

Appendix H Traffic Impact Analysis

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June 2019 | Technical Report

TRAFFIC IMPACT ANALYSIS

Grandview Elementary School

Prepared for:

Manhattan Beach Unified School District

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1. Executive Summary

This Traffic Impact Analysis (TIA) has been prepared to analyze the potential traffic impacts from construction and operation of the Grandview Elementary School (“proposed project”). This analysis will inform decision makers and the general public whether the proposed project would result in any significant traffic impacts.

The proposed project would modernize and reconfigure the existing Grandview campus facilities. The school operates from August to June, with the exception of holidays, with an enrollment of 711 students from grades K to 5 for the 2017-18 school year. One classroom would be added to increase student capacity by 24. Construction is anticipated to be finalized in approximately four years in 2023. The parking and drop-off area on the lower, east side of the campus would be expanded to improve traffic and student safety.

Impacts to the Circulation System

Twelve intersections have been included in this analysis:

1. Highland Avenue at 24th Street
2. Highland Avenue at Marine Avenue
3. Vista Drive at 24th Street
4. Manor Drive at 24th Street
5. Bell Avenue at 27th Street
6. Bell Avenue at 26th Street
7. Blanche Road at Rosecrans Avenue
8. Blanche Road at 27th Street
9. Blanche Road at Bell Avenue
10. Blanche Road at 25th Street
11. Blanche Road at 24th Street
12. Blanche Road at Marine Avenue

All study area intersections currently operate at acceptable levels of service during the peak hours.

The traffic conditions were analyzed for project opening year 2023 conditions without and with the project. Under 2023 Cumulative Plus Project conditions, all intersections would operate at acceptable LOS. Compared to 2023 No Project conditions, there would be small increases in delay at study intersections, but none would degrade to a worse level of service. Therefore, the project would not result in significant impacts at any study intersections, and no mitigation would be required.

1. Executive Summary

Site Access and Internal Circulation

The improved drop-off loop off Bell Avenue would be expanded to provide more parking, a larger internal circulation loop, greater distance between access driveways, and a larger drop-off area. The proposed internal circulation would consist of a flow-through drop-off loop. The driveway width would allow for a loading/unloading lane and at least one passing lane. The driveway length of approximately 400 feet would allow 16 vehicles to queue in the internal driveway during student drop-off and pick-up. Parents would also have the option to park at the internal lot or at curbside spaces on Bell Avenue and walk their children to/from the school entrance. The parking surveys indicate that there are spaces available for curbside parking on Bell Avenue.

The highest turn-movement volumes at the access driveway would occur during the AM peak hour with student drop-off. It is anticipated that queues would be limited to the drop-off area and around the ingress driveway. The typical morning peak drop-off and afternoon pick-up activity lasts about 20 minutes, and any possible queue would dissipate immediately afterward.

Because the ingress and driveway will be relocated to north of 27th Street, the existing pavement markings, parking restriction and crosswalk at the intersection of Bell Avenue at 27th Street will no longer be adequate. The location of the northbound left turn lane would not align with the ingress driveway and vehicular queues would extend to the existing crosswalk. In addition, the existing crosswalk would direct pedestrians to the parking lot and thru the drop-off lanes, which would be a safety hazard. Without mitigation this would be an impact.

Recommendations

The following recommendations have been prepared to ensure that adequate site access is provided:

- Prior to the opening of the project, the school shall work with the City of Manhattan Beach to identify on-site traffic signing and striping to be implemented in conjunction with detailed construction plans for the project. Specifically, signage and pavement striping at the intersection of Bell Avenue at 27th Street and at the egress school drop-off loop shall be redesigned to match the proposed site access configuration. A conceptual restriping and access reconfiguration layout (see Figure 12) includes restriping the northbound lane of Bell Avenue at the intersection with 27th Street, moving the existing crosswalk north of the ingress driveway, adding “keep clear” pavement markings, “no crossing” sign facing east of the intersection, and adding parking restrictions along Bell Avenue. These shall be in conformance with design standards from the California Manual of Uniform Traffic Control Devices for Streets and Highways (CA MUTCD) and City of Manhattan Beach standards.
- The school district shall work with the City of Manhattan Beach to implement operational mitigation measures to improve traffic flow, if necessary—such as additional time restrictions, markings, signage, modifications to loading procedures, and education for parents and students. Operational features to provide an efficient drop-off and student pick-up may include:

1. Executive Summary

- The egress driveway may have to be restricted to allow only right turn out movements during student drop-off and pick-up times to reduce conflicting movements with vehicles heading north to the ingress driveway.
 - Provide monitors to help children get in and out of cars
 - Provide signage and monitors to ensure that all motorists move as far forward in the queue as possible; keep small gaps between cars to reduce the queue lengths.
 - Provide clear pavement markings and white curb markings to delineate the drop-off/pick-up area.
 - Educate parents, students, and staff on drop-off/pick-up procedures and encourage students to walk to school.
- The school and the City of Manhattan Beach should periodically review traffic operations in the vicinity of the project to ensure that traffic operations are satisfactory.

1. Executive Summary

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2. Introduction

2.1 PROJECT OVERVIEW

The Manhattan Beach Unified School District is proposing renovations to the Grandview Elementary School located at 455 24th Street in Manhattan Beach. The school is west of the Pacific Coast Highway, between local streets: Vista Drive, 24th Street, and Bell Avenue. Figure 1 shows the local vicinity, and Figure 2 shows the aerial photograph of the project site. The school is surrounded by single-family residential homes to the west, east, north, and south.

The District proposed to modernize and reconfigure the existing Grand View campus facilities by providing various new constructions and renovations so that all areas of campus are more accessible and function more efficiently and effectively as a single school for the school population. The proposed project would change the number of classrooms from 28 to 30, and the maximum enrollment capacity would increase by 24 students from the existing 735 students in grades TK through 5th to 759 students.

As part of the project, the existing multistory Ladera (lower portion of Grand View) classroom building is proposed to be removed, along with the existing multipurpose building (PAC). Additionally, the existing kindergarten classrooms, and relocatable classrooms will also be removed. New classrooms and a larger multipurpose building will be constructed in the playfields east of the existing finger plan buildings. There is significant grading associated with the proposed changes to maximize the usable site area for additional playfields and hard courts due to the substantial grade change across the site. The existing wing of the Ladera campus (lower portion of Grand View), now being occupied by the Montessori program, is slated to become the new kindergarten complex for the school. The parking and drop-off area will be expanded to improve traffic and student safety. Once the relocatable classrooms are removed, the area at the east side of the campus, adjacent to Vista Drive, will become the campus/community garden and assigned staff parking lot. Figure 3 shows the project site plan.

2.2 METHODOLOGY

The methodology used for the preparation of this traffic impact study is consistent with methods for preparation of traffic impact analysis in the cities of Manhattan Beach and El Segundo.

Definition of Level of Service

Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service (LOS) is a standard performance measurement to describe the operating characteristics of a street system in terms of the level of congestion or delay experienced by motorists. Service levels range from A through F, which relate to traffic conditions from best (uncongested, free-flowing conditions) to worst (total breakdown with stop-and-go operation).

2. Introduction

Intersection LOS

The LOS calculations were conducted using methodologies to evaluate intersection operations consistent with the cities of Manhattan Beach and El Segundo, as described below.

The methodology used to assess the operation of a signalized intersection is based on the Intersection Capacity Utilization (ICU), which is utilized by both cities of Manhattan Beach and El Segundo. Roadway level of service under the ICU methodology is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility. A facility is defined as being “at capacity” (v/c of 1.00 or greater) when extreme congestion occurs. This volume/capacity ratio value is based upon volumes by lane, signal phasing, and approach lane configuration. In this analysis, a lane capacity of 1,600 vehicles per hour per lane for all through lanes and turn lanes, a lane capacity of 2,880 vehicles per hour per lane for dual turn lanes, and a total loss time of 10% are assumed. This value is a function of hourly volumes and approach lane configurations on each leg of the intersection. The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions. The peak hours selected for analysis are the highest volumes that occur in four consecutive 15-minute periods from 7 to 9 AM and from 4 to 6 PM on weekdays

Per the HCM methodology, overall average intersection delay at signalized intersections was calculated, and the worst-case approach delay was calculated at unsignalized intersections. The level of service corresponds to the delay calculated. Table 1, *Intersection Level of Service*, describes the level of service concept and the operating conditions expected under each level of service for signalized and unsignalized intersections.

Table 1 Intersection Level of Service

LOS	Definition	Signalized Intersection Volume/Capacity Ratio (ICU)	Stop-Controlled Intersection Average Stop Delay Per Vehicle (Sec/Veh) (HCM)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600	≤10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700	>10 - 15
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800	>15 - 25
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.900	>25 - 35
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.901 - 1.000	>35 - 50

2. Introduction

Table 1 Intersection Level of Service

LOS	Definition	Signalized Intersection Volume/Capacity Ratio (ICU)	Stop-Controlled Intersection Average Stop Delay Per Vehicle (Sec/Veh) (HCM)
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Greater than 1.000	>50

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., 2010 and Interim Materials on Highway Capacity, NCHRP Circular 212, 1982

The software PTV Vistro 7 was used to determine the LOS at the study area intersections.

2.2.2 City of Manhattan Beach LOS Criteria and Thresholds of Significance

The City of Manhattan Beach goal for peak hour intersection operation is LOS D or better. To determine whether the addition of project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, the City of Manhattan Beach has established the following thresholds of significance, which are based on the County of Los Angeles Department of Public Works (January 1997):

- A significant project impact occurs at a study intersection when the addition of project-generated trips causes an ICU increase of 0.02 while operating at LOS D; or
- A significant project impact occurs at a study intersection when the addition of project-generated trips causes an ICU increase of 0.01 while operating at LOS E or F.

There are no established thresholds of significance for stop-controlled intersections in the City of Manhattan Beach. However, the following threshold of significance is utilized to determine if the addition of project-generated trips results in a significant impact at an unsignalized study intersection, and thus requires mitigation:

- At stop-controlled intersections, a significant project impact occurs if one of the minor street approaches is forecast to operate at LOS E or F and the addition of project-generated trips causes an increase in delay of four or more seconds. Nevertheless, judgment is required to consider the relevance of turning traffic volume, lane configuration, queuing impacts, and other parameters affecting intersection operations.

2. Introduction

2.2.3 City of El Segundo LOS Criteria and Thresholds of Significance

The City of El Segundo General Plan Circulation Element states that the city goal for peak hour intersection operation is LOS D or better. To determine whether the addition of project-generated trips results in a significant impact at a signalized study intersection, and thus requires mitigation, the following thresholds of significance must be met:

- A significant project impact occurs at a signalized study intersection when the addition of project-generated trips causes the peak hour level of service of the study intersection to change from acceptable operation (LOS A, B, C, or D) to deficient operation (LOS E or F); or
- A significant project impact occurs at a signalized study intersection when the addition of project-generated trips causes an ICU increase of 0.02 or more when the “With Project” intersection LOS is at LOS E or F.

There are no unsignalized study intersections in El Segundo.

Figure 1 - Local Vicinity



--- School Boundary

0 500
Scale (Feet)

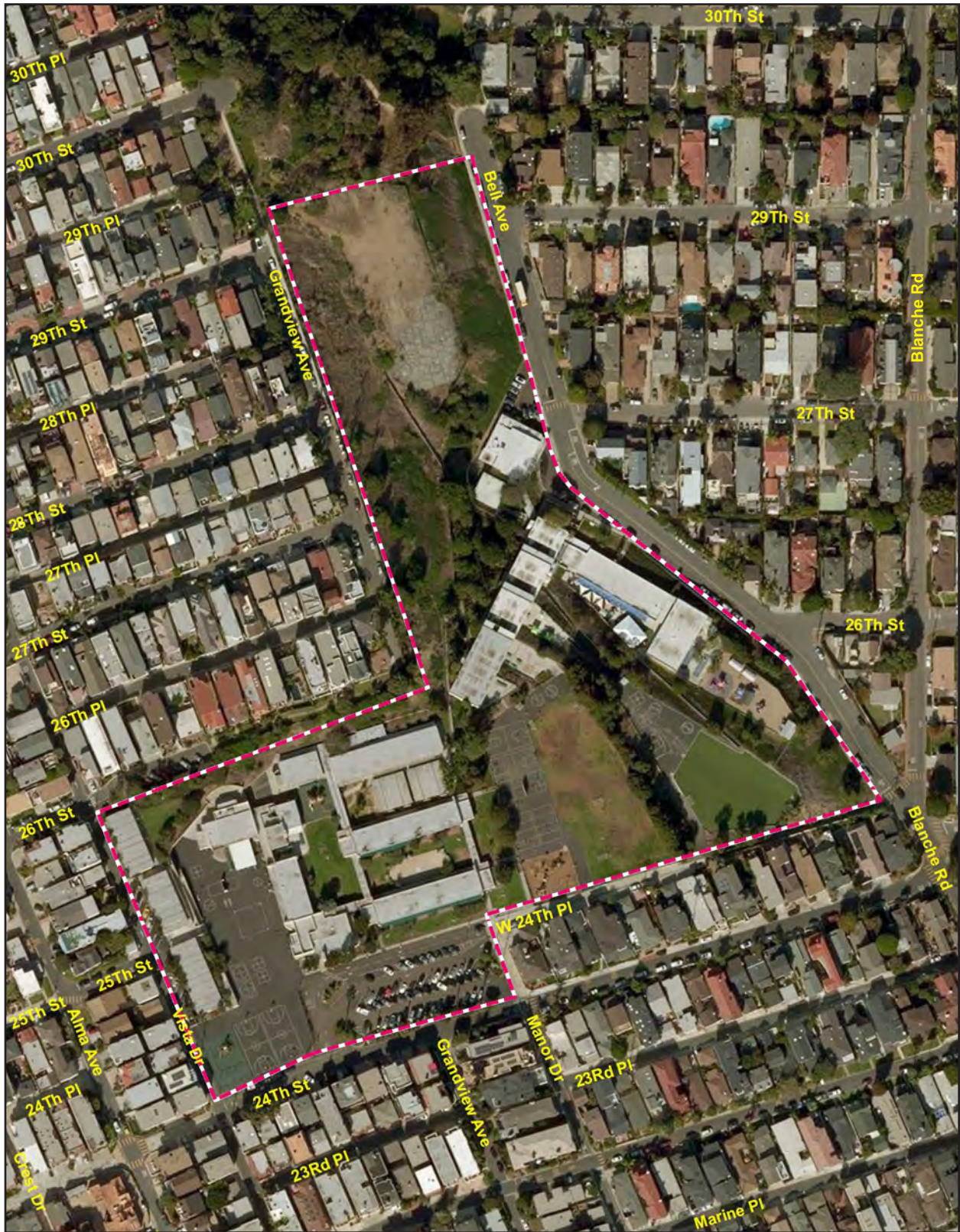


Source: ESRI, 2018

2. Introduction

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Figure 2 - Aerial Photograph



--- School Boundary

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Scale (Feet)



Source: ESRI, 2018

2. Introduction

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Figure 3 - Site Plan



Source: DLR Group, 2018

2. Introduction

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3. Existing Conditions

3.1 STUDY AREA ROADWAY NETWORK

General Plan Circulation Network

The study-area roadways discussed below are according to the City of Manhattan Beach's functional classification in the Mobility Plan. Figure 4 shows the City of Manhattan circulation map and its roadway functional classifications. Figure 5 shows the circulation network in the study area and the intersection analyses locations.

Surrounding Street System

The study area was determined based on the anticipated attendance area, a review of the circulation network, and the potential for traffic impacts with the project. The study network includes the following:

- **Bell Avenue:** This undivided, two lane, north-south roadway is classified as a local roadway. Stop signs control the study intersections of Bell Avenue at 27th Street, Bell Avenue at 26th Street, and Bell Avenue at Blanche Road.
- **Blanche Road:** This undivided, two lane, north-south roadway is classified as a major local roadway. Stop signs control the study intersection of Blanche Road at 25th Street, Blanche Road at 24th Street, and Blanche Road at Marine Avenue.
- **Highland Avenue:** This undivided, two lane, north-south roadway is classified as a collector roadway. Traffic signals control the study intersection of Highland Avenue at 24th Street, and stop signs control the study intersection of Highland Avenue at Marine Avenue.
- **Marine Avenue:** This undivided, two lane, east-west roadway is classified as a major local roadway. Stop signs control the study intersection of Blanche Road at Marine Avenue.
- **Manor Drive:** This undivided, two lane, north-south roadway is classified as a local roadway. Stop signs control the study intersection of Manor Drive at 24th Street.
- **Rosecrans Avenue:** This divided, four lane, east-west roadway is classified as a major arterial roadway. Traffic signals control the study intersection of Bell Avenue at Rosecrans Avenue.
- **Vista Drive:** This one way, north roadway is classified as a local roadway. Stop signs control the study intersection of Vista Drive at 24th Street.

3. Existing Conditions

- **24th Street:** This undivided, two lane, east-west roadway is classified as a local roadway. The posted speed limit in the school zone is 15 mph. Stop signs control the study intersections of Highland Avenue at 24th Street, Vista Drive at 24th Street, Manor Drive at 24th Street, and Blanche Road at 24th Street.
- **25th Street:** This undivided, two lane, east-west roadway is classified as a local roadway. There is on-street parking on both sides. Stop signs control the study intersection of Blanche Road at 25th Street.
- **26th Street:** This undivided, two lane, east-west roadway is classified as a local roadway. There is on-street parking on both sides. Stop signs control the study intersection of Bell Avenue at 26th Street.
- **27th Street:** This undivided, two lane, east-west roadway is classified as a local roadway. There is on-street parking on both sides. Stop signs control the study intersection of Bell Avenue at 27th Street and Blanche Road at 27th Street.

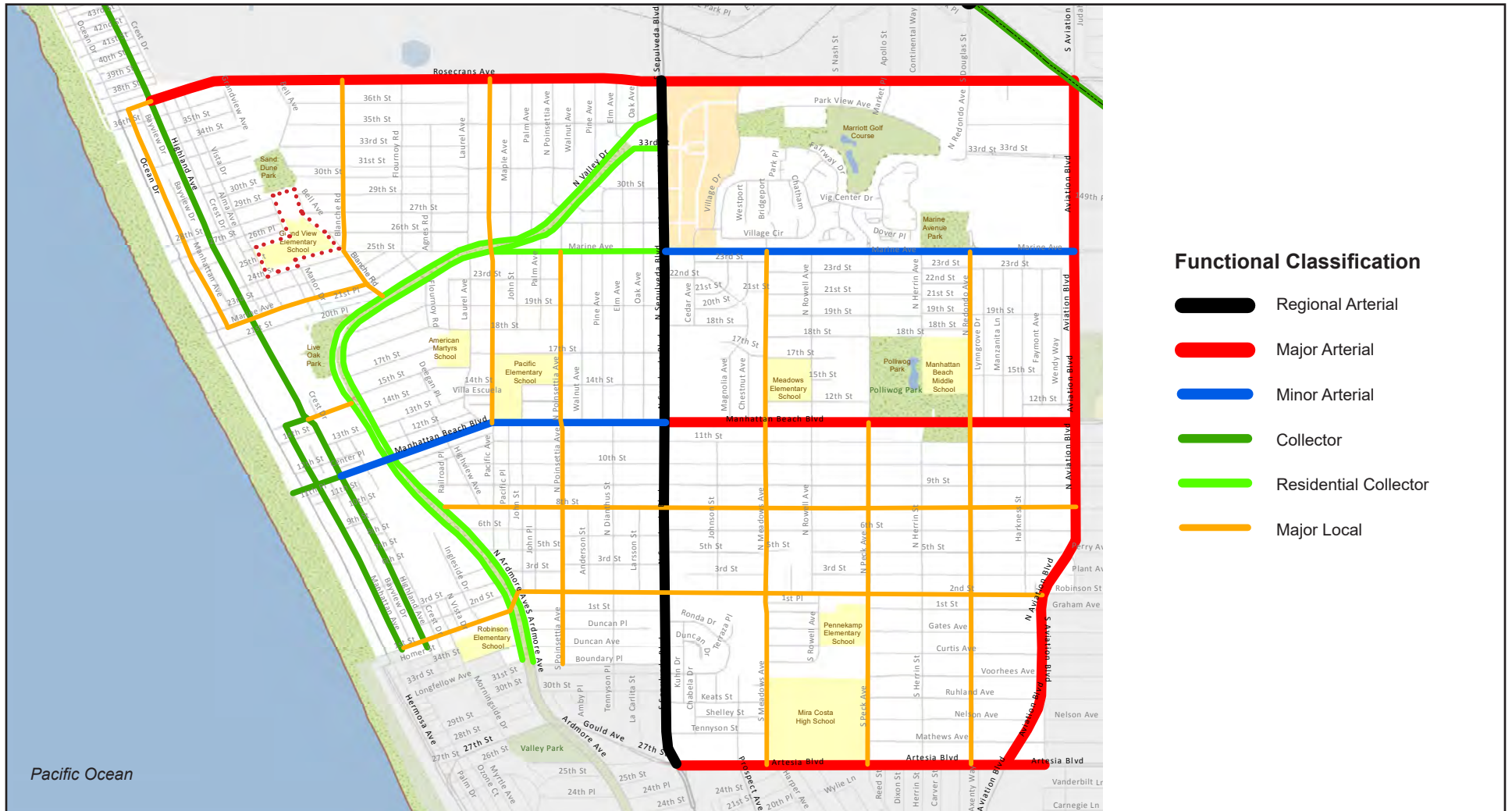
3.2 STUDY AREA INTERSECTIONS

Traffic and pedestrian counts were taken on Thursday December 13, 2018, and the counts' raw data sheets are included in Appendix A. Figure 5 shows the circulation network in the study area and the intersection analyses locations. Based on the calculated roadway circulation network and classifications, the following intersections were analyzed:

1. Highland Avenue at 24th Street
2. Highland Avenue at Marine Avenue
3. Vista Drive at 24th Street
4. Manor Drive at 24th Street
5. Bell Avenue at 27th Street
6. Bell Avenue at 26th Street
7. Blanche Road at Rosecrans Avenue
8. Blanche Road at 27th Street
9. Blanche Road at Bell Avenue
10. Blanche Road at 25th Street
11. Blanche Road at 24th Street
12. Blanche Road at Marine Avenue

All study area intersections are under the jurisdiction of the City of Manhattan Beach. Intersection #7 is on the border with the City of El Segundo.

Figure 4 - Roadway Functional Classifications



Functional Classification

- Regional Arterial
- Major Arterial
- Minor Arterial
- Collector
- Residential Collector
- Major Local

..... School Boundary

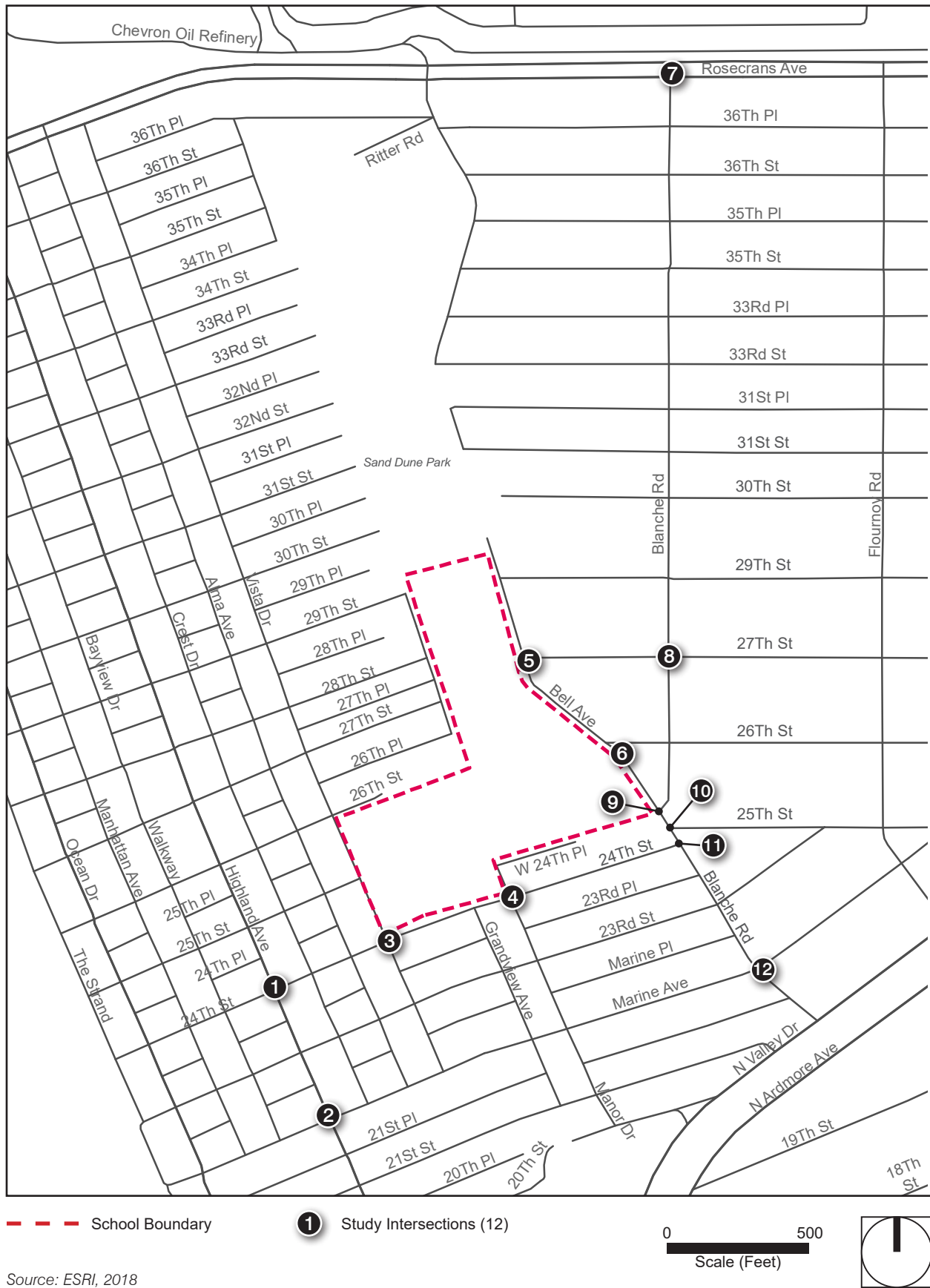


Source: Iteris/Fehr & Peers, 2014

3. Existing Conditions

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Figure 5 - Study Intersections



3. Existing Conditions

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3. Existing Conditions

Roadway counts were taken for a 24-hour period at the following segments:

- Highland Avenue, North of Marine Avenue
- 24th Street between Vista Drive and Grandview Avenue
- Bell Avenue between 27th and 26th Street
- Blanche Road between 24th and 23rd Street
- 29th Street between Bell Avenue and Blanche Road
- 27th Street between Bell Avenue and Blanche Road
- Blanche Road between 30th Street and 29th Street
- 25th Street, East of Blanche Road

Existing Intersections Operations

Existing Traffic Volumes

Weekday AM and PM peak hour turn movement volumes were collected at the study-area intersections, and 24-hour roadway counts were collected on Thursday, December 13, 2018. Additionally, parking counts were analyzed at the school parking lots and along all off-site parking locations in 30-minute intervals from 7 to 11 AM on Thursday, December 13, 2018. The existing AM and PM peak hour count results and figures showing intersection turn-movement volumes and roadway counts are provided in Appendix A. All counts occurred on typical weekdays while the school was in session and outside holidays and major events.

Existing Conditions Intersection Operations Analysis

The intersection operations analysis results are summarized in Table 2, *Existing Peak Hour Intersection Levels of Service*. All study area intersections currently operate at acceptable LOS during the peak hours. Intersection turn movement volumes and LOS worksheets for existing conditions are included in Appendix B.

Table 2 Existing Peak Hour Intersection Levels of Service

Intersection	Traffic Control	AM Peak Hour			PM Peak Hour		
		Average Delay (sec/veh)	V/C	LOS	Average Delay (sec/veh)	V/C	LOS
1. Highland Avenue at 24th Street	Two-Way Stop	15.37	-	C	14.43	-	B
2. Highland Avenue at Marine Avenue	Signalized	-	0.684	B	-	0.774	C
3. Vista Drive at 24th Street	All-Way Stop	8.56	-	A	7.66	-	A
4. Manor Drive at 24th Street	All-Way Stop	8.70	-	A	7.72	-	A
5. Bell Avenue at 27th Street	All-Way Stop	7.61	-	A	7.55	-	A
6. Bell Avenue at 26th Street	Two-Way Stop	9.13	-	A	8.85	-	A
7. Blanche Road at Rosecrans Avenue	Signalized	-	0.550	A	-	0.452	A
8. Blanche Road at 27th Street	All-Way Stop	11.10	-	B	8.46	-	A

3. Existing Conditions

Table 2 Existing Peak Hour Intersection Levels of Service

Intersection	Traffic Control	AM Peak Hour			PM Peak Hour		
		Average Delay (sec/veh)	V/C	LOS	Average Delay (sec/veh)	V/C	LOS
9. Blanche Road at Bell Avenue	Two-Way Stop	12.10	-	B	11.23	-	B
10. Blanche Road at 25th Street	All-Way Stop	11.13	-	B	8.76	-	A
11. Blanche Road at 24th Street	All-Way Stop	11.43	-	B	8.80	-	A
12. Blanche Road at Marine Avenue	All-Way Stop	12.73	-	B	10.26	-	B

Notes: LOS calculation worksheets included in Appendix B.
 Intersections with unacceptable LOS are shown in **bold**.

3.3 ROADWAY TRAFFIC

Grandview Elementary School has two parking lots, one on Bell Avenue and one on 24th Place. The parking lot on Bell Avenue contains 8 parking spaces and one driveway for both ingress and egress. The parking lot on 24th Place contains 61 parking spaces (48 Staff, 3 HC, 2 Reserved, and 8 Visitor), with separate access and exit driveways. Student drop-off currently occurs on both locations; most student drop-off currently occurs at 24th Place.

To review traffic volumes in the vicinity of the drop-off lot off 24th Place, roadway counts were taken on 24th Street east of Vista Drive. The counts indicate that the daily traffic on that segment is 1,054 vehicles per day. Predominantly the traffic is eastbound, which is related to parking lot and drop-off egress. The peak traffic occurs between 7:15 and 8:15 AM, with a total of 121 vehicles, and between 2:15 and 3:15 PM, with 117 vehicles. The 2-way daily traffic on 24th Street is approximately 1,054 (674 eastbound, 380 westbound).

To review traffic volumes in the vicinity of the drop-off lot off Bell Avenue, traffic counts were taken on Bell Avenue between 26th and 27th Street. The counts indicate that in the morning peak hour the highest traffic volume was between 7:30 and 8:30 AM, with approximately 128 vehicles. In the afternoon, the highest traffic volumes occurred at student dismissal, between 2:15 and 3:15 PM, with approximately 137 vehicles. The 2-way daily traffic on Bell Avenue is approximately 782 (420 northbound, 363 southbound).

Hourly roadway counts were taken on 27th Street between Bell Avenue and Blanche Road, the segment east of the Bell Avenue pick-up/drop-off lot. The 2-way daily traffic on 27th Street is approximately 417 (204 eastbound, 213 westbound), with 77 vehicles in both AM and PM peak hour. The existing hourly roadway volume on 29th Street between Bell Avenue and Blanche Road is approximately 302 vehicles daily, with 34 in the AM peak hour and 48 in the PM peak hour. See Appendix A for all figures and data for roadway counts.

3.4 STUDENT DROP-OFF AND PICK-UP

Currently most student drop-off and pick-up takes place at the parking area off 24th Street in the southwest portion of the campus. The drop-off area includes two one-way lanes, one for student loading/unloading,

3. Existing Conditions

and a pass-by lane. The parking lot is used for staff and visitors. Egress from the drop-off area is via a right turn only on 24th Street toward Vista Drive. This area is expected to improve, as the project would add classrooms to the east side of the campus and improve the drop-off area off Bell Avenue.

In order to review traffic operations where the project is anticipated to add traffic in the eastern portion of the campus, a site visit was conducted on December 12, 2018, at the student drop-off area on Bell Avenue. The site visit was conducted from 7:40 AM to 8:15 AM during the student drop-off period when the school was in session. Traffic was relatively free of congestion in the area. The majority of vehicle traffic was observed to travel northbound on Bell Avenue. Pedestrian traffic came mainly from the southbound and westbound approach. Almost all students walking were accompanied by parents or guardians, who walked them all the way to their classrooms. Around 7:40 to 8:00 AM, parents parked their cars in the drop-off loop or surrounding streets, and then walked their kids to the school. Around 8 to 8:15 AM, most parents who were driving dropped off their kids in the looped drop-off location instead of parking and walking them to class. Queues were little to none, with the queue being contained in the looped drop-off location. A crossing guard was located at Bell Avenue at 27th Street. It was observed that most pedestrians came from the north on Bell Avenue and from the east on 27th Street.

Figures 6 and 7 depict the peak-hour turn movement volumes and pedestrian crossings during student arrival and dismissal. The counts show that in the morning and afternoon, student arrival and dismissal have similar traffic characteristics. Higher pedestrian volumes were observed in the morning than afternoon. Pedestrian activity took place heavily on the north leg of the intersection of Bell Avenue at 27th Street. The north leg intersection had 47 pedestrian crossings towards westbound in the morning and 44 (37 eastbound, 7 westbound) pedestrian crossings in the afternoon. It can be inferred that most pedestrians traveled westbound in the morning toward the school and returned home eastbound in afternoon. Students and parents were observed to properly use the crosswalks and comply with the crossing guard instructions. Pedestrian crossings on Bell Avenue at 27th Street caused intermittent interruptions of the northbound and southbound lanes, causing short-term queues in both directions and slowing traffic.

On Bell Avenue at 26th Street, the most pedestrian activity took place on the north leg of the intersection, with 6 pedestrian headed westbound. As for afternoons, the north leg had 12 (9 eastbound, 3 westbound) pedestrian crossings, and the south leg had 9 (7 eastbound, 2 westbound) pedestrian crossings. Note that there are no marked pedestrian crossings in this intersection.

On Blanche Road at Bell Avenue, counts show that morning peak period has more traffic than afternoon peak period. Pedestrian activity at this intersection was minimal. The majority of pedestrian activity in the morning was on the north leg of the intersection, with 27 pedestrian crossings (10 eastbound, 17 westbound); 4 pedestrian crossings (3 northbound, 1 southbound) were on east leg, and 1 pedestrian crossed on south leg. As for afternoons, the north leg intersection had 2 (1 eastbound, 1 westbound) pedestrian crossings, and the east leg had 1 pedestrian crossing. Note that there are no marked pedestrian crossings in this intersection.

3. Existing Conditions

3.5 TRANSIT SERVICE AND NONMOTORIZED CIRCULATION

The Los Angeles Department of Transportation (LADOT) and Beach Cities Transit provide regular bus services in the vicinity of the study area. The closest bus station is located at Highland Avenue at Marine Avenue, which is approximately 0.2 mile away.

LADOT Commuter Express 438 is a southwest-northeast route that has 15 stops departing from Temple Street and Los Angeles Street and ending in Aviation Park and Ride (Imperial Highway and Aviation Boulevard). On weekdays it operates from 5:45 AM to 7:27 PM and does not operate on weekends.

Beach Cities Transit 109 is a north-south route that has 77 stops serves Riviera Village, Pier Avenue in Hermosa Beach, Downtown Manhattan Beach, Downtown El Segundo, Douglas Green Line Station, The Pointe, Plaza El Segundo, Aviation/LAX Green Line station, and the LAX Bus Center. On weekdays it operates from 5:55 AM to 9:47 PM, and on weekends from 6:05 AM to 10:15 PM.

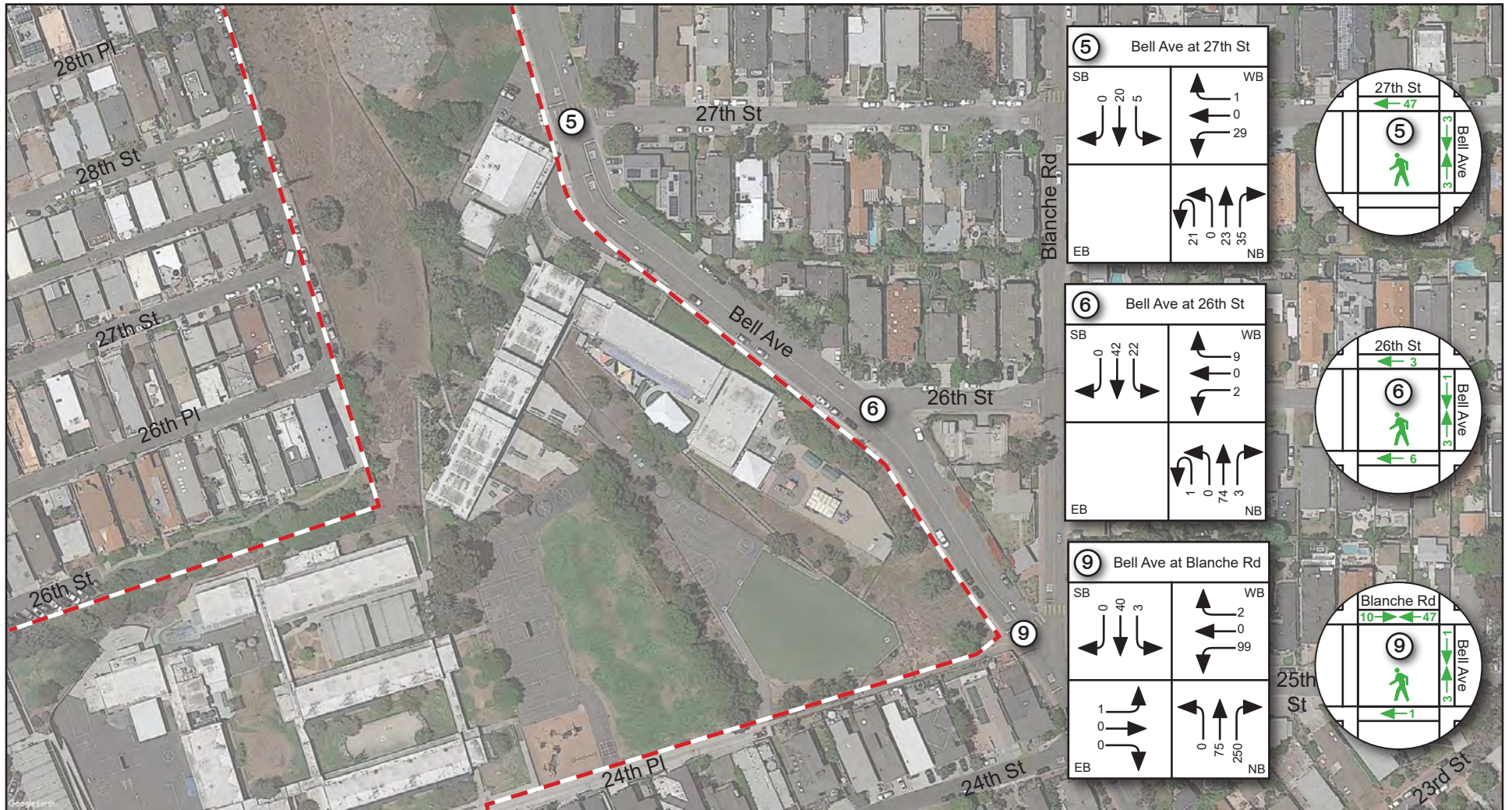
3.6 EXISTING PARKING CONDITIONS

Study Area Parking Locations

In addition to the two on-site parking lots off Bell Avenue and 24th Place, off-site parking is available on public streets in the vicinity of the school. The parking demand along the following roadway segments are analyzed in this study:

- 30th Street from Blanche Road to Flournoy Road
- 29th Street from Bell Avenue to Blanche Road
- 29th Street from Blanche Road to Flournoy Road
- 27th Street from Bell Avenue to Blanche Road
- 27th Street from Blanche Road to Flournoy Road
- 26th Street from Bell Avenue to Blanche Road
- 26th Street from N Blanche Road to Flournoy Road
- 25th Street from N Blanche Road to 23rd Street
- 24th Place from Manor Drive to 24th Place terminus
- 26th Street from Vista Drive to Alma Avenue
- 25th Street from Vista Drive to Manor Drive
- 24th Street from Vista Drive to N Blanche Road
- 24th Street from Manor Drive to Bell Avenue terminus
- Bell Avenue from 29th Street to 27th Street
- Bell Avenue from The End Beal Avenue to 27th Street
- Bell Avenue from The End Beal Avenue to 26th Street
- Bell Avenue from 27th Street to Blanche Road
- Bell Avenue from 26th Street to 24th Street
- Bell Avenue from 27th Street to 23rd Street

Figure 6 - AM Peak Hour Intersection Volumes



--- School Boundary

Intersection Location Number (3)

0 100
Scale (Feet)

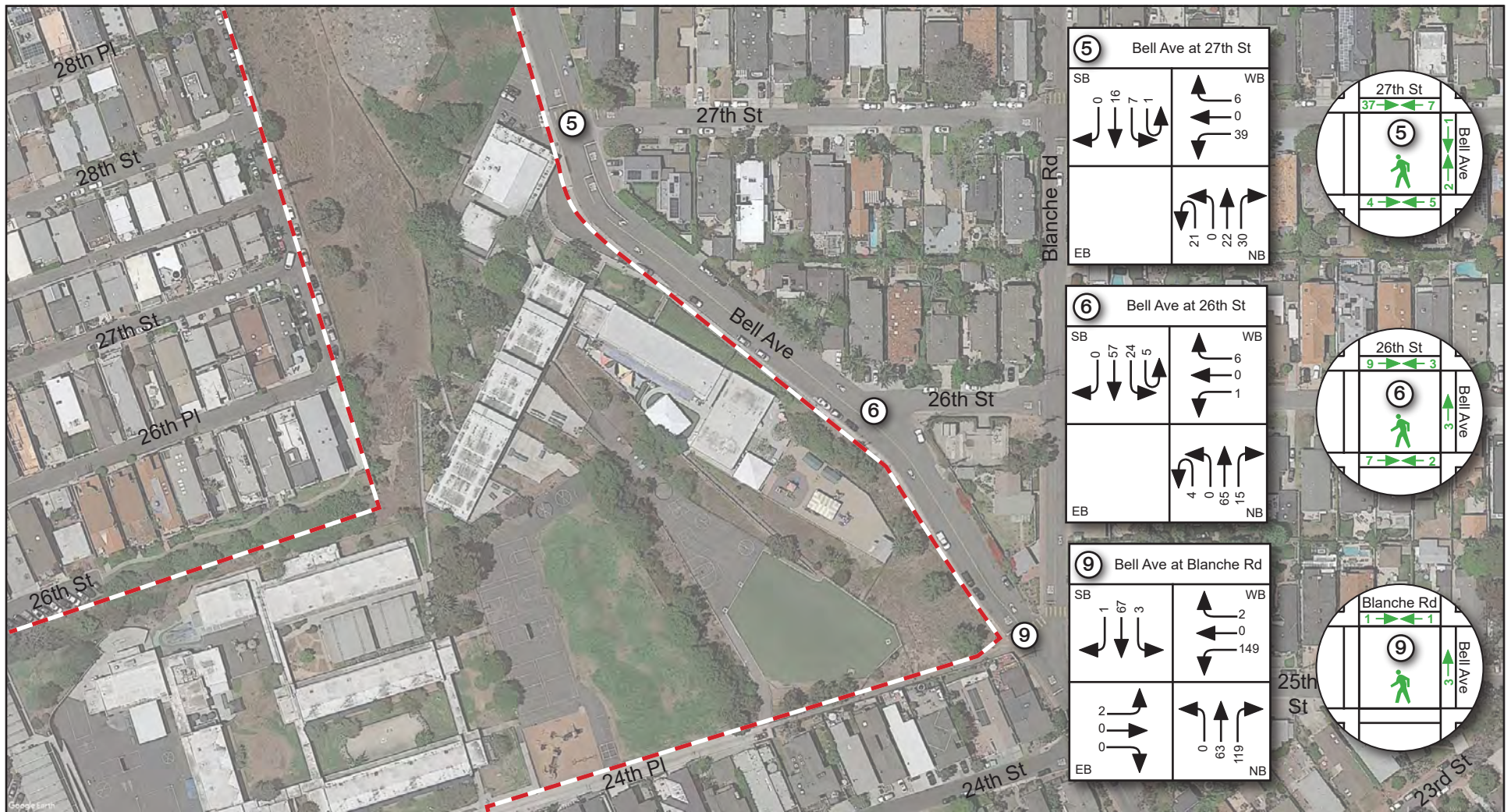


Source: Google Earth Pro, 2019

3. Existing Conditions

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Figure 7 - PM Peak Hour Intersection Volumes



--- School Boundary

Intersection Location Number (3)

0 100
Scale (Feet)



Source: Google Earth Pro, 2019

3. Existing Conditions

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3. Existing Conditions

- Bell Avenue/Blanche Road from 25th Street to Bell Avenue
- Blanche Road from 26th Street to Bell Avenue
- Vista Drive from 24th Street to 23rd Street
- Grandview Avenue from 24th Street to 23rd Street

Parking supply was determined by reviewing the linear feet of curb at each road and looking at the number of vehicles occupying each spot. Driveways and areas where parking is prohibited, such as red curbs, were excluded. Parking counts were taken on weekday evenings from 5 to 10 PM in 30-minute intervals and between 7 AM to 11 PM on Thursday, December 13, 2018. The parking counts were taken at the school parking lots and along the study area roadways. The parking survey results are included in Appendix C. Appendix C includes parking occupancy tables by street segment in 30-minute intervals.

As shown on Table 3, the overall parking occupancy ranges from 7 percent to 100 percent. In general there is unused parking available in several public streets in the vicinity of the school. Table 3 shows the parking occupancy on a weekday at the hours of lowest occupancy and highest occupancy. The highest overall occupancy was observed at 10:30 AM, and the lowest at 8 AM. The parking segment with the highest occupancy was observed at 24th Street from Manor Drive to eastern street terminus, being fully occupied, and the parking segment with the lowest occupancy was observed at Bell Avenue from 27th Street to Blanche Road, being 7 percent occupied. Parking segments closest to the student pick-up/drop-off on Bell Avenue and on 29th Street, 27th Street and 26th Street generally have parking occupancy rates below 50 percent of their capacity. For the highest parking occupancy period (10:30 AM), none of the segments neighboring the student pick-up/drop-off on Bell Avenue exceeded 78 percent (26th Street from Bell Avenue to Blanche Road), with the lowest being 31 percent (29th Street from Bell Avenue to Blanche Road). In general, all these segments ranged from 31 to 78 percent occupancy. Figures 8 and 9 show visual representations of the parking occupancy at the lowest and highest occupancy. Both in the lowest and highest occupancy period, the threshold does not exceed the 85 percentile for occupancy.

3. Existing Conditions

Table 3 Existing Curbside Public Parking Occupancy

Street	From	To	Lowest Occupancy	Highest Occupancy
			8:00 AM	10:30 AM
30th Street	Blanche Road	Flournoy Road	79%	82%
29th Street	Bell Avenue	Blanche Road	41%	31%
	Blanche Road	Flournoy Road	40%	46%
27th Street	Bell Avenue	Blanche Road	76%	52%
	Blanche Road	Flournoy Road	32%	54%
26th Street	Bell Avenue	Blanche Road	44%	78%
	N Blanche Road	Flournoy Road	69%	50%
25th Street	N Blanche Road	23rd Street	53%	88%
24th Place	Manor Drive	The End	80%	100%
26th Street	Vista Drive	Alma Avenue	50%	75%
25th Street			50%	50%
24th Street		Manor Drive	63%	75%
		Manor Drive	N Blanche Road	77%
Bell Avenue	29th Street	The End	33%	67%
		27th Street	44%	56%
	The End	58%	38%	
	27th Street	26th Street	10%	70%
	26th Street	Blanche Road	7%	13%
	27th Street	24th Street	9%	33%
Bell Avenue/Blanche Road	25th Street	23rd Street	50%	33%
Blanche Road	26th Street	Bell Avenue	50%	75%
Vista Drive	24th Street	26th Street	45%	91%
Grandview Avenue	24th Street	23rd Street	88%	75%
Overall Occupancy			50%	62%

Note: Parking occupancy data included in Appendix C.

Table 4 shows the parking occupancy at the school lots. The highest overall occupancy occurred at 9AM during school hours; at each individual roadway segment the occupancy ranged from 63 to 90 percent. The lowest overall occupancy occurred at 7 AM, when each individual roadway segment occupancy ranged from 20 to 63 percent. Table 4 shows that the parking lot off 24th Place is utilized close to capacity during school hours, while spaces are available at the lot off Bell Avenue.

