2030 AM
10/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	10	0	75	20	10	10	25	580	10	10	1100	20
Future Volume (veh/h)	10	0	75	20	10	10	25	580	10	10	1100	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	0	112	30	15	15	27	617	11	11	1264	23
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	0	455	78	28	455	197	1565	28	169	1508	27
Arrive On Green	0.30	0.00	0.30	0.30	0.30	0.30	0.11	0.44	0.44	0.09	0.42	0.42
Sat Flow, veh/h	69	0	1539	60	93	1539	1781	3569	64	1781	3567	65
Grp Volume(v), veh/h	15	0	112	45	0	15	27	307	321	11	629	658
Grp Sat Flow(s),veh/h/ln	69	0	1539	153	0	1539	1781	1777	1856	1781	1777	1855
Q Serve(g_s), s	1.1	0.0	5.5	1.8	0.0	0.7	1.4	11.7	11.7	0.6	31.7	31.7
Cycle Q Clear(g_c), s	29.2	0.0	5.5	29.5	0.0	0.7	1.4	11.7	11.7	0.6	31.7	31.7
Prop In Lane	1.00		1.00	0.67		1.00	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	92	0	455	105	0	455	197	779	814	169	751	784
V/C Ratio(X)	0.16	0.00	0.25	0.43	0.00	0.03	0.14	0.39	0.39	0.07	0.84	0.84
Avail Cap(c_a), veh/h	114	0	478	127	0	478	197	800	835	169	800	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.57	0.57	0.57	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	0.0	26.8	37.4	0.0	25.1	40.2	19.0	19.1	41.2	25.8	25.8
Incr Delay (d2), s/veh	0.8	0.0	0.3	2.7	0.0	0.0	0.2	0.4	0.4	0.2	8.5	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.1	1.2	0.0	0.3	0.6	4.5	4.7	0.2	13.9	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	0.0	27.0	40.1	0.0	25.1	40.3	19.4	19.4	41.4	34.3	34.1
LnGrp LOS	D	A	C	D	A	C	D	B	B	D	C	C
Approach Vol, veh/h		127			60			655			1298	
Approach Delay, s/veh		29.7			36.3			20.3			34.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.1	50.9		35.0	15.7	49.3		35.0				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	6.8	45.0		* 31	6.8	45.0		* 31				
Max Q Clear Time (g_c+I1), s	2.6	13.7		31.2	3.4	33.7		31.5				
Green Ext Time (p_c), s	0.0	7.5		0.0	0.0	8.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 2: Catalina Circle & Oceanside Boulevard

Year 2030 AM
 10/12/2021



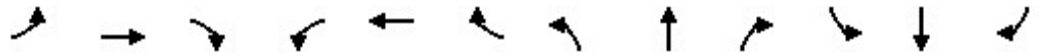
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	450	10	10	880	30	40	0	15	80	0	60
Future Volume (veh/h)	10	450	10	10	880	30	40	0	15	80	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.99		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	517	11	14	1239	42	42	0	16	99	0	74
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	2224	47	29	2202	75	235	11	67	199	16	114
Arrive On Green	0.01	0.63	0.63	0.02	0.63	0.63	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1781	3555	76	1781	3502	119	935	61	379	765	91	640
Grp Volume(v), veh/h	11	258	270	14	628	653	58	0	0	173	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1844	1374	0	0	1496	0	0
Q Serve(g_s), s	0.6	5.7	5.7	0.7	18.3	18.3	0.0	0.0	0.0	6.3	0.0	0.0
Cycle Q Clear(g_c), s	0.6	5.7	5.7	0.7	18.3	18.3	3.1	0.0	0.0	9.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.06	0.72		0.28	0.57		0.43
Lane Grp Cap(c), veh/h	24	1112	1160	29	1117	1159	314	0	0	329	0	0
V/C Ratio(X)	0.46	0.23	0.23	0.48	0.56	0.56	0.18	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	103	1112	1160	103	1117	1159	513	0	0	539	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.34	0.34	0.34	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	44.1	7.4	7.4	43.9	9.6	9.6	31.6	0.0	0.0	34.1	0.0	0.0
Incr Delay (d2), s/veh	5.1	0.5	0.5	1.5	0.7	0.7	0.3	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.8	1.9	0.3	5.6	5.8	1.1	0.0	0.0	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	7.9	7.9	45.4	10.3	10.3	31.9	0.0	0.0	35.4	0.0	0.0
LnGrp LOS	D	A	A	D	B	B	C	A	A	D	A	A
Approach Vol, veh/h		539			1295			58				173
Approach Delay, s/veh		8.7			10.7			31.9				35.4
Approach LOS		A			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	62.5		20.6	6.6	62.8		20.6				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.2	39.4		29.2	5.2	39.4		29.2				
Max Q Clear Time (g_c+I1), s	2.7	7.7		11.4	2.6	20.3		5.1				
Green Ext Time (p_c), s	0.0	4.3		0.9	0.0	10.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Year 2030 AM
 10/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	700	340	400	800	100	500	800	320	150	400	250
Future Volume (veh/h)	270	700	340	400	800	100	500	800	320	150	400	250
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		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	310	805	391	421	842	105	568	909	364	181	482	301
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	498	902	389	609	905	113	614	1180	791	227	1124	337
Arrive On Green	0.14	0.25	0.25	0.18	0.29	0.29	0.18	0.33	0.33	0.07	0.22	0.22
Sat Flow, veh/h	3456	3554	1534	3456	3167	395	3456	3554	1542	3456	5106	1529
Grp Volume(v), veh/h	310	805	391	421	472	475	568	909	364	181	482	301
Grp Sat Flow(s),veh/h/ln	1728	1777	1534	1728	1777	1785	1728	1777	1542	1728	1702	1529
Q Serve(g_s), s	12.2	31.7	36.8	16.6	37.5	37.5	23.5	33.3	22.0	7.5	11.8	27.7
Cycle Q Clear(g_c), s	12.2	31.7	36.8	16.6	37.5	37.5	23.5	33.3	22.0	7.5	11.8	27.7
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	498	902	389	609	508	510	614	1180	791	227	1124	337
V/C Ratio(X)	0.62	0.89	1.00	0.69	0.93	0.93	0.93	0.77	0.46	0.80	0.43	0.89
Avail Cap(c_a), veh/h	498	902	389	609	512	515	634	1206	802	248	1162	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.48	0.48	0.48
Uniform Delay (d), s/veh	58.3	52.2	54.1	56.0	50.4	50.4	58.7	43.5	23.0	66.8	48.7	54.9
Incr Delay (d2), s/veh	2.4	11.7	46.5	3.4	24.5	24.4	19.3	3.3	0.6	7.9	0.2	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	15.1	18.7	7.3	19.5	19.6	11.7	14.8	7.8	3.5	5.0	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	63.9	100.6	59.4	74.9	74.8	78.0	46.7	23.6	74.7	48.9	68.6
LnGrp LOS	E	E	F	E	E	E	E	D	C	E	D	E
Approach Vol, veh/h		1506			1368			1841			964	
Approach Delay, s/veh		72.7			70.1			51.8			59.9	
Approach LOS		E			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	55.1	30.9	44.0	31.1	38.9	26.3	48.6				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	10.4	49.2	23.6	36.8	26.6	33.0	18.6	41.8				
Max Q Clear Time (g_c+I1), s	9.5	35.3	18.6	38.8	25.5	29.7	14.2	39.5				
Green Ext Time (p_c), s	0.0	8.0	0.7	0.0	0.3	1.7	0.4	1.6				