3. Existing Conditions

Table 4 Existing Off-Street School Lots Parking Occupancy

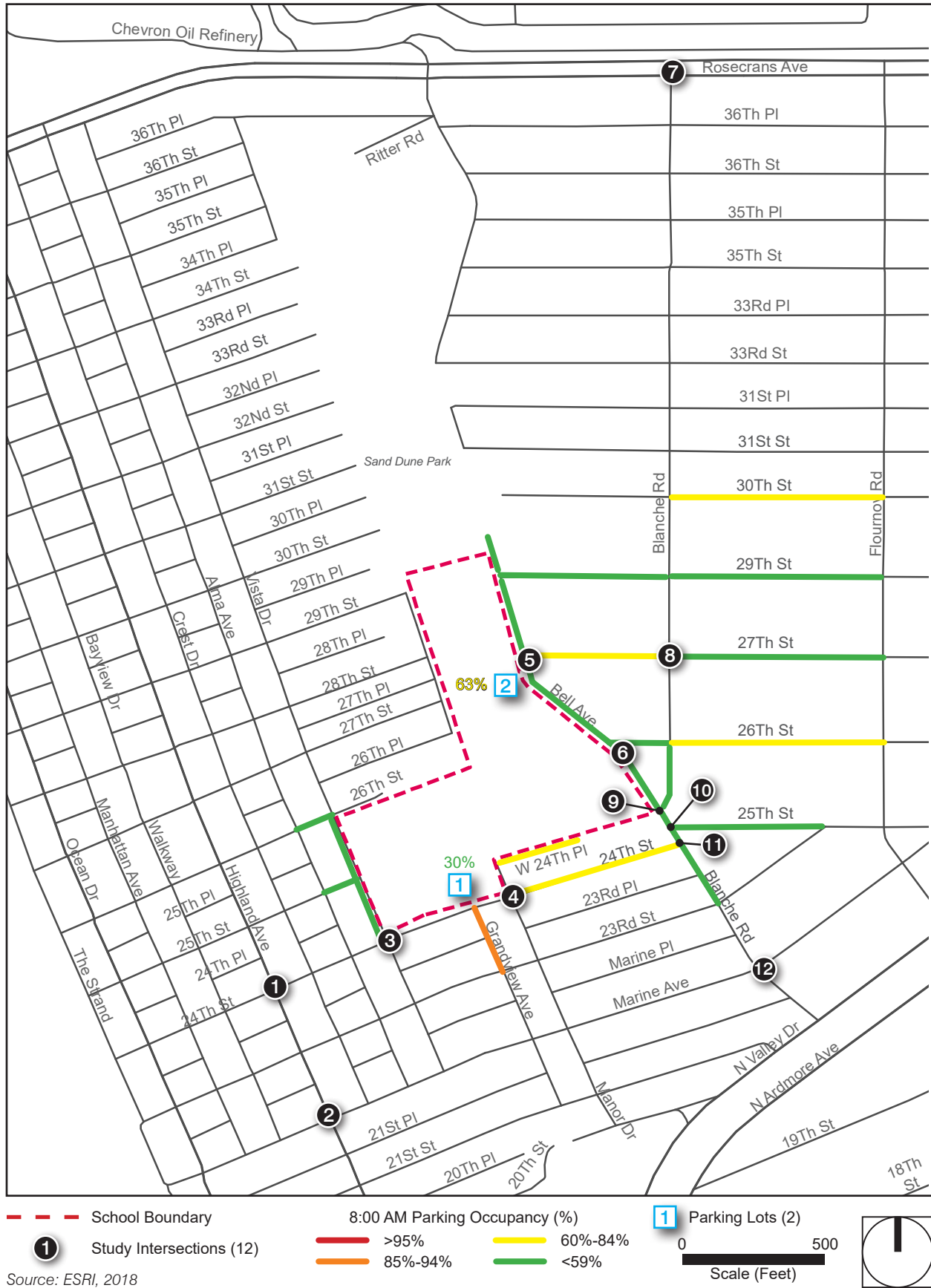
Parking Lot	Lowest Occupancy	Highest Occupancy
	7:00 AM	9:00 AM
24th Place	20%	90%
Bell Avenue	63%	63%
Overall Occupancy	41%	76%

Note: Parking occupancy data included in Appendix C.

3. Existing Conditions

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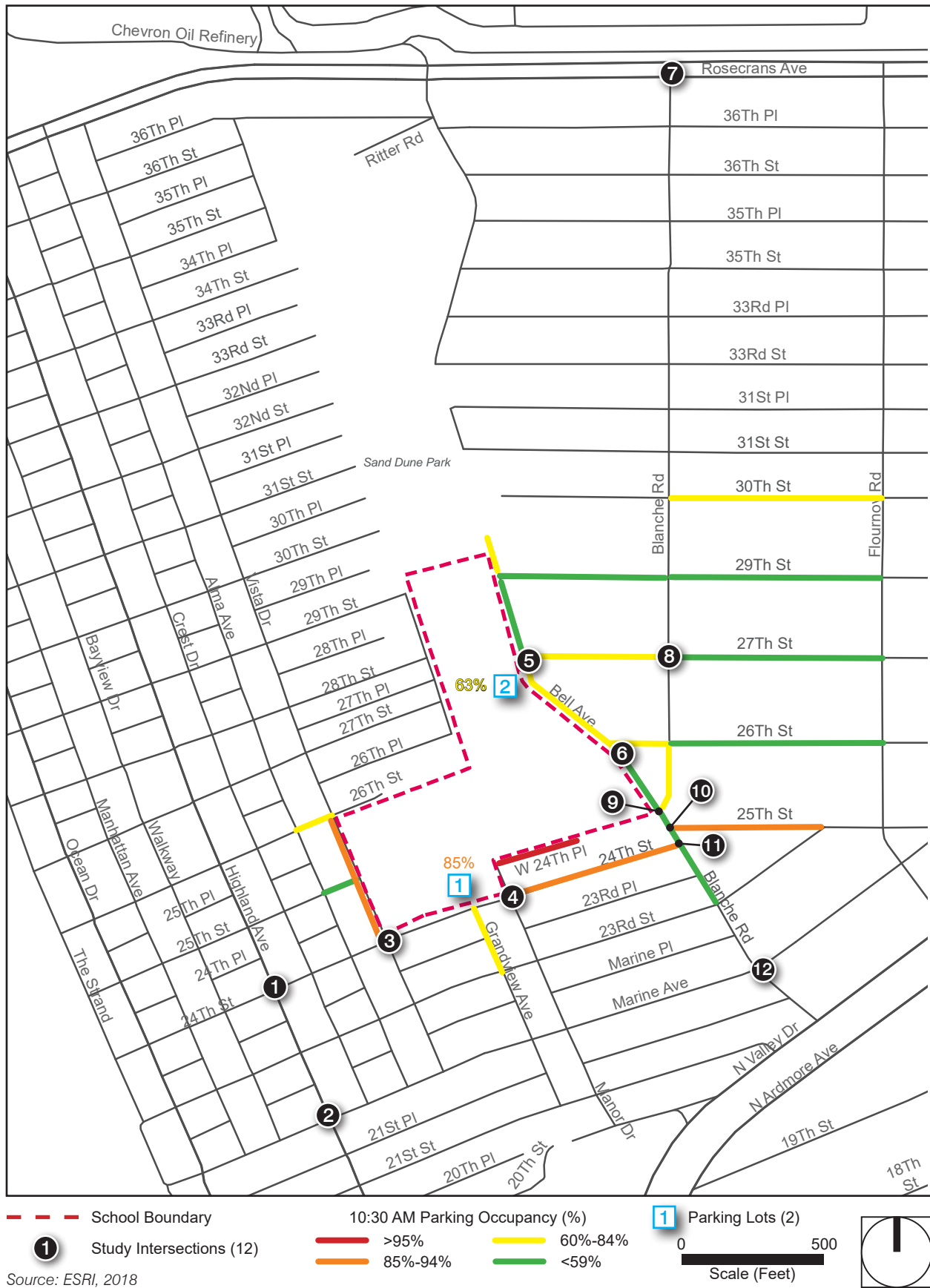
Figure 8 - Existing Weekday Parking Occupancy Onstreet - 8 AM



3. Existing Conditions

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Figure 9 - Existing Weekday Parking Occupancy Onstreet - 10:30 AM



Source: ESRI, 2018

3. Existing Conditions

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4. Project Traffic

4.1 TRIP GENERATION AND DISTRIBUTION

As discussed in Section 2.1, the proposed project would add one classroom, and the maximum enrollment capacity would increase by 24 students from the existing 735 students in grades TK through 5th to 759 students. In addition, the project would expand the lower/eastern drop-off area and construct buildings in the lower/eastern part of the campus that would be better served by the drop-off area off Bell Avenue. Therefore, it is anticipated that a number of students that are currently dropped off and picked up at the southern/higher area of the campus on 24th Place would use the drop-off area off Bell Avenue.

To estimate traffic that would shift to the lower drop-off area on Bell Avenue, published trip generation rates for elementary school students were utilized. The number of students that is anticipated to be dropped off at this location is derived from an estimate of the students placed in the buildings near Bell Avenue, which include the K, TK and 10 additional classrooms for grades 1 to 5. Each classroom would have a capacity of 24 students. Therefore, the Bell Avenue area will serve 384 students ($16 \times 24 = 384$). However, currently the Montessori School, which has an enrollment of 145 students, currently utilizes Bell Avenue for drop-off. The traffic counts conducted in 2018 during school hours already account for this traffic. Therefore, the added number of students expected to be dropped off in this area would be 239 ($384 - 145 = 239$). The trip generation was calculated based on rates in the Institute of Transportation Engineers' (ITE) manual, Trip Generation (10th edition), for Land Use 520, Elementary School. Table 5, *Project Trip Generation*, shows the trip generation rates and project trip generation for the daily, AM peak hour, the commuter PM peak hour, and student dismissal hour. It is anticipated that the number of trips to be relocated to the drop-off area at Bell Avenue would be 452 daily—160 trips (86 inbound and 74 outbound) during the AM peak hour, 41 trips (20 inbound and 21 outbound) during the PM peak hour, and 82 trips (37 inbound and 45 outbound) in the student dismissal hour. For this analysis it is conservatively assumed that the PM student dismissal school traffic would overlap with the traffic commuter PM peak hour traffic.

Table 5 Traffic Pattern Change Estimate

Land Use	Unit	Trip Generation ¹									
		Daily	AM Peak Hour			PM Peak Hour ²			PM Student Dismissal ³		
			In	Out	Total	In	Out	Total	In	Out	Total
Elementary School	Students	1.89	0.36	0.31	0.67	0.08	0.09	0.17	0.15	0.19	0.34
Project Trip Generation	239	452	86	74	160	20	21	41	37	45	82

¹ Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.

² PM peak hour represents the commuter peak hour traffic from 4-6PM.

³ PM student dismissal represents mid-afternoon hours approximately from 1 to 3 PM.

4. Project Traffic

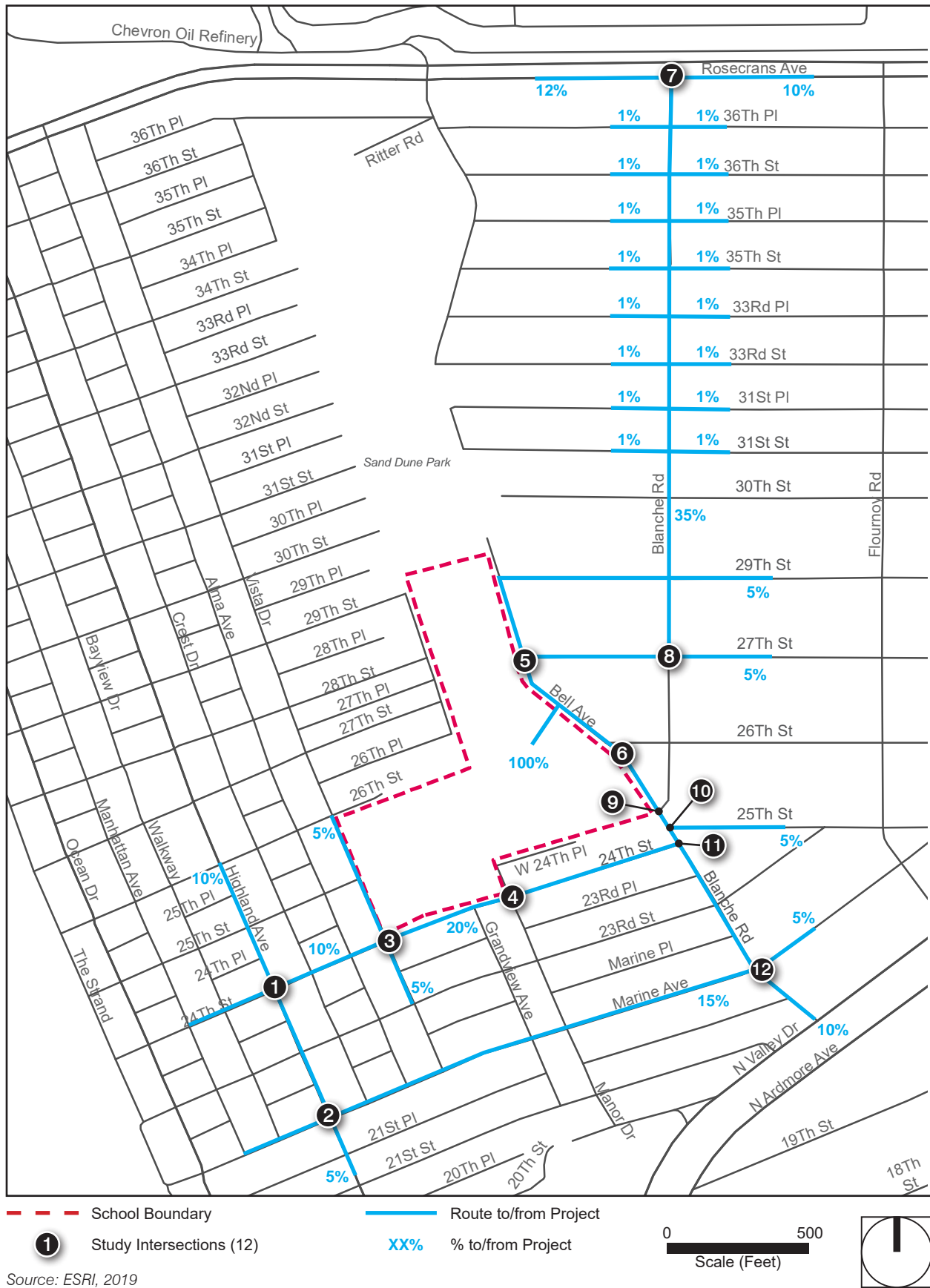
As discussed above, it is anticipated that more than 200 students that are currently dropped off at the drop-off area off 24th Place would be relocated to the drop-off area at Bell Avenue. *No reductions in traffic at the drop-off area off 24th place were considered.* This assumption would result in a very conservative assumption, as in reality this traffic would be relocated. This assumption would also absorb the increase in student capacity of 24.

The traffic that would be generated by the school was geographically distributed onto the street network by evaluating the layout of the study area roadway network and reviewing land uses designated as residential in the area. In addition, the modified school layout and expanded drop-off area would change the traffic patterns in the area, as a higher percentage of parents and staff would utilize the areas off Bell Avenue for parking and student drop-off/pick-up. Figure 10, *Project Trip Distribution*, presents the anticipated trip distribution for the school.

4.2 MODAL SPLIT AND TRIP ASSIGNMENT

The trip distribution percentages are applied to the project trip generation to determine the traffic volumes forecast to be added at each intersection (i.e., trip assignment).

Figure 10 - Project Trip Distribution



4. Project Traffic

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5. Future Traffic Conditions

Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. The ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Traffic forecasts for 2023 conditions are based on Exhibit D-1 of the Los Angeles County CMP, which provides the growth rate for 2020 and 2025 for the South Bay/LAX. Doing so, the growth rate for 2023 was determined. For the purpose of this analysis, the near-term scenario at project opening year will include ambient growth rate of 1.031 percent per year.

Cumulative projects are closely related past, present, and reasonably foreseeable probable future projects. Several projects in the cities of Manhattan Beach and El Segundo were screened. Based on a review of their circulation systems, trip generations, locations, and land use types, traffic from more than 15 cumulative projects would have the potential for directly adding measurable traffic to the area street system and therefore were included in the traffic forecasts for 2023 conditions (see Figure 11, *Cumulative Developments Location Map*). The cumulative development projects assumed in this traffic analysis are estimated to generate 13,899 trip-ends per day during a typical weekday, with approximately 1,445 (1,137 inbound, 313 outbound) vehicle trips during the AM peak hour and 1,402 (326 inbound, 1,075 outbound) vehicle trips during the PM peak hour (see Table 6). Appendix D includes the trip generation calculations for the cumulative projects and intersection turn movement volumes related to the development of cumulative projects.

The following describes the future scenarios evaluated and identifies the intersections that are forecast to operate at unacceptable LOS for each scenario.

5. Future Traffic Conditions

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5. Future Traffic Conditions

Table 6 Cumulative Projects Trip Generation

Cumulative Project Zone	Project Name/ Address	Jurisdiction	Land Use	ITE Code	Unit Amount	Unit	Trip Generation ¹						
							Daily	AM Peak Hour			PM Peak Hour		
								In	Out	Total	In	Out	Total
A	2100 E El Segundo Bl	El Segundo	General Office Building, Warehouse, Light Industrial, Retail	-	75	TSF	3775	56	33	89	108	117	225
	455 Continental Blvd and 1955 E Grand Av	El Segundo	General Office Building	710	300	TSF	2922	299	49	348	55	290	345
							6697	355	82	437	163	407	570
B ²	3920 Highland Ave	Manhattan Beach	Multifamily Housing (Low-Rise)	220	2	DU	15	0	1	1	1	0	1
			Arts and Crafts Store	879	3	TSF	170	0	0	0	9	10	19
							185	0	1	1	10	10	20
C	700-860 S. Sepulveda Bl 2001-2015 E. Park Pl., and 700-740 Allied Way	El Segundo	Shopping Center	820	19	TSF	712	11	7	18	35	37	72

5. Future Traffic Conditions

Table 6 Cumulative Projects Trip Generation

Cumulative Project Zone	Project Name/ Address	Jurisdiction	Land Use	ITE Code	Unit Amount	Unit	Trip Generation ¹						
							Daily	AM Peak Hour			PM Peak Hour		
								In	Out	Total	In	Out	Total
D	1700 Rosecrans Ave	Manhattan Beach	Fast Casual Restaurant	930	0.98	TSF	307	1	1	2	8	6	14
			(Existing Grocery Store)	850	0.6	TSF	(64)	(1)	(1)	(2)	(3)	(3)	(6)
							243	0	0	0	5	3	8
	2120 E Rosecrans Av	El Segundo	General Office Building	710	306	TSF	2,980	305	50	355	56	296	352
			Discount Club	857	7	TSF	293	2	1	3	15	15	29
							3,273	308	51	358	71	310	381
						3,516	308	50	358	76	313	389	
E	2205 Sepulveda Bl	Manhattan Beach	General Office Building	-	4.70	TSF	52	6	1	7	1	6	7
			(Existing Hair Salon)	-	1.04	TSF	(20)	(1)	(0)	(1)	(0)	(2)	(2)
							32	5	1	6	1	4	5
F	516 N. Sepulveda Bl.	Manhattan Beach	General Office Building	710	10.9	TSF	106	11	2	13	2	11	13
			(Existing Restaurant)	930	10.9	TSF	(3435)	(15)	(8)	(23)	(85)	(70)	(154)
							(3329)	(4)	(6)	(10)	(83)	(59)	(141)
	1214 Tennyson St	Manhattan Beach	Multifamily Housing (Low-Rise)	220	11	DU	81	1	4	5	4	2	6

5. Future Traffic Conditions

Table 6 Cumulative Projects Trip Generation

Cumulative Project Zone	Project Name/ Address	Jurisdiction	Land Use	ITE Code	Unit Amount	Unit	Trip Generation ¹						
							Daily	AM Peak Hour			PM Peak Hour		
								In	Out	Total	In	Out	Total
			(Existing Multifamily Housing Low-Rise)	220	8	DU	(59)	(1)	(3)	(4)	(3)	(2)	(5)
							22	0	1	1	1	0	1
	250-400 N. Sepulveda Bl.	Manhattan Beach	Senior Living Community	253	111	DU	(587)	2	2	4	(26)	(18)	(44)
	330 S. Sepulveda Bl	Manhattan Beach	General Office Building	710	20.3	TSF	(83)	27	(2)	25	(9)	16	7
	305 S. Sepulveda Bl	Manhattan Beach	Office	-	37.2	TSF	174	44	2	46	1	36	37
	707 N. Sepulveda Bl.	Manhattan Beach	Supermarket	-	27.5	TSF	1,596	39	24	63	80	77	157
			Restaurant	-	52	Seats	1,489	90	59	149	36	21	57
			Bank	-	7	TSF	840	23	10	33	30	38	68
			(Existing Automobile Care)	-	31.7	TSf	(807)	(60)	(31)	(91)	(60)	(65)	(125)
							3,118	92	62	154	86	71	157
	1000 N. Sepulveda Bl.	Manhattan Beach	Medical Office Building	-	23	TSF	833	43	12	55	23	59	82
			Pharmacy	-	0.67	TSF	60	1	1	2	3	3	6

5. Future Traffic Conditions

Table 6 Cumulative Projects Trip Generation

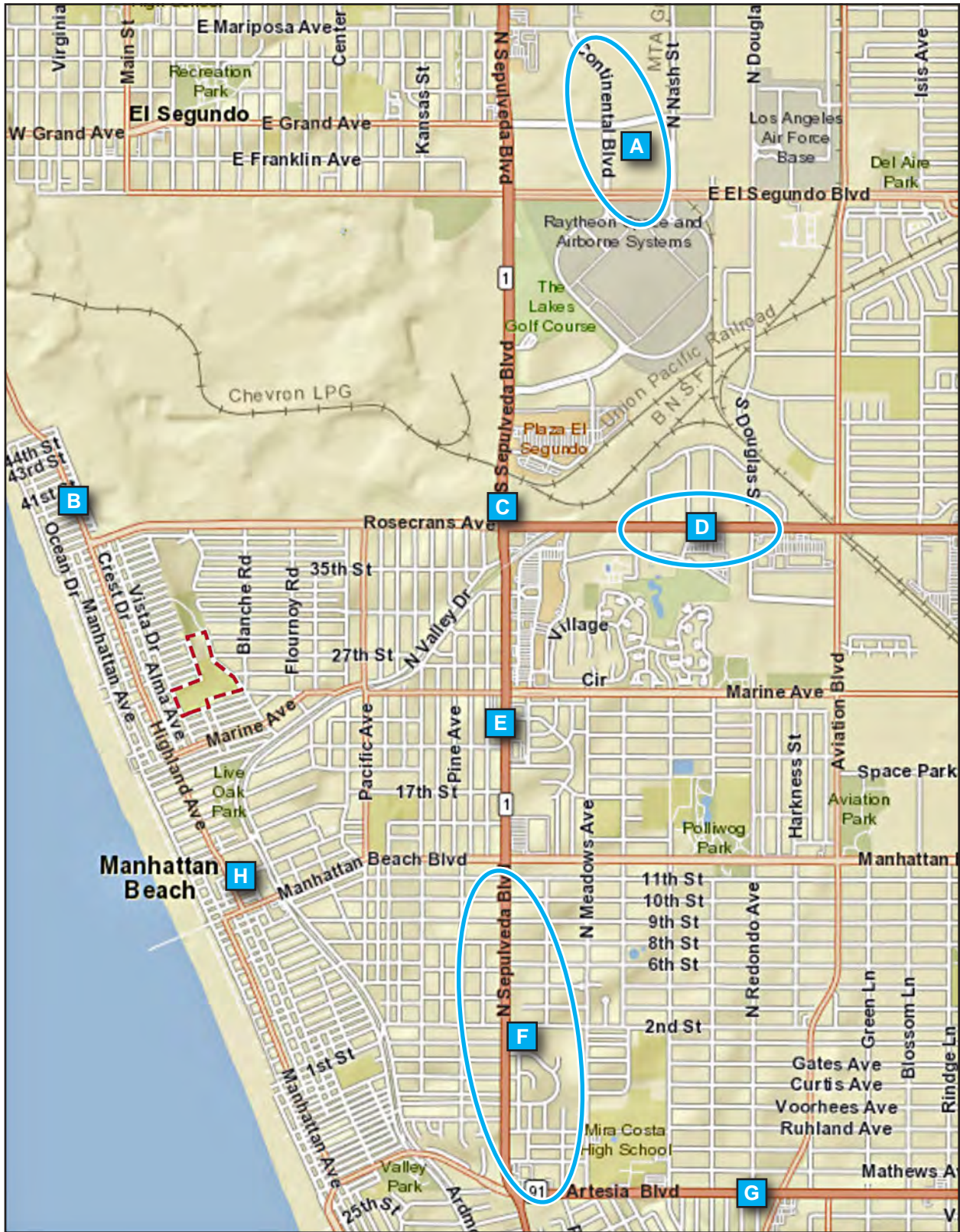
Cumulative Project Zone	Project Name/ Address	Jurisdiction	Land Use	ITE Code	Unit Amount	Unit	Trip Generation ¹						
							Daily	AM Peak Hour			PM Peak Hour		
								In	Out	Total	In	Out	Total
			Coffee Shop	-	1.72	TSF	1,860	95	95	186	35	35	70
			(Existing Restaurant)	-	5.4	TSF	(687)	(32)	(26)	(58)	(32)	(21)	(53)
							2,066	107	82	185	29	76	105
	2901 Pacific Coast Hwy	Manhattan Beach	General Office Building	-	1221	TSF	1,221	182	26	208	38	172	210
							2,602	450	167	613	37	294	332
G	1701 Artesia Bl	Manhattan Beach	Multifamily Housing (Low-Rise)	220	7	DU	51	1	2	3	2	2	4
			Medical -Dental Office Building	720	3	TSF	104	7	2	9	3	7	10
							156	8	4	12	5	9	14
Total Cumulative Projects Trip Generation:							13,899	1,137	313	1,445	326	1,075	1,402

¹ Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.

² Low-Rise Apartment assumed

³ DU= Dwelling Units, TSF= Thousand Square Feet

Figure 11 - Cumulative Developments Location Map



--- School Boundary

A /  Project Groupings

0 2,000
 Scale (Feet)



Source: ESRI, 2019

PlaceWorks

5. Future Traffic Conditions

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5. Future Traffic Conditions

5.1 NEAR TERM WITHOUT PROJECT TRAFFIC CONDITIONS

To assess near-term traffic conditions at 2023 project opening year, existing traffic is combined with the anticipated ambient growth and cumulative projects (existing + ambient growth + cumulative projects). The calculated intersection operations for the 2023 No Project traffic conditions are in Table 7, *Intersection Delay and LOS, 2023 No Project Conditions*. AM and PM peak hour intersection volumes and LOS worksheets are provided in Appendix E.

Table 7 Intersection Delay and LOS, 2023 No Project Conditions

Intersection	Traffic Control	AM Peak Hour			PM Peak Hour		
		Average Delay (sec/veh)	V/C	LOS	Average Delay (sec/veh)	V/C	LOS
1. Highland Avenue at 24th Street	Two-Way Stop	15.95	-	C	15.03	-	C
2. Highland Avenue at Marine Avenue	Signalized	-	0.707	C	-	0.797	C
3. Vista Drive at 24th Street	All-Way Stop	8.50	-	A	7.67	-	A
4. Manor Drive at 24th Street	All-Way Stop	8.35	-	A	7.50	-	A
5. Bell Avenue at 27th Street	All-Way Stop	7.41	-	A	7.50	-	A
6. Bell Avenue at 26th Street	Two-Way Stop	8.54	-	A	8.85	-	A
7. Blanche Road at Rosecrans Avenue	Signalized	-	0.570	A	-	0.473	A
8. Blanche Road at 27th Street	All-Way Stop	10.33	-	B	8.36	-	A
9. Blanche Road at Bell Avenue	Two-Way Stop	12.29	-	B	11.37	-	B
10. Blanche Road at 25th Street	All-Way Stop	10.46	-	B	8.60	-	A
11. Blanche Road at 24th Street	All-Way Stop	10.54	-	B	8.64	-	A
12. Blanche Road at Marine Avenue	All-Way Stop	11.52	-	B	10.24	-	B

Notes: LOS calculation worksheets included in Appendix E.

Intersections with unacceptable LOS are shown in **bold**.

All intersections under jurisdiction of Manhattan Beach, except for Intersection #7, which is under City of El Segundo/Manhattan Beach jurisdiction.

Under 2023 No Project conditions, all study intersections would operate at an acceptable LOS.

5. Future Traffic Conditions

5.2 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

To assess future traffic conditions with project, traffic generated by the project is added to the 2023 No Project conditions discussed above. The calculated intersection operations for the 2023 Cumulative Plus Project traffic conditions are listed in Table 8, *Intersection Delay and LOS, 2023 Plus Project Conditions*. The 2023 with project AM and PM peak hour intersection volumes and LOS worksheets are provided in Appendix F.

Table 8 Intersection Delay and LOS, 2023 Plus Project Conditions

Intersection	Traffic Control	AM Peak Hour			PM Peak Hour		
		Average Delay (sec/veh)	V/C	LOS	Average Delay (sec/veh)	V/C	LOS
1. Highland Avenue at 24th Street	Two-Way Stop	16.14	-	C	15.71	-	C
2. Highland Avenue at Marine Avenue	Signalized	-	0.712	C	-	0.798	C
3. Vista Drive at 24th Street	All-Way Stop	8.81	-	A	7.75	-	A
4. Manor Drive at 24th Street	All-Way Stop	8.67	-	A	7.58	-	A
5. Bell Avenue at 27th Street	All-Way Stop	7.60	-	A	7.64	-	A
6. Bell Avenue at 26th Street	Two-Way Stop	9.23	-	A	9.00	-	A
7. Blanche Road at Rosecrans Avenue	Signalized	-	0.580	A	-	0.482	A
8. Blanche Road at 27th Street	All-Way Stop	10.76	-	B	8.53	-	A
9. Blanche Road at Bell Avenue	Two-Way Stop	14.11	-	B	12.06	-	B
10. Blanche Road at 25th Street	All-Way Stop	11.68	-	B	8.84	-	A
11. Blanche Road at 24th Street	All-Way Stop	11.56	-	B	8.91	-	A
12. Blanche Road at Marine Avenue	All-Way Stop	12.17	-	B	10.48	-	B

Notes: LOS calculation worksheets included in Appendix F.

Intersections with unacceptable LOS are shown in **bold**.

All intersections under jurisdiction of Manhattan Beach, except for Intersection #7 which is under City of El Segundo/Manhattan Beach jurisdiction.

Under 2023 Cumulative Plus Project conditions all intersections would operate at acceptable LOS. Compared to no project conditions there would be small increases in delay at study intersections, however none of the study intersections would degrade to a worse level of service grade. Therefore, the project would not result at significant impacts at any study intersections and no mitigation would be required.

6. Site Access, Parking, and Recommendations

The following discusses project site access features, including vehicular drop-off/pick-up and queues, pedestrian access, parking, and recommendations to provide adequate site access.

Vehicular Access

The improved drop-off loop off Bell Avenue would be expanded to provide more parking, a larger internal circulation loop, greater distance between access driveways, and a larger drop-off area. The proposed internal circulation would consist of a flow-through drop-off loop that would be approximately 30 feet wide and extend around the periphery of the parking lot. The total length of the drop-off area would be approximately 400 feet. The student drop-off and pick-up area would be along the southern side of the parking lot adjacent to the multipurpose building. The driveway width would allow for a loading/unloading lane and at least one passing lane. The parking lot in the drop-off area would include 30 parking spaces, which is an increase of 22 spaces compared to the number of parking spaces available in the existing lot.

The driveway length of approximately 400 feet would allow 16 vehicles to queue (25 feet per vehicle) in the internal driveway during student drop-off and pick-up. Parents would also have the option to park at the internal lot or at curbside spaces on Bell Avenue and walk their children to/from the school entrance.

Because the ingress and driveway will be relocated north of 27th Street, the existing pavement markings, parking restriction and crosswalk at the intersection of Bell Avenue at 27th Street will no longer be adequate. The location of the northbound left turn lane would not align with the ingress driveway and vehicular queues would extend to the existing crosswalk. In addition, the existing crosswalk would direct pedestrians to the parking lot and thru the drop-off lanes, which would be a safety hazard. Without mitigation this would be an impact.

The volumes in the worst-case period would be the morning hour when traffic volumes are highest. In the AM peak hour there would be 85 vehicles entering the driveway and 74 vehicles egressing. It is anticipated that 38 vehicles would come from the north via 29th and 27th Street and 47 vehicles coming from the south and east would reach the site via Bell Avenue. Vehicles would enter the drop-off area via the driveway north of 27th Street and exit from the driveway located just south of 27th Street. It is anticipated that queues would be limited to the drop-off area and around the ingress driveway on Bell Avenue north of 27th Street. The highest turn-movement volumes at the access driveway would occur during the AM peak hour with student drop-off. Queues to enter the student drop-off/pick-up area forming on the west side (southbound) of Bell Avenue would not block any driveways. It is possible that queues to enter the drop-off area would form on the northbound lane on Bell Avenue, potentially blocking one residence driveway and the westbound approach at 27th Street to Bell Avenue. The typical morning peak drop-off and afternoon pick-up activity lasts about 20 minutes, and any possible queue would dissipate immediately afterward.

6. Site Access, Parking, and Recommendations

Pedestrian Access

Pedestrian access would continue to be provided via paved sidewalks on Bell Avenue and Blanche Avenue. Yellow-painted crosswalks are provided at key intersections of Bell Avenue at 27th Street, Blanche Avenue at 25th Street, and Blanche Avenue at 24th Street. A crossing guard is located at Bell Avenue at 27th Street during student arrival and dismissal times. There would be increased vehicular traffic on streets where school-related traffic already occurs. However, the project would not change the design of any roadway or school traffic to a roadway that currently does not experience school traffic.

Parking

The project may result in short-term increased parking demand during student drop-off and pick-up times in the vicinity of the expanded drop-off area off Bell Avenue. The parking surveys summarized in Tables 3 and 4 show that the lot on Bell Avenue is not fully occupied and that the areas adjacent to the drop-off area on Bell Avenue have spaces available for parking, as occupancy rates range from 13 percent to 70 percent on Bell Avenue. Curbside parking availability in the area is expected to accommodate short-term parking demand spikes that would occur. For most of the day the project would actually reduce curbside parking use, as the project would add 22 off-street spaces.

Recommendations

The results of this analysis concluded that no significant impacts would occur and no mitigation would be required. To ensure that adequate site access is provided, the following measures are recommended and summarized in Figure 12, *Site Access Recommendations*.

- Prior to the opening of the project, the school shall work with the City of Manhattan Beach to identify on-site traffic signing and striping to be implemented in conjunction with detailed construction plans for the project. A conceptual restriping and access reconfiguration layout is presented in Figure 12. The conceptual plan includes restriping the northbound lane of Bell Avenue at the intersection with 27th Street, moving the existing crosswalk north of the ingress driveway, adding “keep clear” pavement markings, “no crossing” sign facing east of the intersection, and adding parking restrictions along Bell Avenue. These shall be in conformance with design standards from the California Manual of Uniform Traffic Control Devices for Streets and Highways (CA MUTCD) and City of Manhattan Beach standards.
- The school district shall work with the City of Manhattan Beach and implement operational mitigation measures to improve traffic flow, if necessary, such as additional time restrictions, markings, signage, modifications to loading procedures, and education for parents and students. Operational features to provide an efficient drop-off and student pick-up may include:
 - The egress driveway may have to be restricted to allow only right turn out movements during student drop-off and pick-up times to reduce conflicting movements with vehicles heading north to the ingress driveway.
 - Provide monitors to help children get in and out of cars.

8. Site Access, Internal Circulation, and Recommendations

- Provide signage and monitors to ensure that all motorists move as far forward in the queue as possible; keep small gaps between cars to reduce the queue lengths.
 - Provide clear pavement markings and white curb markings to delineate the drop-off/pick-up area.
 - Educate parents, students, and staff on drop-off/pick-up procedures and encourage students to walk to school.
- The school and the City of Manhattan Beach should periodically review traffic operations in the vicinity of the project to ensure that traffic operations are satisfactory.

6. Site Access, Parking, and Recommendations

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Figure 12 - Site Access Recommendations



- ▼ Entrance
- Project Boundary
- - - Fencing
- Existing Fencing
- Red Curb (No Parking)



Source: Google Earth Pro, 2019; DLR Group, 2019

6. Site Access, Parking, and Recommendations

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7. Congestion Management Plan Conformance

Los Angeles County Metropolitan Transportation Authority (Metro) serves as the county's congestion management agency. The Los Angeles County Congestion Management Program was issued by Metro in December 2010 (Metro 2010). All freeways and selected arterial roadways are designated elements of the CMP Highway System. The LOS standard in Los Angeles County is LOS E, except where base year LOS is worse than E. In such cases, the base year LOS is the standard. A 1992 base year has been established for Los Angeles County. CMP statute states that deficiency plans are required when LOS standards are not met on portions of the CMP highway system. A deficiency is defined as an intersection or segment of a highway or roadway that has a reduction in LOS that exceeds the minimum standard of LOS E.

The CMP requires that individual development projects of potentially regional significance undergo a traffic impact analysis. Per the CMP Transportation Impact Analysis guidelines, a significant impact may result and a traffic impact analysis is required:

- At CMP arterial monitoring intersections where the proposed project would add 50 or more vehicle trips during either morning or evening weekday peak hours.
- At CMP main-line freeway monitoring locations where the proposed project would add 150 or more vehicle trips, in either direction, during either morning or evening weekday peak hours.

The nearest CMP facility is SR-1, approximately 1 mile east of the project site. No CMP intersections or roadways are in the study area. The project would not add 50 or more peak hour trips to any CMP facility, and there would be no significant impacts at study intersections, which are forecast to operate at acceptable LOS. Therefore, there would be no significant traffic impacts at any CMP facilities.

7. Congestion Management Plan Conformance

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8. Collision History

A 10-year crash history of all study area intersections (data reported from January 2008 through December 2017) was obtained from the Transportation Injury Mapping System (TIMS) website in an effort to identify potential safety issues in the vicinity of the school. Crash variables (type, severity, etc.) were reviewed at each study area roadway and intersection to assess if any potential crash patterns might be identifiable. In the last 10 years, there were no collisions on the streets adjacent to the school vicinity, the closest being Manor Drive at 23rd Street, 0.1 mile away and Blanche Road at 26th Street, 0.3 mile away. A majority of the crashes were on Highland Avenue, a major north-south roadway, but the closest one was Highland Avenue at 24th Street, 0.2 mile away. Table 9 summarizes the number of crashes, crash type, and severity in the area. As seen in Table 9, there have been only 3 collisions reported, and none resulted in fatalities. All the reported collisions in the study area were broadside or sideswipe. The collision maps and each detailed collision report from TIMS in the vicinity of the school are in Appendix G.

Table 9 10-Year Collision Data Summary

Location	Number of Collisions	Year	Collision Type		Crash Severity
			Broadside	Sideswipe	Injury (# of Victims)
Manor Drive at 23rd Street	1	2008	1	-	2
Blanche Road at 26th Street	1	2017	1	-	2
Highland Avenue at 24th Street	1	2010	-	1	1

Source: Transportation Injury Mapping System (TIMS).

- 2 people were involved in the collision on December 13, 2008, at 1:18 PM. Bicyclist was heading north and vehicle was heading west. The primary collision factor was a violation of traffic signals and signs.
- 2 people were involved in the collision on April 16, 2017, at 3:47 PM. One driver was heading east and other driver was heading north. The collision report states the primary collision factor was a violation of traffic signals and signs.
- 2 people were involved in the collision on August 13, 2010, at 8:14 AM. Both drivers were heading north. The collision report states the primary collision factor was an improper passing.

8. Collision History

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9. References

El Segundo, City of. General Plan Circulation Element. 2004:

<https://www.elsegundo.org/civicax/filebank/blobdload.aspx?blobid=3023>.

Institute of Transportation Engineers (ITE). 2017. Trip Generation. 10th edition.

Manhattan Beach, City of. Final Mobility Plan:

<https://www.citymb.info/home/showdocument?id=15405>.

Traffic Impact and Parking Demand Study for Proposed Commercial Project 707 and 801 North Sepulveda Boulevard, Manhattan Beach. 2016. KOA Corporation.

<https://www.citymb.info/home/showdocument?id=23860>.

Transportation Research Board. 2010. Highway Capacity Manual.

9. References

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Appendix A. Traffic Counts

Appendices

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VOLUME

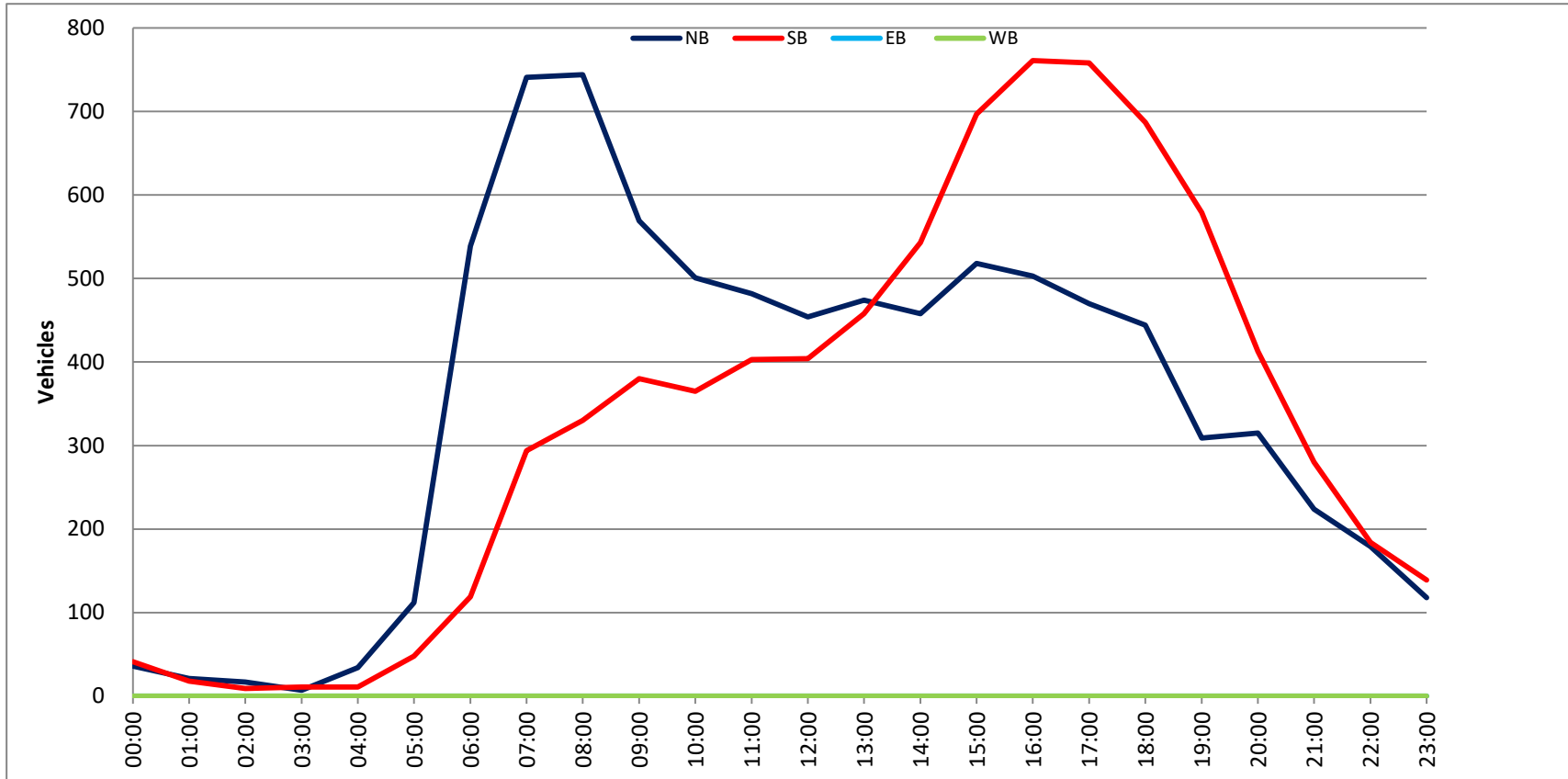
Highland Ave N/O Marine Ave

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					8,269	7,932	0	0	16,201		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	11	11			22	12:00	111	79			190
00:15	10	10			20	12:15	119	108			227
00:30	8	12			20	12:30	104	109			213
00:45	7	36	8	41	15	12:45	120	454	108	404	228
					77						858
01:00	3	6			9	13:00	125	95			220
01:15	10	7			17	13:15	108	128			236
01:30	4	5			9	13:30	127	118			245
01:45	4	21	0	18	4	13:45	114	474	117	458	231
					39						932
02:00	7	1			8	14:00	113	123			236
02:15	6	1			7	14:15	134	116			250
02:30	1	3			4	14:30	112	135			247
02:45	3	17	4	9	7	14:45	99	458	169	543	268
					26						1001
03:00	0	3			3	15:00	127	151			278
03:15	2	2			4	15:15	131	161			292
03:30	3	1			4	15:30	136	190			326
03:45	2	7	5	11	7	15:45	124	518	195	697	319
					18						1215
04:00	4	3			7	16:00	134	180			314
04:15	8	1			9	16:15	117	196			313
04:30	10	2			12	16:30	127	185			312
04:45	12	34	5	11	17	16:45	125	503	200	761	325
					45						1264
05:00	10	10			20	17:00	123	193			316
05:15	22	7			29	17:15	127	186			313
05:30	38	16			54	17:30	103	185			288
05:45	42	112	15	48	57	17:45	117	470	194	758	311
					160						1228
06:00	81	17			98	18:00	113	173			286
06:15	102	25			127	18:15	120	161			281
06:30	157	36			193	18:30	119	182			301
06:45	199	539	41	119	240	18:45	92	444	171	687	263
					658						1131
07:00	198	34			232	19:00	74	153			227
07:15	179	81			260	19:15	85	152			237
07:30	173	75			248	19:30	77	151			228
07:45	191	741	104	294	295	19:45	73	309	123	579	196
					1035						888
08:00	195	65			260	20:00	74	133			207
08:15	183	92			275	20:15	86	108			194
08:30	198	92			290	20:30	62	77			139
08:45	168	744	81	330	249	20:45	93	315	95	413	188
					1074						728
09:00	169	94			263	21:00	46	80			126
09:15	159	103			262	21:15	56	62			118
09:30	106	88			194	21:30	68	72			140
09:45	135	569	95	380	230	21:45	54	224	66	280	120
					949						504
10:00	145	98			243	22:00	55	58			113
10:15	134	84			218	22:15	43	42			85
10:30	113	99			212	22:30	42	45			87
10:45	109	501	84	365	193	22:45	39	179	39	184	78
					866						363
11:00	114	91			205	23:00	28	42			70
11:15	137	94			231	23:15	40	34			74
11:30	121	116			237	23:30	30	39			69
11:45	110	482	102	403	212	23:45	20	118	24	139	44
					885						257
TOTALS	3803	2029			5832	TOTALS	4466	5903			10369
SPLIT %	65.2%	34.8%			36.0%	SPLIT %	43.1%	56.9%			64.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					8,269	7,932	0	0	16,201
AM Peak Hour	07:45	11:30			07:45	PM Peak Hour	15:15	16:15	15:30
AM Pk Volume	767	405			1120	PM Pk Volume	525	774	1272
Pk Hr Factor	0.968	0.873			0.949	Pk Hr Factor	0.965	0.968	0.975
7 - 9 Volume	1485	624	0	0	2109	4 - 6 Volume	973	1519	2492
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:00	16:15	16:15
7 - 9 Pk Volume	767	353	0	0	1120	4 - 6 Pk Volume	503	774	1266
Pk Hr Factor	0.968	0.849	0.000	0.000	0.949	Pk Hr Factor	0.938	0.968	0.974



VOLUME

24th St Bet. Vista Dr & Grandview Ave

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	674	380	1,054		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			8	3	11
00:15			0	0	0	12:15			6	2	8
00:30			0	0	0	12:30			7	3	10
00:45			0	0	0	12:45			10	31	16
01:00			0	0	0	13:00			8	3	11
01:15			0	1	1	13:15			20	5	25
01:30			0	0	0	13:30			14	6	20
01:45			0	0	1	13:45			16	58	23
02:00			0	0	0	14:00			14	5	19
02:15			0	0	0	14:15			22	8	30
02:30			0	0	0	14:30			15	6	21
02:45			0	0	0	14:45			34	85	41
03:00			0	0	0	15:00			21	4	25
03:15			0	0	0	15:15			13	11	24
03:30			1	0	1	15:30			15	10	25
03:45			0	1	0	15:45			15	64	19
04:00			0	0	0	16:00			27	10	37
04:15			0	0	0	16:15			14	7	21
04:30			1	1	2	16:30			14	12	26
04:45			1	2	0	16:45			10	65	18
05:00			1	0	1	17:00			10	10	20
05:15			0	1	1	17:15			13	7	20
05:30			0	1	1	17:30			5	11	16
05:45			2	3	1	17:45			8	36	15
06:00			1	1	2	18:00			6	7	13
06:15			1	0	1	18:15			5	6	11
06:30			5	2	7	18:30			5	12	17
06:45			8	15	5	18:45			7	23	17
07:00			5	6	11	19:00			5	11	16
07:15			20	3	23	19:15			3	6	9
07:30			28	7	35	19:30			3	3	6
07:45			12	65	6	19:45			3	14	7
08:00			37	8	45	20:00			1	8	9
08:15			19	4	23	20:15			1	10	11
08:30			13	3	16	20:30			4	2	6
08:45			7	76	4	20:45			0	6	3
09:00			11	12	23	21:00			1	2	3
09:15			11	5	16	21:15			1	2	3
09:30			7	2	9	21:30			0	3	3
09:45			11	40	6	21:45			5	7	6
10:00			7	7	14	22:00			0	0	0
10:15			12	7	19	22:15			1	2	3
10:30			12	2	14	22:30			0	0	0
10:45			10	41	6	22:45			6	7	7
11:00			8	7	15	23:00			0	2	2
11:15			4	6	10	23:15			0	0	0
11:30			7	1	8	23:30			0	1	1
11:45			13	32	6	23:45			3	3	4
TOTALS			275	121	396	TOTALS			399	259	658
SPLIT %			69.4%	30.6%	37.6%	SPLIT %			60.6%	39.4%	62.4%

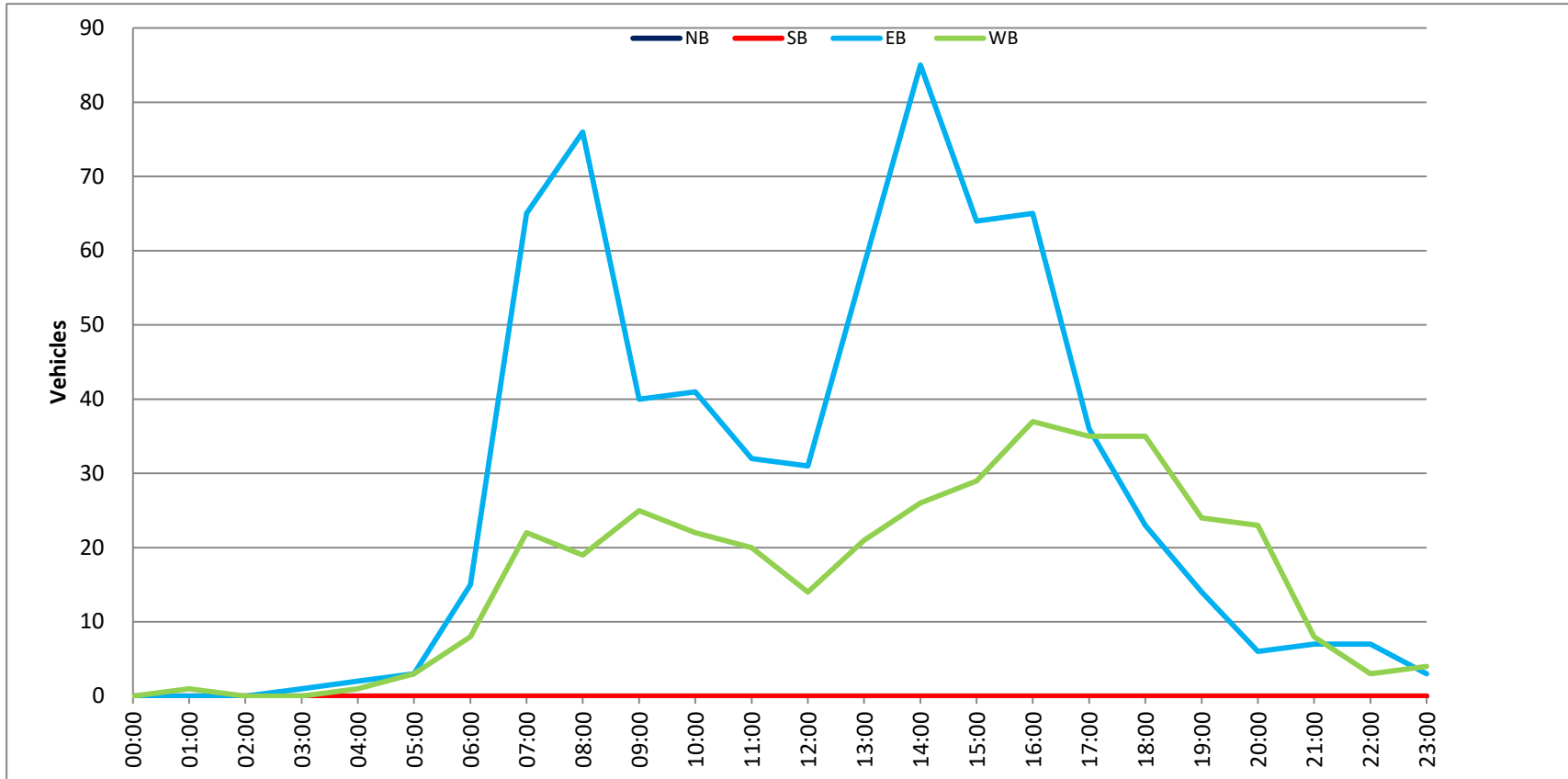
DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	674	380	1,054		
AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			14:15	18:15	14:15
AM Pk Volume			97	25	121	PM Pk Volume			92	39	117
Pk Hr Factor			0.655	0.781	0.672	Pk Hr Factor			0.676	0.813	0.713
7 - 9 Volume	0	0	141	41	182	4 - 6 Volume	0	0	101	72	173
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	97	25	121	4 - 6 Pk Volume	0	0	65	37	102
Pk Hr Factor	0.000	0.000	0.655	0.781	0.672	Pk Hr Factor	0.000	0.000	0.602	0.771	0.689

Project #: CA18_5793_002

City: Manhattan Beach

Location: 24th St Bet. Vista Dr & Grandview Ave

Date: 12/13/2018



VOLUME

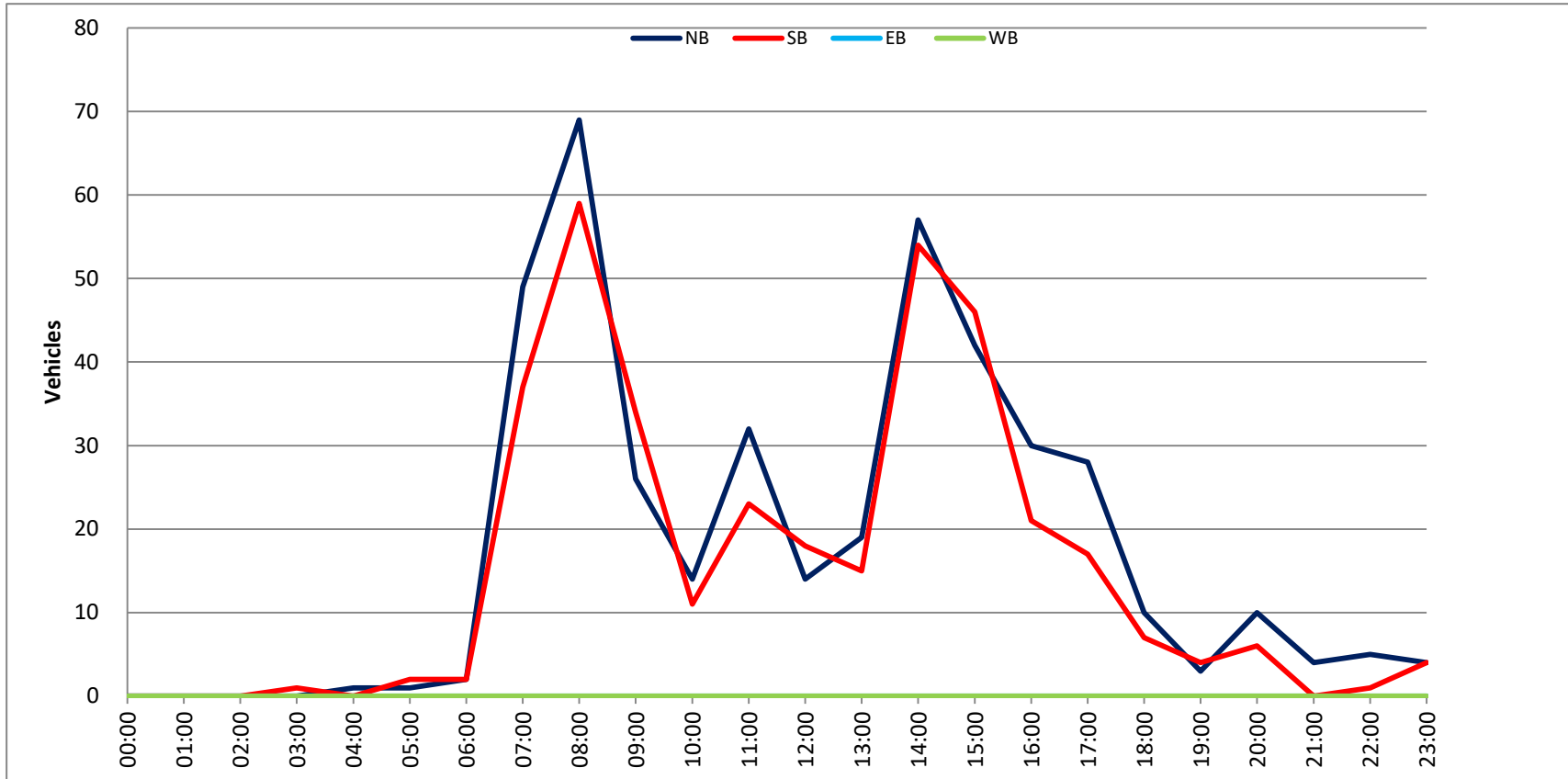
Bell Rd Bet. 27th St & 26th St

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_003

DAILY TOTALS					NB	SB	EB	WB	Total		
					420	362	0	0	782		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	3	9			12
00:15	0	0			0	12:15	1	1			2
00:30	0	0			0	12:30	4	4			8
00:45	0	0			0	12:45	6	14	4	18	32
01:00	0	0			0	13:00	6	7			13
01:15	0	0			0	13:15	5	3			8
01:30	0	0			0	13:30	4	1			5
01:45	0	0			0	13:45	4	19	4	15	34
02:00	0	0			0	14:00	7	5			12
02:15	0	0			0	14:15	14	9			23
02:30	0	0			0	14:30	16	13			29
02:45	0	0			0	14:45	20	57	27	54	111
03:00	0	1			1	15:00	16	22			38
03:15	0	0			0	15:15	12	9			21
03:30	0	0			0	15:30	6	6			12
03:45	0	0	1		1	15:45	8	42	9	46	88
04:00	0	0			0	16:00	6	5			11
04:15	1	0			1	16:15	9	6			15
04:30	0	0			0	16:30	9	8			17
04:45	0	1	0		1	16:45	6	30	2	21	51
05:00	1	0			1	17:00	4	2			6
05:15	0	0			0	17:15	8	3			11
05:30	0	0			0	17:30	9	6			15
05:45	0	1	2	2	3	17:45	7	28	6	17	45
06:00	0	0			0	18:00	4	3			7
06:15	0	0			0	18:15	4	1			5
06:30	1	1			2	18:30	1	1			2
06:45	1	2	1	2	4	18:45	1	10	2	7	17
07:00	5	3			8	19:00	1	0			1
07:15	19	12			31	19:15	2	1			3
07:30	12	10			22	19:30	0	1			1
07:45	13	49	12	37	86	19:45	0	3	2	4	7
08:00	23	25			48	20:00	2	3			5
08:15	14	14			28	20:15	1	0			1
08:30	15	9			24	20:30	3	2			5
08:45	17	69	11	59	128	20:45	4	10	1	6	16
09:00	12	17			29	21:00	3	0			3
09:15	7	7			14	21:15	0	0			0
09:30	3	5			8	21:30	1	0			1
09:45	4	26	5	34	60	21:45	0	4	0		4
10:00	3	2			5	22:00	2	1			3
10:15	3	3			6	22:15	0	0			0
10:30	6	4			10	22:30	1	0			1
10:45	2	14	2	11	25	22:45	2	5	0	1	6
11:00	5	1			6	23:00	2	0			2
11:15	5	4			9	23:15	2	3			5
11:30	9	9			18	23:30	0	0			0
11:45	13	32	9	23	55	23:45	0	4	1	4	8
TOTALS	194	169			363	TOTALS	226	193			419
SPLIT %	53.4%	46.6%			46.4%	SPLIT %	53.9%	46.1%			53.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					420	362	0	0	782
AM Peak Hour	08:00	07:30			08:00	PM Peak Hour	14:15	14:15	14:15
AM Pk Volume	69	61			128	PM Pk Volume	66	71	137
Pk Hr Factor	0.750	0.610			0.667	Pk Hr Factor	0.825	0.657	0.729
7 - 9 Volume	118	96	0	0	214	4 - 6 Volume	58	38	96
7 - 9 Peak Hour	08:00	07:30			08:00	4 - 6 Peak Hour	16:00	16:00	16:00
7 - 9 Pk Volume	69	61	0	0	128	4 - 6 Pk Volume	30	21	51
Pk Hr Factor	0.750	0.610	0.000	0.000	0.667	Pk Hr Factor	0.833	0.656	0.750



VOLUME

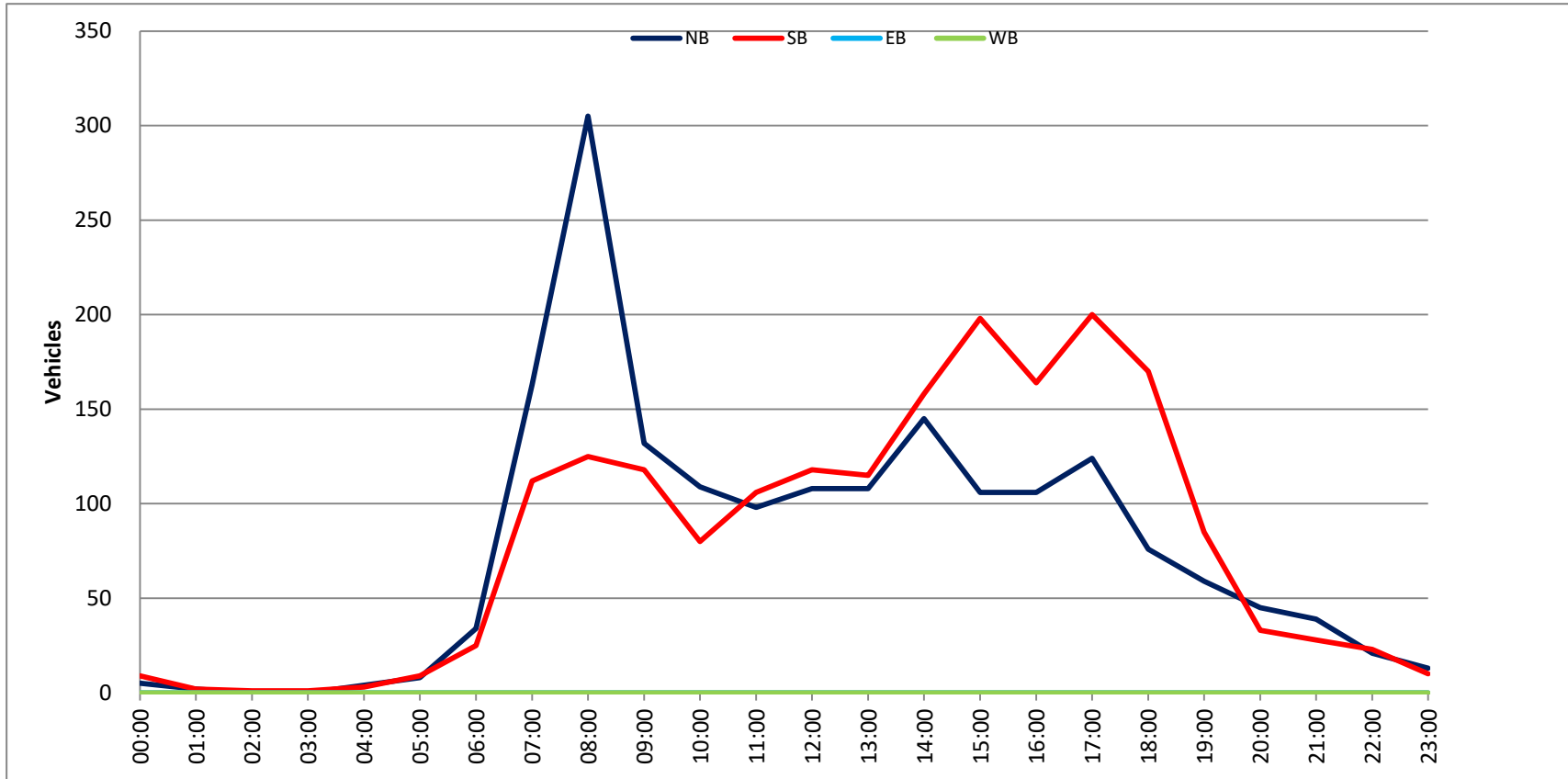
Blanche Rd Bet. 24th St & 23rd Pl

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_004

DAILY TOTALS					NB	SB	EB	WB	Total		
					1,810	1,893	0	0	3,703		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	6			8	12:00	32	34			66
00:15	1	1			2	12:15	13	22			35
00:30	2	2			4	12:30	33	26			59
00:45	0	5	0	9	0	12:45	30	108	36	118	226
01:00	1	1			2	13:00	22	25			47
01:15	0	0			0	13:15	29	30			59
01:30	1	1			2	13:30	32	22			54
01:45	0	2	0	2	0	13:45	25	108	38	115	223
02:00	0	0			0	14:00	38	26			64
02:15	0	1			1	14:15	31	40			71
02:30	0	0			0	14:30	36	32			68
02:45	0	0	1		0	14:45	40	145	60	158	303
03:00	0	0			0	15:00	23	54			77
03:15	0	0			0	15:15	26	43			69
03:30	0	0			0	15:30	25	58			83
03:45	0	1	1		1	15:45	32	106	43	198	304
04:00	0	0			0	16:00	24	44			68
04:15	1	1			2	16:15	19	41			60
04:30	2	0			2	16:30	37	47			84
04:45	1	4	2	3	3	16:45	26	106	32	164	270
05:00	0	1			1	17:00	29	53			82
05:15	2	1			3	17:15	34	51			85
05:30	4	1			5	17:30	36	49			85
05:45	2	8	6	9	8	17:45	25	124	47	200	324
06:00	6	2			8	18:00	22	47			69
06:15	6	4			10	18:15	24	45			69
06:30	11	7			18	18:30	9	39			48
06:45	11	34	12	25	23	18:45	21	76	39	170	246
07:00	21	21			42	19:00	15	23			38
07:15	29	23			52	19:15	17	23			40
07:30	38	39			77	19:30	16	22			38
07:45	75	163	29	112	104	19:45	11	59	17	85	144
08:00	103	24			127	20:00	18	13			31
08:15	79	31			110	20:15	13	10			23
08:30	68	37			105	20:30	1	4			5
08:45	55	305	33	125	88	20:45	13	45	6	33	78
09:00	36	40			76	21:00	13	9			22
09:15	37	30			67	21:15	13	5			18
09:30	26	25			51	21:30	5	9			14
09:45	33	132	23	118	56	21:45	8	39	5	28	67
10:00	25	18			43	22:00	6	9			15
10:15	36	22			58	22:15	6	4			10
10:30	20	19			39	22:30	4	6			10
10:45	28	109	21	80	49	22:45	5	21	4	23	44
11:00	26	29			55	23:00	3	5			8
11:15	23	24			47	23:15	4	2			6
11:30	20	26			46	23:30	4	2			6
11:45	29	98	27	106	56	23:45	2	13	1	10	23
TOTALS	860	591			1451	TOTALS	950	1302			2252
SPLIT %	59.3%	40.7%			39.2%	SPLIT %	42.2%	57.8%			60.8%

DAILY TOTALS					NB	SB	EB	WB	Total
					1,810	1,893	0	0	3,703
AM Peak Hour	07:45	08:15			07:45	PM Peak Hour	14:00	14:45	14:45
AM Pk Volume	325	141			446	PM Pk Volume	145	215	329
Pk Hr Factor	0.789	0.881			0.878	Pk Hr Factor	0.906	0.896	0.823
7 - 9 Volume	468	237	0	0	705	4 - 6 Volume	230	364	0
7 - 9 Peak Hour	07:45	08:00			07:45	4 - 6 Peak Hour	16:30	17:00	17:00
7 - 9 Pk Volume	325	125	0	0	446	4 - 6 Pk Volume	126	200	0
Pk Hr Factor	0.789	0.845	0.000	0.000	0.878	Pk Hr Factor	0.851	0.943	0.000



VOLUME

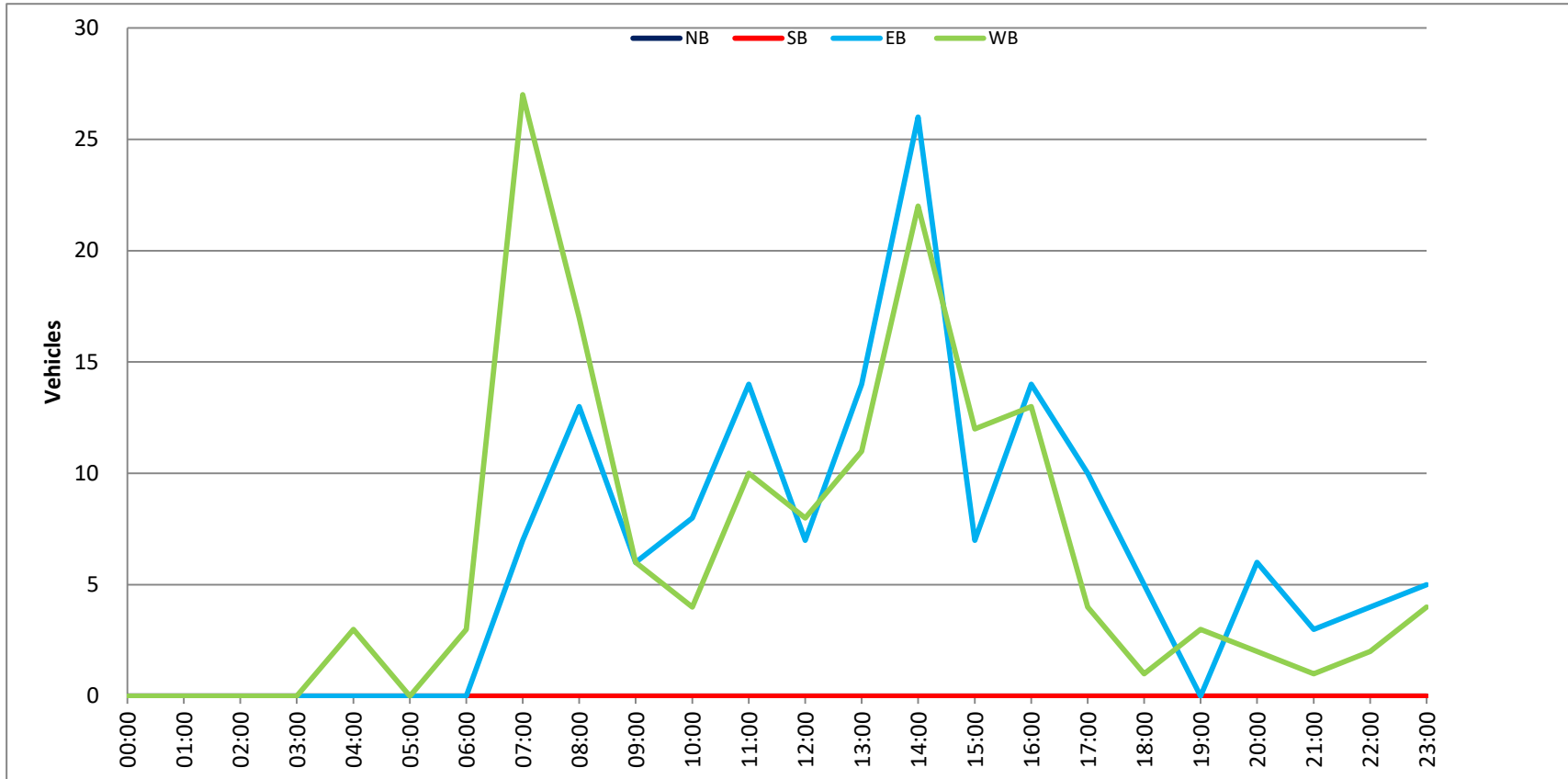
29th St Bet. Bell Ave & Blanche Rd

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_005

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	149	153	302		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			2	1	3
00:15			0	0	0	12:15			2	2	4
00:30			0	0	0	12:30			2	3	5
00:45			0	0	0	12:45			1	7	8
01:00			0	0	0	13:00			1	3	4
01:15			0	0	0	13:15			4	3	7
01:30			0	0	0	13:30			7	2	9
01:45			0	0	0	13:45			2	14	16
02:00			0	0	0	14:00			1	4	5
02:15			0	0	0	14:15			10	8	18
02:30			0	0	0	14:30			6	5	11
02:45			0	0	0	14:45			9	26	35
03:00			0	0	0	15:00			2	2	4
03:15			0	0	0	15:15			2	4	6
03:30			0	0	0	15:30			1	3	4
03:45			0	0	0	15:45			2	7	9
04:00			0	1	1	16:00			4	1	5
04:15			0	0	0	16:15			2	2	4
04:30			0	2	2	16:30			3	6	9
04:45			0	0	0	16:45			5	14	19
05:00			0	0	0	17:00			3	0	3
05:15			0	0	0	17:15			4	1	5
05:30			0	0	0	17:30			3	0	3
05:45			0	0	0	17:45			0	10	10
06:00			0	0	0	18:00			2	0	2
06:15			0	1	1	18:15			1	0	1
06:30			0	1	1	18:30			1	0	1
06:45			0	1	1	18:45			1	5	6
07:00			2	3	5	19:00			0	0	0
07:15			3	13	16	19:15			0	1	1
07:30			2	6	8	19:30			0	1	1
07:45			0	7	7	19:45			0	1	1
08:00			5	9	14	20:00			1	2	3
08:15			5	1	6	20:15			0	0	0
08:30			1	2	3	20:30			2	0	2
08:45			2	13	15	20:45			3	6	9
09:00			1	2	3	21:00			1	1	2
09:15			4	1	5	21:15			1	0	1
09:30			1	1	2	21:30			1	0	1
09:45			0	6	6	21:45			0	3	3
10:00			3	1	4	22:00			2	2	4
10:15			3	1	4	22:15			0	0	0
10:30			1	0	1	22:30			1	0	1
10:45			1	8	9	22:45			1	4	5
11:00			5	1	6	23:00			4	2	6
11:15			3	2	5	23:15			0	0	0
11:30			4	4	8	23:30			1	1	2
11:45			2	14	16	23:45			0	5	5
TOTALS			48	70	118	TOTALS			101	83	184
SPLIT %			40.7%	59.3%	39.1%	SPLIT %			54.9%	45.1%	60.9%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	149	153	302		
AM Peak Hour			11:00	07:15	07:15	PM Peak Hour			14:15	14:00	14:00
AM Pk Volume			14	33	43	PM Pk Volume			27	22	48
Pk Hr Factor			0.700	0.635	0.672	Pk Hr Factor			0.675	0.688	0.667
7 - 9 Volume	0	0	20	44	64	4 - 6 Volume	0	0	24	17	41
7 - 9 Peak Hour			08:00	07:15	07:15	4 - 6 Peak Hour			16:30	16:00	16:00
7 - 9 Pk Volume	0	0	13	33	43	4 - 6 Pk Volume	0	0	15	13	27
Pk Hr Factor	0.000	0.000	0.650	0.635	0.672	Pk Hr Factor	0.000	0.000	0.750	0.542	0.750



VOLUME

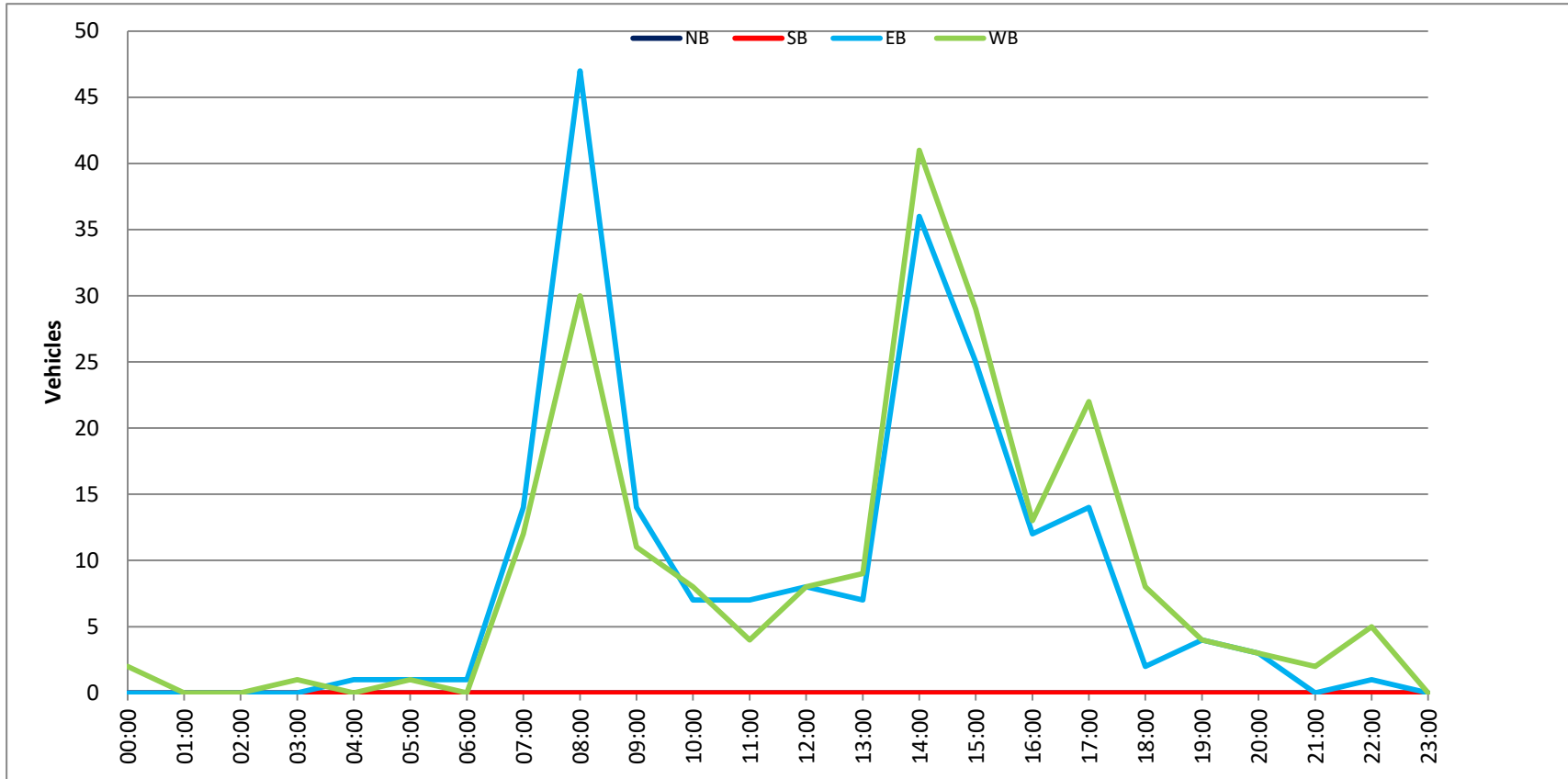
27th St Bet. Bell Ave & Blanche Rd

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_006

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	204	213	417		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	1	1	12:00			3	0	3
00:15			0	0	0	12:15			1	3	4
00:30			0	1	1	12:30			1	2	3
00:45			0	0	0	12:45			3	8	11
01:00			0	0	0	13:00			1	2	3
01:15			0	0	0	13:15			3	5	8
01:30			0	0	0	13:30			2	1	3
01:45			0	0	0	13:45			1	7	8
02:00			0	0	0	14:00			3	6	9
02:15			0	0	0	14:15			5	7	12
02:30			0	0	0	14:30			6	17	23
02:45			0	0	0	14:45			22	36	58
03:00			0	0	0	15:00			8	13	21
03:15			0	0	0	15:15			5	3	8
03:30			0	0	0	15:30			8	8	16
03:45			0	1	1	15:45			4	25	29
04:00			1	0	1	16:00			5	3	8
04:15			0	0	0	16:15			2	3	5
04:30			0	0	0	16:30			4	6	10
04:45			0	1	1	16:45			1	12	13
05:00			1	1	2	17:00			2	4	6
05:15			0	0	0	17:15			4	6	10
05:30			0	0	0	17:30			2	7	9
05:45			0	1	1	17:45			6	14	20
06:00			0	0	0	18:00			0	3	3
06:15			1	0	1	18:15			0	2	2
06:30			0	0	0	18:30			0	1	1
06:45			0	1	1	18:45			2	2	4
07:00			0	2	2	19:00			2	1	3
07:15			4	2	6	19:15			0	0	0
07:30			5	4	9	19:30			2	2	4
07:45			5	14	19	19:45			0	4	4
08:00			13	11	24	20:00			1	0	1
08:15			14	7	21	20:15			1	3	4
08:30			11	1	12	20:30			0	0	0
08:45			9	47	56	20:45			1	3	4
09:00			8	4	12	21:00			0	1	1
09:15			5	2	7	21:15			0	0	0
09:30			0	2	2	21:30			0	0	0
09:45			1	14	15	21:45			0	1	1
10:00			1	5	6	22:00			0	0	0
10:15			2	1	3	22:15			0	1	1
10:30			2	1	3	22:30			1	2	3
10:45			2	7	9	22:45			0	1	1
11:00			1	1	2	23:00			0	0	0
11:15			1	1	2	23:15			0	0	0
11:30			4	0	4	23:30			0	0	0
11:45			1	7	8	23:45			0	0	0
TOTALS			92	69	161	TOTALS			112	144	256
SPLIT %			57.1%	42.9%	38.6%	SPLIT %			43.8%	56.3%	61.4%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	204	213	417		
AM Peak Hour			08:00	08:00	08:00	PM Peak Hour			14:45	14:15	14:15
AM Pk Volume			47	30	77	PM Pk Volume			43	48	89
Pk Hr Factor			0.839	0.682	0.802	Pk Hr Factor			0.489	0.706	0.674
7 - 9 Volume	0	0	61	42	103	4 - 6 Volume	0	0	26	35	61
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	47	30	77	4 - 6 Pk Volume	0	0	14	22	36
Pk Hr Factor	0.000	0.000	0.839	0.682	0.802	Pk Hr Factor	0.000	0.000	0.583	0.786	0.818



VOLUME

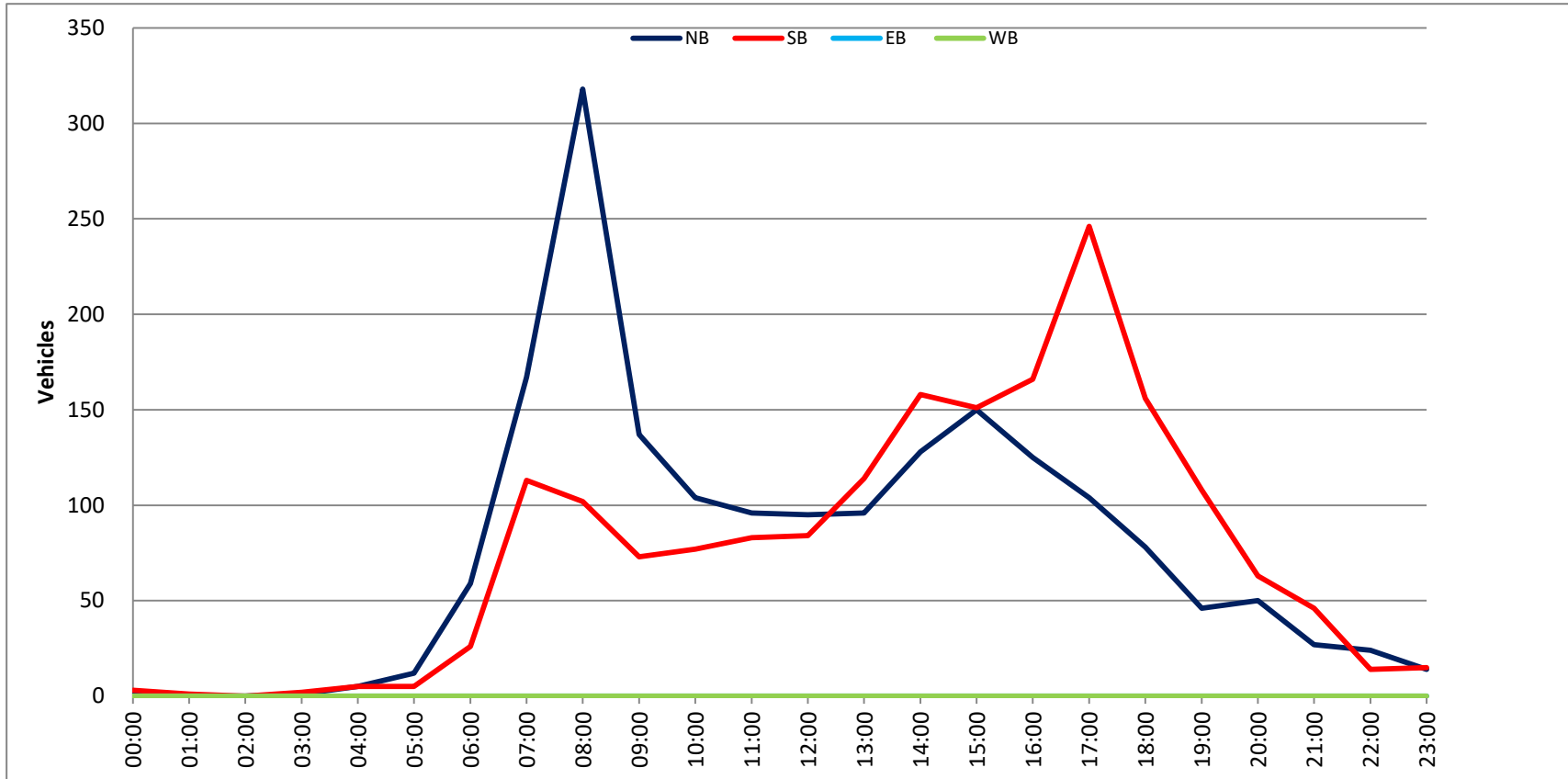
Blanche Rd Bet. 30th St & 29th St

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_007

DAILY TOTALS					NB	SB	EB	WB	Total		
					1,837	1,811	0	0	3,648		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	1			1	12:00	25	20			45
00:15	0	1			1	12:15	30	29			59
00:30	1	1			2	12:30	16	15			31
00:45	0	1	0	3	4	12:45	24	95	20	84	179
01:00	0	0			0	13:00	27	19			46
01:15	0	1			1	13:15	19	41			60
01:30	0	0			0	13:30	29	24			53
01:45	0	0	1		1	13:45	21	96	30	114	210
02:00	0	0			0	14:00	24	31			55
02:15	0	0			0	14:15	30	37			67
02:30	0	0			0	14:30	31	36			67
02:45	0	0			0	14:45	43	128	54	158	286
03:00	0	0			0	15:00	40	41			81
03:15	1	1			2	15:15	37	34			71
03:30	0	0			0	15:30	33	28			61
03:45	0	1	1	2	3	15:45	40	150	48	151	301
04:00	1	1			2	16:00	38	32			70
04:15	2	2			4	16:15	36	42			78
04:30	1	0			1	16:30	23	50			73
04:45	1	5	2	5	10	16:45	28	125	42	166	291
05:00	2	1			3	17:00	34	51			85
05:15	3	1			4	17:15	23	78			101
05:30	3	0			3	17:30	29	58			87
05:45	4	12	3	5	17	17:45	18	104	59	246	350
06:00	4	2			6	18:00	27	50			77
06:15	10	2			12	18:15	16	39			55
06:30	26	10			36	18:30	14	34			48
06:45	19	59	12	26	85	18:45	21	78	33	156	234
07:00	28	13			41	19:00	12	35			47
07:15	35	25			60	19:15	11	33			44
07:30	57	40			97	19:30	12	21			33
07:45	47	167	35	113	280	19:45	11	46	19	108	154
08:00	90	43			133	20:00	11	18			29
08:15	97	12			109	20:15	5	12			17
08:30	73	21			94	20:30	15	14			29
08:45	58	318	26	102	420	20:45	19	50	19	63	113
09:00	53	24			77	21:00	4	18			22
09:15	36	21			57	21:15	11	10			21
09:30	27	14			41	21:30	5	11			16
09:45	21	137	14	73	210	21:45	7	27	7	46	73
10:00	31	20			51	22:00	9	5			14
10:15	29	19			48	22:15	4	4			8
10:30	25	20			45	22:30	5	1			6
10:45	19	104	18	77	181	22:45	6	24	4	14	38
11:00	30	15			45	23:00	4	8			12
11:15	23	28			51	23:15	4	3			7
11:30	22	15			37	23:30	1	3			4
11:45	21	96	25	83	179	23:45	5	14	1	15	29
TOTALS	900	490			1390	TOTALS	937	1321			2258
SPLIT %	64.7%	35.3%			38.1%	SPLIT %	41.5%	58.5%			61.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					1,837	1,811	0	0	3,648
AM Peak Hour	08:00	07:15		07:30	PM Peak Hour	14:45	17:00		17:00
AM Pk Volume	318	143		421	PM Pk Volume	153	246		350
Pk Hr Factor	0.820	0.831		0.791	Pk Hr Factor	0.890	0.788		0.866
7 - 9 Volume	485	215	0	700	4 - 6 Volume	229	412	0	641
7 - 9 Peak Hour	08:00	07:15		07:30	4 - 6 Peak Hour	16:00	17:00		17:00
7 - 9 Pk Volume	318	143	0	421	4 - 6 Pk Volume	125	246	0	350
Pk Hr Factor	0.820	0.831	0.000	0.791	Pk Hr Factor	0.822	0.788	0.000	0.866



VOLUME

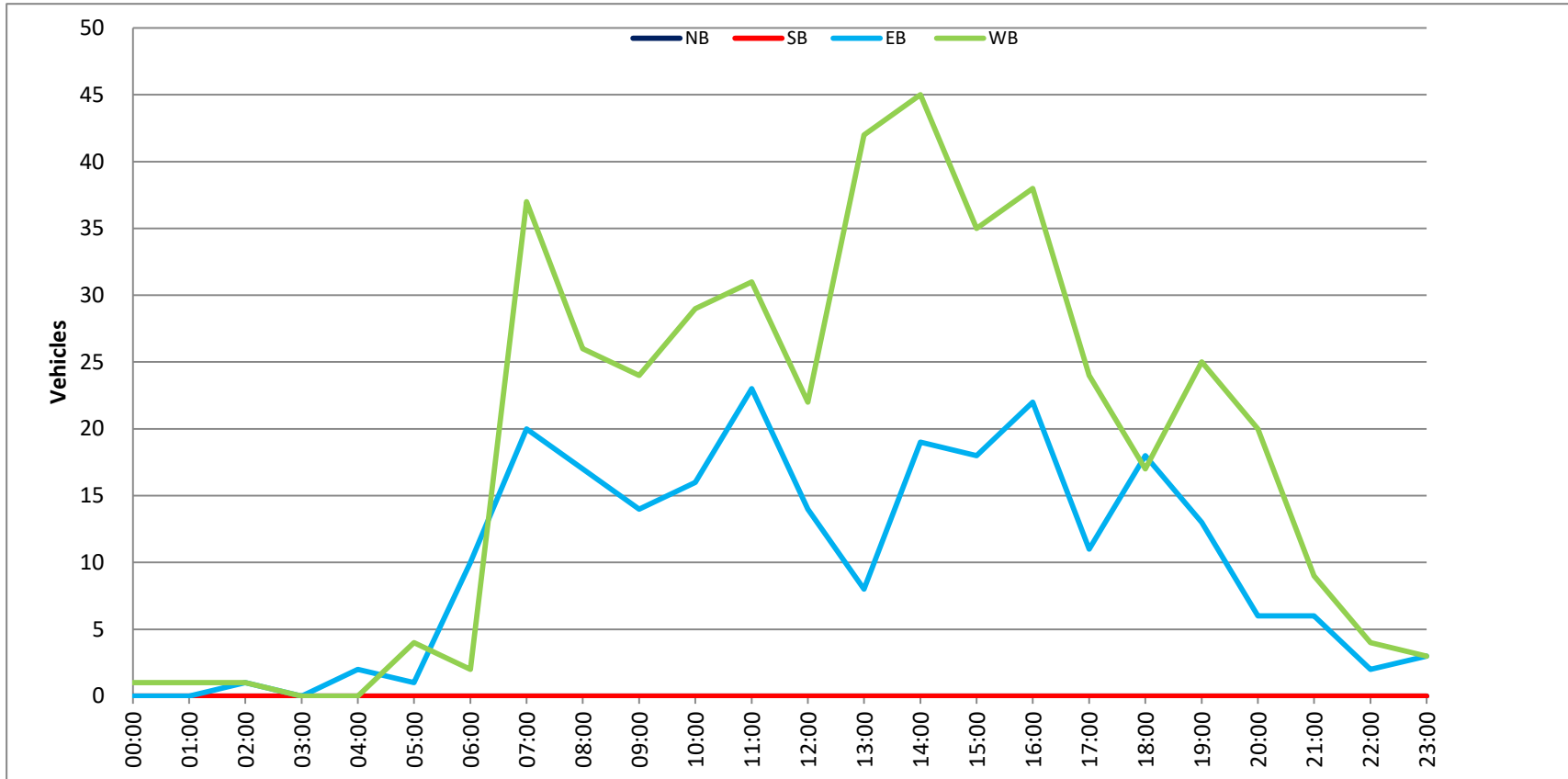
25th St E/O Blanche Rd

Day: Thursday
Date: 12/13/2018

City: Manhattan Beach
Project #: CA18_5793_008

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	244	440	684		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			7	8	15
00:15			0	0	0	12:15			4	4	8
00:30			0	0	0	12:30			2	4	6
00:45			0	1	1	12:45			1	14	15
01:00			0	0	0	13:00			0	11	11
01:15			0	0	0	13:15			3	13	16
01:30			0	0	0	13:30			4	9	13
01:45			0	1	1	13:45			1	8	9
02:00			1	1	2	14:00			5	8	13
02:15			0	0	0	14:15			3	16	19
02:30			0	0	0	14:30			6	14	20
02:45			0	1	1	14:45			5	19	24
03:00			0	0	0	15:00			6	7	13
03:15			0	0	0	15:15			7	9	16
03:30			0	0	0	15:30			3	13	16
03:45			0	0	0	15:45			2	18	20
04:00			0	0	0	16:00			2	10	12
04:15			0	0	0	16:15			9	11	20
04:30			1	0	1	16:30			8	8	16
04:45			1	2	3	16:45			3	22	25
05:00			1	2	3	17:00			0	10	10
05:15			0	1	1	17:15			6	4	10
05:30			0	1	1	17:30			0	7	7
05:45			0	1	1	17:45			5	11	16
06:00			0	0	0	18:00			7	4	11
06:15			0	0	0	18:15			2	4	6
06:30			6	0	6	18:30			4	3	7
06:45			4	10	14	18:45			5	18	23
07:00			1	9	10	19:00			6	4	10
07:15			4	11	15	19:15			2	7	9
07:30			10	9	19	19:30			4	6	10
07:45			5	20	25	19:45			1	13	14
08:00			4	18	22	20:00			1	8	9
08:15			3	3	6	20:15			1	3	4
08:30			6	4	10	20:30			3	6	9
08:45			4	17	21	20:45			1	6	7
09:00			2	4	6	21:00			2	3	5
09:15			4	5	9	21:15			0	1	1
09:30			5	6	11	21:30			2	3	5
09:45			3	14	17	21:45			2	6	8
10:00			3	5	8	22:00			0	1	1
10:15			4	11	15	22:15			0	1	1
10:30			5	7	12	22:30			0	2	2
10:45			4	16	20	22:45			2	2	4
11:00			5	6	11	23:00			2	1	3
11:15			7	8	15	23:15			0	2	2
11:30			8	11	19	23:30			0	0	0
11:45			3	23	26	23:45			1	3	4
TOTALS			104	156	260	TOTALS			140	284	424
SPLIT %			40.0%	60.0%	38.0%	SPLIT %			33.0%	67.0%	62.0%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	244	440	684		
AM Peak Hour			11:15	07:15	07:15	PM Peak Hour			14:30	13:45	14:00
AM Pk Volume			25	46	69	PM Pk Volume			24	47	64
Pk Hr Factor			0.781	0.639	0.784	Pk Hr Factor			0.857	0.734	0.800
7 - 9 Volume	0	0	37	63	100	4 - 6 Volume	0	0	33	62	95
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	23	46	69	4 - 6 Pk Volume	0	0	22	38	60
Pk Hr Factor	0.000	0.000	0.575	0.639	0.784	Pk Hr Factor	0.000	0.000	0.611	0.864	0.750



National Data & Surveying Services

Intersection Turning Movement Count

Location: Highland Ave & 24th St
 City: Manhattan Beach
 Control: 1-Way Stop(WB)

Project ID: 18-05792-001
 Date: 12/13/2018

Total

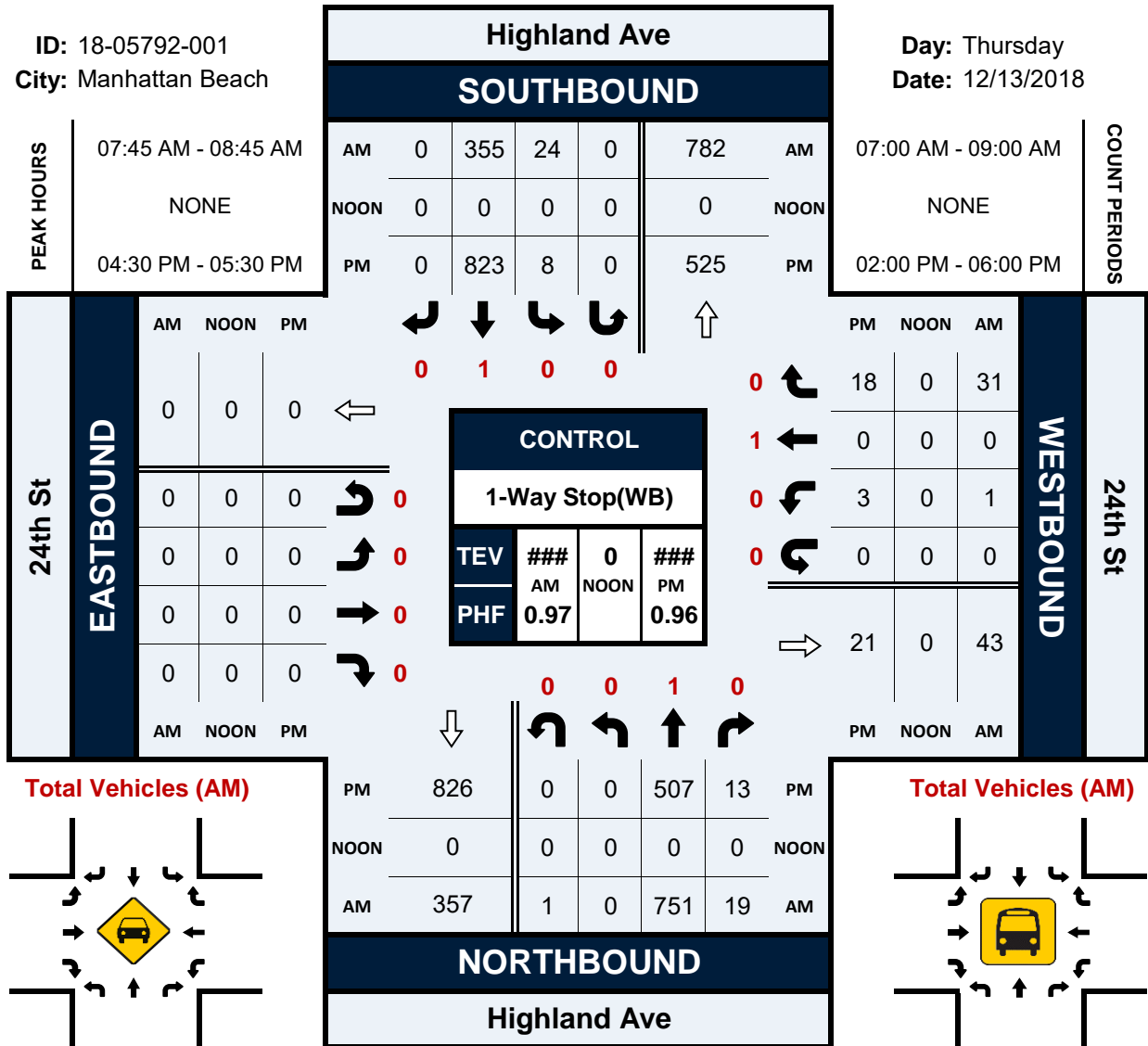
NS/EW Streets:	Highland Ave				Highland Ave				24th St				24th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	210	1	0	1	38	0	0	0	0	0	0	0	2	0	252	
7:15 AM	0	172	2	0	12	83	0	0	0	0	0	0	0	5	0	274	
7:30 AM	0	172	3	0	8	73	0	0	0	0	0	1	0	8	0	265	
7:45 AM	0	185	6	0	5	99	0	0	0	0	0	0	0	5	0	300	
8:00 AM	0	191	10	1	16	71	0	0	0	0	0	0	0	17	0	306	
8:15 AM	0	190	1	0	1	85	0	0	0	0	0	1	0	5	0	283	
8:30 AM	0	185	2	0	2	100	0	0	0	0	0	0	0	4	0	293	
8:45 AM	0	158	2	0	1	85	0	0	0	0	0	0	0	5	0	251	
TOTAL VOLUMES :	0	1463	27	1	46	634	0	0	0	0	0	2	0	51	0	2224	
APPROACH %'s :	0.00%	98.12%	1.81%	0.07%	6.76%	93.24%	0.00%	0.00%				3.77%	0.00%	96.23%	0.00%		
PEAK HR :	07:45 AM - 08:45 AM																
PEAK HR VOL :	0	751	19	1	24	355	0	0	0	0	0	0	0	31	0	1182	
PEAK HR FACTOR :	0.000	0.983	0.475	0.250	0.375	0.888	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.456	0.000	0.966	
	0.954				0.911				0.471								
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	116	3	0	7	126	0	0	0	0	0	1	0	0	0	253	
2:15 PM	0	132	2	0	6	119	0	1	0	0	0	2	0	13	0	275	
2:30 PM	0	100	3	0	2	148	0	0	0	0	0	1	0	6	0	260	
2:45 PM	0	94	2	0	5	175	0	0	0	0	0	3	0	6	0	285	
3:00 PM	0	125	2	0	0	144	0	0	0	0	0	1	0	4	0	276	
3:15 PM	0	120	3	0	0	172	0	0	0	0	0	1	0	4	0	300	
3:30 PM	0	140	3	0	2	193	0	0	0	0	0	0	0	2	0	340	
3:45 PM	0	123	2	0	2	208	0	0	0	0	0	0	0	1	0	336	
4:00 PM	0	128	5	0	4	187	0	0	0	0	0	0	0	3	0	327	
4:15 PM	0	117	2	0	3	206	0	0	0	0	0	1	0	3	0	332	
4:30 PM	0	119	5	0	0	205	0	0	0	0	0	2	0	5	0	336	
4:45 PM	0	134	2	0	4	212	0	0	0	0	0	0	0	4	0	356	
5:00 PM	0	125	4	0	3	205	0	0	0	0	0	0	0	6	0	343	
5:15 PM	0	129	2	0	1	201	0	0	0	0	0	1	0	3	0	337	
5:30 PM	0	108	1	0	4	196	0	0	0	0	0	1	0	3	0	313	
5:45 PM	0	114	1	0	1	218	0	1	0	0	0	0	0	1	0	336	
TOTAL VOLUMES :	0	1924	42	0	44	2915	0	2	0	0	0	14	0	64	0	5005	
APPROACH %'s :	0.00%	97.86%	2.14%	0.00%	1.49%	98.45%	0.00%	0.07%				17.95%	0.00%	82.05%	0.00%		
PEAK HR :	04:30 PM - 05:30 PM																
PEAK HR VOL :	0	507	13	0	8	823	0	0	0	0	0	3	0	18	0	1372	
PEAK HR FACTOR :	0.000	0.946	0.650	0.000	0.500	0.971	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.750	0.000	0.963	
	0.956				0.962				0.750								