Intersection Summary

HCM 6th Ctrl Delay	63.1
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

Year 2030 AM
10/12/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	800	1500	10	20	70
Future Volume (veh/h)	30	800	1500	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1127	1829	12	23	80
Peak Hour Factor	0.71	0.71	0.82	0.82	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	54	2526	2320	15	381	339
Arrive On Green	0.03	0.71	0.64	0.64	0.21	0.21
Sat Flow, veh/h	1781	3647	3712	24	1781	1585
Grp Volume(v), veh/h	42	1127	897	944	23	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1865	1781	1585
Q Serve(g_s), s	3.0	17.5	47.6	47.8	1.3	5.4
Cycle Q Clear(g_c), s	3.0	17.5	47.6	47.8	1.3	5.4
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	54	2526	1139	1196	381	339
V/C Ratio(X)	0.78	0.45	0.79	0.79	0.06	0.24
Avail Cap(c_a), veh/h	95	2526	1139	1196	381	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.18	0.18	1.00	1.00
Uniform Delay (d), s/veh	62.6	8.0	16.9	16.9	40.7	42.3
Incr Delay (d2), s/veh	16.1	0.6	1.0	1.0	0.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	6.1	17.8	18.7	0.6	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	78.7	8.5	17.9	17.9	41.0	43.9
LnGrp LOS	E	A	B	B	D	D
Approach Vol, veh/h		1169	1841		103	
Approach Delay, s/veh		11.1	17.9		43.3	
Approach LOS		B	B		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.2		31.8	9.0	89.2
Change Period (Y+Rc), s		5.8		4.0	5.1	5.8
Max Green Setting (Gmax), s		92.4		27.8	6.9	80.4
Max Q Clear Time (g_c+I1), s		19.5		7.4	5.0	49.8
Green Ext Time (p_c), s		23.7		0.0	0.0	26.2

Intersection Summary

HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary
5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Year 2030 AM
10/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	750	230	280	800	150	290	470	180	260	770	380
Future Volume (veh/h)	250	750	230	280	800	150	290	470	180	260	770	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.91	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	904	277	315	899	169	414	671	257	302	895	442
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	870	698	283	870	649	381	1017	665	326	907	617
Arrive On Green	0.16	0.24	0.24	0.16	0.24	0.24	0.21	0.29	0.29	0.18	0.26	0.26
Sat Flow, veh/h	1781	3554	1467	1781	3554	1467	1781	3554	1446	1781	3554	1432
Grp Volume(v), veh/h	301	904	277	315	899	169	414	671	257	302	895	442
Grp Sat Flow(s),veh/h/ln	1781	1777	1467	1781	1777	1467	1781	1777	1446	1781	1777	1432
Q Serve(g_s), s	23.0	35.5	18.3	23.0	35.5	10.8	31.0	24.1	17.4	24.2	36.4	37.0
Cycle Q Clear(g_c), s	23.0	35.5	18.3	23.0	35.5	10.8	31.0	24.1	17.4	24.2	36.4	37.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	870	698	283	870	649	381	1017	665	326	907	617
V/C Ratio(X)	1.07	1.04	0.40	1.11	1.03	0.26	1.09	0.66	0.39	0.93	0.99	0.72
Avail Cap(c_a), veh/h	283	870	698	283	870	649	381	1017	665	369	907	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.0	54.8	26.2	61.0	54.8	26.8	57.0	45.6	27.2	58.3	53.8	36.0
Incr Delay (d2), s/veh	71.9	41.1	0.4	88.0	39.4	0.2	71.5	1.6	0.4	27.4	26.6	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.9	20.6	6.4	17.2	20.3	3.8	21.4	10.8	6.0	13.3	19.4	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.9	95.9	26.6	149.0	94.1	27.0	128.5	47.1	27.6	85.7	80.4	40.0
LnGrp LOS	F	F	C	F	F	C	F	D	C	F	F	D
Approach Vol, veh/h		1482			1383			1342			1639	
Approach Delay, s/veh		90.4			98.4			68.5			70.5	
Approach LOS		F			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	42.1	27.0	40.9	30.5	46.6	27.0	40.9				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	31.0	37.0	23.0	35.5	30.0	38.0	23.0	35.5				
Max Q Clear Time (g_c+I1), s	33.0	39.0	25.0	37.5	26.2	26.1	25.0	37.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.3	4.3	0.0	0.0				

Intersection Summary

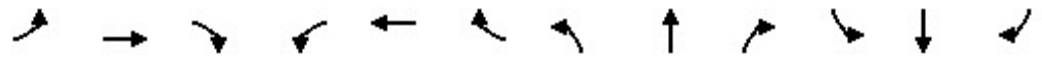
HCM 6th Ctrl Delay	81.7
HCM 6th LOS	F

Notes

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

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Year 2030 AM
10/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	210	110	260	220	110	190	1300	110	70	1850	160
Future Volume (veh/h)	130	210	110	260	220	110	190	1300	110	70	1850	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	253	133	292	247	124	213	1461	124	72	1907	165
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	300	240	330	214	107	187	2163	184	91	1903	164
Arrive On Green	0.16	0.16	0.16	0.19	0.19	0.19	0.10	0.45	0.45	0.05	0.40	0.40
Sat Flow, veh/h	1781	1870	1499	1781	1153	579	1781	4777	405	1781	4770	410
Grp Volume(v), veh/h	157	253	133	292	0	371	213	1041	544	72	1358	714
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	0	1731	1781	1702	1778	1781	1702	1776
Q Serve(g_s), s	11.8	19.0	11.9	23.2	0.0	26.9	15.2	35.0	35.0	5.8	57.8	57.8
Cycle Q Clear(g_c), s	11.8	19.0	11.9	23.2	0.0	26.9	15.2	35.0	35.0	5.8	57.8	57.8
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.23	1.00		0.23
Lane Grp Cap(c), veh/h	286	300	240	330	0	321	187	1541	805	91	1358	708
V/C Ratio(X)	0.55	0.84	0.55	0.88	0.00	1.16	1.14	0.68	0.68	0.79	1.00	1.01
Avail Cap(c_a), veh/h	319	335	269	330	0	321	187	1541	805	113	1358	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	59.1	56.1	57.5	0.0	59.1	64.9	31.3	31.3	68.1	43.6	43.6
Incr Delay (d2), s/veh	1.6	16.2	2.0	23.4	0.0	99.2	108.8	2.4	4.5	25.8	24.3	36.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	10.4	4.6	12.6	0.0	20.6	12.4	14.4	15.5	3.3	27.9	31.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	75.3	58.1	80.9	0.0	158.3	173.7	33.7	35.8	93.8	67.9	79.6
LnGrp LOS	E	E	E	F	A	F	F	C	D	F	E	F
Approach Vol, veh/h		543			663			1798			2144	
Approach Delay, s/veh		66.0			124.2			50.9			72.7	
Approach LOS		E			F			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	71.5		28.4	21.0	63.6		32.0				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	9.2	61.1		26.0	15.2	55.1		26.9				
Max Q Clear Time (g_c+I1), s	7.8	37.0		21.0	17.2	59.8		28.9				
Green Ext Time (p_c), s	0.0	11.5		1.1	0.0	0.0		0.0				

Intersection Summary

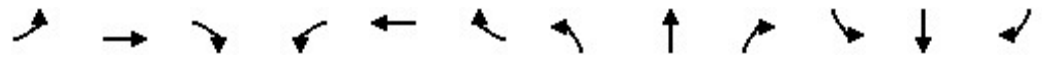
HCM 6th Ctrl Delay	71.0
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary
 1: N Melrose Dr & Meadowbrook Dr