Highland Ave & 24th St

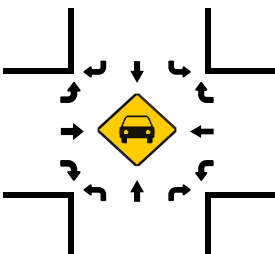
Peak Hour Turning Movement Count

ID: 18-05792-001
City: Manhattan Beach

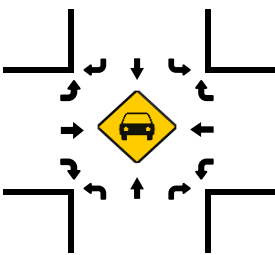
Day: Thursday
Date: 12/13/2018



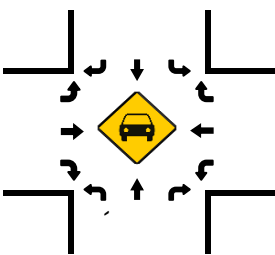
Total Vehicles (AM)



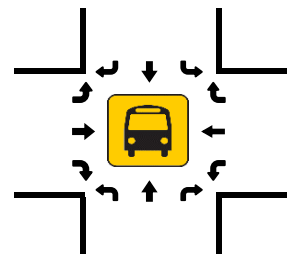
Total Vehicles (NOON)



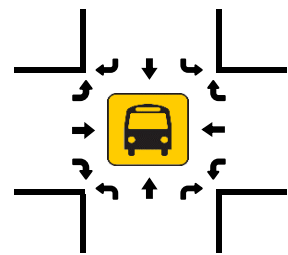
Total Vehicles (PM)



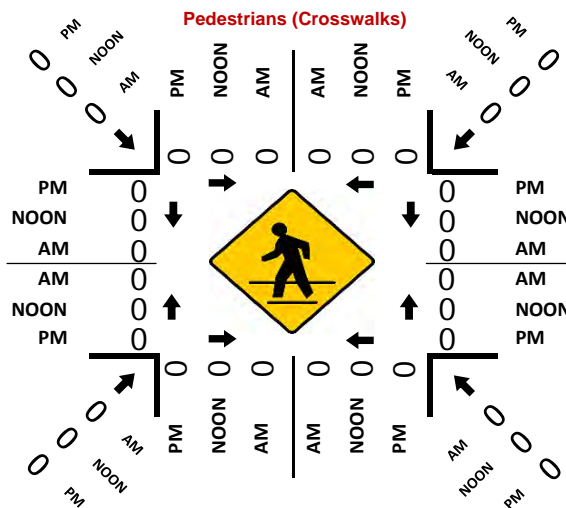
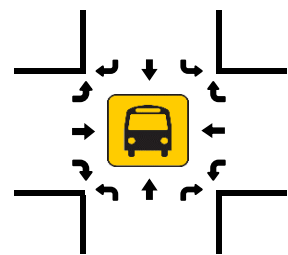
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Highland Ave & Marine Ave
 City: Manhattan Beach
 Control: Signalized

Project ID: 18-05792-002
 Date: 12/13/2018

Total

NS/EW Streets:	Highland Ave				Highland Ave				Marine Ave				Marine Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	1	0	0	1	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	20	191	9	0	2	34	1	0	5	6	3	0	8	2	9	0	290
7:15 AM	13	167	10	0	4	74	5	0	6	5	11	0	12	4	6	0	317
7:30 AM	9	163	10	0	5	69	0	0	4	9	20	0	17	4	4	0	314
7:45 AM	18	179	18	0	7	92	2	0	4	14	19	0	10	5	4	0	372
8:00 AM	25	188	12	0	7	64	0	0	8	20	15	0	22	12	5	0	378
8:15 AM	31	176	10	0	7	83	2	0	7	11	19	0	24	7	7	0	384
8:30 AM	15	176	7	0	4	93	0	0	1	12	20	0	10	6	3	0	347
8:45 AM	32	158	16	0	5	77	3	0	7	12	19	0	9	6	10	0	354
TOTAL VOLUMES :	163	1398	92	0	41	586	13	0	42	89	126	0	112	46	48	0	2756
APPROACH %'s :	9.86%	84.57%	5.57%	0.00%	6.41%	91.56%	2.03%	0.00%	16.34%	34.63%	49.03%	0.00%	54.37%	22.33%	23.30%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	89	719	47	0	25	332	4	0	20	57	73	0	66	30	19	0	1481
PEAK HR FACTOR :	0.718	0.956	0.653	0.000	0.893	0.892	0.500	0.000	0.625	0.713	0.913	0.000	0.688	0.625	0.679	0.000	0.964
	0.950				0.894				0.872				0.737				

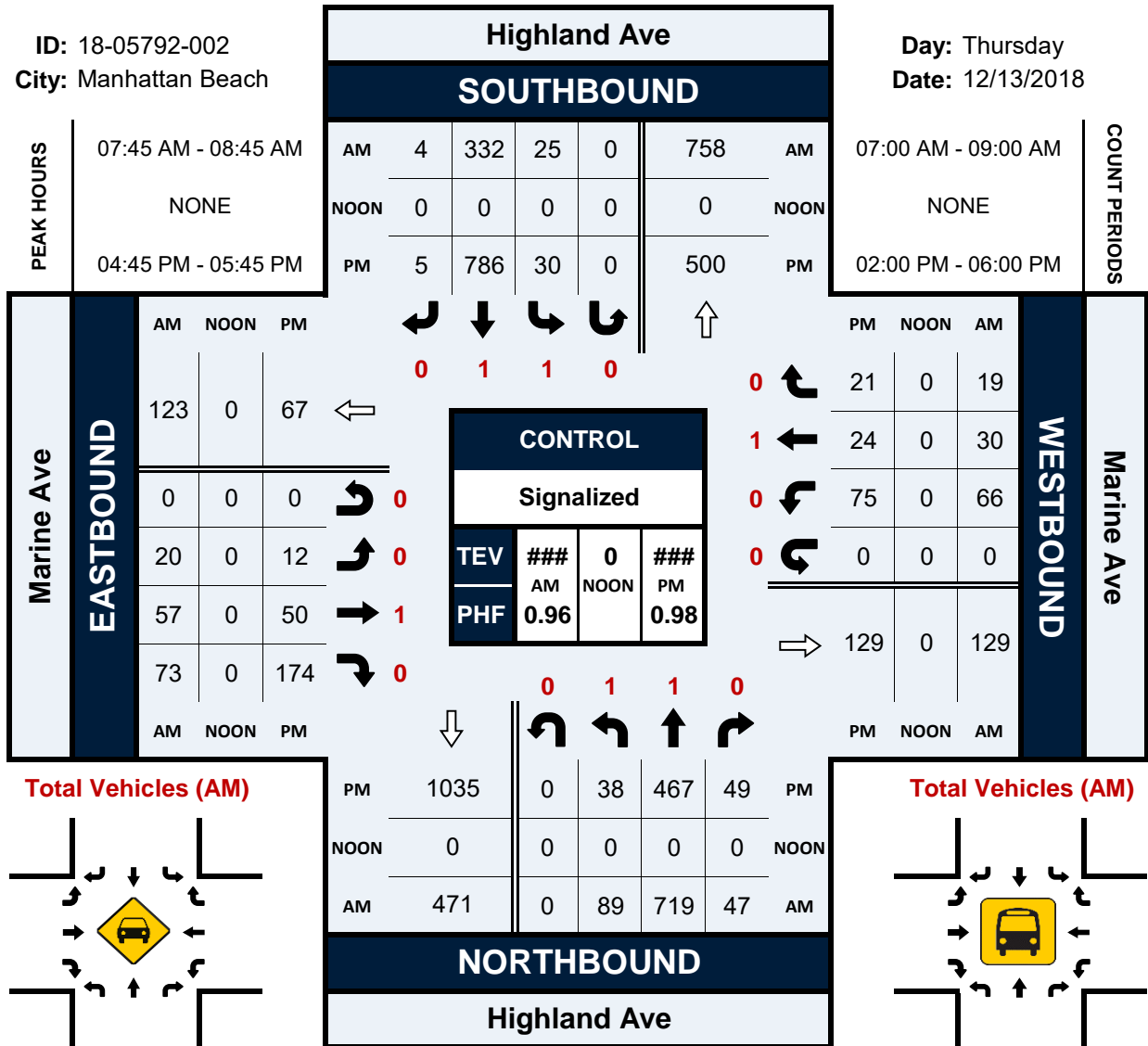
NS/EW Streets:	Highland Ave				Highland Ave				Marine Ave				Marine Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	1	0	0	1	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	10	103	12	0	8	104	2	0	4	8	16	0	17	7	5	0	296
2:15 PM	12	133	19	0	7	120	3	0	1	10	16	0	16	6	4	0	347
2:30 PM	8	98	12	0	9	134	2	0	3	13	17	0	18	3	2	0	319
2:45 PM	14	85	6	0	5	167	3	0	2	13	22	0	15	8	8	0	348
3:00 PM	10	113	10	0	11	141	3	0	3	9	19	0	19	5	11	0	354
3:15 PM	17	118	20	0	14	151	1	0	3	13	35	0	17	6	2	0	397
3:30 PM	11	139	13	0	10	194	4	0	3	19	18	0	23	12	3	0	449
3:45 PM	9	110	15	0	15	180	1	0	7	16	27	0	13	6	12	0	411
4:00 PM	8	117	9	0	9	188	3	0	7	13	23	0	16	10	7	0	410
4:15 PM	10	110	21	0	10	193	1	0	4	10	27	0	17	8	7	0	418
4:30 PM	13	111	11	0	13	188	1	0	8	12	28	0	18	4	4	0	411
4:45 PM	6	128	13	0	7	206	3	0	2	9	33	0	14	1	4	0	426
5:00 PM	9	125	12	0	10	200	0	0	4	12	46	0	13	6	4	0	441
5:15 PM	13	116	9	0	5	191	1	0	2	11	45	0	25	9	7	0	434
5:30 PM	10	98	15	0	8	189	1	0	4	18	50	0	23	8	6	0	430
5:45 PM	3	109	3	0	13	201	2	0	3	10	44	0	23	5	2	0	418
TOTAL VOLUMES :	163	1813	200	0	154	2747	31	0	60	196	466	0	287	104	88	0	6309
APPROACH %'s :	7.49%	83.32%	9.19%	0.00%	5.25%	93.69%	1.06%	0.00%	8.31%	27.15%	64.54%	0.00%	59.92%	21.71%	18.37%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	38	467	49	0	30	786	5	0	12	50	174	0	75	24	21	0	1731
PEAK HR FACTOR :	0.731	0.912	0.817	0.000	0.750	0.954	0.417	0.000	0.750	0.694	0.870	0.000	0.750	0.667	0.750	0.000	0.981
	0.942				0.950				0.819				0.732				

Highland Ave & Marine Ave

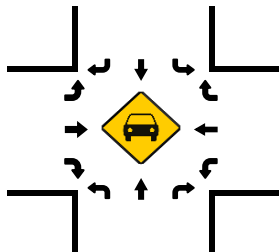
Peak Hour Turning Movement Count

ID: 18-05792-002
City: Manhattan Beach

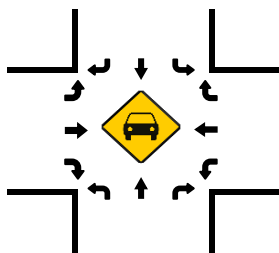
Day: Thursday
Date: 12/13/2018



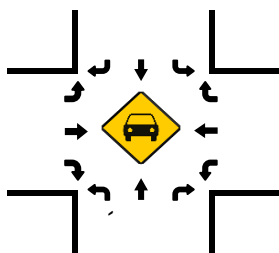
Total Vehicles (AM)



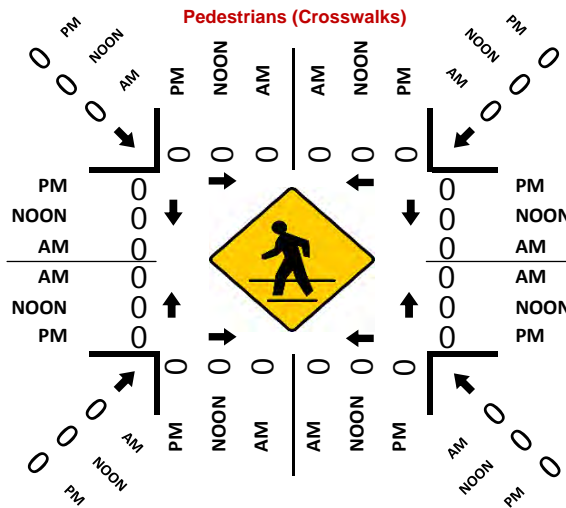
Total Vehicles (NOON)



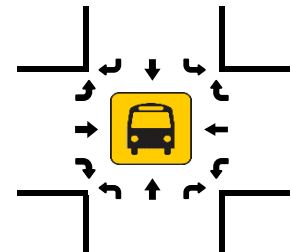
Total Vehicles (PM)



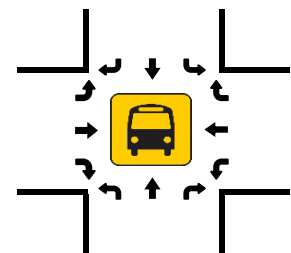
Highland Ave



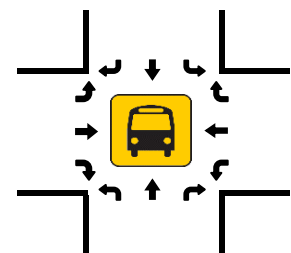
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Vista Dr & 24th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/EB/WB)

Project ID: 18-05792-003
 Date: 12/13/2018

Total

NS/EW Streets:	Vista Dr				Vista Dr				24th St				24th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	4	1	0	0	0	0	0	1	3	0	0	0	4	4	0	17
7:15 AM	0	3	1	0	0	0	0	0	1	19	0	0	0	15	2	0	41
7:30 AM	0	2	0	0	0	0	0	0	1	13	0	0	0	17	6	0	39
7:45 AM	1	1	2	0	0	0	0	0	2	9	0	0	0	11	4	0	30
8:00 AM	1	14	3	0	0	0	0	0	6	32	0	0	0	49	6	0	111
8:15 AM	0	1	3	0	0	0	0	0	0	1	0	0	0	17	5	0	27
8:30 AM	2	2	1	0	0	0	0	0	0	5	0	0	0	9	0	0	19
8:45 AM	1	0	0	0	0	0	0	0	0	4	0	0	0	4	1	0	10
TOTAL VOLUMES :	5	27	11	0	0	0	0	0	11	86	0	0	0	126	28	0	294
APPROACH %'s :	11.63%	62.79%	25.58%	0.00%					11.34%	88.66%	0.00%	0.00%	0.00%	81.82%	18.18%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	2	20	6	0	0	0	0	0	10	73	0	0	0	92	18	0	221
PEAK HR FACTOR :	0.500	0.357	0.500	0.000	0.000	0.000	0.000	0.000	0.417	0.570	0.000	0.000	0.000	0.469	0.750	0.000	0.498
	0.389								0.546				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	6	1	0	0	0	0	0	4	11	0	0	0	4	4	0	30
2:15 PM	0	10	0	0	0	0	0	0	5	12	0	0	0	31	4	0	62
2:30 PM	0	4	0	0	0	0	0	0	0	7	0	0	0	12	0	0	23
2:45 PM	0	4	0	0	0	0	0	0	1	13	0	0	0	18	4	1	41
3:00 PM	0	5	3	0	0	0	0	0	0	6	0	0	0	7	6	0	27
3:15 PM	2	7	1	0	0	0	0	0	0	6	0	0	0	8	7	0	31
3:30 PM	0	4	1	0	0	0	0	0	0	6	0	0	0	4	8	0	23
3:45 PM	2	4	2	0	0	0	0	0	0	5	0	0	0	0	5	0	18
4:00 PM	0	2	0	0	0	0	0	0	1	7	0	0	0	12	4	0	26
4:15 PM	1	2	0	0	0	0	0	0	1	9	0	0	0	6	2	0	21
4:30 PM	1	6	0	0	0	0	0	0	0	8	0	0	0	7	4	0	26
4:45 PM	0	0	1	0	0	0	0	0	0	5	0	1	0	2	4	0	13
5:00 PM	0	5	1	0	0	0	0	0	1	5	0	0	0	7	4	0	23
5:15 PM	0	2	1	0	0	0	0	0	1	6	0	0	0	4	5	0	19
5:30 PM	0	2	0	0	0	0	0	0	2	3	0	0	0	3	7	0	17
5:45 PM	1	4	1	0	0	0	0	0	1	6	0	0	0	5	2	0	20
TOTAL VOLUMES :	7	67	12	0	0	0	0	0	17	115	0	1	0	130	70	1	420
APPROACH %'s :	8.14%	77.91%	13.95%	0.00%					12.78%	86.47%	0.00%	0.75%	0.00%	64.68%	34.83%	0.50%	
PEAK HR :	02:00 PM - 03:00 PM																TOTAL
PEAK HR VOL :	0	24	1	0	0	0	0	0	10	43	0	0	0	65	12	1	156
PEAK HR FACTOR :	0.000	0.600	0.250	0.000	0.000	0.000	0.000	0.000	0.500	0.827	0.000	0.000	0.000	0.524	0.750	0.250	0.629
	0.625								0.779				0.557				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Manor Dr & 24th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/EB/WB)

Project ID: 18-05792-004
 Date: 12/13/2018

Total

NS/EW Streets:	Manor Dr				Manor Dr				24th St				24th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	1	0	1	0	0	0	0	0	1	3	0	0	0	5	3	0	14
7:15 AM	0	5	0	0	0	0	0	0	10	7	1	0	1	3	14	0	41
7:30 AM	0	7	0	0	2	0	0	0	14	14	1	0	0	7	15	0	60
7:45 AM	0	1	0	0	0	0	0	0	7	7	0	0	0	6	17	0	38
8:00 AM	1	18	2	0	0	0	0	0	29	10	2	0	1	10	42	0	115
8:15 AM	1	8	2	0	0	0	0	0	10	11	0	0	3	4	7	0	46
8:30 AM	0	0	0	0	1	0	0	0	3	12	0	0	2	1	2	0	21
8:45 AM	0	0	0	0	0	0	0	0	1	10	0	0	0	4	1	0	16
TOTAL VOLUMES :	3	39	5	0	3	0	0	0	75	74	4	0	7	40	101	0	351
APPROACH %'s :	6.38%	82.98%	10.64%	0.00%	100.00%	0.00%	0.00%	0.00%	49.02%	48.37%	2.61%	0.00%	4.73%	27.03%	68.24%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																
PEAK HR VOL :	2	34	4	0	2	0	0	0	60	42	3	0	4	27	81	0	259
PEAK HR FACTOR :	0.500	0.472	0.500	0.000	0.250	0.000	0.000	0.000	0.517	0.750	0.375	0.000	0.333	0.675	0.482	0.000	0.563
	0.476				0.250				0.640				0.528				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	1	3	1	0	2	0	0	0	9	11	0	0	1	6	5	0	39
2:15 PM	0	1	0	0	0	0	0	0	9	13	0	0	1	7	10	0	41
2:30 PM	1	2	0	0	0	0	0	0	5	10	0	0	0	4	7	0	29
2:45 PM	1	2	0	0	0	0	0	0	6	26	2	0	0	8	8	0	53
3:00 PM	2	1	1	0	0	0	0	0	3	16	2	0	0	4	4	0	33
3:15 PM	1	0	1	0	0	0	0	0	2	12	0	0	0	11	7	0	34
3:30 PM	0	1	1	0	0	0	0	0	0	13	1	0	0	11	2	0	29
3:45 PM	0	1	1	0	0	0	0	0	4	14	0	0	0	4	9	0	33
4:00 PM	0	1	1	0	3	0	0	0	7	21	0	0	0	10	8	0	51
4:15 PM	0	1	0	0	1	0	1	0	1	12	1	0	0	6	1	1	25
4:30 PM	0	0	0	0	0	0	0	0	1	11	0	0	0	11	2	0	25
4:45 PM	1	0	1	0	0	0	0	0	0	10	0	0	1	9	3	0	25
5:00 PM	0	0	1	0	0	0	0	0	1	10	1	0	2	10	3	0	28
5:15 PM	0	0	0	0	0	0	0	0	2	8	1	0	2	7	1	0	21
5:30 PM	1	0	0	0	1	0	0	0	0	6	0	0	0	8	0	1	17
5:45 PM	0	0	3	0	0	0	0	0	0	8	1	0	1	9	1	1	24
TOTAL VOLUMES :	8	13	11	0	7	0	1	0	50	201	9	0	8	125	71	3	507
APPROACH %'s :	25.00%	40.63%	34.38%	0.00%	87.50%	0.00%	12.50%	0.00%	19.23%	77.31%	3.46%	0.00%	3.86%	60.39%	34.30%	1.45%	
PEAK HR :	02:00 PM - 03:00 PM																
PEAK HR VOL :	3	8	1	0	2	0	0	0	29	60	2	0	2	25	30	0	162
PEAK HR FACTOR :	0.750	0.667	0.250	0.000	0.250	0.000	0.000	0.000	0.806	0.577	0.250	0.000	0.500	0.781	0.750	0.000	0.764
	0.600				0.250				0.669				0.792				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & 27th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/WB/WB)

Project ID: 18-05792-005
 Date: 12/13/2018

Total

NS/EW Streets:	Bell Ave				Bell Ave				27th St				27th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	3	2	0	0	2	0	0	0	0	0	0	2	0	1	0	10
7:15 AM	0	4	10	8	1	7	0	0	0	0	0	0	6	0	0	0	36
7:30 AM	0	5	10	3	2	4	0	0	0	0	0	0	6	0	0	0	30
7:45 AM	0	9	6	0	0	2	0	0	0	0	0	0	8	0	1	0	26
8:00 AM	0	5	9	10	2	7	0	0	0	0	0	0	9	0	0	0	42
8:15 AM	0	2	8	7	2	0	0	0	0	0	0	0	6	0	1	0	26
8:30 AM	0	4	4	5	0	3	0	0	0	0	0	0	3	0	0	0	19
8:45 AM	0	4	8	8	2	2	0	0	0	0	0	0	5	0	0	0	29
TOTAL VOLUMES :	0	36	57	41	9	27	0	0	0	0	0	0	45	0	3	0	218
APPROACH %'s :	0.00%	26.87%	42.54%	30.60%	25.00%	75.00%	0.00%	0.00%					93.75%	0.00%	6.25%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	23	35	21	5	20	0	0	0	0	0	0	29	0	1	0	134
PEAK HR FACTOR :	0.000	0.639	0.875	0.525	0.625	0.714	0.000	0.000	0.000	0.000	0.000	0.000	0.806	0.000	0.250	0.000	0.798
	0.823				0.694								0.833				

NS/EW Streets:	Bell Ave				Bell Ave				27th St				27th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
2:00 PM	0	0	5	3	3	5	0	0	0	0	0	0	9	0	1	0	26
2:15 PM	0	7	6	2	2	2	0	1	0	0	0	0	9	0	2	0	31
2:30 PM	0	7	8	7	1	4	0	0	0	0	0	0	6	0	2	0	35
2:45 PM	0	5	9	6	1	7	0	0	0	0	0	0	11	0	1	0	40
3:00 PM	0	3	7	6	3	3	0	0	0	0	0	0	13	0	1	0	36
3:15 PM	0	2	5	6	3	3	0	0	0	0	0	0	7	0	2	0	28
3:30 PM	0	2	2	1	0	3	0	0	0	0	0	0	2	0	0	0	10
3:45 PM	0	3	6	1	2	3	0	0	0	0	0	0	3	0	0	0	18
4:00 PM	0	1	4	4	1	1	0	0	0	0	0	0	6	0	2	0	19
4:15 PM	0	2	2	4	0	3	0	0	0	0	0	0	1	0	2	0	14
4:30 PM	0	2	5	2	2	1	0	0	0	0	0	0	4	0	0	1	17
4:45 PM	0	2	3	1	4	0	0	0	0	0	0	0	3	0	0	0	13
5:00 PM	0	3	2	0	0	0	0	0	0	0	0	0	2	0	1	0	8
5:15 PM	0	3	2	3	1	3	0	0	0	0	0	0	0	0	1	0	13
5:30 PM	0	3	2	2	1	0	0	0	0	0	0	0	5	0	2	0	15
5:45 PM	0	0	5	3	2	2	0	0	0	0	0	0	2	0	0	0	14
TOTAL VOLUMES :	0	45	73	51	26	40	0	1	0	0	0	0	83	0	17	1	337
APPROACH %'s :	0.00%	26.63%	43.20%	30.18%	38.81%	59.70%	0.00%	1.49%					82.18%	0.00%	16.83%	0.99%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	22	30	21	7	16	0	1	0	0	0	0	39	0	6	0	142
PEAK HR FACTOR :	0.000	0.786	0.833	0.750	0.583	0.571	0.000	0.250	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.000	0.888
	0.830				0.750								0.804				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & 27th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/WB/WB)

Project ID: 18-05792-005
 Date: 12/13/2018

Bikes

NS/EW Streets:	Bell Ave				Bell Ave				27th St				27th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	1	0	1	0	0	0	0	0	0	0	1	4	2	0	9
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0	14.29%	57.14%	28.57%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	1	0	1	0	0	0	0	0	0	0	1	4	2	0	9
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.250	0.000	0.563
	0.250				0.250								0.583				

NS/EW Streets:	Bell Ave				Bell Ave				27th St				27th St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
TOTAL VOLUMES :	0	3	0	0	0	4	0	0	0	0	0	0	2	0	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500
	0.250												0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & 27th St
City: Manhattan Beach

Project ID: 18-05792-005
Date: 12/13/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Bell Ave		Bell Ave		27th St		27th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	2	1	0	0	3
7:15 AM	0	2	0	0	0	0	0	0	2
7:30 AM	0	2	0	0	0	2	0	0	4
7:45 AM	0	0	0	0	0	1	0	0	1
8:00 AM	0	43	0	0	3	0	0	0	46
8:15 AM	5	0	2	0	0	1	0	0	8
8:30 AM	1	2	1	0	3	0	0	0	7
8:45 AM	0	3	0	1	0	1	0	0	5
TOTAL VOLUMES :	6	52	3	1	8	6	0	0	76
APPROACH %'s :	10.34%	89.66%	75.00%	25.00%	57.14%	42.86%			
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	47	0	0	3	3	0	0	53
PEAK HR FACTOR :		0.273			0.250	0.375			0.288
		0.273			0.500				

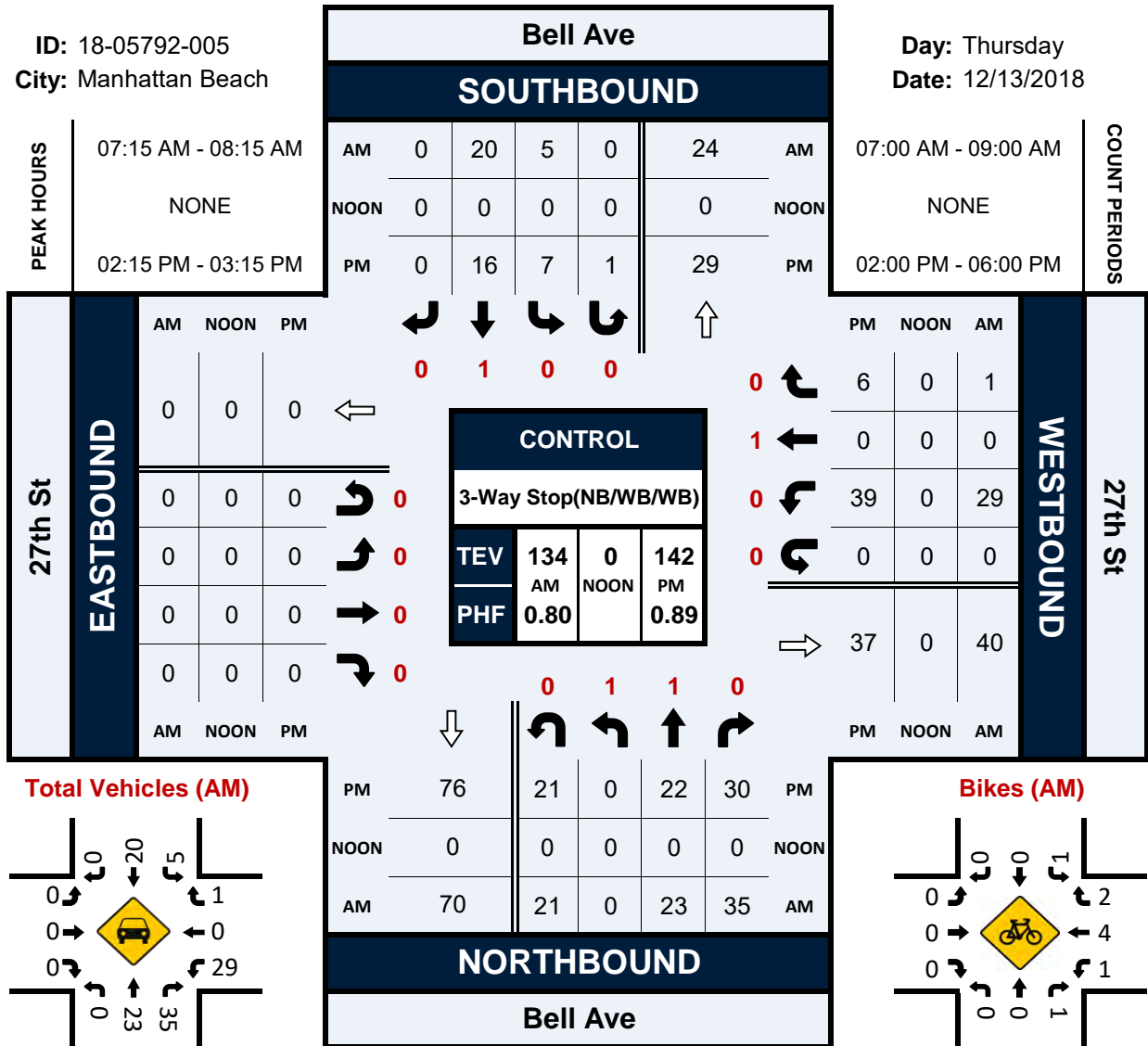
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	1	0	0	0	0	0	0	0	1
2:15 PM	12	2	3	3	0	0	0	0	20
2:30 PM	5	2	0	0	0	0	0	0	7
2:45 PM	16	2	0	2	1	1	0	0	22
3:00 PM	4	1	1	0	1	0	0	0	7
3:15 PM	2	0	0	0	1	0	0	0	3
3:30 PM	0	0	0	0	1	0	0	0	1
3:45 PM	0	0	0	3	0	1	0	0	4
4:00 PM	3	1	0	0	1	0	0	0	5
4:15 PM	1	0	0	0	2	0	0	0	3
4:30 PM	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	2	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	2	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	46	8	4	9	10	2	0	0	79
APPROACH %'s :	85.19%	14.81%	30.77%	69.23%	83.33%	16.67%			
PEAK HR :	02:15 PM - 03:15 PM								TOTAL
PEAK HR VOL :	37	7	4	5	2	1	0	0	56
PEAK HR FACTOR :	0.578	0.875	0.333	0.417	0.500	0.250			0.636
		0.611		0.375	0.375				

Bell Ave & 27th St

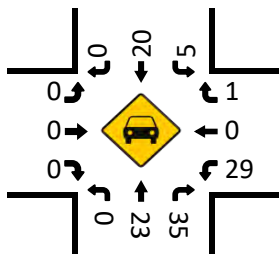
Peak Hour Turning Movement Count

ID: 18-05792-005
City: Manhattan Beach

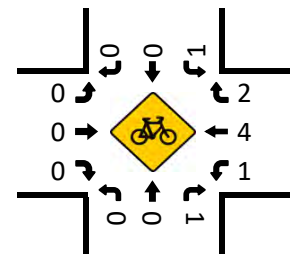
Day: Thursday
Date: 12/13/2018



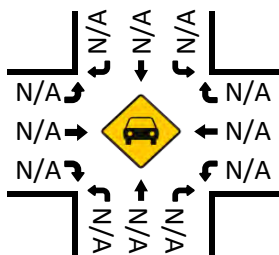
Total Vehicles (AM)



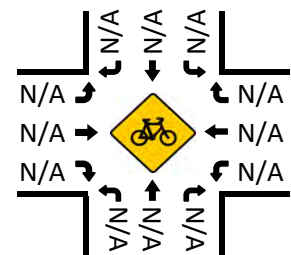
Bikes (AM)



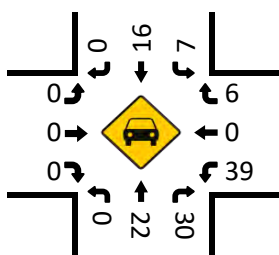
Total Vehicles (Noon)



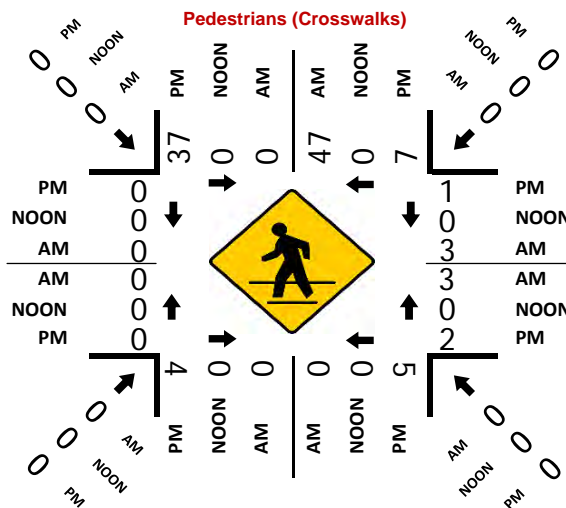
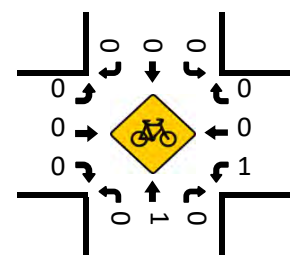
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & 26th St
 City: Manhattan Beach
 Control: No Control

Project ID: 18-05792-006
 Date: 12/13/2018

Total

NS/EW Streets:	Bell Ave				Bell Ave				26th St				26th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	5	0	0	1	1	0	0	0	0	0	0	2	0	1	0	10
7:15 AM	0	18	0	0	2	12	0	0	0	0	0	0	1	0	1	0	34
7:30 AM	0	11	0	0	5	10	0	0	0	0	0	0	2	0	1	0	29
7:45 AM	0	15	0	0	1	11	0	0	0	0	0	0	0	0	2	0	29
8:00 AM	0	25	0	1	9	16	0	0	0	0	0	0	2	0	6	0	59
8:15 AM	0	17	2	0	9	6	0	0	0	0	0	0	0	0	0	0	34
8:30 AM	0	14	0	0	2	11	0	0	0	0	0	0	0	0	3	0	30
8:45 AM	0	18	1	0	2	9	0	0	0	0	0	0	0	0	0	0	30
TOTAL VOLUMES :	0	123	3	1	31	76	0	0	0	0	0	0	7	0	14	0	255
APPROACH %'s :	0.00%	96.85%	2.36%	0.79%	28.97%	71.03%	0.00%	0.00%					33.33%	0.00%	66.67%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	74	3	1	22	42	0	0	0	0	0	0	2	0	9	0	153
PEAK HR FACTOR :	0.000	0.740	0.375	0.250	0.611	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.648
		0.750				0.640								0.344			
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	7	0	1	0	3	0	0	0	0	0	0	0	0	2	0	13
2:15 PM	0	17	7	3	7	4	0	1	0	0	0	0	1	0	0	0	40
2:30 PM	0	17	2	1	5	10	0	2	0	0	0	0	0	0	2	0	39
2:45 PM	0	18	4	0	7	18	0	1	0	0	0	0	0	0	2	0	50
3:00 PM	0	13	2	0	5	25	0	1	0	0	0	0	0	0	2	0	48
3:15 PM	0	11	0	1	1	13	0	0	0	0	0	0	0	0	0	0	26
3:30 PM	0	4	1	0	1	8	0	0	0	0	0	0	0	0	1	0	15
3:45 PM	0	7	2	0	3	9	0	0	0	0	0	0	0	0	1	0	22
4:00 PM	0	6	0	1	2	8	0	0	0	0	0	0	0	0	0	0	17
4:15 PM	0	9	0	1	1	7	0	0	0	0	0	0	0	0	1	0	19
4:30 PM	0	6	1	0	1	7	0	0	0	0	0	0	0	0	2	0	17
4:45 PM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	2	0	12
5:00 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
5:15 PM	0	5	1	0	0	3	0	0	0	0	0	0	0	0	1	0	10
5:30 PM	0	7	1	0	0	10	0	0	0	0	0	0	0	0	2	0	20
5:45 PM	0	6	0	0	2	5	0	0	0	0	0	0	0	0	0	0	13
TOTAL VOLUMES :	0	144	21	8	35	139	0	5	0	0	0	0	1	0	18	0	371
APPROACH %'s :	0.00%	83.24%	12.14%	4.62%	19.55%	77.65%	0.00%	2.79%					5.26%	0.00%	94.74%	0.00%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	65	15	4	24	57	0	5	0	0	0	0	1	0	6	0	177
PEAK HR FACTOR :	0.000	0.903	0.536	0.333	0.857	0.570	0.000	0.625	0.000	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.885
		0.778				0.694								0.875			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & 26th St
 City: Manhattan Beach
 Control: No Control

Project ID: 18-05792-006
 Date: 12/13/2018

Bikes

NS/EW Streets:	Bell Ave				Bell Ave				26th St				26th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	
PEAK HR :	08:00 AM - 09:00 AM																
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
	0.250				0.250												
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	
PEAK HR :	02:15 PM - 03:15 PM																
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	TOTAL
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
	0.250				0.250												

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & 26th St
City: Manhattan Beach

Project ID: 18-05792-006
Date: 12/13/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Bell Ave		Bell Ave		26th St		26th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	2	2	0	0	0	6
8:15 AM	0	0	0	2	0	1	0	0	3
8:30 AM	0	1	0	2	1	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	3	1	6	3	2	0	0	15
APPROACH %'s :	0.00%	100.00%	14.29%	85.71%	60.00%	40.00%			
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	3	0	6	3	1	0	0	13
PEAK HR FACTOR :		0.375		0.750	0.375	0.250			0.542
		0.375		0.750		0.500			

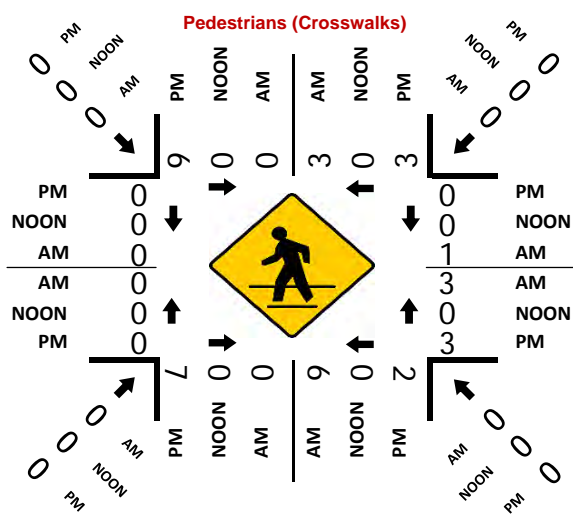
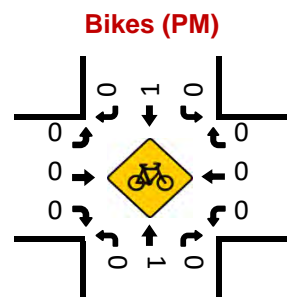
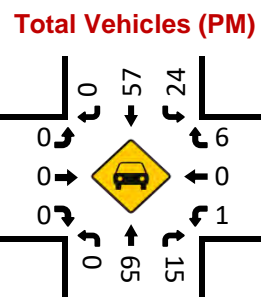
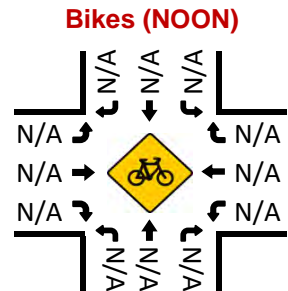
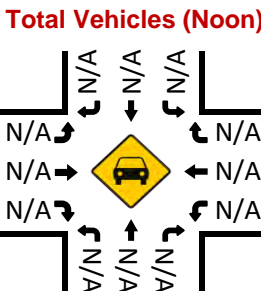
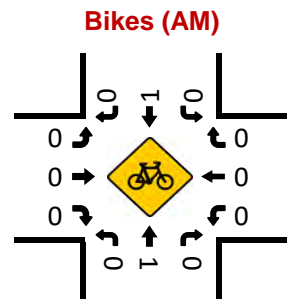
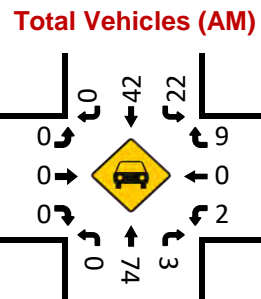
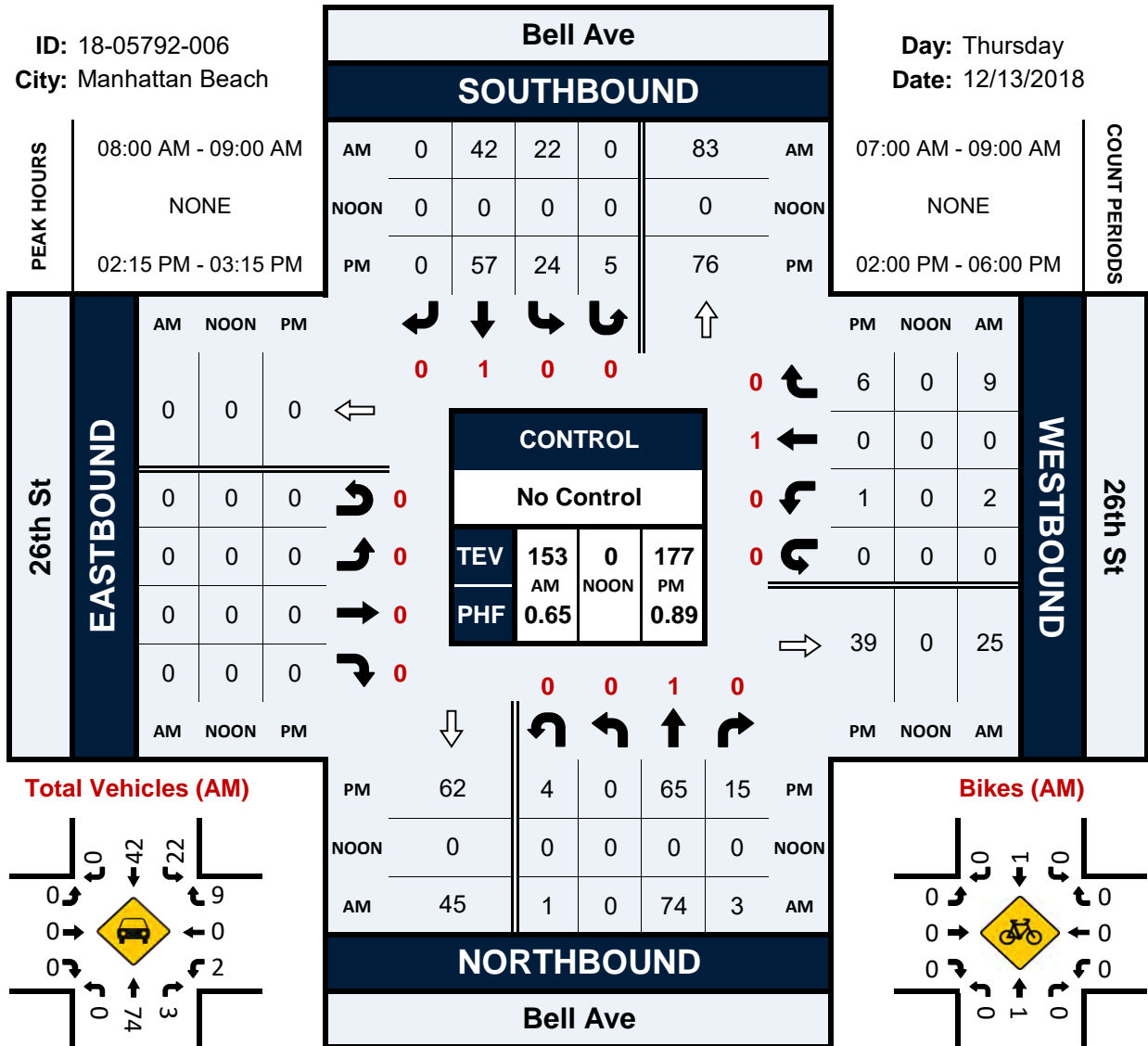
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	0	0	0	1	0	1	0	0	2
2:15 PM	5	2	0	1	1	0	0	0	9
2:30 PM	3	1	4	0	1	0	0	0	9
2:45 PM	1	0	3	1	0	0	0	0	5
3:00 PM	0	0	0	0	1	0	0	0	1
3:15 PM	0	0	0	1	0	0	0	0	1
3:30 PM	0	1	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	1	1	0	0	3
4:45 PM	0	1	0	0	0	0	0	0	1
5:00 PM	2	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	11	5	8	4	4	2	0	0	34
APPROACH %'s :	68.75%	31.25%	66.67%	33.33%	66.67%	33.33%			
PEAK HR :	02:15 PM - 03:15 PM								TOTAL
PEAK HR VOL :	9	3	7	2	3	0	0	0	24
PEAK HR FACTOR :	0.450	0.375	0.438	0.500	0.750				0.667
		0.429		0.563		0.750			

Bell Ave & 26th St

Peak Hour Turning Movement Count

ID: 18-05792-006
City: Manhattan Beach

Day: Thursday
Date: 12/13/2018



National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & Rosecrans Ave
 City: Manhattan Beach
 Control: Signalized

Project ID: 18-05792-007
 Date: 12/13/2018

Total

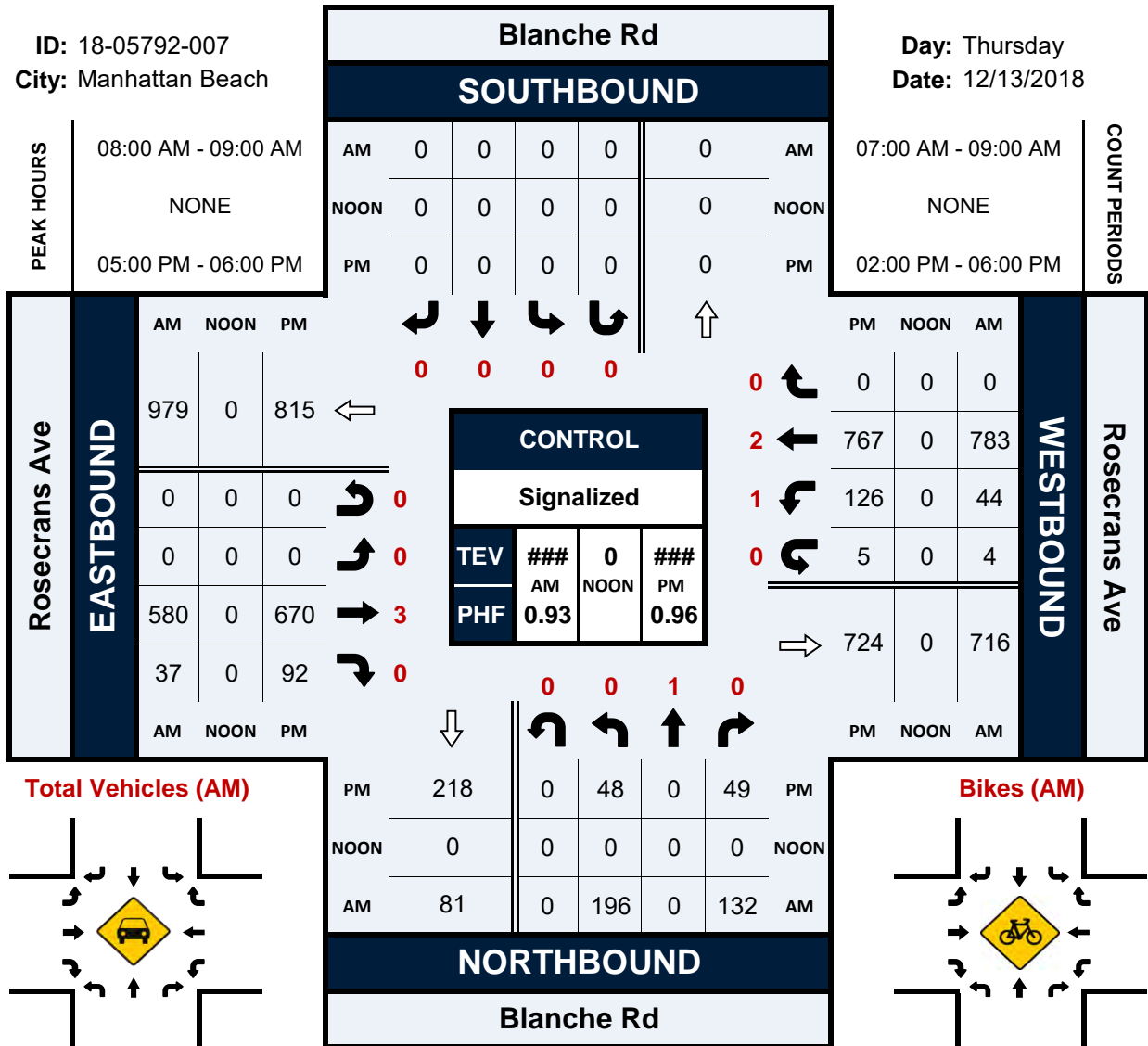
NS/EW Streets:	Blanche Rd				Blanche Rd				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	20	0	14	0	0	0	0	0	0	94	2	0	5	207	0	1	343
7:15 AM	17	0	12	0	0	0	0	0	0	85	5	0	14	240	0	0	373
7:30 AM	27	0	22	0	0	0	0	0	0	129	8	0	14	202	0	1	403
7:45 AM	24	0	16	0	0	0	0	0	0	141	7	0	11	140	0	0	339
8:00 AM	43	0	35	0	0	0	0	0	0	130	13	0	16	180	0	3	420
8:15 AM	52	0	34	0	0	0	0	0	0	142	3	0	8	211	0	1	451
8:30 AM	58	0	37	0	0	0	0	0	0	155	12	0	14	203	0	0	479
8:45 AM	43	0	26	0	0	0	0	0	0	153	9	0	6	189	0	0	426
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	284	0	196	0	0	0	0	0	0	1029	59	0	88	1572	0	6	3234
	59.17%	0.00%	40.83%	0.00%					0.00%	94.58%	5.42%	0.00%	5.28%	94.36%	0.00%	0.36%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	196	0	132	0	0	0	0	0	0	580	37	0	44	783	0	4	1776
PEAK HR FACTOR :	0.845	0.000	0.892	0.000	0.000	0.000	0.000	0.000	0.000	0.935	0.712	0.000	0.688	0.928	0.000	0.333	0.927
	0.863								0.924				0.944				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	9	0	21	0	0	0	0	0	0	140	11	0	15	144	0	0	340
2:15 PM	6	0	23	0	0	0	0	0	0	142	6	0	22	143	0	3	345
2:30 PM	7	0	11	0	0	0	0	0	0	135	11	0	11	140	0	0	315
2:45 PM	12	0	23	0	0	0	0	0	0	153	21	0	14	133	0	0	356
3:00 PM	14	0	25	0	0	0	0	0	0	170	14	0	22	148	0	2	395
3:15 PM	2	0	20	0	0	0	0	0	0	160	5	0	34	172	0	0	393
3:30 PM	5	0	18	0	0	0	0	0	0	180	14	0	9	162	0	0	388
3:45 PM	10	0	17	0	0	0	0	0	0	169	12	0	29	180	0	0	417
4:00 PM	7	0	27	0	0	0	0	0	0	195	14	0	21	158	0	3	425
4:15 PM	9	0	21	0	0	0	0	0	0	165	17	0	24	215	0	0	451
4:30 PM	6	0	9	0	0	0	0	0	0	175	24	0	21	160	0	0	395
4:45 PM	8	0	21	0	0	0	0	0	0	165	19	0	20	190	0	0	423
5:00 PM	17	0	9	0	0	0	0	0	0	174	18	0	26	196	0	1	441
5:15 PM	6	0	17	0	0	0	0	0	0	178	28	0	35	192	0	1	457
5:30 PM	13	0	12	0	0	0	0	0	0	166	27	0	30	177	0	0	425
5:45 PM	12	0	11	0	0	0	0	0	0	152	19	0	35	202	0	3	434
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	143	0	285	0	0	0	0	0	0	2619	260	0	368	2712	0	13	6400
	33.41%	0.00%	66.59%	0.00%					0.00%	90.97%	9.03%	0.00%	11.90%	87.68%	0.00%	0.42%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	48	0	49	0	0	0	0	0	0	670	92	0	126	767	0	5	1757
PEAK HR FACTOR :	0.706	0.000	0.721	0.000	0.000	0.000	0.000	0.000	0.000	0.941	0.821	0.000	0.900	0.949	0.000	0.417	0.961
	0.933								0.925				0.935				

Blanche Rd & Rosecrans Ave

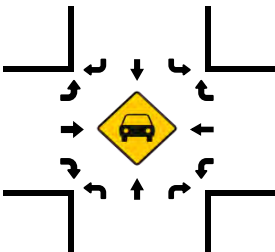
Peak Hour Turning Movement Count

ID: 18-05792-007
City: Manhattan Beach

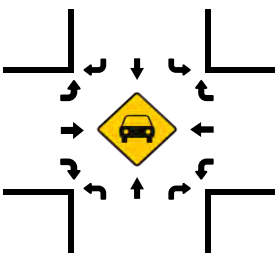
Day: Thursday
Date: 12/13/2018



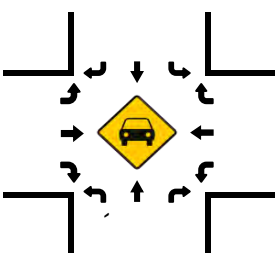
Total Vehicles (AM)



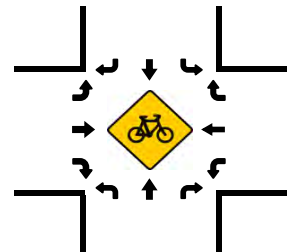
Total Vehicles (Noon)



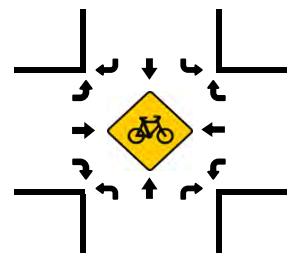
Total Vehicles (PM)



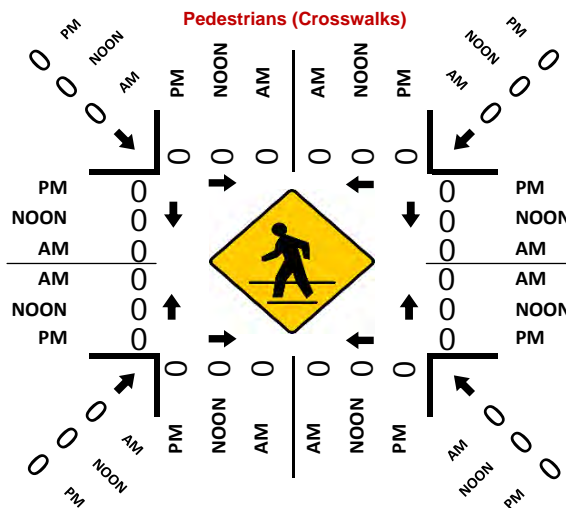
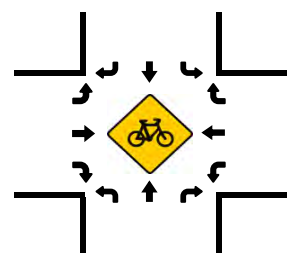
Bikes (AM)



Bikes (NOON)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 27th St
 City: Manhattan Beach
 Control: 4-Way Stop

Project ID: 18-05792-008
 Date: 12/13/2018

Total

NS/EW Streets:	Blanche Rd				Blanche Rd				27th St				27th St					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	24	1	0	3	7	1	0	1	0	0	0	0	1	0	0	0	38
7:15 AM	0	28	1	1	2	13	4	0	7	2	1	0	4	3	1	0	0	67
7:30 AM	0	49	2	0	2	32	3	0	10	2	3	0	3	3	2	0	0	111
7:45 AM	0	36	3	0	1	20	11	0	5	0	1	0	3	0	1	0	0	81
8:00 AM	0	80	0	0	2	37	6	0	12	2	0	0	6	7	4	0	0	156
8:15 AM	1	84	3	0	0	10	3	0	10	1	0	0	0	3	0	0	0	115
8:30 AM	0	68	2	0	2	19	3	0	4	0	1	0	2	0	2	0	0	103
8:45 AM	1	49	2	0	1	19	5	0	9	1	1	0	2	1	2	0	0	93
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0.46%	96.09%	3.22%	0.23%	6.31%	76.21%	17.48%	0.00%	79.45%	10.96%	9.59%	0.00%	40.00%	36.00%	24.00%	0.00%	764	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL	
PEAK HR VOL :	2	281	7	0	5	85	17	0	35	4	2	0	10	11	8	0	467	
PEAK HR FACTOR :	0.500	0.836	0.583	0.000	0.625	0.574	0.708	0.000	0.729	0.500	0.500	0.000	0.417	0.393	0.500	0.000	0.748	
		0.824				0.594				0.732				0.426				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
2:00 PM	1	23	1	0	3	22	4	0	3	2	1	0	4	5	0	0	69	
2:15 PM	3	27	3	0	1	31	5	0	0	0	4	0	1	4	0	0	79	
2:30 PM	0	21	3	0	1	26	4	0	3	4	0	0	2	3	1	0	68	
2:45 PM	1	33	1	0	8	38	5	0	4	4	6	0	0	3	1	0	104	
3:00 PM	1	34	3	0	1	41	6	0	4	4	2	0	2	4	5	0	107	
3:15 PM	0	31	1	0	1	30	5	0	6	5	0	0	2	0	2	0	83	
3:30 PM	2	34	1	1	0	29	1	0	2	0	3	0	2	1	2	0	78	
3:45 PM	1	33	3	0	1	38	6	0	4	1	0	0	2	1	2	0	92	
4:00 PM	1	36	1	0	1	32	2	0	2	1	0	0	0	1	0	0	77	
4:15 PM	0	33	1	0	1	35	1	0	1	2	0	0	0	0	2	0	76	
4:30 PM	1	22	2	0	1	45	6	0	2	1	1	0	1	0	2	0	84	
4:45 PM	1	27	0	0	2	34	5	0	5	2	0	0	2	1	0	0	79	
5:00 PM	1	33	0	0	2	43	2	0	3	1	0	0	2	0	0	0	87	
5:15 PM	1	19	1	0	1	79	1	0	2	1	0	0	0	0	1	0	106	
5:30 PM	3	28	1	0	2	51	5	0	3	0	1	0	0	3	1	0	98	
5:45 PM	1	12	0	0	3	48	5	0	4	2	3	0	1	1	1	0	81	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	3.70%	91.58%	4.52%	0.21%	4.06%	87.11%	8.82%	0.00%	48.48%	30.30%	21.21%	0.00%	30.88%	39.71%	29.41%	0.00%	1368	
PEAK HR :	02:45 PM - 03:45 PM																TOTAL	
PEAK HR VOL :	4	132	6	1	10	138	17	0	16	13	11	0	6	8	10	0	372	
PEAK HR FACTOR :	0.500	0.971	0.500	0.250	0.313	0.841	0.708	0.000	0.667	0.650	0.458	0.000	0.750	0.500	0.500	0.000	0.869	
		0.941				0.809				0.714				0.545				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 27th St
 City: Manhattan Beach
 Control: 4-Way Stop

Project ID: 18-05792-008
 Date: 12/13/2018

Bikes

NS/EW Streets:	Blanche Rd				Blanche Rd				27th St				27th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
8:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	3	0	0	5
8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	3	0	0	0	3	0	0	0	2	0	0	0	8	0	0	16
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																
PEAK HR VOL :	0	3	0	0	0	2	0	0	0	1	0	0	0	4	0	0	10
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.333	0.000	0.000	0.500
	0.375				0.500				0.250				0.333				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
2:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	3	0	0	0	2	0	0	0	2	0	0	0	2	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	02:45 PM - 03:45 PM																
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.250
	0.000				0.000				0.250				0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 27th St
City: Manhattan Beach

Project ID: 18-05792-008
Date: 12/13/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Blanche Rd		Blanche Rd		27th St		27th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	3	0	0	0	0	2	0	5
7:30 AM	0	0	0	0	0	0	1	0	1
7:45 AM	0	3	1	2	0	0	0	0	6
8:00 AM	0	16	0	0	0	0	0	6	22
8:15 AM	3	2	3	0	0	0	3	0	11
8:30 AM	1	3	0	0	0	0	0	0	4
8:45 AM	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES :	4	28	4	2	0	0	6	6	50
APPROACH %'s :	12.50%	87.50%	66.67%	33.33%			50.00%	50.00%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	4	22	3	0	0	0	3	6	38
PEAK HR FACTOR :	0.333	0.344	0.250	0.250			0.250	0.250	0.432
	0.406		0.250				0.375		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	0	1	2	0	1	1	0	1	6
2:15 PM	0	1	3	0	0	0	7	0	11
2:30 PM	3	1	1	0	0	0	1	0	6
2:45 PM	2	0	4	0	0	0	0	0	6
3:00 PM	4	1	3	0	0	0	0	0	8
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	2	3	5
4:00 PM	2	1	1	0	0	0	1	2	7
4:15 PM	1	0	0	0	0	0	0	1	2
4:30 PM	0	1	1	0	0	0	0	1	3
4:45 PM	0	1	0	0	0	0	0	0	1
5:00 PM	4	1	0	0	0	0	4	0	9
5:15 PM	0	1	0	0	0	0	1	1	3
5:30 PM	0	0	0	0	0	0	1	1	2
5:45 PM	0	2	0	0	0	0	0	1	3
TOTAL VOLUMES :	16	11	15	0	1	1	17	11	72
APPROACH %'s :	59.26%	40.74%	100.00%	0.00%	50.00%	50.00%	60.71%	39.29%	
PEAK HR :	02:45 PM - 03:45 PM								TOTAL
PEAK HR VOL :	6	1	7	0	0	0	0	0	14
PEAK HR FACTOR :	0.375	0.250	0.438	0.438					0.438
	0.350		0.438						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & Blanche Rd
 City: Manhattan Beach
 Control: 2-Way Stop(SB/WB)

Project ID: 18-05792-009
 Date: 12/13/2018

Total

NS/EW Streets:	Bell Ave				Bell Ave				Blanche Rd				Blanche Rd					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	5	26	0	0	2	0	0	0	0	0	0	0	7	0	0	0	40
7:15 AM	0	18	25	0	0	12	0	0	0	0	0	0	0	17	0	0	0	72
7:30 AM	0	11	50	0	0	13	0	0	0	0	0	0	0	35	0	0	0	109
7:45 AM	0	15	39	0	0	11	1	0	0	0	1	0	0	27	0	0	0	94
8:00 AM	0	27	64	0	3	14	0	0	0	0	0	0	0	44	0	1	0	153
8:15 AM	0	16	74	0	2	7	0	0	0	0	0	0	0	11	0	0	0	110
8:30 AM	0	15	63	0	0	12	0	0	0	1	0	0	0	18	0	0	0	109
8:45 AM	0	17	49	0	0	7	0	0	0	0	0	0	0	26	0	1	0	100
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	124	390	0	5	78	1	0	1	1	0	0	185	0	2	0	787	
	0.00%	24.12%	75.88%	0.00%	5.95%	92.86%	1.19%	0.00%	50.00%	50.00%	0.00%	0.00%	98.93%	0.00%	1.07%	0.00%		
PEAK HR :	08:00 AM - 09:00 AM																TOTAL	
PEAK HR VOL :	0	75	250	0	5	40	0	0	1	0	0	0	99	0	2	0	472	
PEAK HR FACTOR :	0.000	0.694	0.845	0.000	0.417	0.714	0.000	0.000	0.250	0.000	0.000	0.000	0.563	0.000	0.500	0.000	0.771	
		0.893				0.662				0.250				0.561				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
2:00 PM	0	10	27	0	0	3	0	0	0	0	0	0	30	0	0	0	70	
2:15 PM	0	21	22	1	3	5	0	0	0	0	0	0	35	0	3	0	90	
2:30 PM	0	20	25	0	1	10	1	0	0	0	2	0	29	0	0	0	86	
2:45 PM	0	18	28	0	1	20	0	0	0	0	0	0	41	0	2	0	110	
3:00 PM	0	13	32	0	0	21	0	0	1	0	0	0	45	0	0	0	112	
3:15 PM	0	12	34	0	1	16	0	0	1	0	0	0	34	0	0	0	98	
3:30 PM	0	5	39	0	0	6	0	0	0	0	0	0	35	0	0	0	85	
3:45 PM	0	10	31	0	0	8	0	0	0	0	0	0	36	0	0	0	85	
4:00 PM	0	6	39	0	0	10	0	0	0	0	0	0	33	0	1	0	89	
4:15 PM	0	10	32	1	0	8	0	0	0	0	0	0	35	0	0	0	86	
4:30 PM	0	5	24	0	0	7	0	0	0	0	0	0	44	0	1	0	81	
4:45 PM	0	6	27	0	0	4	0	0	1	0	1	0	36	0	0	0	75	
5:00 PM	0	4	32	0	0	5	0	0	0	0	0	0	45	0	1	0	87	
5:15 PM	0	7	22	0	0	3	0	0	0	0	0	0	77	0	0	0	109	
5:30 PM	0	7	33	0	0	10	0	0	0	0	0	0	52	0	0	0	102	
5:45 PM	0	7	14	0	0	5	0	0	0	0	0	0	51	0	0	0	77	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	161	461	2	6	141	1	0	3	0	1	0	658	0	8	0	1442	
	0.00%	25.80%	73.88%	0.32%	4.05%	95.27%	0.68%	0.00%	75.00%	0.00%	25.00%	0.00%	98.80%	0.00%	1.20%	0.00%		
PEAK HR :	02:30 PM - 03:30 PM																TOTAL	
PEAK HR VOL :	0	63	119	0	3	67	1	0	2	0	0	0	149	0	2	0	406	
PEAK HR FACTOR :	0.000	0.788	0.875	0.000	0.750	0.798	0.250	0.000	0.500	0.000	0.000	0.000	0.828	0.000	0.250	0.000	0.906	
		0.989				0.845				0.500				0.839				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & Blanche Rd
 City: Manhattan Beach
 Control: 2-Way Stop(SB/WB)

Project ID: 18-05792-009
 Date: 12/13/2018

Bikes

NS/EW Streets:	Bell Ave				Bell Ave				Blanche Rd				Blanche Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	1	3	0	0	1	0	0	0	0	0	0	1	0	0	0	TOTAL 7
APPROACH %'s :	0.00%	25.00%	75.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL 6
PEAK HR VOL :	0	1	3	0	0	1	0	0	0	0	0	0	1	0	0	0	6
PEAK HR FACTOR :	0.000	0.250	0.375	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.750
	0.500				0.250								0.250				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
2:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	0	4	3	0	0	7	0	0	0	0	0	0	2	0	0	0	TOTAL 16
APPROACH %'s :	0.00%	57.14%	42.86%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	02:30 PM - 03:30 PM																TOTAL 5
PEAK HR VOL :	0	2	1	0	0	2	0	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.00	0.500	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
	0.375				0.500												

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bell Ave & Blanche Rd
City: Manhattan Beach

Project ID: 18-05792-009
Date: 12/13/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Bell Ave		Bell Ave		Blanche Rd		Blanche Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	1	0	0	0	1	0	0	2
7:15 AM	3	2	0	0	1	1	0	0	7
7:30 AM	1	1	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	1	0	0	0	2
8:00 AM	3	15	0	0	2	1	0	0	21
8:15 AM	5	2	0	0	1	0	0	0	8
8:30 AM	1	0	0	1	0	0	0	0	2
8:45 AM	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	EB 14	WB 22	EB 0	WB 1	NB 5	SB 3	NB 0	SB 0	TOTAL 45
APPROACH %'s :	38.89%	61.11%	0.00%	100.00%	62.50%	37.50%			
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	10	17	0	1	3	1	0	0	32
PEAK HR FACTOR :	0.500	0.283		0.250	0.375	0.250			0.381
	0.375		0.250		0.333				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	3	0	0	0	1	1	0	0	5
2:15 PM	8	1	0	0	1	0	0	0	10
2:30 PM	0	0	0	0	0	0	0	0	0
2:45 PM	0	1	0	0	0	0	0	0	1
3:00 PM	1	0	0	0	1	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	2	0	0	0	0	0	0	0	2
3:45 PM	2	2	0	0	0	0	0	0	4
4:00 PM	1	2	0	0	0	0	0	0	3
4:15 PM	0	2	0	0	0	0	0	0	2
4:30 PM	1	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	2
5:00 PM	5	1	0	0	1	1	0	0	8
5:15 PM	1	2	0	0	0	1	0	0	4
5:30 PM	1	1	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB 25	WB 13	EB 0	WB 0	NB 5	SB 3	NB 0	SB 0	TOTAL 46
APPROACH %'s :	65.79%	34.21%			62.50%	37.50%			
PEAK HR :	02:30 PM - 03:30 PM								TOTAL
PEAK HR VOL :	1	1	0	0	1	0	0	0	3
PEAK HR FACTOR :	0.250	0.250			0.250				0.375
	0.500				0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 25th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/SB/WB)

Project ID: 18-05792-010
 Date: 12/13/2018

Total

NS/EW Streets:	Blanche Rd				Blanche Rd				25th St				25th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	27	0	0	0	9	0	0	0	0	0	0	7	0	4	0	47
7:15 AM	0	34	3	0	2	28	0	0	0	0	0	0	2	0	9	0	78
7:30 AM	0	54	4	0	4	44	0	0	0	0	0	0	5	0	7	0	118
7:45 AM	0	48	3	0	2	35	0	0	0	0	0	0	6	0	6	1	101
8:00 AM	0	83	2	0	3	54	0	0	0	0	0	0	12	0	7	0	161
8:15 AM	0	84	3	2	0	18	0	0	0	0	0	0	0	0	5	0	112
8:30 AM	0	71	3	0	3	28	0	0	0	0	0	0	3	0	8	0	116
8:45 AM	0	66	2	0	1	32	0	0	0	0	0	0	4	0	1	0	106
TOTAL VOLUMES :	0	467	20	2	15	248	0	0	0	0	0	0	39	0	47	1	839
APPROACH %'s :	0.00%	95.50%	4.09%	0.41%	5.70%	94.30%	0.00%	0.00%					44.83%	0.00%	54.02%	1.15%	
PEAK HR :	08:00 AM - 09:00 AM																
PEAK HR VOL :	0	304	10	2	7	132	0	0	0	0	0	0	19	0	21	0	495
PEAK HR FACTOR :	0.000	0.905	0.833	0.250	0.583	0.611	0.000	0.000	0.000	0.000	0.000	0.000	0.396	0.000	0.656	0.000	0.769
			0.888			0.610								0.526			

NS/EW Streets:	Blanche Rd				Blanche Rd				25th St				25th St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	35	3	0	2	31	0	0	0	0	0	0	7	0	2	1	81
2:15 PM	0	35	1	0	0	41	0	0	0	0	0	0	7	0	9	0	93
2:30 PM	0	35	1	0	2	37	0	0	0	0	0	0	1	0	10	1	87
2:45 PM	0	38	2	0	2	60	0	0	0	0	0	0	1	0	8	0	111
3:00 PM	0	40	2	0	3	62	0	0	0	0	0	0	0	0	4	0	111
3:15 PM	0	41	2	0	3	46	0	0	0	0	0	0	1	0	7	0	100
3:30 PM	0	38	3	0	1	41	0	0	0	0	0	0	5	0	4	0	92
3:45 PM	0	35	1	0	1	43	0	0	0	0	0	0	1	0	7	0	88
4:00 PM	0	38	2	0	2	42	0	0	0	0	0	0	8	0	5	0	97
4:15 PM	0	35	2	0	3	41	0	0	0	0	0	0	4	0	8	0	93
4:30 PM	0	24	4	0	2	49	0	0	0	0	0	0	6	0	7	0	92
4:45 PM	0	28	1	0	3	37	0	0	0	0	0	0	5	0	4	0	78
5:00 PM	0	30	2	0	1	49	0	0	0	0	0	0	4	0	6	0	92
5:15 PM	0	28	1	0	4	76	0	0	0	0	0	0	3	0	2	0	114
5:30 PM	0	37	1	0	3	59	0	0	0	0	0	0	3	0	3	0	106
5:45 PM	0	21	2	0	1	55	0	0	0	0	0	0	2	0	0	0	81
TOTAL VOLUMES :	0	538	30	0	33	769	0	0	0	0	0	0	58	0	86	2	1516
APPROACH %'s :	0.00%	94.72%	5.28%	0.00%	4.11%	95.89%	0.00%	0.00%					39.73%	0.00%	58.90%	1.37%	
PEAK HR :	02:45 PM - 03:45 PM																
PEAK HR VOL :	0	157	9	0	9	209	0	0	0	0	0	0	7	0	23	0	414
PEAK HR FACTOR :	0.000	0.957	0.750	0.000	0.750	0.843	0.000	0.000	0.000	0.000	0.000	0.000	0.350	0.000	0.719	0.000	0.932
			0.965			0.838								0.833			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 25th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/SB/WB)

Project ID: 18-05792-010
 Date: 12/13/2018

Bikes

NS/EW Streets:	Blanche Rd				Blanche Rd				25th St				25th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	08:00 AM - 09:00 AM																
PEAK HR VOL :	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
	0.500				0.500												
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
2:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	7	0	0	0	9	0	0	0	0	0	0	0	0	0	0	16
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	02:45 PM - 03:45 PM																
PEAK HR VOL :	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375
	0.250				0.500												

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 25th St
City: Manhattan Beach

Project ID: 18-05792-010
Date: 12/13/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Blanche Rd		Blanche Rd		25th St		25th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	2	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	2	0	0	2
7:30 AM	0	0	0	2	0	0	0	0	2
7:45 AM	0	0	1	3	0	0	0	0	4
8:00 AM	0	0	1	7	0	1	0	0	9
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	1	0	0	0	0	0	1
TOTAL VOLUMES :	0	0	5	12	1	3	0	0	21
APPROACH %'s :			29.41%	70.59%	25.00%	75.00%			
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	2	7	1	1	0	0	11
PEAK HR FACTOR :			0.500	0.250	0.250	0.250			0.306
			0.281		0.500				

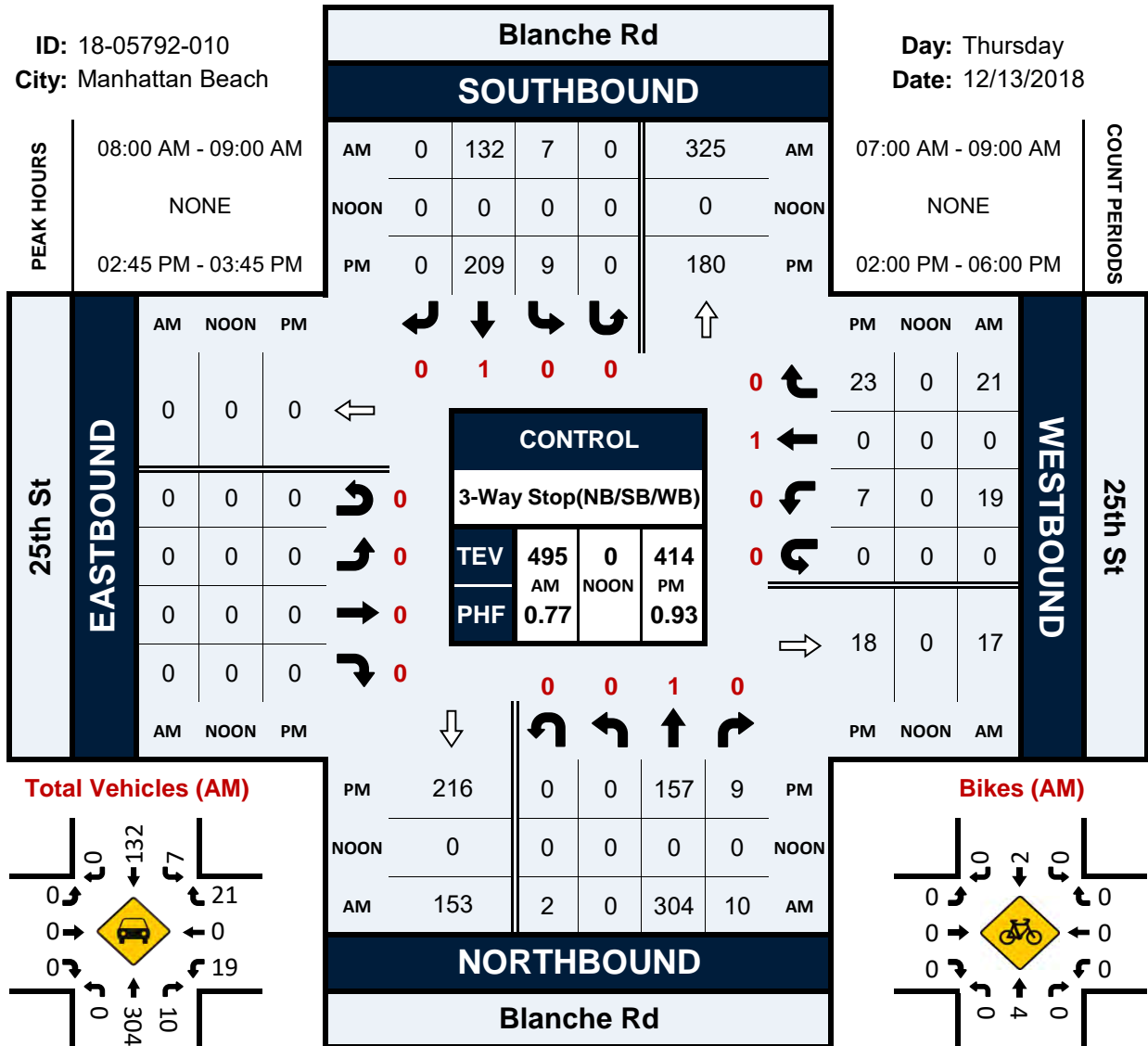
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:00 PM	0	0	1	3	0	1	0	0	5
2:15 PM	0	0	7	0	1	0	0	0	8
2:30 PM	0	0	5	0	0	0	0	0	5
2:45 PM	0	0	2	2	0	0	0	0	4
3:00 PM	0	0	2	1	1	0	0	0	4
3:15 PM	0	0	0	1	0	0	0	0	1
3:30 PM	0	0	3	1	0	0	0	0	4
3:45 PM	0	0	0	2	0	0	0	0	2
4:00 PM	0	0	2	1	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	1
TOTAL VOLUMES :	0	0	22	11	3	1	0	0	37
APPROACH %'s :			66.67%	33.33%	75.00%	25.00%			
PEAK HR :	02:45 PM - 03:45 PM								TOTAL
PEAK HR VOL :	0	0	7	5	1	0	0	0	13
PEAK HR FACTOR :			0.583	0.625	0.250	0.250			0.813
			0.750		0.250				

Blanche Rd & 25th St

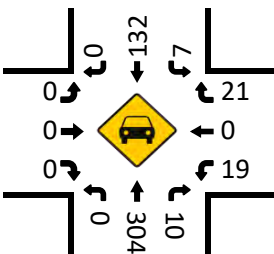
Peak Hour Turning Movement Count

ID: 18-05792-010
City: Manhattan Beach

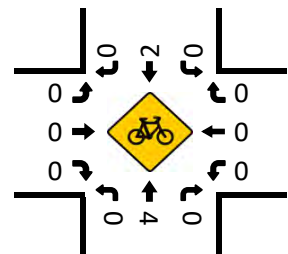
Day: Thursday
Date: 12/13/2018



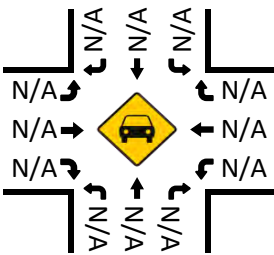
Total Vehicles (AM)



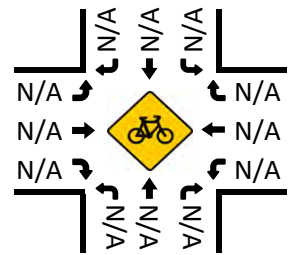
Bikes (AM)



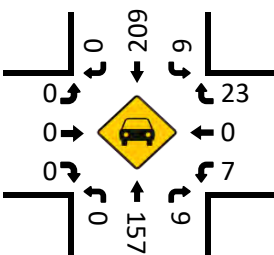
Total Vehicles (Noon)



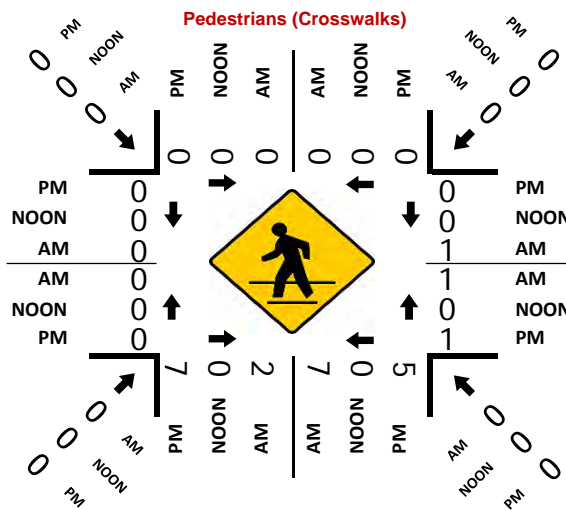
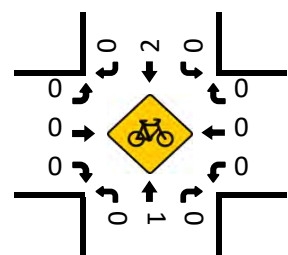
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 24th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/SB/EB)

Project ID: 18-05792-011
 Date: 12/13/2018

Total

NS/EW Streets:		Blanche Rd				Blanche Rd				24th St				24th St				TOTAL	
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
AM	7:00 AM	0	1	0	0	0	12	4	0	0	1	0	0	0	0	0	0	47	
	7:15 AM	12	23	0	0	0	20	10	0	5	0	1	0	0	0	0	0	81	
	7:30 AM	8	47	0	0	0	35	14	0	11	0	5	0	0	0	0	0	120	
	7:45 AM	14	46	0	0	0	27	15	0	4	0	4	0	0	0	0	0	110	
	8:00 AM	19	78	0	0	0	30	37	0	8	0	1	0	0	0	0	0	173	
	8:15 AM	6	84	0	0	0	16	2	0	4	0	11	0	0	0	0	0	123	
	8:30 AM	1	63	0	0	0	27	4	0	12	0	5	0	0	0	0	0	112	
	8:45 AM	4	60	0	0	0	33	3	0	8	0	2	0	0	0	0	0	110	
	TOTAL VOLUMES :		68	434	0	0	0	200	89	0	55	0	30	0	0	0	0	0	876
	APPROACH %'s :		13.55%	86.45%	0.00%	0.00%	0.00%	69.20%	30.80%	0.00%	64.71%	0.00%	35.29%	0.00%					
PEAK HR :		07:30 AM - 08:30 AM																	
PEAK HR VOL :		47	255	0	0	0	108	68	0	27	0	21	0	0	0	0	0	526	
PEAK HR FACTOR :		0.618	0.759	0.000	0.000	0.000	0.771	0.459	0.000	0.614	0.000	0.477	0.000	0.000	0.000	0.000	0.000	0.760	
		0.778				0.657				0.750									
PM	2:00 PM	0	1	0	0	0	29	9	0	4	0	8	0	0	0	0	0	87	
	2:15 PM	4	33	0	0	0	34	14	0	10	0	7	0	0	0	0	0	97	
	2:30 PM	5	27	0	0	0	34	4	0	6	0	4	0	0	0	0	0	85	
	2:45 PM	7	30	0	0	0	34	4	0	6	0	4	0	0	0	0	0	94	
	3:00 PM	2	28	0	0	0	52	9	0	12	0	16	0	0	0	0	0	119	
	3:00 PM	2	34	0	0	0	57	6	0	8	0	9	0	0	0	0	0	116	
	3:15 PM	6	35	0	0	0	37	10	0	8	0	9	0	0	0	0	0	105	
	3:30 PM	5	35	0	0	0	36	9	0	6	0	6	0	0	0	0	0	97	
	3:45 PM	4	32	0	0	0	35	9	0	4	0	10	0	0	0	0	0	94	
	4:00 PM	5	28	0	0	0	39	11	0	13	0	12	0	0	0	0	0	108	
4:15 PM	1	34	0	0	0	36	9	0	2	0	12	0	0	0	0	0	94		
4:30 PM	3	24	0	0	0	43	11	0	4	0	8	0	0	0	0	0	93		
4:45 PM	5	22	0	0	0	36	6	0	7	0	4	0	0	0	0	0	80		
5:00 PM	5	27	0	0	0	41	12	0	5	0	6	0	0	0	0	0	96		
5:15 PM	1	25	0	0	0	73	7	0	4	0	5	0	0	0	0	0	115		
5:30 PM	4	35	0	0	0	55	7	0	3	0	6	0	0	0	0	0	110		
5:45 PM	2	19	0	0	0	49	8	0	4	0	5	0	0	0	0	0	87		
TOTAL VOLUMES :		61	468	0	0	0	686	141	0	100	0	127	0	0	0	0	0	1583	
APPROACH %'s :		11.53%	88.47%	0.00%	0.00%	0.00%	82.95%	17.05%	0.00%	44.05%	0.00%	55.95%	0.00%						
PEAK HR :		02:45 PM - 03:45 PM																	
PEAK HR VOL :		15	132	0	0	0	182	34	0	34	0	40	0	0	0	0	0	437	
PEAK HR FACTOR :		0.625	0.943	0.000	0.000	0.000	0.798	0.850	0.000	0.708	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.918	
		0.896				0.857				0.661									

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 24th St
 City: Manhattan Beach
 Control: 3-Way Stop(NB/SB/EB)

Project ID: 18-05792-011
 Date: 12/13/2018

Bikes

NS/EW Streets:	Blanche Rd				Blanche Rd				24th St				24th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	3
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	3	0	0	0	2	1	0	1	0	0	0	0	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333
				0.500			0.250				0.250						
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
2:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
2:30 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	2	0	0	0	7	2	0	5	0	2	0	0	0	0	0	18
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	77.78%	22.22%	0.00%	71.43%	0.00%	28.57%	0.00%					
PEAK HR :	02:45 PM - 03:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
						0.500					0.500						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & 24th St
City: Manhattan Beach

Project ID: 18-05792-011
Date: 12/13/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Blanche Rd		Blanche Rd		24th St		24th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	1	2	3
7:15 AM	0	0	0	0	0	0	3	1	4
7:30 AM	0	0	0	0	0	0	0	3	3
7:45 AM	0	0	0	0	0	0	1	1	2
8:00 AM	0	0	0	0	0	0	3	1	4
8:15 AM	0	0	0	0	0	0	5	3	8
8:30 AM	0	0	0	0	0	0	2	1	3
8:45 AM	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	15	13	28
PEAK HR :	07:30 AM - 08:30 AM						53.57%	46.43%	
PEAK HR VOL :	0	0	0	0	0	0	9	8	17
PEAK HR FACTOR :							0.450	0.667	0.531

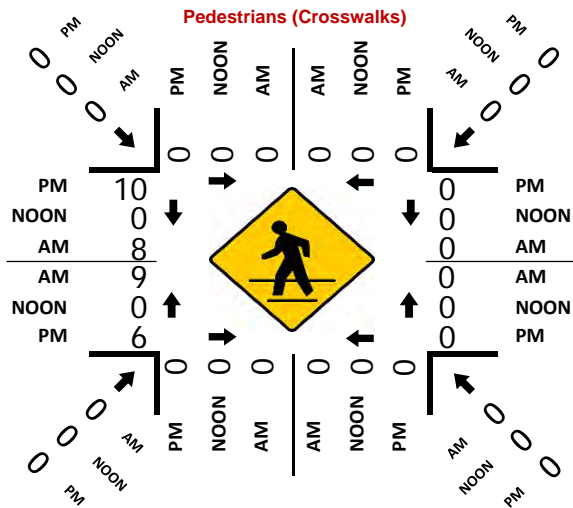
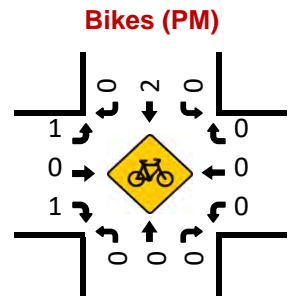
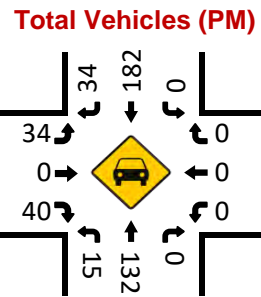
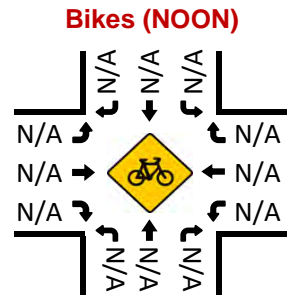
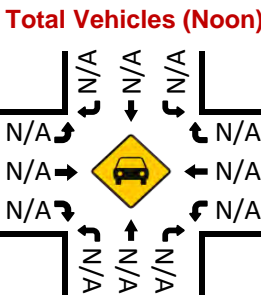
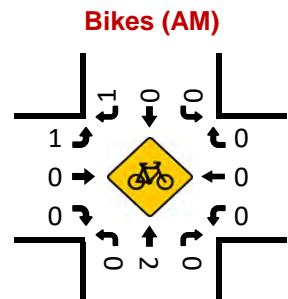
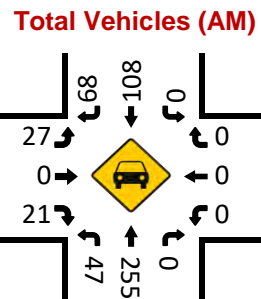
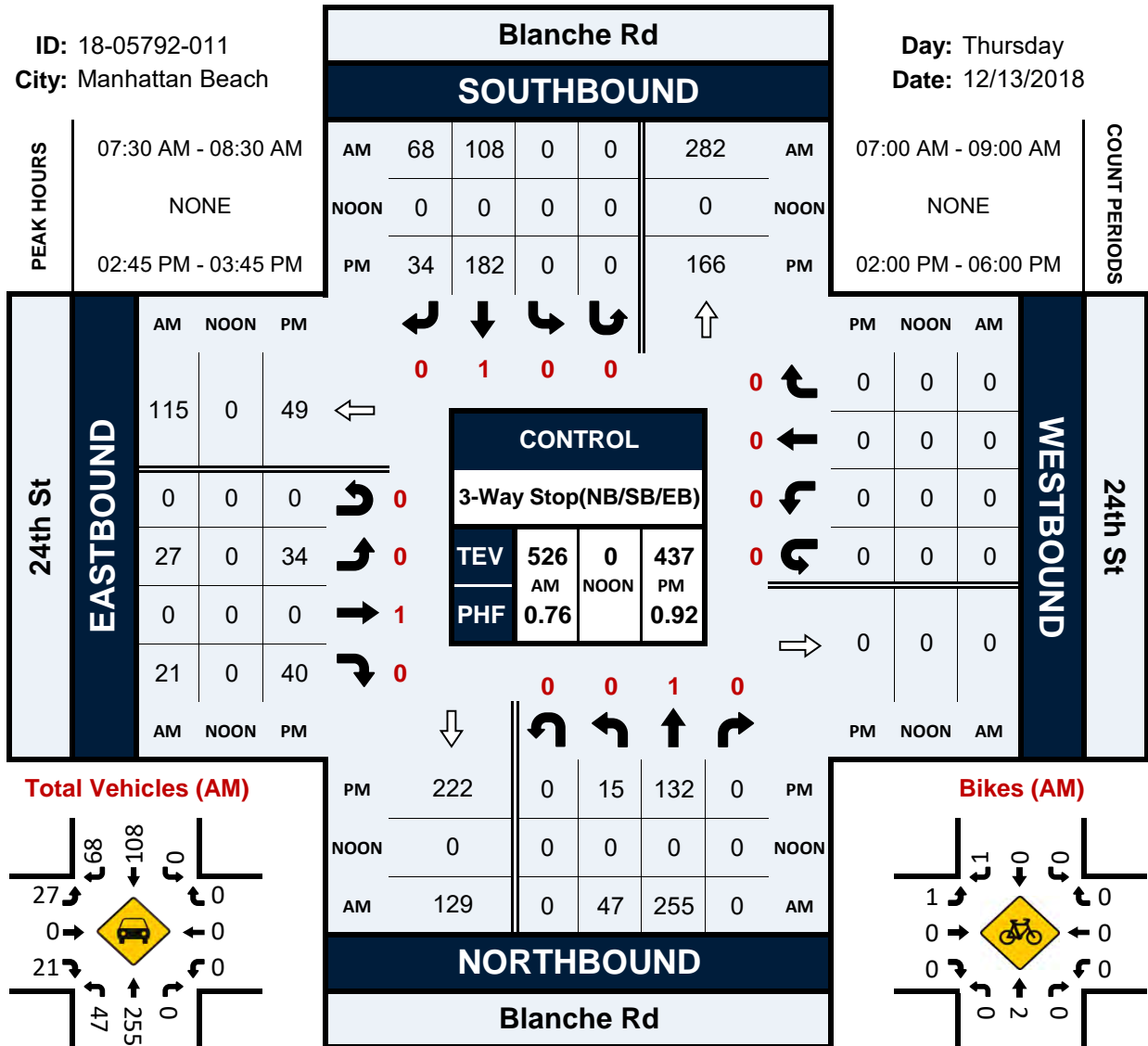
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	0	0	0	0	0	0	3	2	5
2:15 PM	0	0	0	0	0	0	1	0	1
2:30 PM	0	0	0	0	0	0	3	3	6
2:45 PM	0	0	0	0	0	0	2	2	4
3:00 PM	0	0	0	0	0	0	1	2	3
3:15 PM	0	0	0	0	0	0	0	3	3
3:30 PM	0	0	0	0	0	0	3	3	6
3:45 PM	0	0	2	0	0	0	2	3	7
4:00 PM	0	0	0	0	0	0	1	3	4
4:15 PM	0	0	0	0	0	0	3	4	7
4:30 PM	0	0	0	0	0	0	2	1	3
4:45 PM	0	0	0	0	0	0	0	3	3
5:00 PM	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	2	3
5:45 PM	0	0	0	0	0	0	1	3	4
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	2	0	0	0	25	34	61
PEAK HR :	02:45 PM - 03:45 PM						42.37%	57.63%	
PEAK HR VOL :	0	0	0	0	0	0	6	10	16
PEAK HR FACTOR :							0.500	0.833	0.667