Year 2030 PM
 10/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	10	10	50	10	10	0	80	1250	10	10	1000	20
Future Volume (veh/h)	10	10	50	10	10	0	80	1250	10	10	1000	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	56	22	22	0	85	1330	11	11	1111	22
Peak Hour Factor	0.89	0.89	0.89	0.45	0.45	0.45	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	128	203	142	126	214	539	1553	13	471	1394	28
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.30	0.43	0.43	0.26	0.39	0.39
Sat Flow, veh/h	673	948	1506	657	932	1585	1781	3611	30	1781	3560	70
Grp Volume(v), veh/h	22	0	56	44	0	0	85	654	687	11	554	579
Grp Sat Flow(s),veh/h/ln	1622	0	1506	1588	0	1585	1781	1777	1864	1781	1777	1854
Q Serve(g_s), s	0.0	0.0	3.3	0.1	0.0	0.0	3.5	33.2	33.3	0.5	27.6	27.6
Cycle Q Clear(g_c), s	1.0	0.0	3.3	2.1	0.0	0.0	3.5	33.2	33.3	0.5	27.6	27.6
Prop In Lane	0.50		1.00	0.50		1.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	272	0	203	268	0	214	539	764	801	471	696	726
V/C Ratio(X)	0.08	0.00	0.28	0.16	0.00	0.00	0.16	0.86	0.86	0.02	0.80	0.80
Avail Cap(c_a), veh/h	550	0	468	539	0	493	539	800	839	471	743	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	0.0	38.9	38.3	0.0	0.0	25.5	25.7	25.7	27.2	26.9	26.9
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.3	0.0	0.0	0.1	6.9	6.7	0.0	6.9	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.3	1.0	0.0	0.0	1.4	14.2	14.8	0.2	12.1	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	0.0	39.6	38.6	0.0	0.0	25.6	32.6	32.4	27.3	33.8	33.5
LnGrp LOS	D	A	D	D	A	A	C	C	C	C	C	C
Approach Vol, veh/h		78			44			1426			1144	
Approach Delay, s/veh		39.2			38.6			32.1			33.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.8	50.0		18.2	35.7	46.2		18.2				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	6.8	45.0		* 31	10.0	41.8		* 31				
Max Q Clear Time (g_c+I1), s	2.5	35.3		5.3	5.5	29.6		4.1				
Green Ext Time (p_c), s	0.0	7.8		0.3	0.1	8.3		0.2				

Intersection Summary

HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 2: Catalina Circle & Oceanside Boulevard

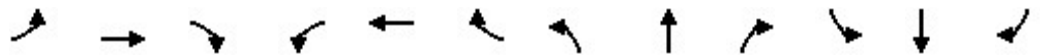
Year 2030 PM
 10/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	1150	10	10	820	90	20	0	15	40	0	30
Future Volume (veh/h)	60	1150	10	10	820	90	20	0	15	40	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	1322	11	11	901	99	33	0	25	59	0	44
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.61	0.61	0.61	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	2405	20	24	2025	222	172	16	95	167	16	89
Arrive On Green	0.05	0.67	0.67	0.01	0.63	0.63	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	1781	3611	30	1781	3216	353	775	115	674	738	114	636
Grp Volume(v), veh/h	69	650	683	11	498	502	58	0	0	103	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1792	1564	0	0	1488	0	0
Q Serve(g_s), s	3.4	17.4	17.4	0.6	13.0	13.0	0.0	0.0	0.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	3.4	17.4	17.4	0.6	13.0	13.0	2.7	0.0	0.0	5.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.20	0.57		0.43	0.57		0.43
Lane Grp Cap(c), veh/h	89	1183	1241	24	1119	1128	283	0	0	272	0	0
V/C Ratio(X)	0.78	0.55	0.55	0.46	0.45	0.45	0.21	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	143	1183	1241	103	1119	1128	540	0	0	532	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.58	0.58	0.58	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.3	7.9	7.9	44.1	8.6	8.6	34.4	0.0	0.0	35.4	0.0	0.0
Incr Delay (d2), s/veh	5.4	1.8	1.8	3.0	0.7	0.7	0.4	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.3	5.5	0.3	4.0	4.1	1.1	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	9.8	9.7	47.1	9.3	9.3	34.8	0.0	0.0	36.3	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1402			1011			58				103
Approach Delay, s/veh		11.6			9.7			34.8				36.3
Approach LOS		B			A			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	66.1		17.3	9.9	62.9		17.3				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.2	39.5		29.1	7.2	37.5		29.1				
Max Q Clear Time (g_c+I1), s	2.6	19.4		7.4	5.4	15.0		4.7				
Green Ext Time (p_c), s	0.0	11.3		0.5	0.0	8.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				12.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Year 2030 PM
 10/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	260	1000	500	150	550	200	350	600	250	250	700	230
Future Volume (veh/h)	260	1000	500	150	550	200	350	600	250	250	700	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	1042	521	165	604	220	376	645	269	272	761	250
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	600	1243	540	499	811	295	427	851	596	324	1070	320
Arrive On Green	0.17	0.35	0.35	0.14	0.32	0.32	0.12	0.24	0.24	0.09	0.21	0.21
Sat Flow, veh/h	3456	3554	1543	3456	2530	920	3456	3554	1532	3456	5106	1527
Grp Volume(v), veh/h	271	1042	521	165	424	400	376	645	269	272	761	250
Grp Sat Flow(s),veh/h/ln	1728	1777	1543	1728	1777	1673	1728	1777	1532	1728	1702	1527
Q Serve(g_s), s	10.2	39.1	48.1	6.2	30.9	31.0	15.5	24.5	19.0	11.2	20.1	22.4
Cycle Q Clear(g_c), s	10.2	39.1	48.1	6.2	30.9	31.0	15.5	24.5	19.0	11.2	20.1	22.4
Prop In Lane	1.00		1.00	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	600	1243	540	499	570	537	427	851	596	324	1070	320
V/C Ratio(X)	0.45	0.84	0.97	0.33	0.74	0.75	0.88	0.76	0.45	0.84	0.71	0.78
Avail Cap(c_a), veh/h	600	1245	541	499	573	540	491	877	607	424	1162	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.56	0.56	0.56
Uniform Delay (d), s/veh	53.7	43.4	46.3	55.7	43.9	44.0	62.5	51.2	33.4	64.6	53.2	54.2
Incr Delay (d2), s/veh	0.5	4.9	27.4	0.4	6.3	6.7	15.2	4.0	0.8	6.5	1.2	6.4
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	4.4	17.4	21.7	2.7	14.1	13.4	7.6	11.1	7.0	5.2	8.6	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.2	48.3	73.7	56.1	50.2	50.7	77.7	55.3	34.1	71.1	54.4	60.6
LnGrp LOS	D	D	E	E	D	D	E	E	C	E	D	E
Approach Vol, veh/h		1834			989			1290			1283	
Approach Delay, s/veh		56.4			51.4			57.4			59.2	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	41.7	26.3	57.9	23.3	37.4	30.6	53.7				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	17.8	35.8	15.6	50.8	20.6	33.0	19.6	46.8				
Max Q Clear Time (g_c+I1), s	13.2	26.5	8.2	50.1	17.5	24.4	12.2	33.0				
Green Ext Time (p_c), s	0.4	4.5	0.3	0.7	0.4	4.6	0.5	6.8				

Intersection Summary

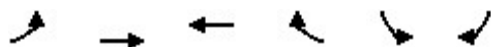
HCM 6th Ctrl Delay	56.4
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary
 4: W Bobier Dr & Sports Park Way