Blanche Rd & 24th St

Peak Hour Turning Movement Count

ID: 18-05792-011
City: Manhattan Beach

Day: Thursday
Date: 12/13/2018



National Data & Surveying Services

Intersection Turning Movement Count

Location: Blanche Rd & Marine Ave
 City: Manhattan Beach
 Control: 4-Way Stop

Project ID: 18-05792-012
 Date: 12/13/2018

Total

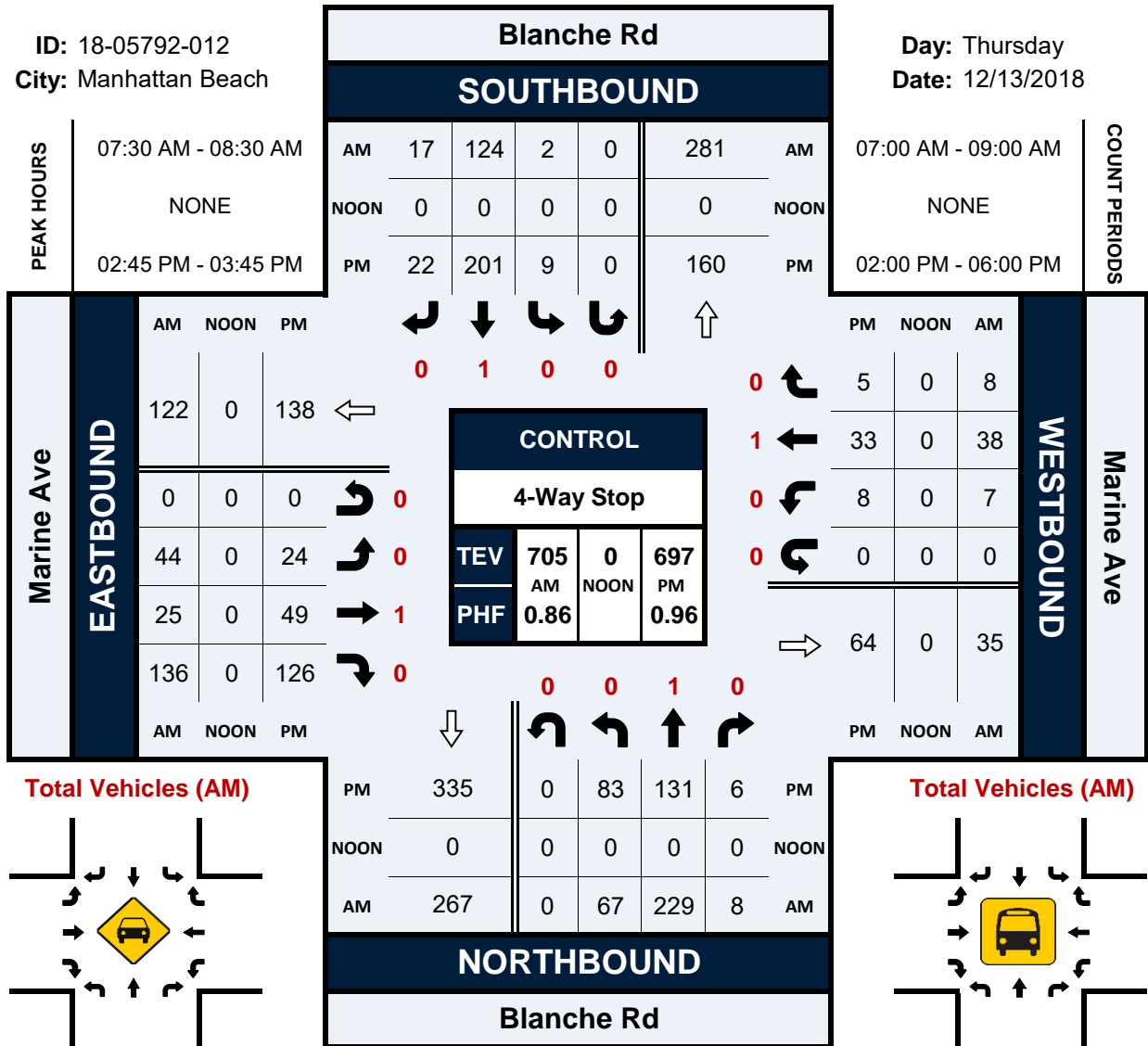
NS/EW Streets:	Blanche Rd				Blanche Rd				Marine Ave				Marine Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	14	22	0	0	1	10	3	0	2	6	17	0	2	7	1	0	85
7:15 AM	10	37	1	0	0	21	3	0	5	1	9	0	0	9	2	0	98
7:30 AM	14	43	1	0	1	36	7	0	5	5	40	0	2	3	1	0	158
7:45 AM	14	46	2	0	0	40	2	0	9	3	33	0	2	5	1	0	157
8:00 AM	24	67	3	0	1	21	5	0	19	9	33	0	2	15	5	0	204
8:15 AM	15	73	2	0	0	27	3	0	11	8	30	0	1	15	1	0	186
8:30 AM	10	50	1	0	1	34	4	0	5	3	21	0	1	6	1	0	137
8:45 AM	13	45	0	0	0	33	3	0	13	3	39	0	1	6	2	0	158
TOTAL VOLUMES :	114	383	10	0	4	222	30	0	69	38	222	0	11	66	14	0	1183
APPROACH %'s :	22.49%	75.54%	1.97%	0.00%	1.56%	86.72%	11.72%	0.00%	20.97%	11.55%	67.48%	0.00%	12.09%	72.53%	15.38%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	67	229	8	0	2	124	17	0	44	25	136	0	7	38	8	0	705
PEAK HR FACTOR :	0.698	0.784	0.667	0.000	0.500	0.775	0.607	0.000	0.579	0.694	0.850	0.000	0.875	0.633	0.400	0.000	0.864
	0.809				0.813				0.840				0.602				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	15	33	0	0	3	22	8	0	9	6	22	0	1	15	1	0	135
2:15 PM	18	24	2	0	4	37	7	0	9	6	37	0	1	11	0	0	156
2:30 PM	18	32	0	0	1	41	3	0	9	10	25	0	3	7	0	0	149
2:45 PM	15	28	0	0	3	58	4	0	2	8	39	0	1	10	1	0	169
3:00 PM	26	31	2	0	2	65	4	0	9	6	28	0	4	5	0	0	182
3:15 PM	20	36	1	0	2	37	9	0	8	21	32	0	1	8	2	0	177
3:30 PM	22	36	3	0	2	41	5	0	5	14	27	0	2	10	2	0	169
3:45 PM	20	23	1	0	1	39	4	0	7	8	32	0	5	11	3	0	154
4:00 PM	22	33	3	0	3	46	8	0	4	9	34	0	3	12	1	0	178
4:15 PM	19	23	0	0	1	47	3	0	8	11	36	0	0	5	1	0	154
4:30 PM	23	24	0	0	1	46	3	0	8	11	24	0	0	4	0	0	144
4:45 PM	20	23	4	0	1	48	3	0	5	8	32	0	4	3	0	0	151
5:00 PM	19	23	3	0	1	41	4	0	4	7	28	0	0	9	2	0	141
5:15 PM	22	21	1	0	0	67	8	0	6	2	23	0	2	14	1	0	167
5:30 PM	19	29	0	0	3	46	10	0	10	12	26	0	1	11	2	0	169
5:45 PM	7	16	3	0	0	52	8	0	3	6	25	0	3	5	1	0	129
TOTAL VOLUMES :	305	435	23	0	28	733	91	0	106	145	470	0	31	140	17	0	2524
APPROACH %'s :	39.97%	57.01%	3.01%	0.00%	3.29%	86.03%	10.68%	0.00%	14.70%	20.11%	65.19%	0.00%	16.49%	74.47%	9.04%	0.00%	
PEAK HR :	02:45 PM - 03:45 PM																TOTAL
PEAK HR VOL :	83	131	6	0	9	201	22	0	24	49	126	0	8	33	5	0	697
PEAK HR FACTOR :	0.798	0.910	0.500	0.000	0.750	0.773	0.611	0.000	0.667	0.583	0.808	0.000	0.500	0.825	0.625	0.000	0.957
	0.902				0.817				0.816				0.821				

Blanche Rd & Marine Ave

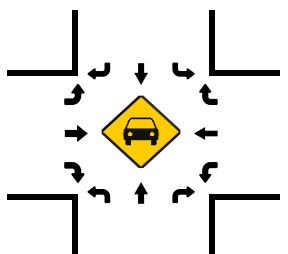
Peak Hour Turning Movement Count

ID: 18-05792-012
City: Manhattan Beach

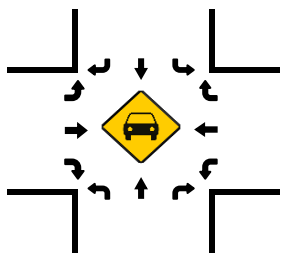
Day: Thursday
Date: 12/13/2018



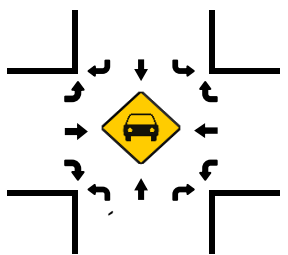
Total Vehicles (AM)



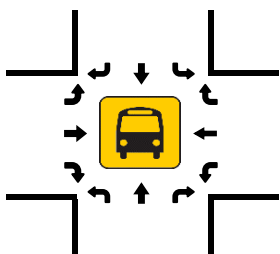
Total Vehicles (NOON)



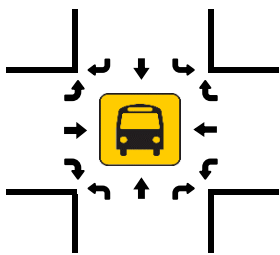
Total Vehicles (PM)



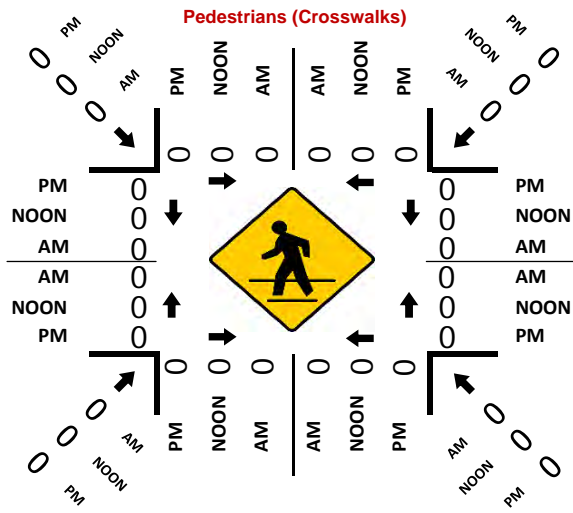
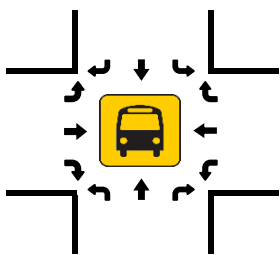
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



Appendix B. Intersection Volumes, Delay, and LOS Calculation Outputs, Existing Conditions

Appendices

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Vistro File: Q:\...\Grandview.vistro
 Report File: Q:\...\1AMpeakhour.pdf

Scenario 3 AM Peak Hour
 1/15/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Highland Ave at 24th St	Two-way stop	HCM 2010	WB Left	0.005	24.3	C
2	Highland Ave at Marine Ave	Signalized	ICU 1	NB Thru	0.684	-	B
3	Vista Dr at 24th St	All-way stop	HCM 2010	WB Thru	0.255	8.4	A
4	Manor Dr at 24th St	All-way stop	HCM 2010	EB Left	0.229	8.3	A
5	Bell Ave at 27th St	All-way stop	HCM 2010	NB Left	0.086	7.5	A
6	Bell Ave at 26th St	Two-way stop	HCM 2010	WB Left	0.004	10.1	B
7	Blanche Rd at Rosecrans Ave	Signalized	ICU 1	WB Thru	0.550	-	A
8	Blanche Rd at 27th St	All-way stop	HCM 2010	NB Thru	0.468	10.1	B
9	Blanche Rd at Bell Ave	Two-way stop	HCM 2010	SB Left	0.011	12.2	B
10	Blanche Rd at 25th St	All-way stop	HCM 2010	NB Thru	0.482	10.3	B
11	Blanche Rd at 24th St	All-way stop	HCM 2010	NB Thru	0.484	10.3	B
12	Blanche Rd at Marine Ave	All-way stop	HCM 2010	NB Thru	0.490	11.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Highland Ave at 24th St

Control Type:	Two-way stop	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Highland Ave		Highland Ave		24th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Highland Ave		Highland Ave		24th St	
Base Volume Input [veh/h]	751	19	24	355	1	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	751	19	24	355	1	31
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	194	5	6	92	0	8
Total Analysis Volume [veh/h]	777	20	25	367	1	32
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.00	0.01	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	9.50	0.00	24.30	15.09
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.28	0.28
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.34	2.34	7.08	7.08
d_A, Approach Delay [s/veh]	0.00		0.61		15.37	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Highland Ave at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.684

Intersection Setup

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←↑			←↑			↑←			↑←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	89	719	47	25	332	4	20	57	73	66	30	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	719	47	25	332	4	20	57	73	66	30	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	180	12	6	83	1	5	14	18	17	8	5
Total Analysis Volume [veh/h]	89	719	47	25	332	4	20	57	73	66	30	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.48	0.48	0.02	0.21	0.21	0.01	0.05	0.05	0.04	0.06	0.01
Intersection LOS	B											
Intersection V/C	0.684											

Intersection Level Of Service Report
Intersection 3: Vista Dr at 24th St

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name	Vista Dr			Vista Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕						⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Vista Dr			Vista Dr			24th St			24th St		
Base Volume Input [veh/h]	2	20	6	0	0	0	10	73	0	0	92	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	20	6	0	0	0	10	73	0	0	92	18
Peak Hour Factor	0.4980	0.4980	0.4980	1.0000	1.0000	1.0000	0.4980	0.4980	0.4980	0.4980	0.4980	0.4980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	10	3	0	0	0	5	37	0	0	46	9
Total Analysis Volume [veh/h]	4	40	12	0	0	0	20	147	0	0	185	36
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	773		834	868
Degree of Utilization, x	0.07		0.20	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.23		0.74	1.01
95th-Percentile Queue Length [ft]	5.85		18.62	25.31
Approach Delay [s/veh]	8.02	0.00	8.40	8.56
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.43			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Manor Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 8.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.229

Intersection Setup

Name	Manor Dr			Manor Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Manor Dr			Manor Dr			24th St			24th St		
Base Volume Input [veh/h]	2	34	4	0	0	0	60	42	3	4	27	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	34	4	0	0	0	60	42	3	4	27	81
Peak Hour Factor	0.5630	0.5630	0.5630	1.0000	1.0000	1.0000	0.5630	0.5630	0.5630	0.5630	0.5630	0.5630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	15	2	0	0	0	27	19	1	2	12	36
Total Analysis Volume [veh/h]	4	60	7	0	0	0	107	75	5	7	48	144
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	765		818	927
Degree of Utilization, x	0.09		0.23	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.31		0.88	0.81
95th-Percentile Queue Length [ft]	7.64		21.97	20.33
Approach Delay [s/veh]	8.19	0.00	8.70	7.94
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.29			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: Bell Ave at 27th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.5
Level Of Service: A
Volume to Capacity (v/c): 0.086

Intersection Setup

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Base Volume Input [veh/h]	21	23	35	5	20	0	0	0	0	29	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	23	35	5	20	0	0	0	0	29	0	1
Peak Hour Factor	0.7980	0.7980	0.7980	0.7980	0.7980	0.7980	1.0000	1.0000	1.0000	0.7980	0.7980	0.7980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	7	11	2	6	0	0	0	0	9	0	0
Total Analysis Volume [veh/h]	26	29	44	6	25	0	0	0	0	36	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	700	853	845		819
Degree of Utilization, x	0.04	0.09	0.04		0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.12	0.28	0.11		0.14
95th-Percentile Queue Length [ft]	2.89	7.00	2.85		3.55
Approach Delay [s/veh]	7.51		7.42	0.00	7.61
Approach LOS	A		A	A	A
Intersection Delay [s/veh]	7.51				
Intersection LOS	A				

**Intersection Level Of Service Report
Intersection 6: Bell Ave at 26th St**

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Bell Ave		Bell Ave		26th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↷	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bell Ave		Bell Ave		26th St	
Base Volume Input [veh/h]	74	3	22	42	2	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	3	22	42	2	9
Peak Hour Factor	0.6480	0.6480	0.6480	0.6480	0.6480	0.6480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	1	8	16	1	3
Total Analysis Volume [veh/h]	114	5	34	65	3	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.51	0.00	10.07	8.93
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.78	1.78	1.46	1.46
d_A, Approach Delay [s/veh]	0.00		2.58		9.13	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.75					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Blanche Rd at Rosecrans Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Base Volume Input [veh/h]	196	132	580	37	48	783
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	132	580	37	48	783
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	33	145	9	12	196
Total Analysis Volume [veh/h]	196	132	580	37	48	783
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.21	0.18	0.02	0.03	0.24
Intersection LOS	A					
Intersection V/C	0.550					

**Intersection Level Of Service Report
Intersection 8: Blanche Rd at 27th St**

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Base Volume Input [veh/h]	2	281	7	5	85	17	35	4	2	10	11	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	281	7	5	85	17	35	4	2	10	11	8
Peak Hour Factor	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	94	2	2	28	6	12	1	1	3	4	3
Total Analysis Volume [veh/h]	3	376	9	7	114	23	47	5	3	13	15	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	830	796	675	703
Degree of Utilization, x	0.47	0.18	0.08	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.52	0.66	0.27	0.18
95th-Percentile Queue Length [ft]	63.08	16.43	6.63	4.40
Approach Delay [s/veh]	11.10	8.52	8.81	8.42
Approach LOS	B	A	A	A
Intersection Delay [s/veh]	10.14			
Intersection LOS	B			

**Intersection Level Of Service Report
Intersection 9: Blanche Rd at Bell Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Base Volume Input [veh/h]	0	75	250	5	40	0	1	0	0	99	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	75	250	5	40	0	1	0	0	99	0	2
Peak Hour Factor	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	24	81	2	13	0	0	0	0	32	0	1
Total Analysis Volume [veh/h]	0	97	324	6	52	0	1	0	0	128	0	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Stop	Free	Stop
Flared Lane		No		No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.20	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	12.16	10.77	9.85	7.76	8.17	0.00	12.13	12.47	11.08
Movement LOS	A	A	A	B	B	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.28	0.28	0.28	0.00	0.00	0.00	0.77	0.77	0.77
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	7.12	7.12	7.12	0.06	0.06	0.06	19.16	19.16	19.16
d_A, Approach Delay [s/veh]	0.00			10.91			7.76			12.10		
Approach LOS	A			B			A			B		
d_I, Intersection Delay [s/veh]	3.64											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Blanche Rd at 25th St

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Blanche Rd		Blanche Rd		25th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		25th St	
Base Volume Input [veh/h]	304	10	7	132	19	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	304	10	7	132	19	21
Peak Hour Factor	0.7690	0.7690	0.7690	0.7690	0.7690	0.7690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	3	2	43	6	7
Total Analysis Volume [veh/h]	395	13	9	172	25	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	848	801	720
Degree of Utilization, x	0.48	0.23	0.07

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.66	0.87	0.23
95th-Percentile Queue Length [ft]	66.44	21.66	5.83
Approach Delay [s/veh]	11.13	8.80	8.39
Approach LOS	B	A	A
Intersection Delay [s/veh]	10.25		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 11: Blanche Rd at 24th St

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Blanche Rd		Blanche Rd		24th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		24th St	
Base Volume Input [veh/h]	47	255	108	68	27	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	255	108	68	27	21
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	84	36	22	9	7
Total Analysis Volume [veh/h]	62	336	142	89	36	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	822	838	698
Degree of Utilization, x	0.48	0.28	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.68	1.13	0.30
95th-Percentile Queue Length [ft]	67.06	28.14	7.54
Approach Delay [s/veh]	11.43	8.93	8.67
Approach LOS	B	A	A
Intersection Delay [s/veh]	10.34		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 12: Blanche Rd at Marine Ave

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	67	229	8	2	124	17	44	25	136	7	38	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	229	8	2	124	17	44	25	136	7	38	8
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	66	2	1	36	5	13	7	39	2	11	2
Total Analysis Volume [veh/h]	78	265	9	2	144	20	51	29	157	8	44	9
Pedestrian Volume [ped/h]	0			0			0			0		

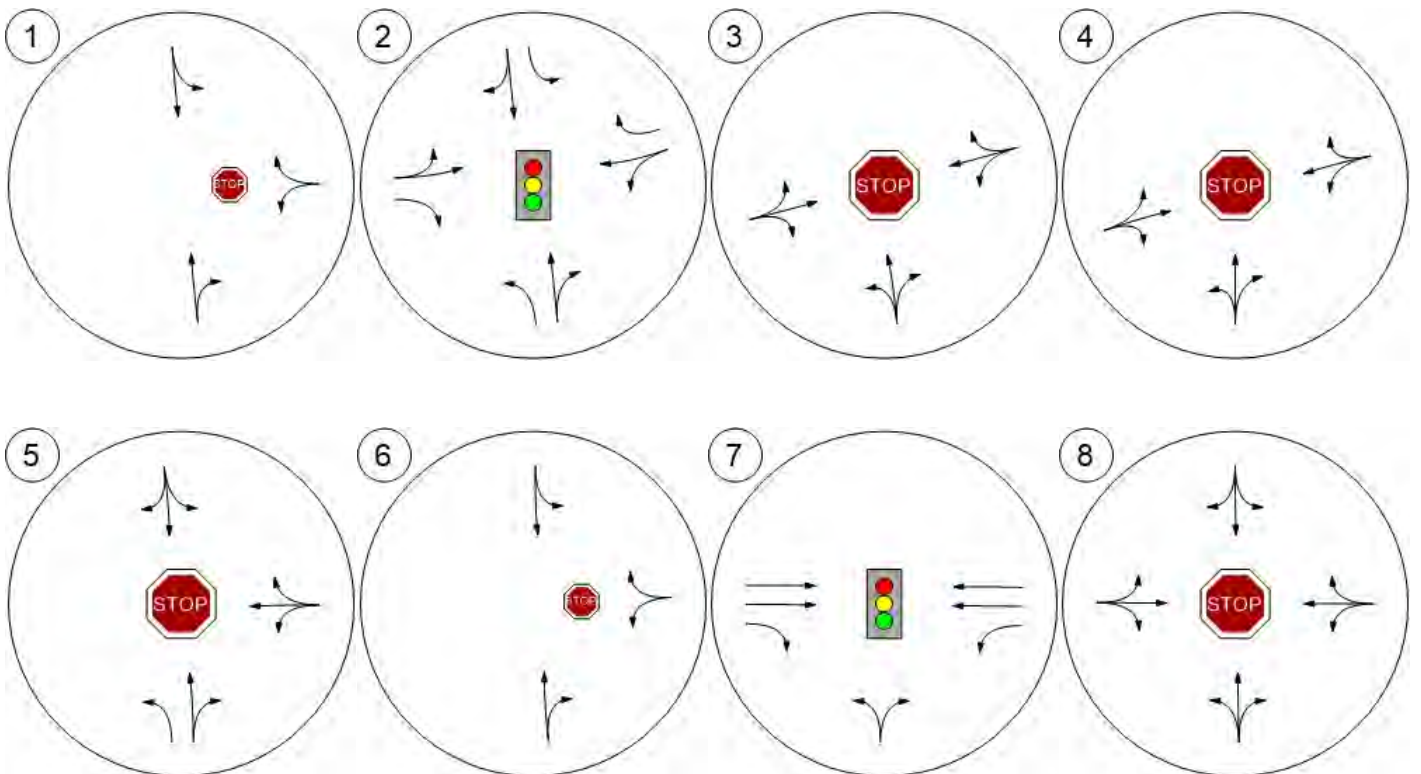
Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	719	696	717	641
Degree of Utilization, x	0.49	0.24	0.33	0.10

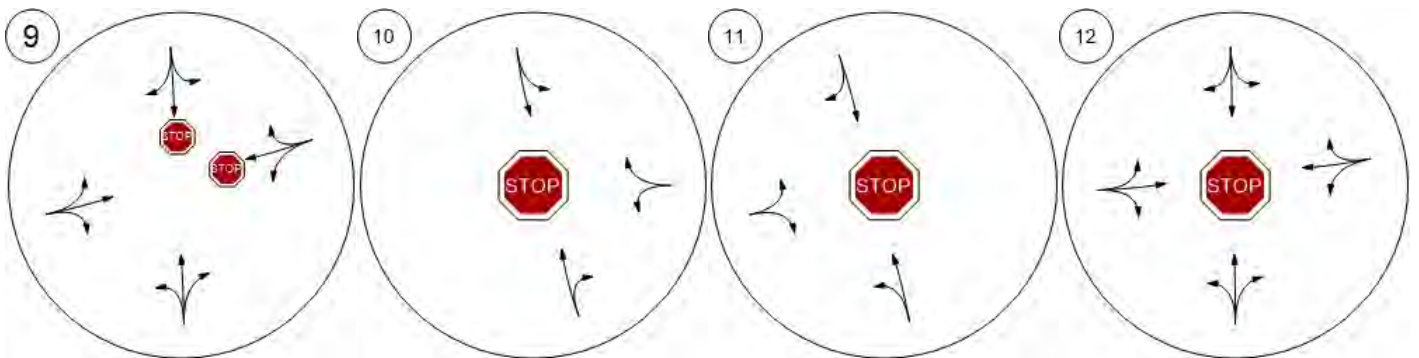
Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.72	0.93	1.45	0.31
95th-Percentile Queue Length [ft]	68.04	23.18	36.20	7.86
Approach Delay [s/veh]	12.73	9.79	10.49	9.21
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	11.22			
Intersection LOS	B			

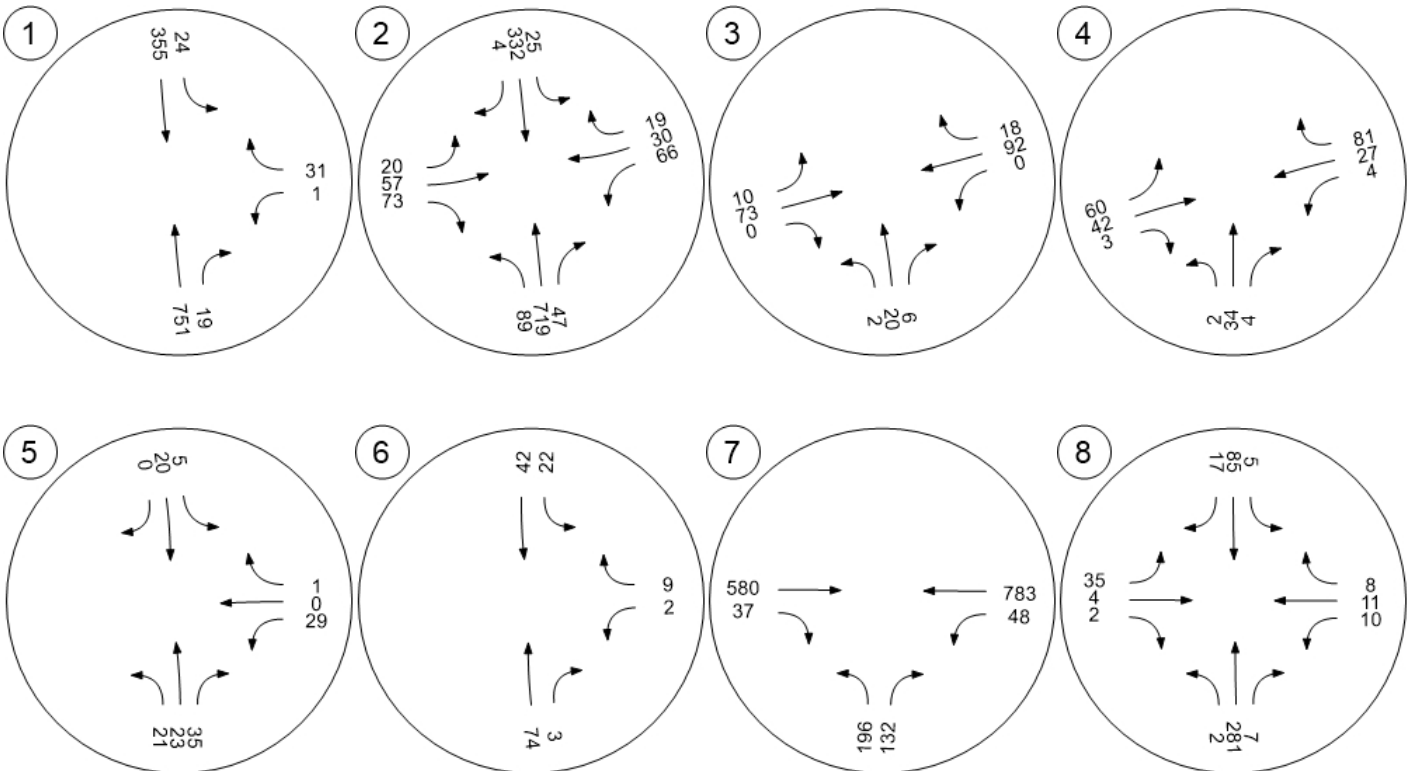
Lane Configuration and Traffic Control



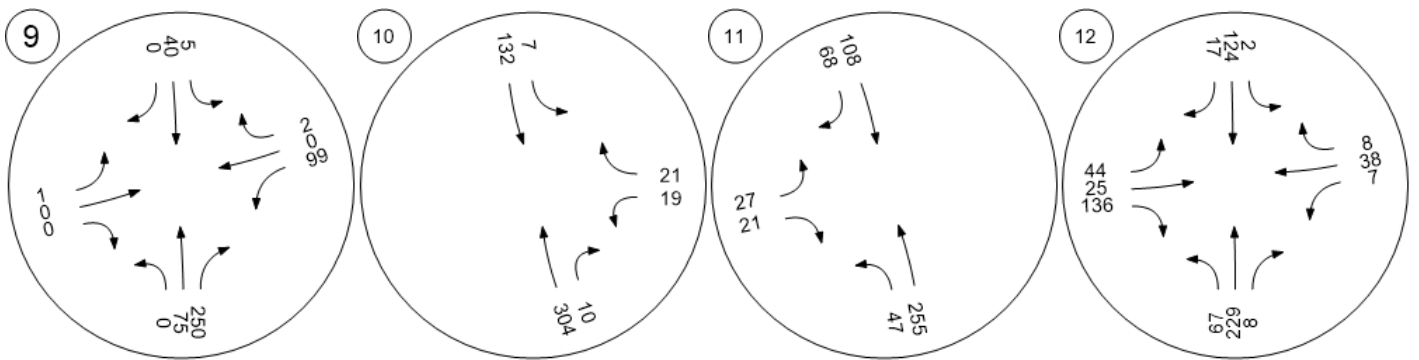
Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



Vistro File: Q:\...\Grandview.vistro
Report File: Q:\...\PMpeakhour.pdf

Scenario 2 PM Peak Hour
1/15/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Highland Ave at 24th St	Two-way stop	HCM 2010	WB Left	0.020	29.3	D
2	Highland Ave at Marine Ave	Signalized	ICU 1	SB Thru	0.774	-	C
3	Vista Dr at 24th St	All-way stop	HCM 2010	WB Thru	0.138	7.6	A
4	Manor Dr at 24th St	All-way stop	HCM 2010	EB Thru	0.136	7.5	A
5	Bell Ave at 27th St	All-way stop	HCM 2010	NB Left	0.070	7.5	A
6	Bell Ave at 26th St	Two-way stop	HCM 2010	WB Left	0.001	9.8	A
7	Blanche Rd at Rosecrans Ave	Signalized	ICU 1	WB Thru	0.452	-	A
8	Blanche Rd at 27th St	All-way stop	HCM 2010	SB Thru	0.225	8.3	A
9	Blanche Rd at Bell Ave	Two-way stop	HCM 2010	WB Left	0.221	11.2	B
10	Blanche Rd at 25th St	All-way stop	HCM 2010	SB Thru	0.273	8.5	A
11	Blanche Rd at 24th St	All-way stop	HCM 2010	SB Thru	0.275	8.6	A
12	Blanche Rd at Marine Ave	All-way stop	HCM 2010	NB Thru	0.326	10.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Highland Ave at 24th St

Control Type:	Two-way stop	Delay (sec / veh):	29.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Highland Ave		Highland Ave		24th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Highland Ave		Highland Ave		24th St	
Base Volume Input [veh/h]	507	13	8	823	3	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	507	13	8	823	3	18
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	3	2	214	1	5
Total Analysis Volume [veh/h]	526	13	8	855	3	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.52	0.00	29.25	12.09
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.59	0.59	4.31	4.31
d_A, Approach Delay [s/veh]	0.00		0.08		14.43	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 2: Highland Ave at Marine Ave**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

Intersection Setup

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵			↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	38	467	49	30	786	5	12	50	174	75	24	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	467	49	30	786	5	12	50	174	75	24	21
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	117	12	8	197	1	3	13	44	19	6	5
Total Analysis Volume [veh/h]	38	467	49	30	786	5	12	50	174	75	24	21
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.32	0.32	0.02	0.49	0.49	0.01	0.04	0.11	0.05	0.06	0.01
Intersection LOS	C											
Intersection V/C	0.774											

Intersection Level Of Service Report
Intersection 3: Vista Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 7.6
 Level Of Service: A
 Volume to Capacity (v/c): 0.138

Intersection Setup

Name	Vista Dr			Vista Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Vista Dr			Vista Dr			24th St			24th St		
Base Volume Input [veh/h]	0	24	1	0	0	0	10	43	0	1	65	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	24	1	0	0	0	10	43	0	1	65	12
Peak Hour Factor	0.6290	0.6290	0.6290	1.0000	1.0000	1.0000	0.6290	0.6290	0.6290	0.6290	0.6290	0.6290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	0	0	0	0	4	17	0	0	26	5
Total Analysis Volume [veh/h]	0	38	2	0	0	0	16	68	0	2	103	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	829		862	896
Degree of Utilization, x	0.05		0.10	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.15		0.32	0.48
95th-Percentile Queue Length [ft]	3.80		8.08	11.99
Approach Delay [s/veh]	7.56	0.00	7.63	7.66
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.64			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Manor Dr at 24th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.5
Level Of Service: A
Volume to Capacity (v/c): 0.136

Intersection Setup

Name	Manor Dr			Manor Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Manor Dr			Manor Dr			24th St			24th St		
Base Volume Input [veh/h]	3	8	1	0	0	0	29	60	2	2	25	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	1	0	0	0	29	60	2	2	25	30
Peak Hour Factor	0.7640	0.7640	0.7640	1.0000	1.0000	1.0000	0.7640	0.7640	0.7640	0.7640	0.7640	0.7640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	0	0	0	0	9	20	1	1	8	10
Total Analysis Volume [veh/h]	4	10	1	0	0	0	38	79	3	3	33	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	828		882	953
Degree of Utilization, x	0.02		0.14	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06		0.47	0.26
95th-Percentile Queue Length [ft]	1.38		11.76	6.39
Approach Delay [s/veh]	7.43	0.00	7.72	7.10
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.48			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: Bell Ave at 27th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.5
Level Of Service: A
Volume to Capacity (v/c): 0.070

Intersection Setup

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Base Volume Input [veh/h]	21	22	30	8	16	0	0	0	0	39	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	22	30	8	16	0	0	0	0	39	0	6
Peak Hour Factor	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	1.0000	1.0000	1.0000	0.8880	0.8880	0.8880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	8	2	5	0	0	0	0	11	0	2
Total Analysis Volume [veh/h]	24	25	34	9	18	0	0	0	0	44	0	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	697	844	837		843
Degree of Utilization, x	0.03	0.07	0.03		0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.22	0.10		0.19
95th-Percentile Queue Length [ft]	2.67	5.62	2.50		4.82
Approach Delay [s/veh]	7.51		7.45	0.00	7.55
Approach LOS	A		A	A	A
Intersection Delay [s/veh]	7.51				
Intersection LOS	A				

**Intersection Level Of Service Report
Intersection 6: Bell Ave at 26th St**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bell Ave		Bell Ave		26th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bell Ave		Bell Ave		26th St	
Base Volume Input [veh/h]	65	15	29	57	1	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	15	29	57	1	6
Peak Hour Factor	0.8850	0.8850	0.8850	0.8850	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	4	8	16	0	2
Total Analysis Volume [veh/h]	73	17	33	64	1	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	9.77	8.71
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.68	1.68	0.64	0.64
d_A, Approach Delay [s/veh]	0.00		2.53		8.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.62					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Blanche Rd at Rosecrans Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Base Volume Input [veh/h]	48	49	670	92	131	767
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	49	670	92	131	767
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	168	23	33	192
Total Analysis Volume [veh/h]	48	49	670	92	131	767
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.21	0.06	0.08	0.24
Intersection LOS	A					
Intersection V/C	0.452					

**Intersection Level Of Service Report
Intersection 8: Blanche Rd at 27th St**

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 8.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.225

Intersection Setup

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Base Volume Input [veh/h]	5	132	6	10	138	17	16	13	11	6	8	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	132	6	10	138	17	16	13	11	6	8	10
Peak Hour Factor	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	38	2	3	40	5	5	4	3	2	2	3
Total Analysis Volume [veh/h]	6	152	7	12	159	20	18	15	13	7	9	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	839	850	772	787
Degree of Utilization, x	0.20	0.22	0.06	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.73	0.86	0.19	0.11
95th-Percentile Queue Length [ft]	18.21	21.52	4.74	2.76
Approach Delay [s/veh]	8.34	8.46	7.96	7.74
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.31			
Intersection LOS	A			

**Intersection Level Of Service Report
Intersection 9: Blanche Rd at Bell Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.221

Intersection Setup

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Base Volume Input [veh/h]	0	63	119	3	67	1	2	0	0	149	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	63	119	3	67	1	2	0	0	149	0	2
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	33	1	18	0	1	0	0	41	0	1
Total Analysis Volume [veh/h]	0	70	131	3	74	1	2	0	0	164	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Stop	Free	Stop
Flared Lane		No		No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.22	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.28	10.08	9.27	7.49	7.63	0.00	11.24	11.67	10.34
Movement LOS	A	A	A	B	B	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.33	0.33	0.33	0.00	0.00	0.00	0.85	0.85	0.85
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	8.22	8.22	8.22	0.10	0.10	0.10	21.30	21.30	21.30
d_A, Approach Delay [s/veh]	0.00			10.08			7.49			11.23		
Approach LOS	A			B			A			B		
d_I, Intersection Delay [s/veh]	5.96											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Blanche Rd at 25th St

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.273

Intersection Setup

Name	Blanche Rd		Blanche Rd		25th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		25th St	
Base Volume Input [veh/h]	157	9	9	209	7	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	9	9	209	7	23
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	2	2	56	2	6
Total Analysis Volume [veh/h]	168	10	10	224	8	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	856	858	816
Degree of Utilization, x	0.21	0.27	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.78	1.11	0.13
95th-Percentile Queue Length [ft]	19.53	27.74	3.16
Approach Delay [s/veh]	8.31	8.76	7.60
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.50		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Blanche Rd at 24th St

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.275

Intersection Setup

Name	Blanche Rd		Blanche Rd		24th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		24th St	
Base Volume Input [veh/h]	15	132	182	34	34	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	132	182	34	34	40
Peak Hour Factor	0.9180	0.9180	0.9180	0.9180	0.9180	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	50	9	9	11
Total Analysis Volume [veh/h]	16	144	198	37	37	44
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	819	855	789
Degree of Utilization, x	0.20	0.27	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.72	1.12	0.34
95th-Percentile Queue Length [ft]	18.04	28.01	8.55
Approach Delay [s/veh]	8.46	8.80	8.09
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.56		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 12: Blanche Rd at Marine Ave

Control Type:	All-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	83	131	6	9	201	22	24	49	126	8	33	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	131	6	9	201	22	24	49	126	8	33	5
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	34	2	2	53	6	6	13	33	2	9	1
Total Analysis Volume [veh/h]	87	137	6	9	210	23	25	51	132	8	34	5
Pedestrian Volume [ped/h]	0			0			0			0		

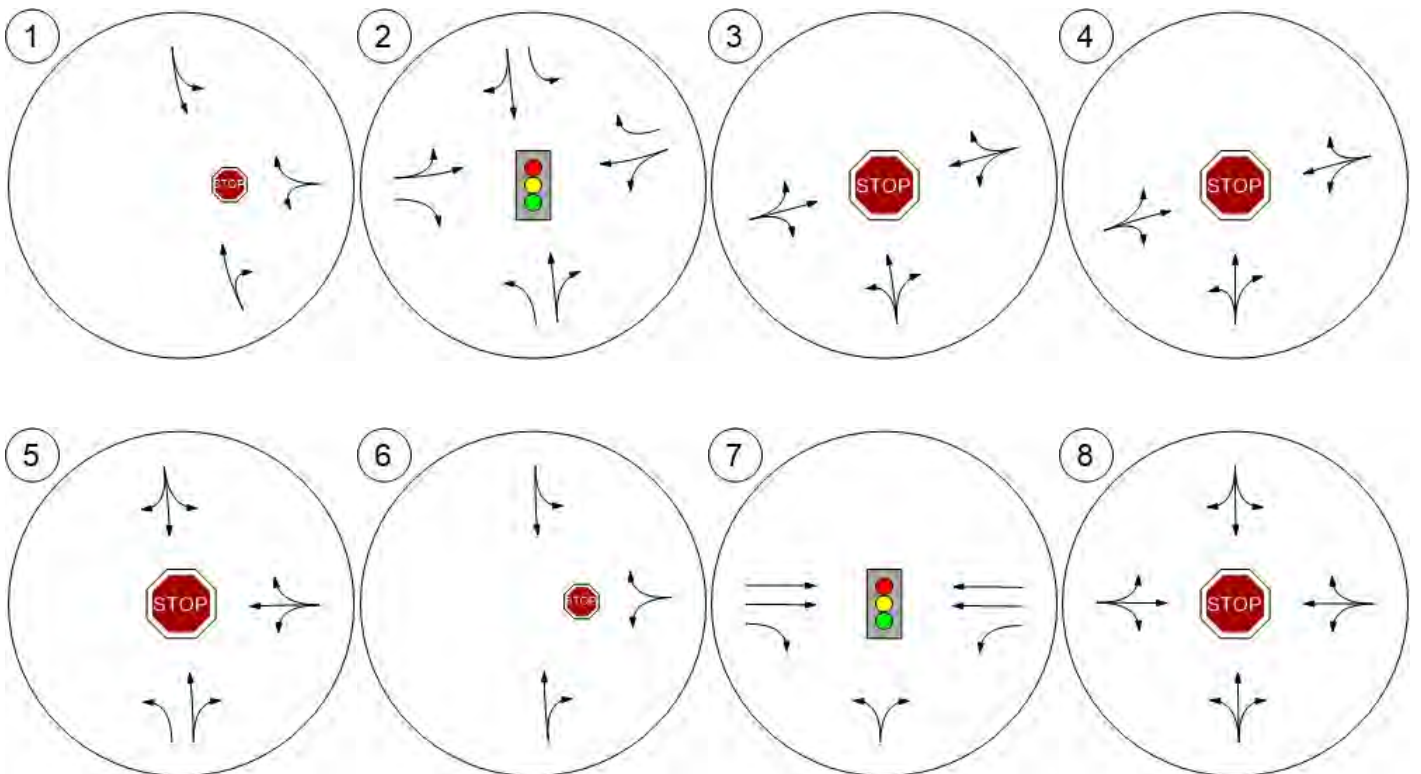
Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	724	742	747	667
Degree of Utilization, x	0.32	0.33	0.28	0.07

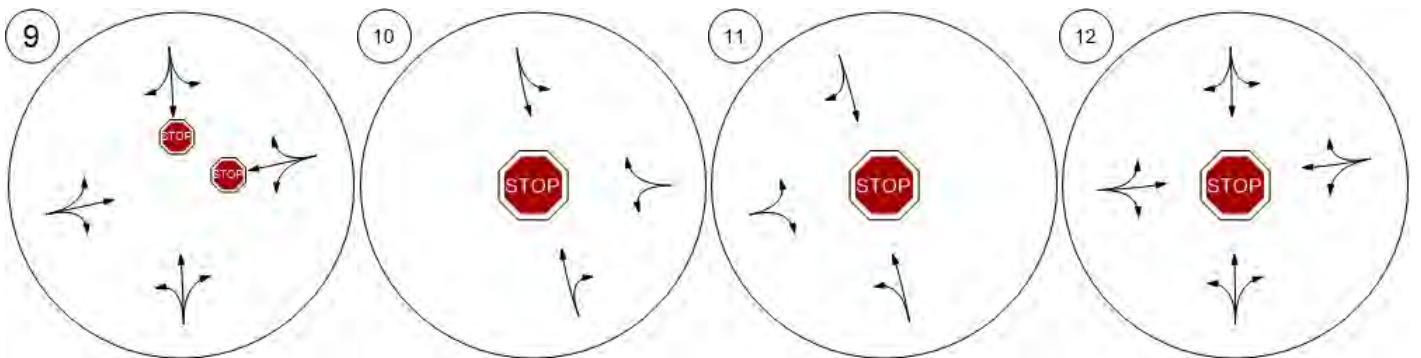
Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.37	1.42	1.14	0.23
95th-Percentile Queue Length [ft]	34.13	35.48	28.47	5.67
Approach Delay [s/veh]	10.26	10.18	9.67	8.81
Approach LOS	B	B	A	A
Intersection Delay [s/veh]	9.97			
Intersection LOS	A			

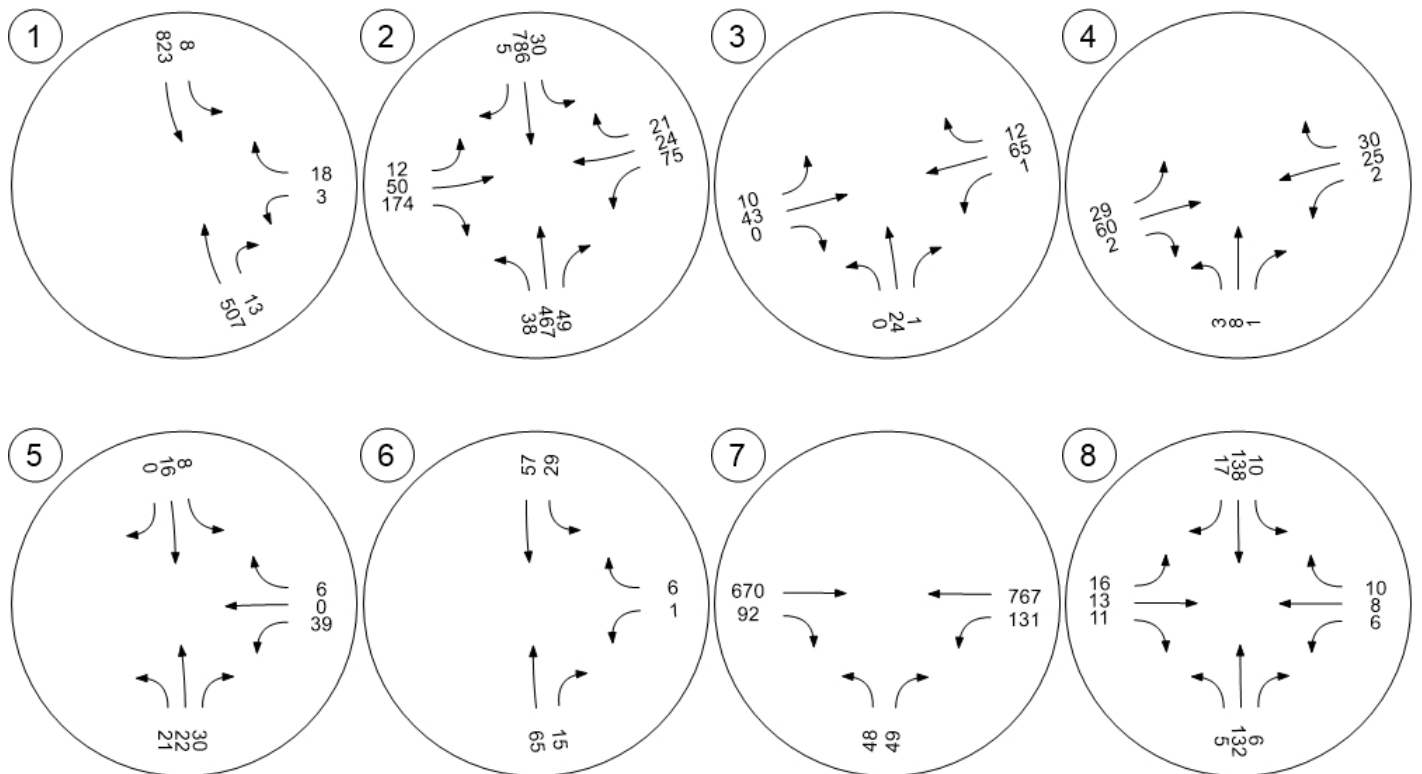
Lane Configuration and Traffic Control



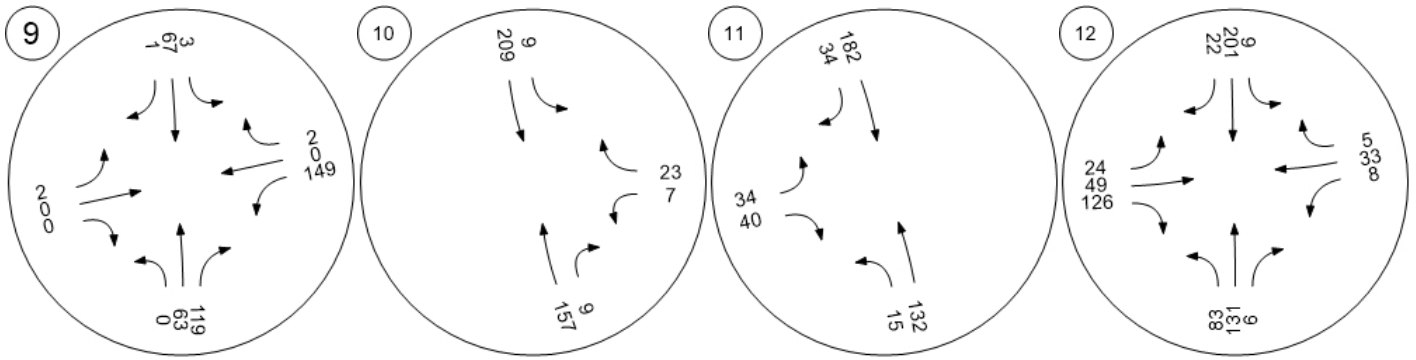
Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



Appendix C. Parking Counts

Appendices

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Parking Study

Location: 18-5801
City: Manhattan Beach

Date: 12/13/2018
Day: Thursday

ID	Street:	From	To	Restrictions	Space Type	Spaces/ Measurements (Ft)	7:00 AM	7:30 AM	8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	Notes	
1N	30th St	Blanche Rd	Flournoy Rd	No Restrictions		12	10	10	10	9	10	11	11	11			
1S				No Restrictions		16	16	15	12	12	13	13	15	15			
2N				No Restrictions		0	1	1	1	1	1	1	1	1	1		
25	29th St	Bell Ave	Blanche Rd	No Restrictions		9	8	8	7	5	3	4	3	4			
3N				No Restrictions		5	4	4	7	6	6	6	6	6			
3S				No Restrictions		6	5	5	6	6	6	6	6	6	6		
4N	27th St	Bell Ave	Flournoy Rd	No Restrictions		10	9	9	6	6	6	11	10	11			
4S				No Restrictions		8	8	7	8	7	9	6	6	6			
5N				No Restrictions		14	12	12	7	7	13	7	7	7	7		
5S	26th St	Bell Ave	Blanche Rd	No Restrictions		141.4	8	7	6	9	9	10	12	11	12		
6N				No Restrictions		7	6	6	10	8	9	9	9	9			
6S				No Parking 12-2pm Wednesday		30.8	2	2	2	1	1	2	2	2	2		
7N	25th St	N Blanche Rd	Flournoy Rd	No Parking 1-3 pm Tuesday		87.4	2	2	2	2	2	4	5	4			
7S				No Restrictions		11	10	11	10	10	9	9	7	9			
8N				No Restrictions		11	11	11	11	11	9	8	9	8			
8S	24th St	Manor Dr	The End	No Restrictions		54.1	7	7	7	7	6	5	6	5			
9				No Restrictions		193.6	3	2	2	8	7	8	8	9	9		
10N				No Parking This Side		5	5	4	4	5	4	4	5	4	5		No Parking in Front or Opposite garage & Carports
10S	26th St	Alma Ave	The End	No Parking 9am-11am Friday		4	2	2	3	3	3	3	3	3			
11S				No Parking This Side		0	0	0	0	0	0	0	0	0	0		
11N				No Parking 9am-11am Friday		2	2	2	2	2	2	2	2	2	2		
12N	24th St	GrandView Ave	Manor Dr	No Restrictions		0	0	0	0	0	0	0	0	0			
12S-1				2 Hours Parking 7 am-6pm		131	0	0	0	0	0	0	0	0	0		
12S-2				No Sign		0	0	0	0	0	0	0	0	0	0		
13N	24th St	Manor Dr	N Blanche Rd	No Restrictions		7	7	7	9	10	7	9	8	7			
13S				No Parking 12-2pm Friday		17	15	16	10	16	18	17	18	20			
1C-1				The End Bell Ave		93.9	1	2	2	2	3	4	4	4	4		
1C-2	Bell Ave	27th St	The End Bell Ave	No Restrictions		112	4	4	4	4	5	5	5	5			
1W				No Parking 4pm-6pm Tuesday		268.9	7	10	14	9	9	10	10	9	12		
2E-1				No Parking 1pm-3pm Tuesday		151.8	1	1	1	7	7	6	7	7	6		Zw=Green Zone =24 minute parking 7am to 6pm School days only
2E-2	27th St	Blanche Rd	The End Bell Ave	No Parking 1pm-3pm Tuesday		232.6	1	1	1	3	3	4	3	2	4	Zw=Green Zone =24 minute parking 7am to 6pm School days only	
2W				No Parking 4pm-6pm School Loading	White	156.6	0	0	0	1	2	1	0	0	0		Zw=Green Zone =24 minute parking 7am to 6pm School days only
2W				No Parking 4pm-6pm School Loading	Green	137	0	0	0	3	6	7	7	4	4		Zw=Green Zone =24 minute parking 7am to 6pm School days only
2W	Bell Ave/Blanche Rd	25th St	23rd St	No Parking 4pm-6pm School Loading	Regular	405.1	4	4	4	10	12	9	9	11	12	Zw=Green Zone =24 minute parking 7am to 6pm School days only	
3E				No Restrictions		95.4	3	3	3	3	2	3	2	2			
3W				No Parking This Side		0	0	0	0	0	0	0	0	0	0		
4E	Blanche Rd	30th St	29th St	No Signs		0	0	0	0	0	0	0	0	0			
4W				No Parking This Side		0	0	0	0	0	0	0	0	0	0		
5E				No Signs		0	0	0	0	0	0	0	0	0	0		
5W				No Parking This Side		0	0	0	0	0	0	0	0	0	0		
6E				No Signs		0	0	0	0	0	0	0	0	0	0		
6W				No Parking This Side		0	0	0	0	0	0	0	0	0	0		
7E	26th St	Bell Ave	The End	No Restrictions		2	2	2	3	3	2	3	3	1			
7W				No Parking This Side		0	0	0	0	0	0	0	0	0	0		
8E				No Parking During School hours 7am-5pm	Reg	10	7	5	5	9	9	9	7	9	9		
8E	Vista Dr	24th St	26th St	No Parking During School hours 7am-5pm	HC	1	0	0	0	1	1	0	0	1	0		
8W-1				No Parking This Street		0	0	0	0	0	0	0	0	0	0		
8W-2				No restrictions		0	0	0	0	0	0	0	0	0	0		
9E-1				No Parking This Street		0	0	0	0	0	0	0	0	0	0		
9E-2				No Parking This Street		0	0	0	0	0	0	0	0	0	0		
9W				No Parking This Street		0	0	0	0	0	0	0	0	0	0		
10E	GrandView Ave	24th St	23rd St	No Parking This Street	Reg	8	7	7	7	6	6	8	6	8			
10W-1				No Parking This Street		0	0	0	0	0	0	0	0	0	0		
10W-2				No Parking This Street		0	0	0	0	0	0	0	0	0	0		
11E	Manor Dr	23rd St	23rd St	No Parking Any time		0	0	0	0	0	0	0	0				
11W				No Parking Any time		0	0	0	0	0	0	0	0	0	0		

Parking Study

18-5801
Manhattan Beach

Date:
Day:

Street:	From	To	Restrictions	Space Type	Spaces/ Measurements (Ft)	Estimated Spaces	7:00 AM	7:30 AM	8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM
30th St	Blanche Rd	Flournoy Rd	No Restrictions			12	12	10	10	10	9	10	11	11	11
			No Restrictions			20	16	16	15	12	12	13	13	15	15
			No Restrictions			1	0	1	1	1	1	1	1	1	1
30th St	Blanche Rd	Flournoy Rd	No Restrictions			1	85%	82%	79%	70%	67%	73%	76%	82%	82%
			No Restrictions			16	9	8	8	7	5	3	4	3	4
29th St	Bell Ave	Blanche Rd	No Restrictions			13	5	4	4	4	7	6	6	6	6
			No Restrictions			17	6	5	5	6	6	6	6	6	6
29th St	Blanche Road	Flournoy Rd	No Restrictions			18	10	9	9	6	6	6	11	10	11
			No Restrictions			11	8	8	7	8	7	9	6	6	6
27th St	Bell Ave	Balnche Rd	No Restrictions			14	14	12	12	7	7	11	7	7	7
			No Restrictions			20	8	7	6	9	9	10	12	11	12
27th St	Blanche Rd	Flournoy Rd	No Restrictions			17	7	6	6	10	8	9	9	9	9
			No Restrictions			17	41%	35%	32%	51%	46%	51%	57%	54%	57%
26th St	Bell Ave	Blanche Rd	No Parking 12-2pm Wednesday		30.8	3	2	2	2	1	1	2	2	2	2
			No Parking 1-3 pm Tuesday		87.4	6	2	2	2	2	2	2	4	5	4
26th St	N Blanche Rd	Flournoy Rd	No Restrictions			17	44%	44%	44%	33%	33%	44%	67%	78%	67%
			No Restrictions			15	11	10	11	10	10	9	9	7	9
25th St	N Blanche Rd	23rd St	No Restrictions		54.1	4	7	7	7	7	6	5	6	6	5
			No Restrictions		193.6	13	3	2	2	8	7	8	8	9	9
24th Pl	Manor Dr	The End	No Parking This Side			5	5	5	4	4	5	4	4	5	4
			No Parking This Side			4	100%	100%	80%	80%	100%	80%	80%	100%	80%
26th St	Vista Dr	Alma Ave	No Parking 9am-11am Friday			4	4	2	2	3	3	3	3	3	3
			No Parking This Side			0	0	0	0	0	0	0	0	0	0
25th St	Vista Dr	Alma Ave	No Parking 9am-11am Friday			4	2	2	2	2	2	2	2	2	2
			No Parking this side			0	0	0	0	0	0	0	0	0	0
24th St	Manor Dr	N Blanche Rd	2 Hours Parking 7 am-6pm		131	8	6	5	5	7	5	5	6	5	
			No Restrictions			10	75%	63%	63%	88%	63%	63%	63%	75%	63%
24th St	GrandView Ave	Manor Dr	No Sign			10	0%	0%	0%	0%	0%	0%	0%	0%	
			No Parking 12-2pm Friday			20	0%	0%	0%	0%	0%	0%	0%	0%	0%
29th St	The End Bell Ave	27th St	No Restrictions		93.9	6	7	7	7	9	10	7	9	8	7
			No Parking 4pm-6pm Tuesday			24	17	15	16	10	16	18	17	18	20
27th St	Blanche Rd	26th St	No Parking 1pm-3pm Tuesday		151.8	10	80%	73%	77%	63%	87%	83%	87%	87%	90%
			No Parking 1pm-3pm Tuesday		232.6	15	1	2	2	2	3	4	4	4	4
27th St	24th St	24th St	No Parking 4pm-6pm School Loading	White	156.6	10	0	0	0	1	2	1	0	0	0
			No Parking 4pm-6pm School Loading	Green	137	9	0	0	0	3	6	7	7	4	4
25th St	23rd St	23rd Pl	No Restrictions	Regular	405.1	27	4	4	4	10	12	9	11	12	
			No Parking This Side			6	9%	9%	9%	30%	43%	37%	35%	33%	35%
30th St	29th St	29th St	No Signs			0	3	3	3	3	3	2	3	2	2
			No Parking This Side			0	0%	0%	0%	0%	0%	0%	0%	0%	0%
29th St	27th St	27th St	No Signs			0	0	0	0	0	0	0	0	0	0
			No Parking This Side			0	0	0	0	0	0	0	0	0	0
27th St	26th St	26th St	No Signs			0	0	0	0	0	0	0	0	0	0
			No Parking This Side			0	0	0	0	0	0	0	0	0	0
26th St	Bell Ave	Bell Ave	No Restrictions			4	0%	0%	0%	0%	0%	0%	0%	0%	
			No Parking This Side			0	0	0	0	0	0	0	0	0	0
24th St	26th St	26th St	No Parking During School hours 7am-5pm	Reg	10	7	7	7	7	7	6	6	8	8	
			No Parking During School hours 7am-5pm	HC	1	0	0	0	1	1	0	0	1	0	0
26th St	25th St	25th St	No Parking this street			0	64%	45%	45%	91%	91%	82%	64%	91%	82%
			No restrictions			0	0%	0%	0%	0%	0%	0%	0%	0%	0%
24th St	23rd Pl	23rd Pl	No Parking This Street			0	0%	0%	0%	0%	0%	0%	0%	0%	
			No Parking This Street			0	0%	0%	0%	0%	0%	0%	0%	0%	
23rd Pl	23rd St	23rd St	No Parking This Street			0	0%	0%	0%	0%	0%	0%	0%	0%	
			No Parking This Street			8	7	7	7	7	7	6	6	8	8
Grandview Ave	24th St	23rd Pl	No Parking This Street			88%	88%	88%	88%	75%	75%	100%	75%	100%	
			No Parking This Street			0%	0%	0%	0%	0%	0%	0%	0%	0%	
Manor Dr	23rd Pl	23rd Pl	No Parking Any time			0%	0%	0%	0%	0%	0%	0%	0%	0%	
			No Parking Any time			0%	0%	0%	0%	0%	0%	0%	0%	0%	

Parking Study

Location: 18-5801
 City: Manhattan Beach

Date: 12/13/2018
 Day: Thursday

TIME	Lot 001				Lot 002
	Regular - Staff	HC	Reserved	Visitor	Regular
Spaces	48	3	2	8	8
7:00 AM	11	1	0	0	5
7:30 AM	15	1	0	0	6
8:00 AM	17	1	0	0	5
8:30 AM	43	0	0	5	5
9:00 AM	46	2	1	6	5
9:30 AM	43	2	1	3	5
10:00 AM	43	2	1	3	5
10:30 AM	45	2	1	4	5
11:00 AM	46	2	1	2	5
Notes:					

Appendix D. Cumulative Projects Trip Generation

Appendices

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Cumulative Projects Trip Generation

Project Number	Project Name/ Address	Jurisdiction	Land Use	ITE Code	Unit Amount	Unit	Trip Generation ¹						
							Daily	AM Peak Hour			PM Peak Hour		
								In	Out	Total	In	Out	Total
A	2100 E El Segundo Bl	El Segundo	General Office Building, Warehouse, Light Industrial, Retail	-	75	TSF	3775	56	33	89	108	117	225
	455 Continental Blvd and 1955 E Grand Av	El Segundo	General Office Building	710	300	TSF	2922	299	49	348	55	290	345
							6697	355	82	437	163	407	570
B	3920 Highland Ave	Manhattan Beach	Multifamily Housing (Low-Rise)	220	2	DU	15	0	1	1	1	0	1
			Arts and Crafts Store	879	3	TSF	170	0	0	0	9	10	19
							185	0	1	1	10	10	20
C	700-860 S. Sepulveda Bl 2001-2015 E. Park Pl., and 700- 740 Allied Way	El Segundo	Shopping Center	820	19	TSF	712	11	7	18	35	37	72
D	1700 Rosecrans Ave	Manhattan Beach	Fast Casual Restaurant	930	0.98	TSF	307	1	1	2	8	6	14
	2120 E Rosecrans Av	El Segundo	(Existing Grocery Store)	850	0.6	TSF	(64)	(1)	(1)	(2)	(3)	(3)	(6)
			243	0	0	0	5	3	8				
			General Office Building	710	306	TSF	2,980	305	50	355	56	296	352
			Discount Club	857	7	TSF	293	2	1	3	15	15	29
			3,273	308	51	358	71	310	381				
	3,516	308	50	358	76	313	389						
E	2205 Sepulveda Bl	Manhattan Beach	General Office Building	-	4.70	TSF	52	6	1	7	1	6	7
			(Existing Hair Salon)	-	1.04	TSF	(20)	(1)	(0)	(1)	(0)	(2)	(2)
			32	5	1	6	1	4	5				
F	516 N. Sepulveda Bl.	Manhattan Beach	General Office Building	710	10.9	TSF	106	11	2	13	2	11	13
			(Existing Restaurant)	930	10.9	TSF	(3435)	(15)	(8)	(23)	(85)	(70)	(154)
			(3329)	(4)	(6)	(10)	(83)	(59)	(141)				
	1214 Tennyson St	Manhattan Beach	Multifamily Housing (Low-Rise)	220	11	DU	81	1	4	5	4	2	6

			(Existing Multifamily Housing Low-Rise)	220	8	DU	(59)	(1)	(3)	(4)	(3)	(2)	(5)
							22	0	1	1	1	0	1
	250-400 N. Sepulveda Bl.	Manhattan Beach	Senior Living Community	253	111	DU	(587)	2	2	4	(26)	(18)	(44)
	330 S. Sepulveda Bl	Manhattan Beach	General Office Building	710	20.3	TSF	(83)	27	(2)	25	(9)	16	7
	305 S. Sepulveda Bl	Manhattan Beach	Office	-	37.2	TSF	174	44	2	46	1	36	37
	707 N. Sepulveda Bl.	Manhattan Beach	Supermakret	-	27.5	TSF	1,596	39	24	63	80	77	157
			Restaurant	-	52	Seats	1,489	90	59	149	36	21	57
			Bank	-	7	TSF	840	23	10	33	30	38	68
			(Existing Automobile Care)	-	31.7	TSF	(807)	(60)	(31)	(91)	(60)	(65)	(125)
							3,118	92	62	154	86	71	157
	1000 N. Sepulveda Bl.	Manhattan Beach	Medical Office Building	-	23	TSF	833	43	12	55	23	59	82
			Pharmacy	-	0.665	TSF	60	1	1	2	3	3	6
			Coffee Shop	-	1.72	TSF	1,860	95	95	186	35	35	70
			(Existing Restaurant)	-	5.4	TSF	(687)	(32)	(26)	(58)	(32)	(21)	(53)
							2,066	107	82	185	29	76	105
	2901 Pacific Coast Hwy	Manhattan Beach	General Office Building	-	1221	TSF	1,221	182	26	208	38	172	210
							2,602	450	167	613	37	294	332
G	1701 Artesia Bl	Manhattan Beach	Multifamily Housing (Low-Rise)	220	7	DU	51	1	2	3	2	2	4
			Medical -Dental Office Building	720	3	TSF	104	7	2	9	3	7	10
							156	8	4	12	5	9	14
Total Cumulative Projects Trip Generation:							13,899	1,137	313	1,445	326	1,075	1,402

¹ Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.

² Low-Rise Apartment assumed

³ No Sunday Peak Hour rates for Land Use, 933. Assume Saturday Peak Hour rates

⁴ DU= Dwelling Units, TSF= Thousand Square Feet

Appendix E. Intersection Volumes, Delay, and LOS Calculation Outputs, 2023 No Project Conditions

Appendices

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Vistro File: Q:\...\Grandview.vistro
 Report File: Q:\...\2023NP-AM.pdf

Scenario 5 2023NP-AM
 1/24/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Highland Ave at 24th St	Two-way stop	HCM 2010	WB Left	0.006	26.4	D
2	Highland Ave at Marine Ave	Signalized	ICU 1	NB Thru	0.707	-	C
3	Vista Dr at 24th St	All-way stop	HCM 2010	WB Thru	0.265	8.5	A
4	Manor Dr at 24th St	All-way stop	HCM 2010	EB Left	0.234	8.3	A
5	Bell Ave at 27th St	All-way stop	HCM 2010	WB Left	0.088	7.4	A
6	Bell Ave at 26th St	Two-way stop	HCM 2010	WB Left	0.003	8.5	A
7	Blanche Rd at Rosecrans Ave	Signalized	ICU 1	WB Thru	0.570	-	A
8	Blanche Rd at 27th St	All-way stop	HCM 2010	NB Thru	0.484	10.3	B
9	Blanche Rd at Bell Ave	Two-way stop	HCM 2010	SB Left	0.011	12.3	B
10	Blanche Rd at 25th St	All-way stop	HCM 2010	NB Thru	0.498	10.5	B
11	Blanche Rd at 24th St	All-way stop	HCM 2010	NB Thru	0.499	10.5	B
12	Blanche Rd at Marine Ave	All-way stop	HCM 2010	NB Thru	0.509	11.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Highland Ave at 24th St

Control Type:	Two-way stop	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Highland Ave		Highland Ave		24th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Highland Ave		Highland Ave		24th St	
Base Volume Input [veh/h]	751	19	24	355	1	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	23	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	782	20	25	389	1	32
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	202	5	6	101	0	8
Total Analysis Volume [veh/h]	810	21	26	403	1	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.00	0.01	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	9.64	0.00	26.43	15.63
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.10	0.31	0.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.51	2.51	7.70	7.70
d_A, Approach Delay [s/veh]	0.00		0.58		15.95	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: Highland Ave at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←↑↑			←↑↑			↑↑→			↑↑→		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	89	719	47	25	332	4	20	57	73	66	30	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	749	48	26	365	4	21	59	75	68	31	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	187	12	7	91	1	5	15	19	17	8	5
Total Analysis Volume [veh/h]	92	749	48	26	365	4	21	59	75	68	31	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.50	0.50	0.02	0.23	0.23	0.01	0.05	0.05	0.04	0.06	0.01
Intersection LOS	C											
Intersection V/C	0.707											

Intersection Level Of Service Report
Intersection 3: Vista Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 8.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.265

Intersection Setup

Name	Vista Dr			Vista Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Vista Dr			Vista Dr			24th St			24th St		
Base Volume Input [veh/h]	2	20	6	0	0	0	10	73	0	0	92	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	21	6	0	0	0	10	75	0	0	95	19
Peak Hour Factor	0.4980	0.4980	0.4980	1.0000	1.0000	1.0000	0.4980	0.4980	0.4980	0.4980	0.4980	0.4980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	3	0	0	0	5	38	0	0	48	10
Total Analysis Volume [veh/h]	4	42	12	0	0	0	20	151	0	0	191	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	768		831	866
Degree of Utilization, x	0.08		0.21	0.26

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.24		0.77	1.06
95th-Percentile Queue Length [ft]	6.11		19.25	26.62
Approach Delay [s/veh]	8.07	0.00	8.45	8.65
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.50			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Manor Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 8.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.234

Intersection Setup

Name	Manor Dr			Manor Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕						⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Manor Dr			Manor Dr			24th St			24th St		
Base Volume Input [veh/h]	2	34	4	0	0	0	60	42	3	4	27	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	35	4	0	0	0	62	43	3	4	28	84
Peak Hour Factor	0.5630	0.5630	0.5630	1.0000	1.0000	1.0000	0.5630	0.5630	0.5630	0.5630	0.5630	0.5630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	16	2	0	0	0	28	19	1	2	12	37
Total Analysis Volume [veh/h]	4	62	7	0	0	0	110	76	5	7	50	149
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	761		816	924
Degree of Utilization, x	0.10		0.23	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32		0.91	0.85
95th-Percentile Queue Length [ft]	7.93		22.67	21.31
Approach Delay [s/veh]	8.23	0.00	8.76	8.01
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.35			
Intersection LOS	A			

**Intersection Level Of Service Report
Intersection 5: Bell Ave at 27th St**

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 7.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.088

Intersection Setup

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Base Volume Input [veh/h]	0	23	35	5	20	0	0	0	0	29	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	24	36	5	21	0	0	0	0	30	0	1
Peak Hour Factor	0.7980	0.7980	0.7980	0.7980	0.7980	0.7980	1.0000	1.0000	1.0000	0.7980	0.7980	0.7980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	11	2	7	0	0	0	0	9	0	0
Total Analysis Volume [veh/h]	0	30	45	6	26	0	0	0	0	38	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	775	852	850		828
Degree of Utilization, x	0.00	0.09	0.04		0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.29	0.12		0.15
95th-Percentile Queue Length [ft]	0.00	7.22	2.93		3.70
Approach Delay [s/veh]	7.33		7.40	0.00	7.57
Approach LOS	A		A	A	A
Intersection Delay [s/veh]	7.41				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 6: Bell Ave at 26th St

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Bell Ave		Bell Ave		26th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↷	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bell Ave		Bell Ave		26th St	
Base Volume Input [veh/h]	0	3	0	0	2	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.03	1.00	1.00	1.03	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	0	0	2	0
Peak Hour Factor	0.6480	0.6480	0.6480	0.6480	0.6480	0.6480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	1	0
Total Analysis Volume [veh/h]	0	5	0	0	3	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.54	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.22	0.22
d_A, Approach Delay [s/veh]	0.00		3.61		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Blanche Rd at Rosecrans Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Base Volume Input [veh/h]	196	132	580	37	48	783
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	91	0	0	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	202	136	689	38	49	829
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	34	172	10	12	207
Total Analysis Volume [veh/h]	202	136	689	38	49	829
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.21	0.22	0.02	0.03	0.26
Intersection LOS	A					
Intersection V/C	0.570					

Intersection Level Of Service Report
Intersection 8: Blanche Rd at 27th St

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Base Volume Input [veh/h]	2	281	7	5	85	17	35	4	2	10	11	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	290	7	5	88	18	36	4	2	10	11	8
Peak Hour Factor	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	97	2	2	29	6	12	1	1	3	4	3
Total Analysis Volume [veh/h]	3	388	9	7	118	24	48	5	3	13	15	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	827	793	669	697
Degree of Utilization, x	0.48	0.19	0.08	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.68	0.69	0.27	0.18
95th-Percentile Queue Length [ft]	66.91	17.21	6.82	4.44
Approach Delay [s/veh]	11.36	8.59	8.87	8.47
Approach LOS	B	A	A	A
Intersection Delay [s/veh]	10.33			
Intersection LOS	B			

**Intersection Level Of Service Report
Intersection 9: Blanche Rd at Bell Ave**

Control Type: Two-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 12.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Base Volume Input [veh/h]	0	75	250	5	40	0	1	0	0	99	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	77	258	5	41	0	1	0	0	102	0	2
Peak Hour Factor	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	84	2	13	0	0	0	0	33	0	1
Total Analysis Volume [veh/h]	0	100	335	6	53	0	1	0	0	132	0	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Stop	Free	Stop
Flared Lane		No		No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.21	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	12.32	10.83	9.91	7.78	8.20	0.00	12.31	12.65	11.24
Movement LOS	A	A	A	B	B	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.29	0.29	0.29	0.00	0.00	0.00	0.81	0.81	0.81
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	7.33	7.33	7.33	0.06	0.06	0.06	20.26	20.26	20.26
d_A, Approach Delay [s/veh]	0.00			10.99			7.78			12.29		
Approach LOS	A			B			A			B		
d_I, Intersection Delay [s/veh]	3.67											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Blanche Rd at 25th St

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.498

Intersection Setup

Name	Blanche Rd		Blanche Rd		25th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		25th St	
Base Volume Input [veh/h]	304	10	7	132	19	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	313	10	7	136	20	22
Peak Hour Factor	0.7690	0.7690	0.7690	0.7690	0.7690	0.7690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	3	2	44	7	7
Total Analysis Volume [veh/h]	407	13	9	177	26	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	844	797	715
Degree of Utilization, x	0.50	0.23	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.82	0.90	0.25
95th-Percentile Queue Length [ft]	70.53	22.58	6.23
Approach Delay [s/veh]	11.41	8.89	8.46
Approach LOS	B	A	A
Intersection Delay [s/veh]	10.46		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 11: Blanche Rd at 24th St

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Blanche Rd		Blanche Rd		24th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		24th St	
Base Volume Input [veh/h]	47	255	108	68	27	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	263	111	70	28	22
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	87	37	23	9	7
Total Analysis Volume [veh/h]	63	346	146	92	37	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	819	834	693
Degree of Utilization, x	0.50	0.29	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.84	1.18	0.31
95th-Percentile Queue Length [ft]	70.92	29.49	7.86
Approach Delay [s/veh]	11.70	9.03	8.74
Approach LOS	B	A	A
Intersection Delay [s/veh]	10.54		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 12: Blanche Rd at Marine Ave

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	67	229	8	2	124	17	44	25	136	7	38	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	1	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	236	8	2	128	18	45	27	140	7	39	8
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	68	2	1	37	5	13	8	41	2	11	2
Total Analysis Volume [veh/h]	80	273	9	2	148	21	52	31	162	8	45	9
Pedestrian Volume [ped/h]	0			0			0			0		

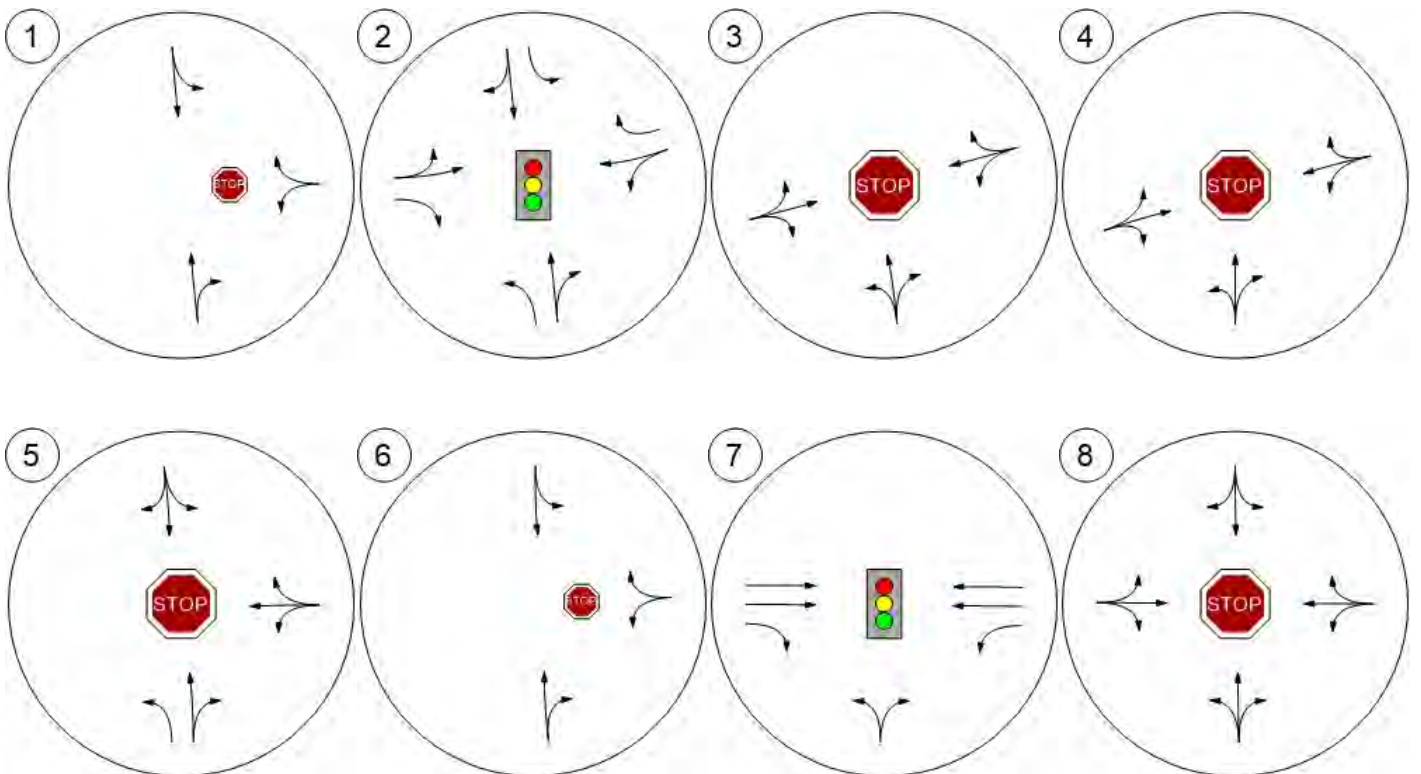
Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	712	689	709	633
Degree of Utilization, x	0.51	0.25	0.35	0.10

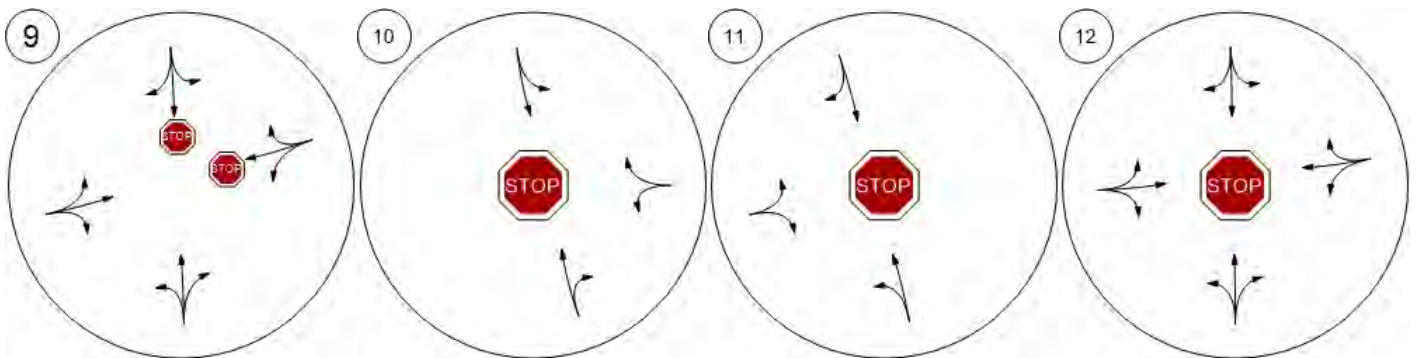
Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.91	0.98	1.54	0.32
95th-Percentile Queue Length [ft]	72.76	24.42	38.58	8.11
Approach Delay [s/veh]	13.17	9.95	10.74	9.31
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	11.52			
Intersection LOS	B			

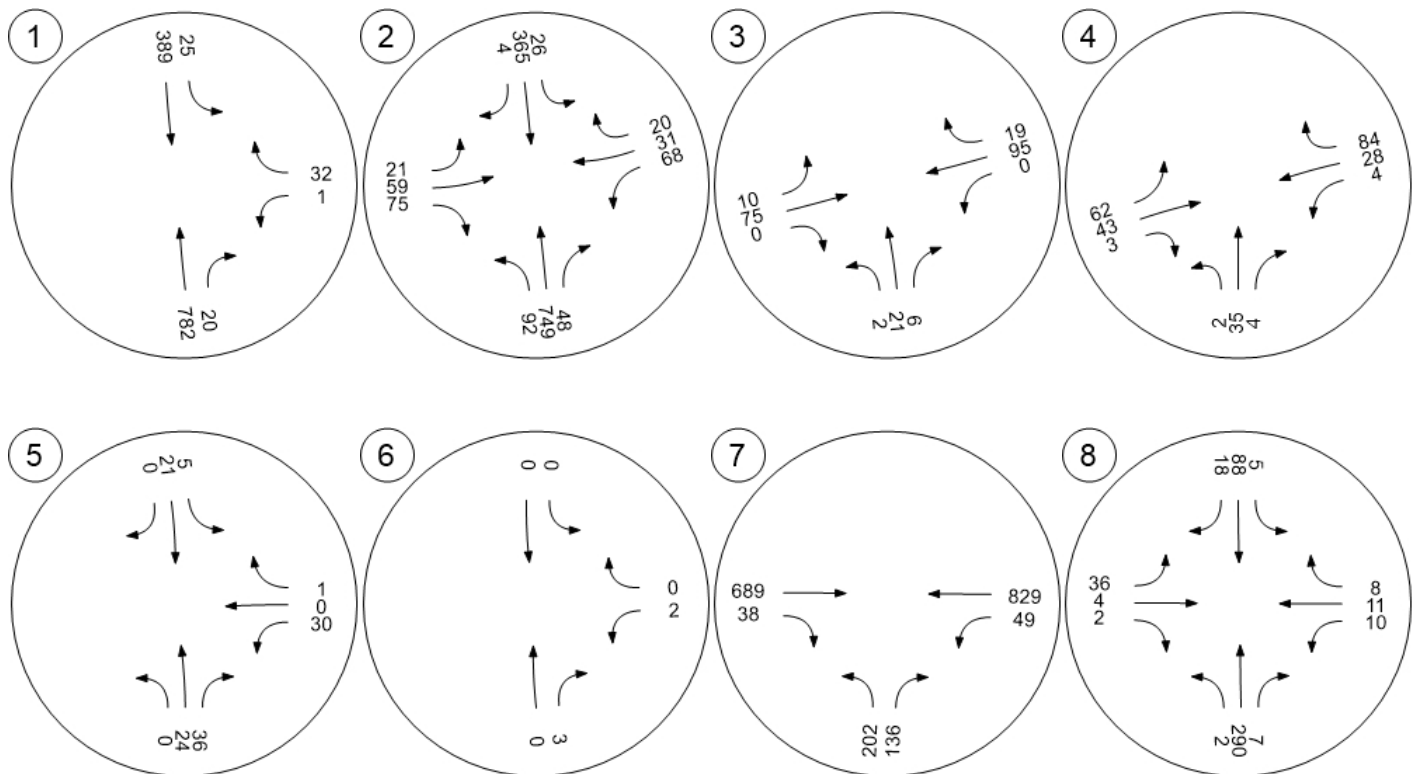
Lane Configuration and Traffic Control



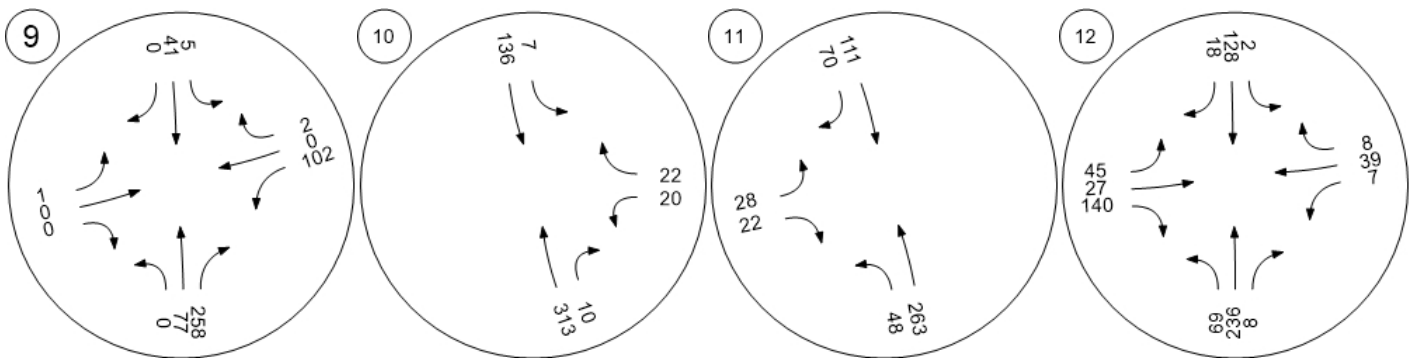
Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



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Report File: Q:\...\2023NP-PM.pdf

Scenario 4 2023NP-PM
1/24/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Highland Ave at 24th St	Two-way stop	HCM 2010	WB Left	0.022	31.8	D
2	Highland Ave at Marine Ave	Signalized	ICU 1	SB Right	0.797	-	C
3	Vista Dr at 24th St	All-way stop	HCM 2010	WB Thru	0.143	7.7	A
4	Manor Dr at 24th St	All-way stop	HCM 2010	EB Thru	0.140	7.5	A
5	Bell Ave at 27th St	All-way stop	HCM 2010	NB Left	0.072	7.5	A
6	Bell Ave at 26th St	Two-way stop	HCM 2010	WB Left	0.001	9.8	A
7	Blanche Rd at Rosecrans Ave	Signalized	ICU 1	WB Thru	0.473	-	A
8	Blanche Rd at 27th St	All-way stop	HCM 2010	SB Thru	0.231	8.4	A
9	Blanche Rd at Bell Ave	Two-way stop	HCM 2010	WB Left	0.231	11.4	B
10	Blanche Rd at 25th St	All-way stop	HCM 2010	SB Thru	0.282	8.6	A
11	Blanche Rd at 24th St	All-way stop	HCM 2010	SB Thru	0.285	8.6	A
12	Blanche Rd at Marine Ave	All-way stop	HCM 2010	NB Thru	0.341	10.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Highland Ave at 24th St

Control Type:	Two-way stop	Delay (sec / veh):	31.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Highland Ave		Highland Ave		24th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Highland Ave		Highland Ave		24th St	
Base Volume Input [veh/h]	507	13	8	823	3	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	0	6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	542	13	8	855	3	19
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	3	2	222	1	5
Total Analysis Volume [veh/h]	563	13	8	888	3	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.02	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	8.64	0.00	31.82	12.51
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.61	0.61	4.79	4.79
d_A, Approach Delay [s/veh]	0.00		0.08		15.03	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: Highland Ave at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

Intersection Setup

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←↑↑			←↑↑			↑↑←			↑↑←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	38	467	49	30	786	5	12	50	174	75	24	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	1	5	0	0	0	0	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	499	51	32	815	5	12	52	179	77	25	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	125	13	8	204	1	3	13	45	19	6	6
Total Analysis Volume [veh/h]	39	499	51	32	815	5	12	52	179	77	25	23
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.34	0.34	0.02	0.51	0.51	0.01	0.04	0.11	0.05	0.06	0.01
Intersection LOS	C											
Intersection V/C	0.797											

Intersection Level Of Service Report
Intersection 3: Vista Dr at 24th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.7
Level Of Service: A
Volume to Capacity (v/c): 0.143

Intersection Setup

Name	Vista Dr			Vista Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕						⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Vista Dr			Vista Dr			24th St			24th St		
Base Volume Input [veh/h]	0	24	1	0	0	0	10	43	0	1	65	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	25	1	0	0	0	10	44	0	1	67	12
Peak Hour Factor	0.6290	0.6290	0.6290	1.0000	1.0000	1.0000	0.6290	0.6290	0.6290	0.6290	0.6290	0.6290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	0	0	0	0	4	17	0	0	27	5
Total Analysis Volume [veh/h]	0	40	2	0	0	0	16	70	0	2	107	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	826		859	893
Degree of Utilization, x	0.05		0.10	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.16		0.33	0.50
95th-Percentile Queue Length [ft]	4.01		8.31	12.48
Approach Delay [s/veh]	7.59	0.00	7.65	7.70
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.67			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Manor Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 7.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.140

Intersection Setup

Name	Manor Dr			Manor Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Manor Dr			Manor Dr			24th St			24th St		
Base Volume Input [veh/h]	3	8	1	0	0	0	29	60	2	2	25	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	1	0	0	0	30	62	2	2	26	31
Peak Hour Factor	0.7640	0.7640	0.7640	1.0000	1.0000	1.0000	0.7640	0.7640	0.7640	0.7640	0.7640	0.7640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	0	0	0	0	10	20	1	1	9	10
Total Analysis Volume [veh/h]	4	10	1	0	0	0	39	81	3	3	34	41
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	825		881	954
Degree of Utilization, x	0.02		0.14	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06		0.48	0.27
95th-Percentile Queue Length [ft]	1.39		12.11	6.67
Approach Delay [s/veh]	7.44	0.00	7.75	7.11
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.50			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: Bell Ave at 27th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.5
Level Of Service: A
Volume to Capacity (v/c): 0.072

Intersection Setup

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Bell Ave			Bell Ave			Looped Parking Lot			27th St		
Base Volume Input [veh/h]	21	22	30	8	16	0	0	0	0	39	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	23	31	8	16	0	0	0	0	40	0	6
Peak Hour Factor	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	1.0000	1.0000	1.0000	0.8880	0.8880	0.8880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	9	2	5	0	0	0	0	11	0	2
Total Analysis Volume [veh/h]	25	26	35	9	18	0	0	0	0	45	0	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	843	836		841
Degree of Utilization, x	0.04	0.07	0.03		0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.23	0.10		0.20
95th-Percentile Queue Length [ft]	2.79	5.84	2.50		4.93
Approach Delay [s/veh]	7.52		7.45	0.00	7.56
Approach LOS	A		A	A	A
Intersection Delay [s/veh]	7.52				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 6: Bell Ave at 26th St

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bell Ave		Bell Ave		26th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bell Ave		Bell Ave		26th St	
Base Volume Input [veh/h]	65	15	29	57	1	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.03	1.00	1.00	1.03	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	15	29	57	1	6
Peak Hour Factor	0.8850	0.8850	0.8850	0.8850	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	4	8	16	0	2
Total Analysis Volume [veh/h]	73	17	33	64	1	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	9.77	8.71
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.68	1.68	0.64	0.64
d_A, Approach Delay [s/veh]	0.00		2.53		8.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.62					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Blanche Rd at Rosecrans Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Base Volume Input [veh/h]	48	49	670	92	131	767
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	34	0	0	95
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	51	725	95	135	886
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	13	181	24	34	222
Total Analysis Volume [veh/h]	49	51	725	95	135	886
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.23	0.06	0.08	0.28
Intersection LOS	A					
Intersection V/C	0.473					

**Intersection Level Of Service Report
Intersection 8: Blanche Rd at 27th St**

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.231

Intersection Setup

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Base Volume Input [veh/h]	5	132	6	10	138	17	16	13	11	6	8	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	136	6	10	142	18	16	13	11	6	8	10
Peak Hour Factor	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	39	2	3	41	5	5	4	3	2	2	3
Total Analysis Volume [veh/h]	6	157	7	12	163	21	18	15	13	7	9	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	838	849	768	783
Degree of Utilization, x	0.20	0.23	0.06	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.76	0.89	0.19	0.11
95th-Percentile Queue Length [ft]	18.94	22.27	4.77	2.78
Approach Delay [s/veh]	8.39	8.51	7.99	7.77
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.36			
Intersection LOS	A			

**Intersection Level Of Service Report
Intersection 9: Blanche Rd at Bell Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.231

Intersection Setup

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Base Volume Input [veh/h]	0	63	119	3	67	1	2	0	0	149	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	65	123	3	69	1	2	0	0	154	0	2
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	34	1	19	0	1	0	0	42	0	1
Total Analysis Volume [veh/h]	0	72	136	3	76	1	2	0	0	170	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Stop	Free	Stop
Flared Lane		No		No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.23	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.35	10.12	9.31	7.50	7.64	0.00	11.38	11.81	10.46
Movement LOS	A	A	A	B	B	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.34	0.34	0.34	0.00	0.00	0.00	0.90	0.90	0.90
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	8.50	8.50	8.50	0.10	0.10	0.10	22.57	22.57	22.57
d_A, Approach Delay [s/veh]	0.00			10.12			7.50			11.37		
Approach LOS	A			B			A			B		
d_I, Intersection Delay [s/veh]	6.02											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Blanche Rd at 25th St

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	Blanche Rd		Blanche Rd		25th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		25th St	
Base Volume Input [veh/h]	157	9	9	209	7	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	9	9	215	7	24
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	2	2	58	2	6
Total Analysis Volume [veh/h]	174	10	10	231	8	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	853	856	812
Degree of Utilization, x	0.22	0.28	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.82	1.16	0.13
95th-Percentile Queue Length [ft]	20.43	28.96	3.27
Approach Delay [s/veh]	8.38	8.85	7.63
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.57		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Blanche Rd at 24th St

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name	Blanche Rd		Blanche Rd		24th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		24th St	
Base Volume Input [veh/h]	15	132	182	34	34	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	136	188	35	35	41
Peak Hour Factor	0.9180	0.9180	0.9180	0.9180	0.9180	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	37	51	10	10	11
Total Analysis Volume [veh/h]	16	148	205	38	38	45
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	817	853	784
Degree of Utilization, x	0.20	0.28	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.75	1.18	0.35
95th-Percentile Queue Length [ft]	18.68	29.43	8.85
Approach Delay [s/veh]	8.51	8.90	8.14
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.64		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 12: Blanche Rd at Marine Ave

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	83	131	6	9	201	22	24	49	126	8	33	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	3	0	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	135	6	9	207	23	25	54	130	8	37	5
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	35	2	2	54	6	7	14	34	2	10	1
Total Analysis Volume [veh/h]	90	141	6	9	216	24	26	56	136	8	39	5
Pedestrian Volume [ped/h]	0			0			0			0		

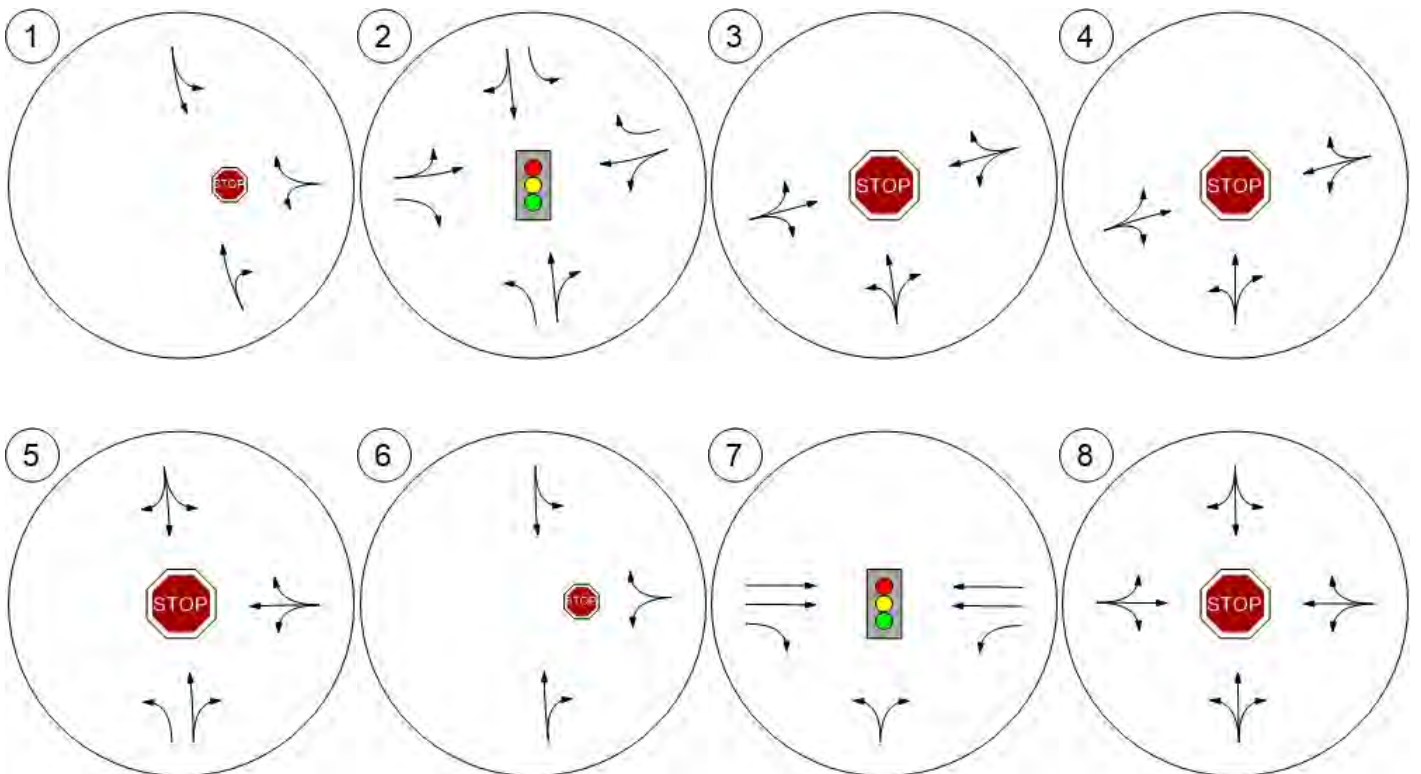
Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	712	730	735	655
Degree of Utilization, x	0.33	0.34	0.30	0.08

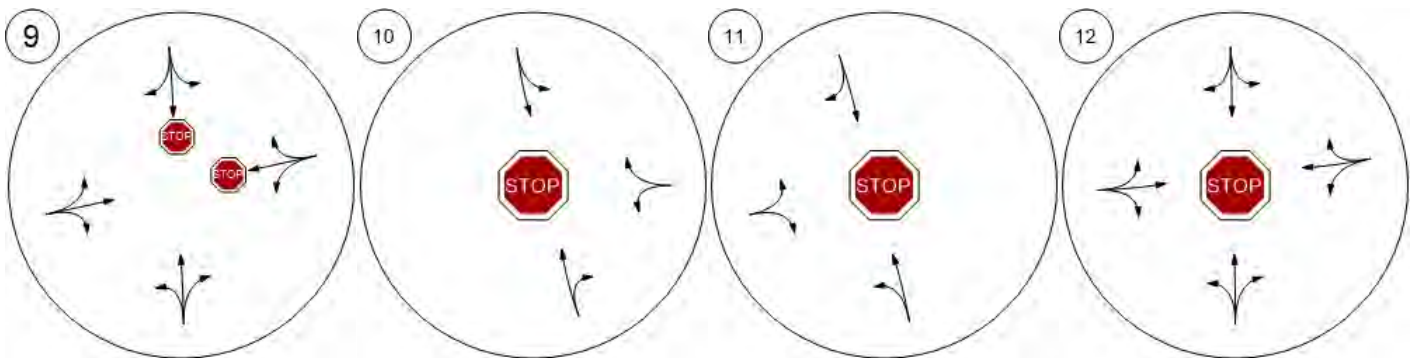
Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.46	1.51	1.24	0.26
95th-Percentile Queue Length [ft]	36.48	37.87	31.08	6.45
Approach Delay [s/veh]	10.55	10.46	9.96	8.97
Approach LOS	B	B	A	A
Intersection Delay [s/veh]	10.24			
Intersection LOS	B			