Year 2030 PM
 10/13/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	1400	800	80	20	60
Future Volume (veh/h)	140	1400	800	80	20	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	1538	879	88	31	94
Peak Hour Factor	0.91	0.91	0.91	0.91	0.64	0.64
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	181	2466	1797	180	411	366
Arrive On Green	0.10	0.69	0.55	0.55	0.23	0.23
Sat Flow, veh/h	1781	3647	3343	325	1781	1585
Grp Volume(v), veh/h	154	1538	481	486	31	94
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1798	1781	1585
Q Serve(g_s), s	11.1	30.4	21.5	21.6	1.8	6.3
Cycle Q Clear(g_c), s	11.1	30.4	21.5	21.6	1.8	6.3
Prop In Lane	1.00			0.18	1.00	1.00
Lane Grp Cap(c), veh/h	181	2466	983	994	411	366
V/C Ratio(X)	0.85	0.62	0.49	0.49	0.08	0.26
Avail Cap(c_a), veh/h	341	2466	983	994	411	366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	57.4	10.7	17.8	17.8	39.1	40.9
Incr Delay (d2), s/veh	8.1	1.2	1.3	1.3	0.4	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	10.9	8.8	8.9	0.8	6.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	65.5	11.9	19.1	19.1	39.5	42.6
LnGrp LOS	E	B	B	B	D	D
Approach Vol, veh/h		1692	967		125	
Approach Delay, s/veh		16.8	19.1		41.8	
Approach LOS		B	B		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		96.0		34.0	18.3	77.7
Change Period (Y+Rc), s		5.8		4.0	5.1	5.8
Max Green Setting (Gmax), s		90.2		30.0	24.9	60.2
Max Q Clear Time (g_c+I1), s		32.4		8.3	13.1	23.6
Green Ext Time (p_c), s		35.3		0.0	0.2	14.3
Intersection Summary						
HCM 6th Ctrl Delay			18.7			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Year 2030 PM
 10/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↘	↗	↘	↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	300	920	180	220	515	185	240	625	160	225	480	155
Future Volume (veh/h)	300	920	180	220	515	185	240	625	160	225	480	155
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		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	316	968	189	253	592	213	255	665	170	265	565	182
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	1137	742	168	886	642	280	982	559	292	1006	681
Arrive On Green	0.17	0.32	0.32	0.09	0.25	0.25	0.16	0.28	0.28	0.16	0.28	0.28
Sat Flow, veh/h	1781	3554	1541	1781	3554	1533	1781	3554	1480	1781	3554	1482
Grp Volume(v), veh/h	316	968	189	253	592	213	255	665	170	265	565	182
Grp Sat Flow(s),veh/h/ln	1781	1777	1541	1781	1777	1533	1781	1777	1480	1781	1777	1482
Q Serve(g_s), s	21.0	32.4	9.3	12.0	19.1	12.0	17.9	21.2	10.4	18.6	17.2	9.8
Cycle Q Clear(g_c), s	21.0	32.4	9.3	12.0	19.1	12.0	17.9	21.2	10.4	18.6	17.2	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	1137	742	168	886	642	280	982	559	292	1006	681
V/C Ratio(X)	1.07	0.85	0.25	1.51	0.67	0.33	0.91	0.68	0.30	0.91	0.56	0.27
Avail Cap(c_a), veh/h	294	1386	850	168	1134	749	294	1143	625	336	1226	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	40.4	19.8	57.6	43.0	25.4	52.7	41.0	28.5	52.2	38.9	22.1
Incr Delay (d2), s/veh	73.7	4.5	0.2	255.9	1.0	0.3	29.8	1.3	0.3	25.3	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	14.4	3.3	17.3	8.3	4.4	10.3	9.4	3.7	10.3	7.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	126.8	44.9	20.0	313.5	44.0	25.7	82.5	42.3	28.8	77.5	39.4	22.3
LnGrp LOS	F	D	B	F	D	C	F	D	C	E	D	C
Approach Vol, veh/h		1473			1058			1090			1012	
Approach Delay, s/veh		59.3			104.8			49.6			46.3	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	41.1	25.0	37.1	24.8	40.3	16.0	46.1				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	21.0	43.9	21.0	40.6	24.0	40.9	12.0	49.6				
Max Q Clear Time (g_c+I1), s	19.9	19.2	23.0	21.1	20.6	23.2	14.0	34.4				
Green Ext Time (p_c), s	0.1	4.6	0.0	4.4	0.3	4.8	0.0	6.3				

Intersection Summary

HCM 6th Ctrl Delay	64.5
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Year 2030 PM
10/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	230	90	130	130	70	70	2110	250	90	1260	90
Future Volume (veh/h)	150	230	90	130	130	70	70	2110	250	90	1260	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	264	103	137	137	74	72	2175	258	98	1370	98
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	307	247	225	140	76	91	2290	266	113	2465	176
Arrive On Green	0.16	0.16	0.16	0.13	0.13	0.13	0.05	0.50	0.50	0.06	0.51	0.51
Sat Flow, veh/h	1781	1870	1503	1781	1113	601	1781	4617	536	1781	4849	347
Grp Volume(v), veh/h	172	264	103	137	0	211	72	1591	842	98	962	506
Grp Sat Flow(s),veh/h/ln	1781	1870	1503	1781	0	1714	1781	1702	1749	1781	1702	1792
Q Serve(g_s), s	13.0	19.9	8.9	10.6	0.0	17.8	5.8	64.1	67.8	7.9	28.1	28.1
Cycle Q Clear(g_c), s	13.0	19.9	8.9	10.6	0.0	17.8	5.8	64.1	67.8	7.9	28.1	28.1
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.31	1.00		0.19
Lane Grp Cap(c), veh/h	292	307	247	225	0	216	91	1688	868	113	1730	911
V/C Ratio(X)	0.59	0.86	0.42	0.61	0.00	0.98	0.79	0.94	0.97	0.87	0.56	0.56
Avail Cap(c_a), veh/h	326	342	275	225	0	216	155	1688	868	113	1730	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	59.0	54.4	60.0	0.0	63.1	68.0	34.6	35.5	67.3	24.4	24.4
Incr Delay (d2), s/veh	2.3	18.0	1.1	4.7	0.0	54.0	14.1	12.0	24.2	46.3	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	11.0	3.5	5.1	0.0	11.0	3.0	27.8	33.0	5.0	11.2	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	77.0	55.5	64.7	0.0	117.1	82.1	46.6	59.7	113.6	25.7	26.9
LnGrp LOS	E	E	E	E	A	F	F	D	E	F	C	C
Approach Vol, veh/h		539			348			2505			1566	
Approach Delay, s/veh		66.9			96.5			52.0			31.6	
Approach LOS		E			F			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	77.7		28.9	13.2	79.5		23.4				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	9.2	69.2		26.5	12.6	65.8		18.3				
Max Q Clear Time (g_c+I1), s	9.9	69.8		21.9	7.8	30.1		19.8				
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	12.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D























Notes

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

APPENDIX K
PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS –
BUILDOUT + PROJECT

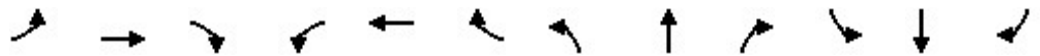
HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Year 2030 + Project AM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	76	20	10	10	28	610	10	10	1108	20
Future Volume (veh/h)	10	0	76	20	10	10	28	610	10	10	1108	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	0	113	30	15	15	30	649	11	11	1274	23
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	0	455	78	28	455	195	1581	27	162	1514	27
Arrive On Green	0.30	0.00	0.30	0.30	0.30	0.30	0.11	0.44	0.44	0.09	0.42	0.42
Sat Flow, veh/h	69	0	1539	60	93	1539	1781	3573	61	1781	3568	64
Grp Volume(v), veh/h	15	0	113	45	0	15	30	323	337	11	634	663
Grp Sat Flow(s),veh/h/ln	69	0	1539	154	0	1539	1781	1777	1857	1781	1777	1856
Q Serve(g_s), s	1.1	0.0	5.6	1.8	0.0	0.7	1.5	12.4	12.4	0.6	32.0	32.0
Cycle Q Clear(g_c), s	29.1	0.0	5.6	29.5	0.0	0.7	1.5	12.4	12.4	0.6	32.0	32.0
Prop In Lane	1.00		1.00	0.67		1.00	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	93	0	455	105	0	455	195	786	821	162	754	787
V/C Ratio(X)	0.16	0.00	0.25	0.43	0.00	0.03	0.15	0.41	0.41	0.07	0.84	0.84
Avail Cap(c_a), veh/h	114	0	478	128	0	478	195	800	835	162	800	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	0.0	26.8	37.4	0.0	25.1	40.3	19.0	19.0	41.6	25.8	25.8
Incr Delay (d2), s/veh	0.8	0.0	0.3	2.7	0.0	0.0	0.2	0.4	0.4	0.2	8.8	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.2	0.0	0.3	0.7	4.8	5.0	0.2	14.1	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	0.0	27.1	40.1	0.0	25.1	40.5	19.4	19.4	41.7	34.5	34.3
LnGrp LOS	D	A	C	D	A	C	D	B	B	D	C	C
Approach Vol, veh/h		128			60			690			1308	
Approach Delay, s/veh		29.7			36.3			20.3			34.5	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	51.2		35.0	15.6	49.4		35.0				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	6.8	45.0		* 31	6.8	45.0		* 31				
Max Q Clear Time (g_c+I1), s	2.6	14.4		31.1	3.5	34.0		31.5				
Green Ext Time (p_c), s	0.0	7.9		0.0	0.0	8.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			29.8									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
 2: Catalina Circle & Oceanside Boulevard

Year 2030 + Project AM
 10/20/2021

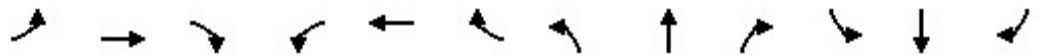


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Volume (veh/h)	10	456	10	15	903	33	40	0	16	81	0	60
Future Volume (veh/h)	10	456	10	15	903	33	40	0	16	81	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.99		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	524	11	21	1272	46	42	0	17	100	0	74
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	2201	46	40	2194	79	233	11	71	200	16	114
Arrive On Green	0.01	0.62	0.62	0.02	0.63	0.63	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1781	3556	75	1781	3493	126	920	63	398	770	90	636
Grp Volume(v), veh/h	11	262	273	21	646	672	59	0	0	174	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1842	1381	0	0	1496	0	0
Q Serve(g_s), s	0.6	5.9	5.9	1.0	19.1	19.2	0.0	0.0	0.0	6.3	0.0	0.0
Cycle Q Clear(g_c), s	0.6	5.9	5.9	1.0	19.1	19.2	3.1	0.0	0.0	9.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.07	0.71		0.29	0.57		0.43
Lane Grp Cap(c), veh/h	24	1100	1147	40	1116	1157	315	0	0	330	0	0
V/C Ratio(X)	0.46	0.24	0.24	0.52	0.58	0.58	0.19	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	101	1100	1147	111	1116	1157	514	0	0	539	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.30	0.30	0.30	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	44.1	7.7	7.7	43.5	9.8	9.8	31.6	0.0	0.0	34.0	0.0	0.0
Incr Delay (d2), s/veh	5.1	0.5	0.5	1.2	0.7	0.6	0.3	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	2.0	0.5	5.8	6.0	1.1	0.0	0.0	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	8.2	8.2	44.6	10.4	10.4	31.9	0.0	0.0	35.3	0.0	0.0
LnGrp LOS	D	A	A	D	B	B	C	A	A	D	A	A
Approach Vol, veh/h		546			1339			59				174
Approach Delay, s/veh		9.0			11.0			31.9				35.3
Approach LOS		A			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	61.9		20.7	6.6	62.7		20.7				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.6	39.0		29.2	5.1	39.5		29.2				
Max Q Clear Time (g_c+I1), s	3.0	7.9		11.4	2.6	21.2		5.1				
Green Ext Time (p_c), s	0.0	4.3		0.9	0.0	10.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay				13.0								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Year 2030 + Project AM
 10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	270	708	340	435	830	133	500	800	329	159	400	250
Future Volume (veh/h)	270	708	340	435	830	133	500	800	329	159	400	250
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		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	310	814	391	458	874	140	568	909	374	192	482	301
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	915	395	601	917	147	608	1163	780	238	1124	337
Arrive On Green	0.13	0.26	0.26	0.17	0.30	0.30	0.18	0.33	0.33	0.07	0.22	0.22
Sat Flow, veh/h	3456	3554	1535	3456	3053	489	3456	3554	1541	3456	5106	1529
Grp Volume(v), veh/h	310	814	391	458	509	505	568	909	374	192	482	301
Grp Sat Flow(s),veh/h/ln	1728	1777	1535	1728	1777	1765	1728	1777	1541	1728	1702	1529
Q Serve(g_s), s	12.4	32.0	36.8	18.3	40.7	40.7	23.5	33.5	23.2	7.9	11.8	27.7
Cycle Q Clear(g_c), s	12.4	32.0	36.8	18.3	40.7	40.7	23.5	33.5	23.2	7.9	11.8	27.7
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	453	915	395	601	534	530	608	1163	780	238	1124	337
V/C Ratio(X)	0.68	0.89	0.99	0.76	0.95	0.95	0.93	0.78	0.48	0.81	0.43	0.89
Avail Cap(c_a), veh/h	453	915	395	601	537	533	610	1169	783	260	1162	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	0.48	0.48	0.48
Uniform Delay (d), s/veh	60.1	51.9	53.6	57.0	49.7	49.7	58.9	44.1	23.8	66.5	48.7	54.9
Incr Delay (d2), s/veh	4.1	11.2	42.1	5.7	27.9	28.0	21.6	3.7	0.7	8.1	0.2	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	15.2	18.3	8.3	21.5	21.4	11.9	15.0	8.2	3.7	5.0	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	63.0	95.7	62.7	77.6	77.7	80.5	47.8	24.5	74.7	48.9	68.6
LnGrp LOS	E	E	F	E	E	E	F	D	C	E	D	E
Approach Vol, veh/h		1515			1472			1851			975	
Approach Delay, s/veh		71.7			73.0			53.1			60.0	
Approach LOS		E			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	54.4	30.6	44.5	30.9	38.9	24.4	50.7				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	10.9	47.7	24.4	37.0	25.6	33.0	17.6	43.8				
Max Q Clear Time (g_c+I1), s	9.9	35.5	20.3	38.8	25.5	29.7	14.4	42.7				
Green Ext Time (p_c), s	0.1	7.3	0.7	0.0	0.0	1.7	0.3	0.9				

Intersection Summary

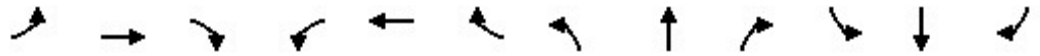
HCM 6th Ctrl Delay	64.2
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

Year 2030 + Project AM
10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	30	800	26	7	1500	10	98	3	25	20	1	70
Future Volume (veh/h)	30	800	26	7	1500	10	98	3	25	20	1	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1127	37	9	1829	12	108	3	27	23	1	80
Peak Hour Factor	0.71	0.71	0.71	0.82	0.82	0.82	0.91	0.91	0.91	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	1896	62	19	1866	12	69	22	199	296	5	397
Arrive On Green	0.03	0.54	0.54	0.01	0.52	0.52	0.04	0.14	0.14	0.17	0.26	0.26
Sat Flow, veh/h	1781	3510	115	1781	3618	24	1781	161	1449	1781	19	1519
Grp Volume(v), veh/h	42	570	594	9	897	944	108	0	30	23	0	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1865	1781	0	1610	1781	0	1538
Q Serve(g_s), s	3.0	28.3	28.3	0.7	64.2	64.5	5.0	0.0	2.1	1.4	0.0	5.3
Cycle Q Clear(g_c), s	3.0	28.3	28.3	0.7	64.2	64.5	5.0	0.0	2.1	1.4	0.0	5.3
Prop In Lane	1.00		0.06	1.00		0.01	1.00		0.90	1.00		0.99
Lane Grp Cap(c), veh/h	54	960	998	19	917	962	69	0	222	296	0	402
V/C Ratio(X)	0.78	0.59	0.59	0.47	0.98	0.98	1.58	0.00	0.14	0.08	0.00	0.20
Avail Cap(c_a), veh/h	73	960	998	69	917	962	69	0	223	296	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.19	0.19	0.19	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.6	20.2	20.3	63.9	30.8	30.8	62.5	0.0	49.3	45.8	0.0	37.4
Incr Delay (d2), s/veh	26.9	2.7	2.6	3.4	8.9	9.0	318.0	0.0	0.3	0.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.9	12.3	0.3	27.9	29.5	8.3	0.0	0.9	0.7	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.5	23.0	22.9	67.4	39.7	39.8	380.5	0.0	49.5	46.3	0.0	38.5
LnGrp LOS	F	C	C	E	D	D	F	A	D	D	A	D
Approach Vol, veh/h		1206			1850			138				104
Approach Delay, s/veh		25.2			39.9			308.5				40.3
Approach LOS		C			D			F				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	76.0	9.5	38.6	9.0	72.9	25.6	22.5				
Change Period (Y+Rc), s	4.5	5.8	4.5	4.6	5.1	5.8	4.0	* 4.6				
Max Green Setting (Gmax), s	5.0	66.6	5.0	34.0	5.3	65.7	21.6	* 18				
Max Q Clear Time (g_c+I1), s	2.7	30.3	7.0	7.3	5.0	66.5	3.4	4.1				
Green Ext Time (p_c), s	0.0	18.1	0.0	0.4	0.0	0.0	0.0	0.1				

Intersection Summary

























HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
























HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Year 2030 + Project AM
 10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	763	236	280	803	150	292	470	180	260	770	382
Future Volume (veh/h)	256	763	236	280	803	150	292	470	180	260	770	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	308	919	284	315	902	169	417	671	257	302	895	444
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	895	698	271	895	660	369	1014	654	326	929	617
Arrive On Green	0.15	0.25	0.25	0.15	0.25	0.25	0.21	0.29	0.29	0.18	0.26	0.26
Sat Flow, veh/h	1781	3554	1470	1781	3554	1470	1781	3554	1446	1781	3554	1435
Grp Volume(v), veh/h	308	919	284	315	902	169	417	671	257	302	895	444
Grp Sat Flow(s),veh/h/ln	1781	1777	1470	1781	1777	1470	1781	1777	1446	1781	1777	1435
Q Serve(g_s), s	22.1	36.5	18.8	22.1	36.5	10.6	30.0	24.1	17.6	24.2	36.1	37.9
Cycle Q Clear(g_c), s	22.1	36.5	18.8	22.1	36.5	10.6	30.0	24.1	17.6	24.2	36.1	37.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	895	698	271	895	660	369	1014	654	326	929	617
V/C Ratio(X)	1.13	1.03	0.41	1.16	1.01	0.26	1.13	0.66	0.39	0.93	0.96	0.72
Avail Cap(c_a), veh/h	271	895	698	271	895	660	369	1014	654	369	929	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.5	54.3	26.3	61.5	54.3	26.2	57.5	45.6	27.9	58.3	52.9	36.1
Incr Delay (d2), s/veh	95.8	37.3	0.4	105.1	32.1	0.2	87.6	1.6	0.4	27.4	21.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.1	20.6	6.6	17.8	20.0	3.7	22.4	10.9	6.1	13.3	18.6	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.3	91.5	26.7	166.5	86.4	26.4	145.1	47.3	28.3	85.7	74.0	40.2
LnGrp LOS	F	F	C	F	F	C	F	D	C	F	E	D
Approach Vol, veh/h		1511			1386			1345			1641	
Approach Delay, s/veh		92.7			97.3			74.0			67.0	
Approach LOS		F			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	43.0	26.1	41.9	30.5	46.5	26.1	41.9				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	30.0	37.9	22.1	36.5	30.0	37.9	22.1	36.5				
Max Q Clear Time (g_c+I1), s	32.0	39.9	24.1	38.5	26.2	26.1	24.1	38.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.3	4.3	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay					82.3							
HCM 6th LOS					F							
Notes												
User approved pedestrian interval to be less than phase max green.												























HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Year 2030 + Project AM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	210	110	260	220	111	190	1308	110	73	1880	163
Future Volume (veh/h)	131	210	110	260	220	111	190	1308	110	73	1880	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	253	133	292	247	125	213	1470	124	75	1938	168
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	302	242	318	205	104	187	2181	184	94	1929	166
Arrive On Green	0.16	0.16	0.16	0.18	0.18	0.18	0.10	0.46	0.46	0.05	0.40	0.40
Sat Flow, veh/h	1781	1870	1499	1781	1148	581	1781	4780	403	1781	4769	411
Grp Volume(v), veh/h	158	253	133	292	0	372	213	1047	547	75	1379	727
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	0	1729	1781	1702	1779	1781	1702	1776
Q Serve(g_s), s	11.8	19.0	11.8	23.4	0.0	25.9	15.2	35.0	35.0	6.0	58.7	58.7
Cycle Q Clear(g_c), s	11.8	19.0	11.8	23.4	0.0	25.9	15.2	35.0	35.0	6.0	58.7	58.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.23	1.00		0.23
Lane Grp Cap(c), veh/h	288	302	242	318	0	309	187	1554	812	94	1377	718
V/C Ratio(X)	0.55	0.84	0.55	0.92	0.00	1.20	1.14	0.67	0.67	0.80	1.00	1.01
Avail Cap(c_a), veh/h	343	360	288	318	0	309	187	1554	812	138	1377	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	58.9	55.9	58.5	0.0	59.6	64.9	30.9	30.9	67.9	43.2	43.2
Incr Delay (d2), s/veh	1.6	13.7	1.9	30.3	0.0	118.5	108.8	2.4	4.5	17.8	24.7	36.5
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	5.5	10.2	4.6	13.2	0.0	21.5	12.4	14.4	15.5	3.2	28.3	31.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	72.6	57.8	88.8	0.0	178.1	173.7	33.3	35.4	85.7	67.8	79.7
LnGrp LOS	E	E	E	F	A	F	F	C	D	F	F	F
Approach Vol, veh/h		544			664			1807			2181	
Approach Delay, s/veh		64.6			138.8			50.5			72.4	
Approach LOS		E			F			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	72.0		28.5	21.0	64.5		31.0				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	11.2	58.2		27.9	15.2	54.2		25.9				
Max Q Clear Time (g_c+I1), s	8.0	37.0		21.0	17.2	60.7		27.9				
Green Ext Time (p_c), s	0.0	10.8		1.4	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				72.5								
HCM 6th LOS				E								
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th Signalized Intersection Summary
1: N Melrose Dr & Meadowbrook Dr

Year 2030 + Project PM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	53	10	10	0	81	1263	10	10	1030	20
Future Volume (veh/h)	10	10	53	10	10	0	81	1263	10	10	1030	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	15	79	15	15	0	86	1344	11	11	1184	23
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	134	215	147	130	226	603	1581	13	534	1422	28
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.34	0.44	0.41	0.30	0.40	0.37
Sat Flow, veh/h	681	942	1509	654	914	1585	1781	3611	30	1781	3562	69
Grp Volume(v), veh/h	30	0	79	30	0	0	86	661	694	11	590	617
Grp Sat Flow(s),veh/h/ln	1622	0	1509	1568	0	1585	1781	1777	1864	1781	1777	1854
Q Serve(g_s), s	0.0	0.0	4.7	0.0	0.0	0.0	3.4	33.3	33.4	0.4	29.9	29.9
Cycle Q Clear(g_c), s	1.4	0.0	4.7	1.4	0.0	0.0	3.4	33.3	33.4	0.4	29.9	29.9
Prop In Lane	0.50		1.00	0.50		1.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	285	0	215	277	0	226	603	778	816	534	709	740
V/C Ratio(X)	0.11	0.00	0.37	0.11	0.00	0.00	0.14	0.85	0.85	0.02	0.83	0.83
Avail Cap(c_a), veh/h	640	0	554	619	0	582	603	778	816	534	734	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	0.0	38.8	37.4	0.0	0.0	23.0	25.2	25.2	24.7	27.0	27.1
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.2	0.0	0.0	0.1	6.1	5.9	0.0	8.9	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.8	0.7	0.0	0.0	1.3	14.0	14.7	0.2	13.4	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	0.0	39.8	37.5	0.0	0.0	23.1	31.3	31.1	24.7	36.0	35.7
LnGrp LOS	D	A	D	D	A	A	C	C	C	C	D	D
Approach Vol, veh/h		109			30			1441			1218	
Approach Delay, s/veh		39.2			37.5			30.7			35.7	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	47.8		18.2	37.8	43.9		18.2				
Change Period (Y+Rc), s	5.4	7.0		* 4.7	5.4	7.0		* 4.7				
Max Green Setting (Gmax), s	7.9	39.0		* 36	8.6	38.3		* 36				
Max Q Clear Time (g_c+I1), s	2.4	35.4		6.7	5.4	31.9		3.4				
Green Ext Time (p_c), s	0.0	3.1		0.4	0.0	5.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			33.3									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
2: Catalina Circle & Oceanside Boulevard

Year 2030 + Project PM
10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	1173	10	12	830	91	20	0	20	43	0	30
Future Volume (veh/h)	60	1173	10	12	830	91	20	0	20	43	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	1631	11	17	1415	128	21	0	21	53	0	37
Peak Hour Factor	0.87	0.87	0.87	0.71	0.71	0.71	0.96	0.96	0.96	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	2498	17	62	2171	195	151	18	109	170	15	85
Arrive On Green	0.06	0.69	0.67	0.03	0.66	0.64	0.14	0.00	0.13	0.14	0.00	0.13
Sat Flow, veh/h	1781	3617	24	1781	3287	295	643	130	773	755	110	604
Grp Volume(v), veh/h	69	801	841	17	761	782	42	0	0	90	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1805	1546	0	0	1468	0	0
Q Serve(g_s), s	3.4	22.8	22.9	0.8	22.9	23.5	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	3.4	22.8	22.9	0.8	22.9	23.5	2.0	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.16	0.50		0.50	0.59		0.41
Lane Grp Cap(c), veh/h	115	1227	1288	62	1174	1193	278	0	0	271	0	0
V/C Ratio(X)	0.60	0.65	0.65	0.27	0.65	0.66	0.15	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	135	1227	1288	129	1174	1193	545	0	0	537	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.62	0.62	0.62	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.9	7.8	7.9	42.3	9.1	9.3	34.2	0.0	0.0	35.2	0.0	0.0
Incr Delay (d2), s/veh	2.4	2.7	2.6	0.5	1.7	1.8	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.7	7.0	0.4	6.8	7.2	0.8	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	10.5	10.4	42.9	10.8	11.0	34.4	0.0	0.0	36.0	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	C	A	A	D	A	A
Approach Vol, veh/h		1711			1560			42				90
Approach Delay, s/veh		11.8			11.3			34.4				36.0
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	66.2		16.7	9.8	63.5		16.7				
Change Period (Y+Rc), s	5.4	6.2		4.6	5.4	6.2		4.6				
Max Green Setting (Gmax), s	5.1	39.7		29.0	5.4	39.4		29.0				
Max Q Clear Time (g_c+I1), s	2.8	24.9		6.8	5.4	25.5		4.0				
Green Ext Time (p_c), s	0.0	11.1		0.4	0.0	10.1		0.2				

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary
 3: N Melrose Dr & Oceanside Boulevard/W Bobier Dr

Year 2030 + Project PM
 10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	1030	500	166	563	215	350	600	286	283	700	230
Future Volume (veh/h)	260	1030	500	166	563	215	350	600	286	283	700	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	299	1184	575	175	593	226	398	682	325	341	843	277
Peak Hour Factor	0.87	0.87	0.87	0.95	0.95	0.95	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	693	1348	586	574	861	328	474	792	587	419	1056	316
Arrive On Green	0.20	0.38	0.38	0.17	0.35	0.32	0.14	0.22	0.21	0.12	0.21	0.21
Sat Flow, veh/h	3456	3554	1545	3456	2495	949	3456	3554	1528	3456	5106	1527
Grp Volume(v), veh/h	299	1184	575	175	422	397	398	682	325	341	843	277
Grp Sat Flow(s),veh/h/ln	1728	1777	1545	1728	1777	1667	1728	1777	1528	1728	1702	1527
Q Serve(g_s), s	11.0	45.0	53.4	6.4	29.6	29.9	16.3	26.8	24.4	14.0	22.7	25.5
Cycle Q Clear(g_c), s	11.0	45.0	53.4	6.4	29.6	29.9	16.3	26.8	24.4	14.0	22.7	25.5
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	693	1348	586	574	613	575	474	792	587	419	1056	316
V/C Ratio(X)	0.43	0.88	0.98	0.30	0.69	0.69	0.84	0.86	0.55	0.81	0.80	0.88
Avail Cap(c_a), veh/h	693	1348	586	574	613	575	500	792	587	453	1056	316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	50.7	41.9	44.5	53.1	40.8	41.7	61.0	54.2	35.6	62.1	54.6	55.7
Incr Delay (d2), s/veh	0.3	5.6	27.5	0.3	4.2	4.5	11.6	9.8	1.4	5.5	2.4	13.7
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	4.7	19.9	23.9	2.8	13.2	12.7	7.8	12.8	9.0	6.3	9.8	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	47.5	72.0	53.4	45.0	46.2	72.6	64.0	37.0	67.7	57.0	69.5
LnGrp LOS	D	D	E	D	D	D	E	E	D	E	E	E
Approach Vol, veh/h		2058			994			1405			1461	
Approach Delay, s/veh		54.9			46.9			60.2			61.9	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.6	36.3	28.1	59.0	23.9	34.0	33.1	54.0				
Change Period (Y+Rc), s	5.4	7.0	5.4	7.2	5.4	7.0	5.4	7.2				
Max Green Setting (Gmax), s	17.6	29.0	21.6	51.8	19.6	27.0	27.6	45.8				
Max Q Clear Time (g_c+I1), s	16.0	28.8	8.4	55.4	18.3	27.5	13.0	31.9				
Green Ext Time (p_c), s	0.2	0.2	0.4	0.0	0.2	0.0	0.8	6.8				

Intersection Summary

HCM 6th Ctrl Delay	56.5
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
4: W Bobier Dr & Sports Park Way

Year 2030 + Project PM
10/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1400	99	25	800	80	44	1	11	20	3	60
Future Volume (veh/h)	140	1400	99	25	800	80	44	1	11	20	3	60
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		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	197	1972	139	30	976	98	45	1	11	23	3	69
Peak Hour Factor	0.71	0.71	0.71	0.82	0.82	0.82	0.98	0.98	0.98	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1937	135	44	1531	154	58	17	183	274	16	358
Arrive On Green	0.13	0.58	0.56	0.02	0.47	0.46	0.03	0.12	0.12	0.15	0.24	0.25
Sat Flow, veh/h	1781	3368	234	1781	3247	326	1781	134	1472	1781	64	1480
Grp Volume(v), veh/h	197	1028	1083	30	534	540	45	0	12	23	0	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1826	1781	1777	1796	1781	0	1605	1781	0	1545
Q Serve(g_s), s	15.1	80.5	80.5	2.3	31.8	31.9	3.5	0.0	0.9	1.6	0.0	5.2
Cycle Q Clear(g_c), s	15.1	80.5	80.5	2.3	31.8	31.9	3.5	0.0	0.9	1.6	0.0	5.2
Prop In Lane	1.00		0.13	1.00		0.18	1.00		0.92	1.00		0.96
Lane Grp Cap(c), veh/h	235	1022	1050	44	838	847	58	0	200	274	0	374
V/C Ratio(X)	0.84	1.01	1.03	0.68	0.64	0.64	0.78	0.00	0.06	0.08	0.00	0.19
Avail Cap(c_a), veh/h	327	1022	1050	64	838	847	64	0	206	274	0	374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.3	29.7	29.9	67.7	27.9	28.1	67.2	0.0	54.0	50.8	0.0	41.9
Incr Delay (d2), s/veh	11.5	29.8	36.1	11.4	2.4	2.4	41.4	0.0	0.1	0.6	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	40.1	43.1	1.2	13.7	13.9	2.3	0.0	0.4	0.7	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	59.5	65.9	79.2	30.3	30.5	108.7	0.0	54.2	51.4	0.0	43.1
LnGrp LOS	E	F	F	E	C	C	F	A	D	D	A	D
Approach Vol, veh/h		2308			1104			57				95
Approach Delay, s/veh		63.5			31.7			97.2				45.1
Approach LOS		E			C			F				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	84.5	9.1	38.5	22.4	70.0	25.5	22.1				
Change Period (Y+Rc), s	4.5	5.8	4.5	4.6	5.1	5.8	4.0	* 4.6				
Max Green Setting (Gmax), s	5.0	76.7	5.0	33.9	24.6	56.5	21.5	* 18				
Max Q Clear Time (g_c+I1), s	4.3	82.5	5.5	7.2	17.1	33.9	3.6	2.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.2	12.6	0.0	0.0				

Intersection Summary

























HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
























HCM 6th Signalized Intersection Summary
 5: N Santa Fe Ave & W Bobier Dr/E Bobier Dr

Year 2030 + Project PM
 10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	926	183	220	528	185	246	625	160	225	480	161
Future Volume (veh/h)	303	926	183	220	528	185	246	625	160	225	480	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.89	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	365	1116	220	247	593	208	351	893	229	262	558	187
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.70	0.70	0.70	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	1181	799	276	943	629	358	829	564	286	685	606
Arrive On Green	0.22	0.33	0.32	0.15	0.27	0.25	0.20	0.23	0.23	0.16	0.19	0.18
Sat Flow, veh/h	1781	3554	1491	1781	3554	1471	1781	3554	1414	1781	3554	1381
Grp Volume(v), veh/h	365	1116	220	247	593	208	351	893	229	262	558	187
Grp Sat Flow(s),veh/h/ln	1781	1777	1491	1781	1777	1471	1781	1777	1414	1781	1777	1381
Q Serve(g_s), s	26.9	41.0	11.1	18.3	19.8	12.9	26.3	31.3	16.1	19.4	20.2	12.5
Cycle Q Clear(g_c), s	26.9	41.0	11.1	18.3	19.8	12.9	26.3	31.3	16.1	19.4	20.2	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	1181	799	276	943	629	358	829	564	286	685	606
V/C Ratio(X)	0.92	0.94	0.28	0.90	0.63	0.33	0.98	1.08	0.41	0.92	0.81	0.31
Avail Cap(c_a), veh/h	532	1183	799	415	950	632	358	829	564	298	688	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	43.6	17.9	55.7	43.5	26.7	53.4	51.5	30.8	55.5	51.9	27.4
Incr Delay (d2), s/veh	18.3	14.9	0.2	15.4	1.3	0.3	42.1	54.0	0.5	30.9	7.5	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	13.8	20.0	3.8	9.3	8.7	4.5	15.9	20.0	5.5	11.1	9.7	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	58.5	18.1	71.1	44.8	27.0	95.5	105.5	31.3	86.4	59.4	27.7
LnGrp LOS	E	E	B	E	D	C	F	F	C	F	E	C
Approach Vol, veh/h		1701			1048			1473			1007	
Approach Delay, s/veh		55.6			47.5			91.5			60.5	
Approach LOS		E			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	29.9	33.8	39.6	25.5	35.3	24.8	48.6				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	27.0	24.9	40.1	34.5	22.5	29.4	31.3	43.3				
Max Q Clear Time (g_c+I1), s	28.3	22.2	28.9	21.8	21.4	33.3	20.3	43.0				
Green Ext Time (p_c), s	0.0	1.2	0.8	3.7	0.1	0.0	0.5	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			65.1									
HCM 6th LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th Signalized Intersection Summary
6: N Melrose Dr & North Ave

Year 2030 + Project PM
10/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	230	90	130	130	73	70	2140	250	91	1273	91
Future Volume (veh/h)	153	230	90	130	130	73	70	2140	250	91	1273	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	277	108	146	146	82	79	2404	281	94	1312	94
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	245	194	289	178	100	121	2507	283	98	2562	184
Arrive On Green	0.13	0.13	0.13	0.16	0.16	0.15	0.07	0.54	0.53	0.06	0.53	0.52
Sat Flow, veh/h	1781	1870	1484	1781	1099	617	1781	4633	524	1781	4849	347
Grp Volume(v), veh/h	184	277	108	146	0	228	79	1745	940	94	921	485
Grp Sat Flow(s),veh/h/ln	1781	1870	1484	1781	0	1716	1781	1702	1753	1781	1702	1792
Q Serve(g_s), s	14.5	19.0	9.9	10.8	0.0	18.6	6.3	70.0	77.0	7.6	25.4	25.5
Cycle Q Clear(g_c), s	14.5	19.0	9.9	10.8	0.0	18.6	6.3	70.0	77.0	7.6	25.4	25.5
Prop In Lane	1.00		1.00	1.00		0.36	1.00		0.30	1.00		0.19
Lane Grp Cap(c), veh/h	233	245	194	289	0	279	121	1842	948	98	1798	947
V/C Ratio(X)	0.79	1.13	0.56	0.50	0.00	0.82	0.65	0.95	0.99	0.96	0.51	0.51
Avail Cap(c_a), veh/h	233	245	194	565	0	544	344	1842	948	98	1798	947
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.1	63.0	59.0	55.4	0.0	58.9	65.9	31.3	33.2	68.3	22.1	22.3
Incr Delay (d2), s/veh	16.4	97.1	3.4	1.4	0.0	5.9	5.8	11.7	27.2	76.5	1.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	15.7	3.9	5.0	0.0	8.6	3.0	29.7	37.6	5.5	10.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.4	160.1	62.5	56.8	0.0	64.7	71.7	43.1	60.4	144.8	23.2	24.2
LnGrp LOS	E	F	E	E	A	E	E	D	E	F	C	C
Approach Vol, veh/h		569			374			2764			1500	
Approach Delay, s/veh		114.8			61.6			49.8			31.1	
Approach LOS		F			E			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	82.5		23.0	13.9	80.6		27.5				
Change Period (Y+Rc), s	5.8	5.8		5.1	5.8	5.8		5.1				
Max Green Setting (Gmax), s	6.2	54.2		17.9	26.2	34.2		44.9				
Max Q Clear Time (g_c+I1), s	9.6	79.0		21.0	8.3	27.5		20.6				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	4.3		1.8				

Intersection Summary

HCM 6th Ctrl Delay	52.4
HCM 6th LOS	D

Notes

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