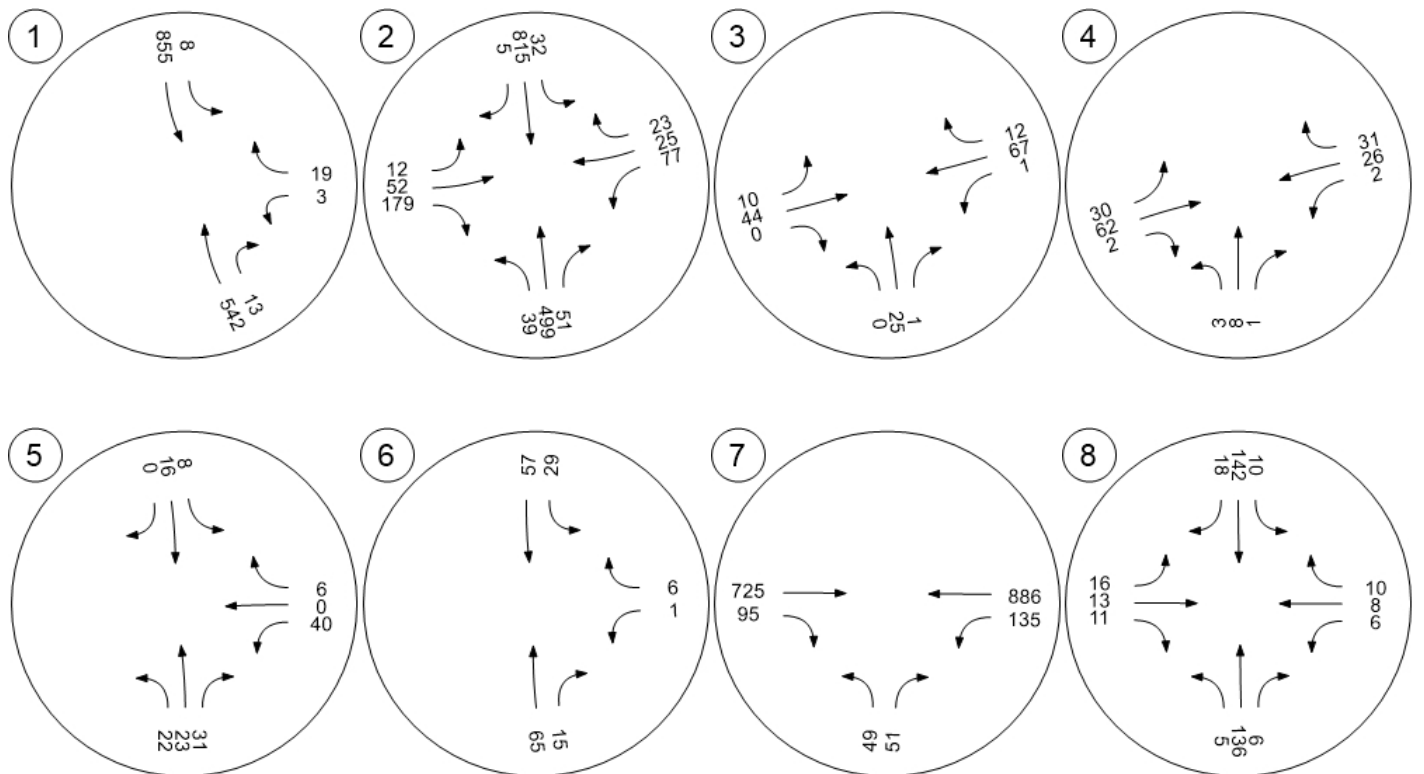
Lane Configuration and Traffic Control



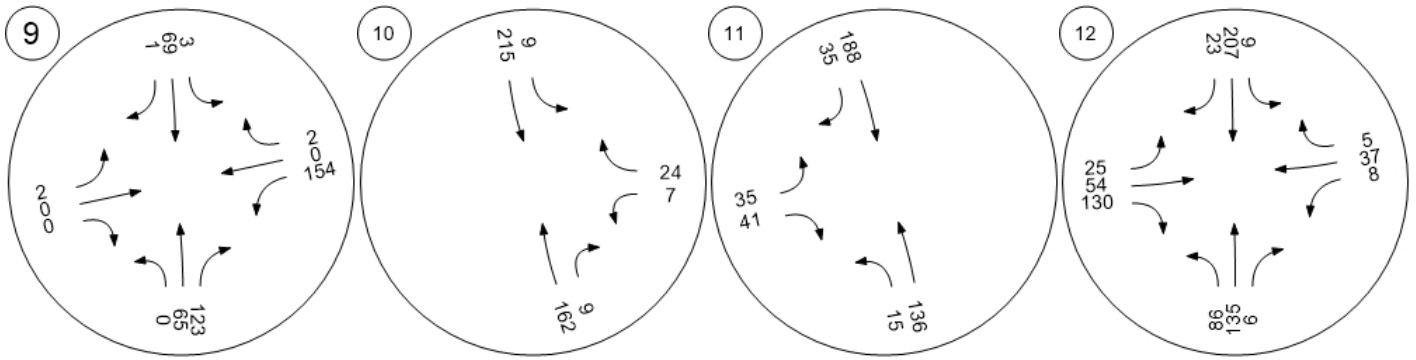
Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



Appendix F. Intersection Volumes, Delay, and LOS Calculation Outputs, 2023 Plus Project Conditions

Appendices

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Vistro File: Q:\...\Grandview_FS.vistro
Report File: Q:\...\2023WP-AM.pdf

Scenario 6 2023WP-AM
2/21/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Highland Ave at 24th St	Two-way stop	HCM 2010	WB Left	0.006	27.5	D
2	Highland Ave at Marine Ave	Signalized	ICU 1	NB Thru	0.712	-	C
3	Vista Dr at 24th St	All-way stop	HCM 2010	WB Thru	0.304	8.8	A
4	Manor Dr at 24th St	All-way stop	HCM 2010	EB Left	0.273	8.7	A
5	Bell Ave at 27th St	All-way stop	HCM 2010	NB U-T	0.097	7.6	A
6	Bell Ave at 26th St	Two-way stop	HCM 2010	WB Left	0.004	9.2	A
7	Blanche Rd at Rosecrans Ave	Signalized	ICU 1	WB Thru	0.580	-	A
8	Blanche Rd at 27th St	All-way stop	HCM 2010	NB Thru	0.505	10.8	B
9	Blanche Rd at Bell Ave	Two-way stop	HCM 2010	WB Left	0.251	14.2	B
10	Blanche Rd at 25th St	All-way stop	HCM 2010	NB Thru	0.575	11.7	B
11	Blanche Rd at 24th St	All-way stop	HCM 2010	NB Thru	0.558	11.6	B
12	Blanche Rd at Marine Ave	All-way stop	HCM 2010	NB Thru	0.537	12.2	B
127	New Intersection	Signalized	ICU 1		0.111	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Highland Ave at 24th St

Control Type:	Two-way stop	Delay (sec / veh):	27.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Highland Ave		Highland Ave		24th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Highland Ave		Highland Ave		24th St	
Base Volume Input [veh/h]	751	19	24	355	1	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	9	23	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	782	20	34	389	1	39
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	202	5	9	101	0	10
Total Analysis Volume [veh/h]	810	21	35	403	1	40
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.00	0.01	0.11
d_M, Delay for Movement [s/veh]	0.00	0.00	9.70	0.00	27.50	15.86
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.14	0.14	0.38	0.38
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.42	3.42	9.43	9.43
d_A, Approach Delay [s/veh]	0.00		0.77		16.14	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.76					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 2: Highland Ave at Marine Ave**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵			↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	89	719	47	25	332	4	20	57	73	66	30	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	4	0	23	0	0	0	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	749	52	26	365	4	21	59	75	72	31	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	187	13	7	91	1	5	15	19	18	8	5
Total Analysis Volume [veh/h]	92	749	52	26	365	4	21	59	75	72	31	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.50	0.50	0.02	0.23	0.23	0.01	0.05	0.05	0.05	0.06	0.01
Intersection LOS	C											
Intersection V/C	0.712											

Intersection Level Of Service Report
Intersection 3: Vista Dr at 24th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 8.8
Level Of Service: A
Volume to Capacity (v/c): 0.304

Intersection Setup

Name	Vista Dr			Vista Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Vista Dr			Vista Dr			24th St			24th St		
Base Volume Input [veh/h]	2	20	6	0	0	0	10	73	0	0	92	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	9	0	4	7	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	21	14	0	0	0	10	84	0	4	102	23
Peak Hour Factor	0.4980	0.4980	0.4980	1.0000	1.0000	1.0000	0.4980	0.4980	0.4980	0.4980	0.4980	0.4980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	7	0	0	0	5	42	0	2	51	12
Total Analysis Volume [veh/h]	4	42	28	0	0	0	20	169	0	8	205	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	766		817	853
Degree of Utilization, x	0.10		0.23	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32		0.89	1.29
95th-Percentile Queue Length [ft]	7.99		22.32	32.16
Approach Delay [s/veh]	8.20	0.00	8.73	9.05
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.81			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Manor Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 8.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.273

Intersection Setup

Name	Manor Dr			Manor Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Manor Dr			Manor Dr			24th St			24th St		
Base Volume Input [veh/h]	2	34	4	0	0	0	60	42	3	4	27	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	17	0	0	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	35	4	0	0	0	62	60	3	4	43	84
Peak Hour Factor	0.5630	0.5630	0.5630	1.0000	1.0000	1.0000	0.5630	0.5630	0.5630	0.5630	0.5630	0.5630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	16	2	0	0	0	28	27	1	2	19	37
Total Analysis Volume [veh/h]	4	62	7	0	0	0	110	107	5	7	76	149
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	741		812	904
Degree of Utilization, x	0.10		0.27	0.26

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.33		1.11	1.02
95th-Percentile Queue Length [ft]	8.16		27.81	25.58
Approach Delay [s/veh]	8.39	0.00	9.10	8.35
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.67			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: Bell Ave at 27th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 7.6
 Level Of Service: A
 Volume to Capacity (v/c): 0.097

Intersection Setup

Name	Bell Ave				Bell Ave			Looped Parking Lot			27th St		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	No				Yes			No			No		

Volumes

Name	Bell Ave				Bell Ave			Looped Parking Lot			27th St		
Base Volume Input [veh/h]	21	0	0	35	0	0	0	0	0	0	29	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.00	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.03	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	29	0	4	0	0	0	0	34	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	0	4	65	0	4	0	0	0	0	64	0	0
Peak Hour Factor	0.798	0.798	1.000	0.798	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7980	0.7980	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	1	20	0	1	0	0	0	0	20	0	0
Total Analysis Volume [veh/h]	28	0	4	81	0	4	0	0	0	0	80	0	0
Pedestrian Volume [ped/h]	0				0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	689	887	830		821
Degree of Utilization, x	0.04	0.10	0.00		0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.13	0.32	0.01		0.32
95th-Percentile Queue Length [ft]	3.17	7.92	0.36		8.07
Approach Delay [s/veh]	7.43		7.36	0.00	7.86
Approach LOS	A		A	A	A
Intersection Delay [s/veh]	7.60				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 6: Bell Ave at 26th St

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Bell Ave		Bell Ave		26th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bell Ave		Bell Ave		26th St	
Base Volume Input [veh/h]	0	3	0	0	2	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.03	1.00	1.00	1.03	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	0	0	41	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	3	0	41	2	0
Peak Hour Factor	0.6480	0.6480	0.6480	0.6480	0.6480	0.6480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	1	0	16	1	0
Total Analysis Volume [veh/h]	73	5	0	63	3	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	9.23	8.67
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.26	0.26
d_A, Approach Delay [s/veh]	0.00		0.00		9.23	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Blanche Rd at Rosecrans Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Base Volume Input [veh/h]	196	132	580	37	48	783
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	7	91	10	9	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	143	689	48	58	829
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	36	172	12	15	207
Total Analysis Volume [veh/h]	210	143	689	48	58	829
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.22	0.22	0.03	0.04	0.26
Intersection LOS	A					
Intersection V/C	0.580					

Intersection Level Of Service Report
Intersection 8: Blanche Rd at 27th St

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

Intersection Setup

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Base Volume Input [veh/h]	2	281	7	5	85	17	35	4	2	10	11	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	30	25	4	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	290	7	5	88	48	61	8	2	10	15	8
Peak Hour Factor	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480	0.7480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	97	2	2	29	16	20	3	1	3	5	3
Total Analysis Volume [veh/h]	3	388	9	7	118	64	82	11	3	13	20	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	792	783	652	669
Degree of Utilization, x	0.51	0.24	0.15	0.07

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.89	0.94	0.51	0.21
95th-Percentile Queue Length [ft]	72.26	23.60	12.86	5.27
Approach Delay [s/veh]	12.09	9.06	9.48	8.76
Approach LOS	B	A	A	A
Intersection Delay [s/veh]	10.76			
Intersection LOS	B			

**Intersection Level Of Service Report
Intersection 9: Blanche Rd at Bell Ave**

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Base Volume Input [veh/h]	0	75	250	5	40	0	1	0	0	99	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	0	41	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	258	5	82	0	1	0	0	102	0	2
Peak Hour Factor	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710	0.7710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	40	84	2	27	0	0	0	0	33	0	1
Total Analysis Volume [veh/h]	0	161	335	6	106	0	1	0	0	132	0	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Stop	Free	Stop
Flared Lane		No		No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.25	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.64	11.70	10.74	7.93	8.37	0.00	14.15	14.37	12.37
Movement LOS	A	A	A	B	B	B	A	A	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.63	0.63	0.63	0.00	0.00	0.00	1.01	1.01	1.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	15.73	15.73	15.73	0.06	0.06	0.06	25.17	25.17	25.17
d_A, Approach Delay [s/veh]	0.00			11.80			7.93			14.11		
Approach LOS	A			B			A			B		
d_I, Intersection Delay [s/veh]	4.35											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Blanche Rd at 25th St

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	Blanche Rd		Blanche Rd		25th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		25th St	
Base Volume Input [veh/h]	304	10	7	132	19	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	0	4	37	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	356	10	11	173	20	26
Peak Hour Factor	0.7690	0.7690	0.7690	0.7690	0.7690	0.7690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	3	4	56	7	8
Total Analysis Volume [veh/h]	463	13	14	225	26	34
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	828	781	685
Degree of Utilization, x	0.58	0.31	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.74	1.30	0.29
95th-Percentile Queue Length [ft]	93.60	32.46	7.17
Approach Delay [s/veh]	13.07	9.63	8.76
Approach LOS	B	A	A
Intersection Delay [s/veh]	11.68		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 11: Blanche Rd at 24th St

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name	Blanche Rd		Blanche Rd		24th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		24th St	
Base Volume Input [veh/h]	47	255	108	68	27	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	22	15	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	289	133	85	45	22
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	95	44	28	15	7
Total Analysis Volume [veh/h]	63	380	175	112	59	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	794	810	656
Degree of Utilization, x	0.56	0.35	0.13

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.51	1.61	0.46
95th-Percentile Queue Length [ft]	87.65	40.22	11.54
Approach Delay [s/veh]	13.10	9.87	9.34
Approach LOS	B	A	A
Intersection Delay [s/veh]	11.56		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 12: Blanche Rd at Marine Ave

Control Type:	All-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.537

Intersection Setup

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	67	229	8	2	124	17	44	25	136	7	38	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	0	4	7	11	13	1	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	245	8	6	135	29	58	27	140	7	39	12
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	71	2	2	39	8	17	8	41	2	11	3
Total Analysis Volume [veh/h]	80	284	9	7	156	34	67	31	162	8	45	14
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

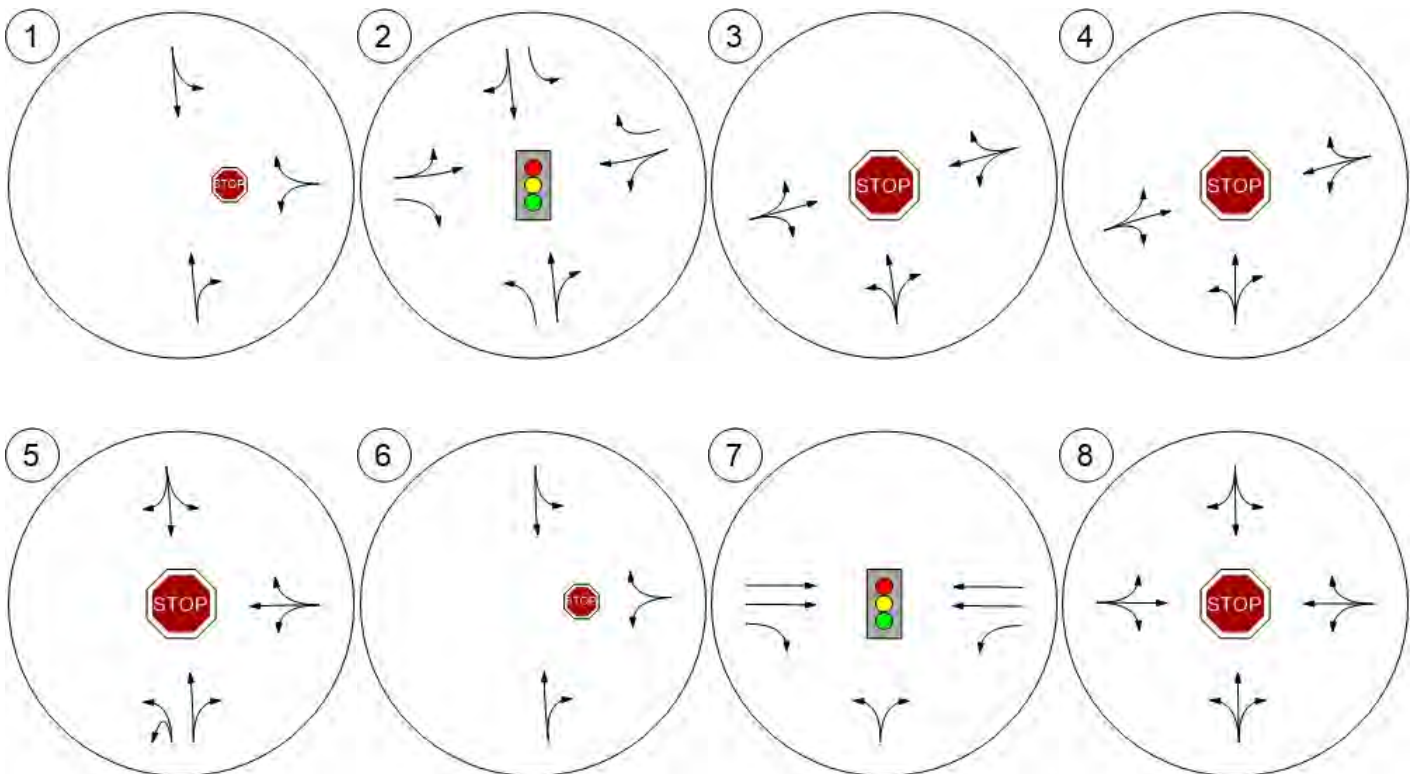
Lanes

Capacity per Entry Lane [veh/h]	694	676	686	617
Degree of Utilization, x	0.54	0.29	0.38	0.11

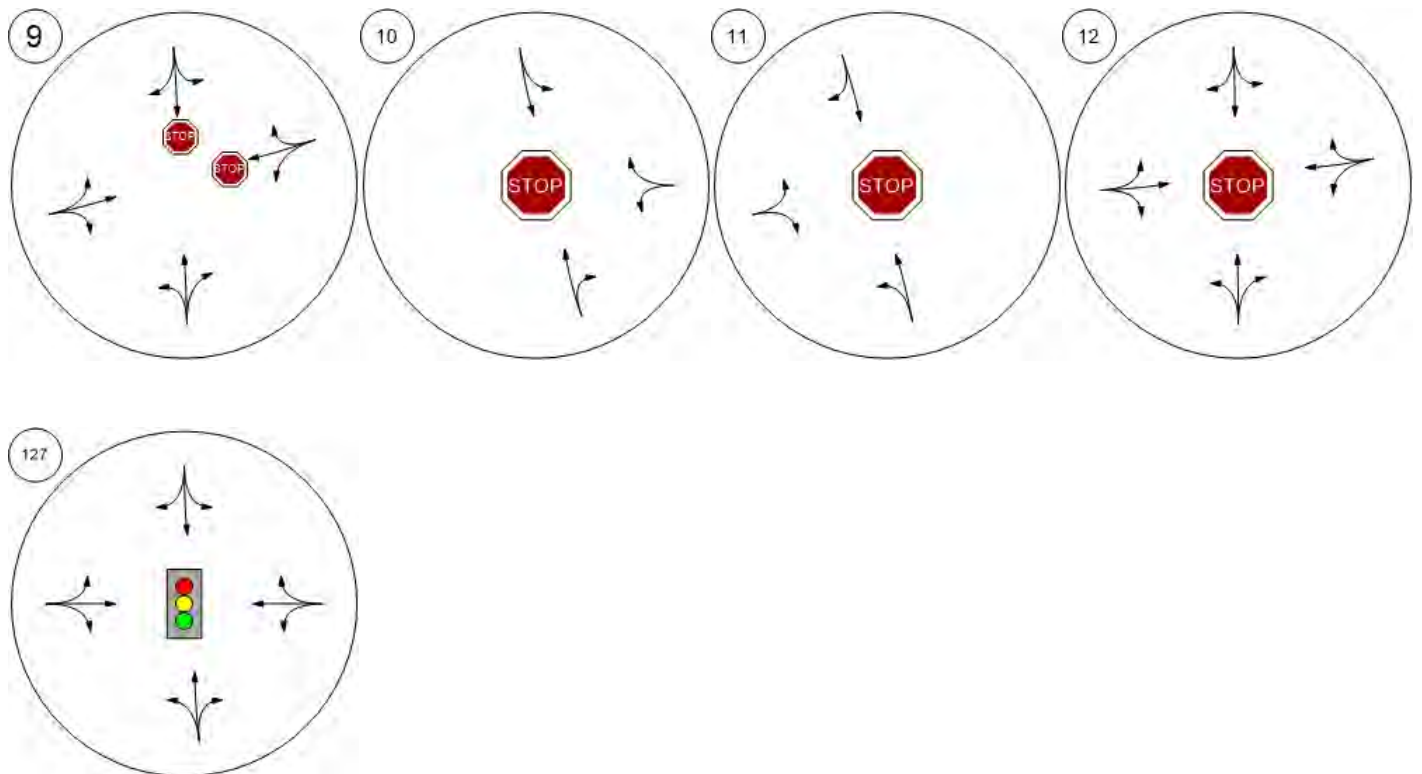
Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.23	1.21	1.77	0.36
95th-Percentile Queue Length [ft]	80.66	30.24	44.28	9.08
Approach Delay [s/veh]	14.05	10.50	11.41	9.54
Approach LOS	B	B	B	A
Intersection Delay [s/veh]	12.17			
Intersection LOS	B			

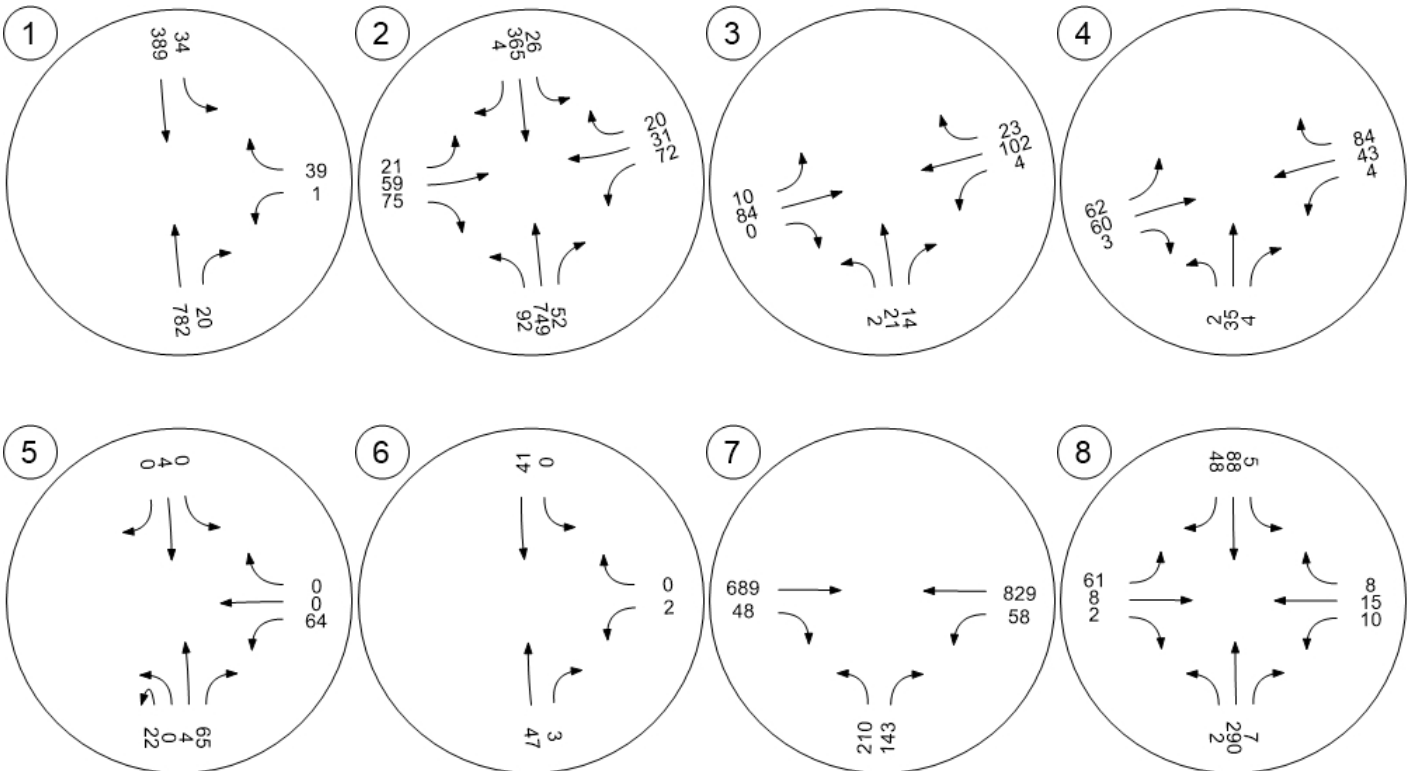
Lane Configuration and Traffic Control



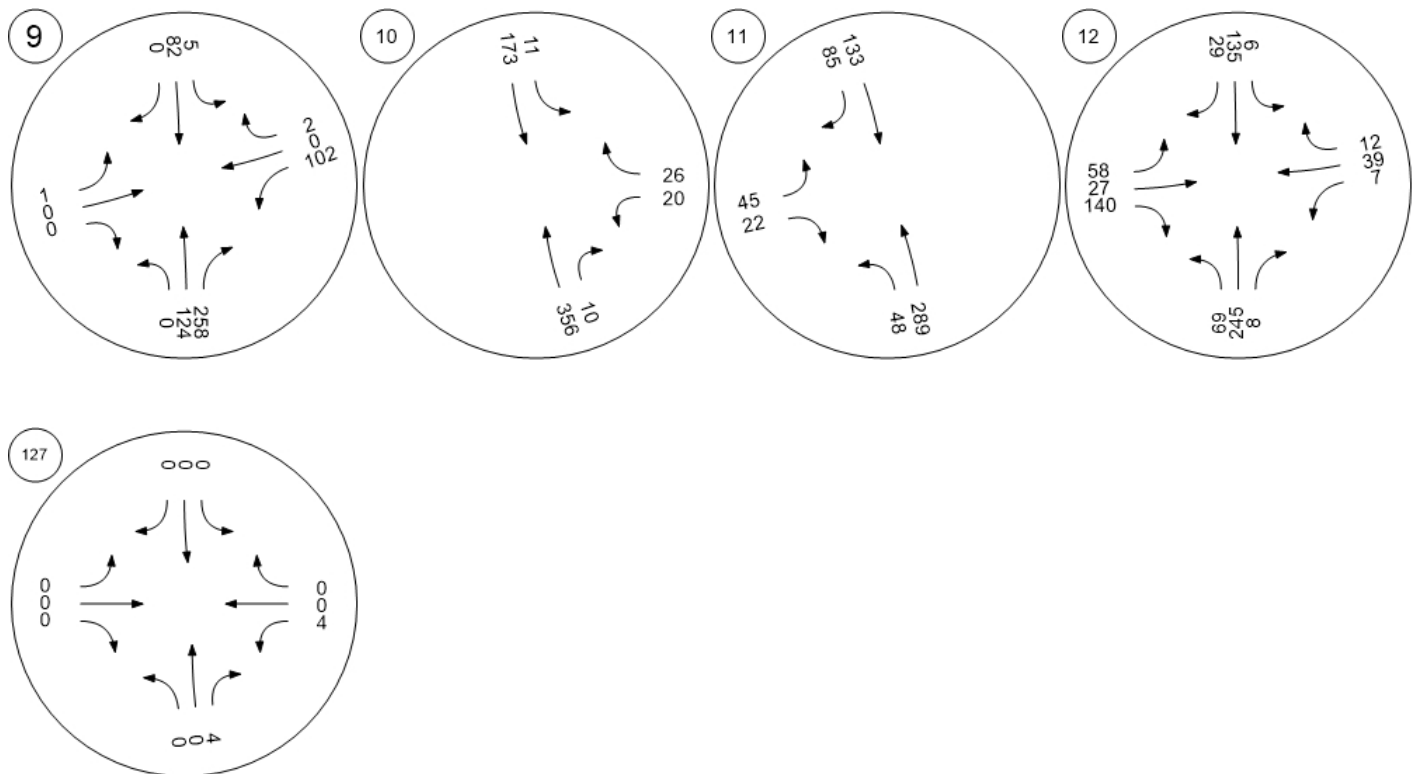
Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



MBUS-02

Vistro File: Q:\...\Grandview_FS.vistro

Scenario 7 2023WP-PM

Report File: Q:\...\2023WP-PM.pdf

2/22/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Highland Ave at 24th St	Two-way stop	HCM 2010	WB Left	0.022	32.4	D
2	Highland Ave at Marine Ave	Signalized	ICU 1	SB Right	0.798	-	C
3	Vista Dr at 24th St	All-way stop	HCM 2010	WB Thru	0.159	7.7	A
4	Manor Dr at 24th St	All-way stop	HCM 2010	EB Thru	0.152	7.6	A
5	Bell Ave at 27th St	All-way stop	HCM 2010	NB U-T	0.075	7.6	A
6	Bell Ave at 26th St	Two-way stop	HCM 2010	WB Left	0.001	10.1	B
7	Blanche Rd at Rosecrans Ave	Signalized	ICU 1	WB Thru	0.482	-	A
8	Blanche Rd at 27th St	All-way stop	HCM 2010	SB Thru	0.250	8.5	A
9	Blanche Rd at Bell Ave	Two-way stop	HCM 2010	WB Left	0.250	12.1	B
10	Blanche Rd at 25th St	All-way stop	HCM 2010	SB Thru	0.314	8.8	A
11	Blanche Rd at 24th St	All-way stop	HCM 2010	SB Thru	0.317	8.9	A
12	Blanche Rd at Marine Ave	All-way stop	HCM 2010	SB Thru	0.364	10.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: Highland Ave at 24th St**

Control Type:	Two-way stop	Delay (sec / veh):	32.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Highland Ave		Highland Ave		24th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Highland Ave		Highland Ave		24th St	
Base Volume Input [veh/h]	507	13	8	823	3	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	4	6	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	542	13	12	855	3	24
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	3	3	222	1	6
Total Analysis Volume [veh/h]	563	13	12	888	3	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.02	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	8.65	0.00	32.41	12.59
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.23	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.91	0.91	5.64	5.64
d_A, Approach Delay [s/veh]	0.00		0.12		14.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: Highland Ave at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵			↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Highland Ave			Highland Ave			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	38	467	49	30	786	5	12	50	174	75	24	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	2	1	5	0	0	0	0	2	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	499	53	32	815	5	12	52	179	79	25	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	125	13	8	204	1	3	13	45	20	6	6
Total Analysis Volume [veh/h]	39	499	53	32	815	5	12	52	179	79	25	23
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.35	0.35	0.02	0.51	0.51	0.01	0.04	0.11	0.05	0.07	0.01
Intersection LOS	C											
Intersection V/C	0.798											

Intersection Level Of Service Report
Intersection 3: Vista Dr at 24th St

Control Type: All-way stop
 Analysis Method: HCM 2010
 Analysis Period: 15 minutes

Delay (sec / veh): 7.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.159

Intersection Setup

Name	Vista Dr			Vista Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Vista Dr			Vista Dr			24th St			24th St		
Base Volume Input [veh/h]	0	24	1	0	0	0	10	43	0	1	65	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	0	0	4	0	2	5	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	25	5	0	0	0	10	48	0	3	72	14
Peak Hour Factor	0.6290	0.6290	0.6290	1.0000	1.0000	1.0000	0.6290	0.6290	0.6290	0.6290	0.6290	0.6290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	2	0	0	0	4	19	0	1	29	6
Total Analysis Volume [veh/h]	0	40	8	0	0	0	16	76	0	5	114	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	831		854	888
Degree of Utilization, x	0.06		0.11	0.16

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.18		0.36	0.56
95th-Percentile Queue Length [ft]	4.59		9.02	14.06
Approach Delay [s/veh]	7.60	0.00	7.73	7.82
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.75			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Manor Dr at 24th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.6
Level Of Service: A
Volume to Capacity (v/c): 0.152

Intersection Setup

Name	Manor Dr			Manor Dr			24th St			24th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕						⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Manor Dr			Manor Dr			24th St			24th St		
Base Volume Input [veh/h]	3	8	1	0	0	0	29	60	2	2	25	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.00	1.00	1.00	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	8	0	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	8	1	0	0	0	30	70	2	2	35	31
Peak Hour Factor	0.7640	0.7640	0.7640	1.0000	1.0000	1.0000	0.7640	0.7640	0.7640	0.7640	0.7640	0.7640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	0	0	0	0	10	23	1	1	11	10
Total Analysis Volume [veh/h]	4	10	1	0	0	0	39	92	3	3	46	41
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	817		879	940
Degree of Utilization, x	0.02		0.15	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06		0.54	0.32
95th-Percentile Queue Length [ft]	1.40		13.40	7.91
Approach Delay [s/veh]	7.49	0.00	7.83	7.23
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.58			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: Bell Ave at 27th St

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes

Delay (sec / veh): 7.6
Level Of Service: A
Volume to Capacity (v/c): 0.075

Intersection Setup

Name	Bell Ave				Bell Ave			Looped Parking Lot			27th St		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	No				Yes			No			No		

Volumes

Name	Bell Ave				Bell Ave			Looped Parking Lot			27th St		
Base Volume Input [veh/h]	21	21	0	30	0	0	0	0	0	0	39	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.00	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.03	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	18	0	2	0	0	0	0	15	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	22	2	49	0	2	0	0	0	0	55	0	0
Peak Hour Factor	0.888	0.888	1.000	0.888	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8880	0.8880	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	1	14	0	1	0	0	0	0	15	0	0
Total Analysis Volume [veh/h]	25	25	2	55	0	2	0	0	0	0	62	0	0
Pedestrian Volume [ped/h]	0				0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	695	899	839		822
Degree of Utilization, x	0.07	0.06	0.00		0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.23	0.20	0.01		0.24
95th-Percentile Queue Length [ft]	5.80	5.07	0.18		6.10
Approach Delay [s/veh]	7.59		7.30	0.00	7.74
Approach LOS	A		A	A	A
Intersection Delay [s/veh]	7.64				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 6: Bell Ave at 26th St

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bell Ave		Bell Ave		26th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bell Ave		Bell Ave		26th St	
Base Volume Input [veh/h]	65	15	29	57	1	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.03	1.00	1.00	1.03	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	0	0	25	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	87	15	29	82	1	6
Peak Hour Factor	0.8850	0.8850	0.8850	0.8850	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	4	8	23	0	2
Total Analysis Volume [veh/h]	98	17	33	93	1	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	10.13	8.83
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.72	1.72	0.67	0.67
d_A, Approach Delay [s/veh]	0.00		1.96		9.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.28					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Blanche Rd at Rosecrans Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Rosecrans Ave		Rosecrans Ave	
Base Volume Input [veh/h]	48	49	670	92	131	767
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	5	34	4	4	95
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	56	725	99	139	886
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	14	181	25	35	222
Total Analysis Volume [veh/h]	54	56	725	99	139	886
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.23	0.06	0.09	0.28
Intersection LOS	A					
Intersection V/C	0.482					

**Intersection Level Of Service Report
Intersection 8: Blanche Rd at 27th St**

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Blanche Rd			Blanche Rd			27th St			27th St		
Base Volume Input [veh/h]	5	132	6	10	138	17	16	13	11	6	8	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	13	16	2	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	136	6	10	142	31	32	15	11	6	10	10
Peak Hour Factor	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690	0.8690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	39	2	3	41	9	9	4	3	2	3	3
Total Analysis Volume [veh/h]	6	157	7	12	163	36	37	17	13	7	12	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	821	843	747	767
Degree of Utilization, x	0.21	0.25	0.09	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.78	0.99	0.29	0.13
95th-Percentile Queue Length [ft]	19.41	24.76	7.37	3.15
Approach Delay [s/veh]	8.53	8.70	8.30	7.89
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.53			
Intersection LOS	A			

**Intersection Level Of Service Report
Intersection 9: Blanche Rd at Bell Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Bell Ave			Home Driveway			Blanche Rd		
Base Volume Input [veh/h]	0	63	119	3	67	1	2	0	0	149	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	0	0	25	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	87	123	3	94	1	2	0	0	154	0	2
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	24	34	1	26	0	1	0	0	42	0	1
Total Analysis Volume [veh/h]	0	96	136	3	104	1	2	0	0	170	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Stop	Free	Stop
Flared Lane		No		No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.25	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.76	10.43	9.60	7.55	7.70	0.00	12.08	12.47	10.88
Movement LOS	A	A	A	B	B	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.49	0.49	0.49	0.00	0.00	0.00	1.00	1.00	1.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	12.15	12.15	12.15	0.11	0.11	0.11	24.95	24.95	24.95
d_A, Approach Delay [s/veh]	0.00			10.43			7.55			12.06		
Approach LOS	A			B			A			B		
d_I, Intersection Delay [s/veh]	6.26											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Blanche Rd at 25th St**

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.314

Intersection Setup

Name	Blanche Rd		Blanche Rd		25th St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		25th St	
Base Volume Input [veh/h]	157	9	9	209	7	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	2	23	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	9	11	238	7	26
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	2	3	64	2	7
Total Analysis Volume [veh/h]	195	10	12	255	8	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	846	850	795
Degree of Utilization, x	0.24	0.31	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.95	1.35	0.14
95th-Percentile Queue Length [ft]	23.72	33.73	3.55
Approach Delay [s/veh]	8.62	9.16	7.74
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.84		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Blanche Rd at 24th St

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.317

Intersection Setup

Name	Blanche Rd		Blanche Rd		24th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Blanche Rd		Blanche Rd		24th St	
Base Volume Input [veh/h]	15	132	182	34	34	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	14	9	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	148	202	44	43	41
Peak Hour Factor	0.9180	0.9180	0.9180	0.9180	0.9180	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	40	55	12	12	11
Total Analysis Volume [veh/h]	16	161	220	48	47	45
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	807	846	762
Degree of Utilization, x	0.22	0.32	0.12

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.83	1.36	0.41
95th-Percentile Queue Length [ft]	20.87	34.12	10.25
Approach Delay [s/veh]	8.72	9.21	8.37
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.91		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 12: Blanche Rd at Marine Ave

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Blanche Rd			Blanche Rd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	83	131	6	9	201	22	24	49	126	8	33	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	2	5	7	6	3	0	0	3	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	139	6	11	212	30	31	54	130	8	37	7
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	36	2	3	55	8	8	14	34	2	10	2
Total Analysis Volume [veh/h]	90	145	6	11	222	31	32	56	136	8	39	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

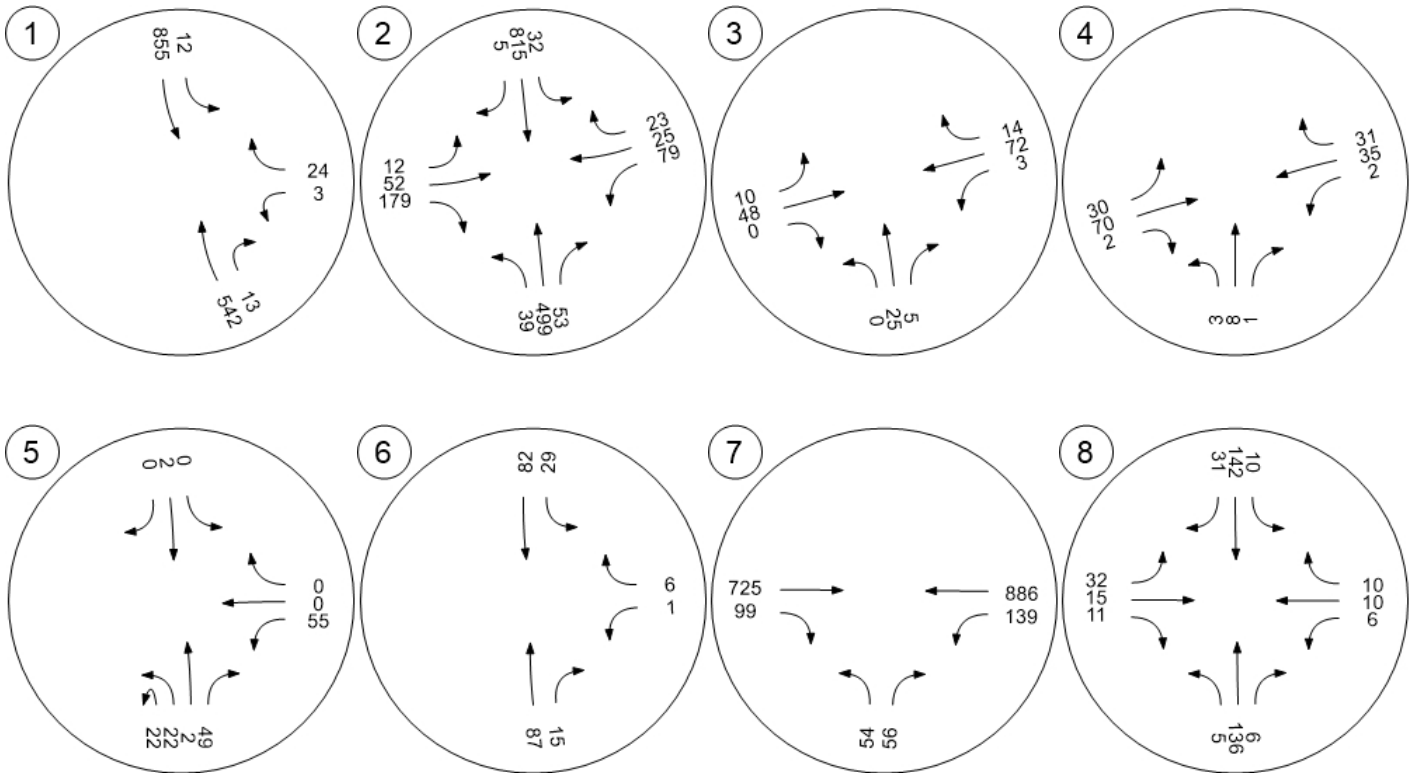
Lanes

Capacity per Entry Lane [veh/h]	705	725	723	648
Degree of Utilization, x	0.34	0.36	0.31	0.08

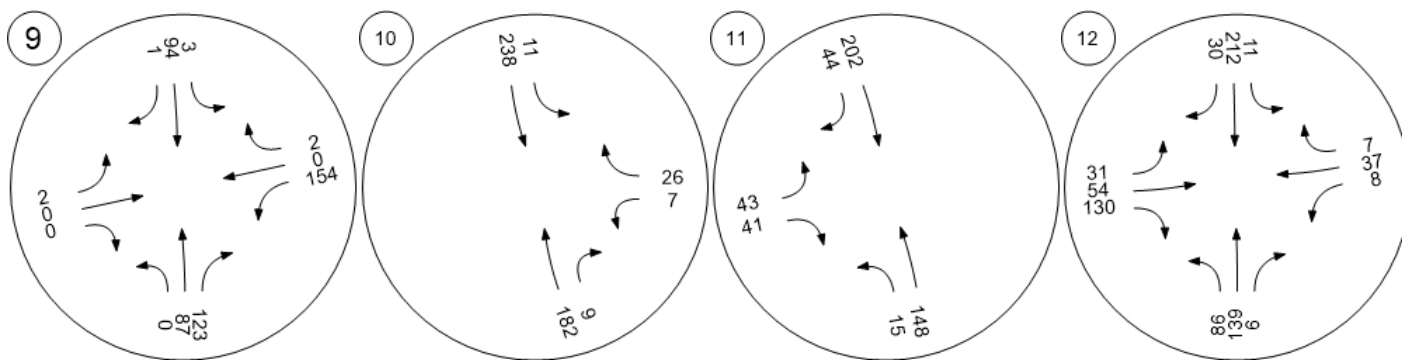
Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.52	1.67	1.32	0.27
95th-Percentile Queue Length [ft]	37.98	41.70	32.98	6.79
Approach Delay [s/veh]	10.74	10.77	10.20	9.06
Approach LOS	B	B	B	A
Intersection Delay [s/veh]	10.48			
Intersection LOS	B			

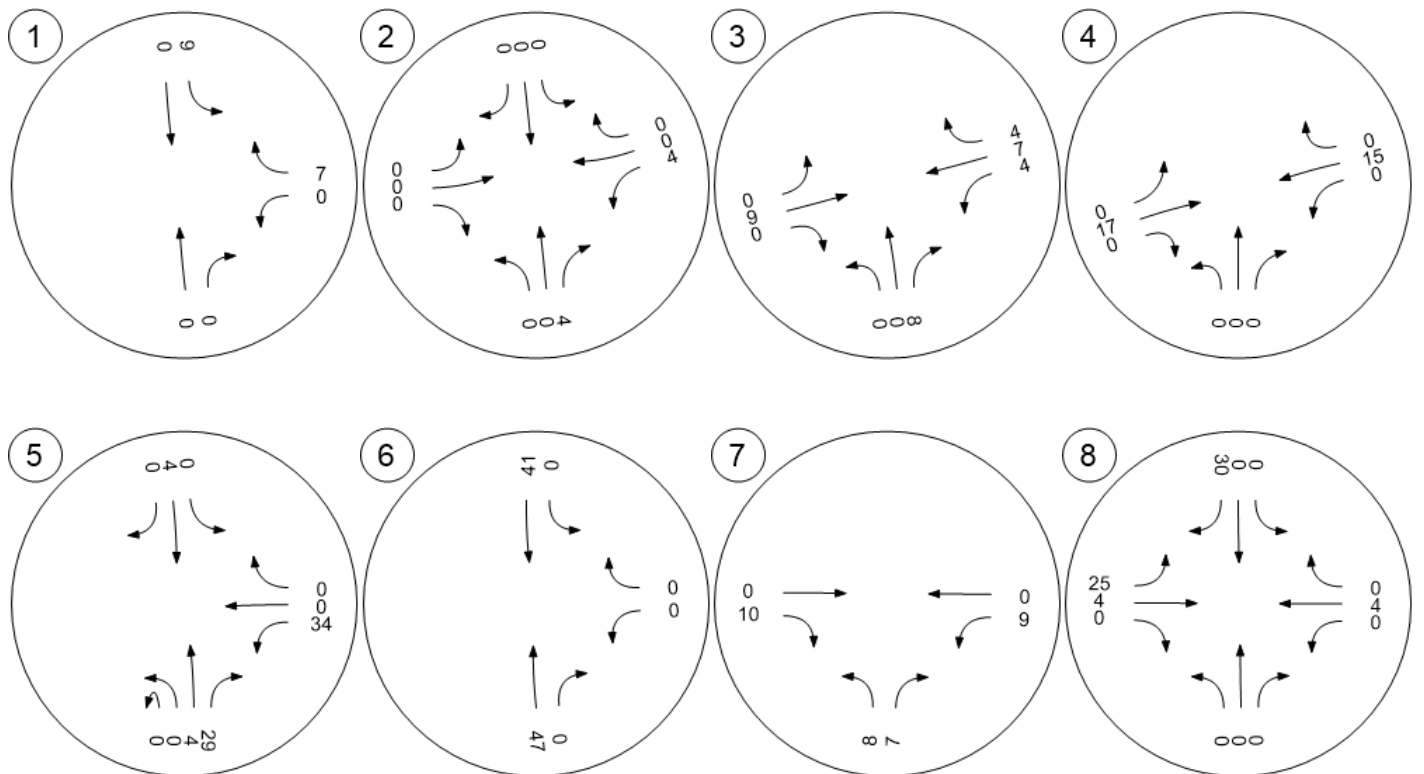
Traffic Volume - Future Total Volume



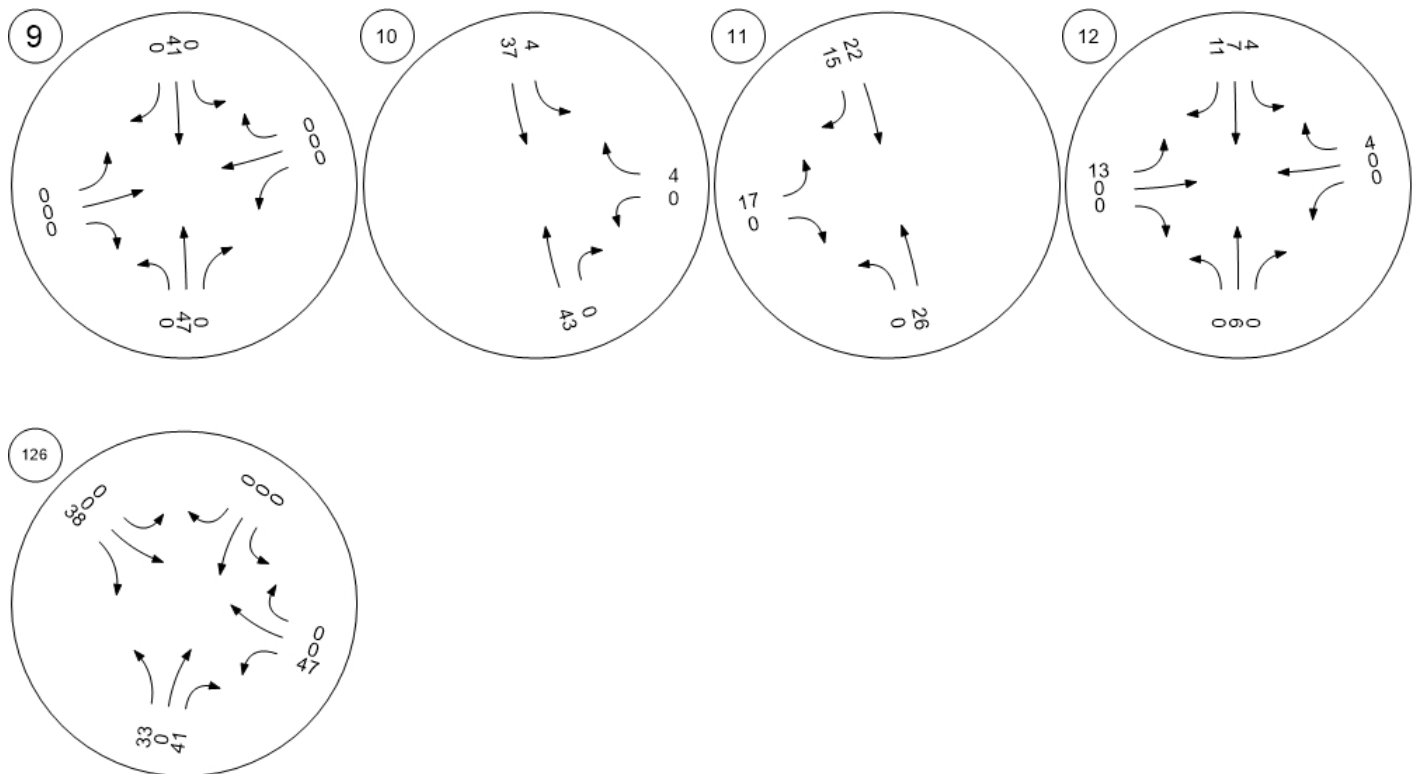
Traffic Volume - Future Total Volume



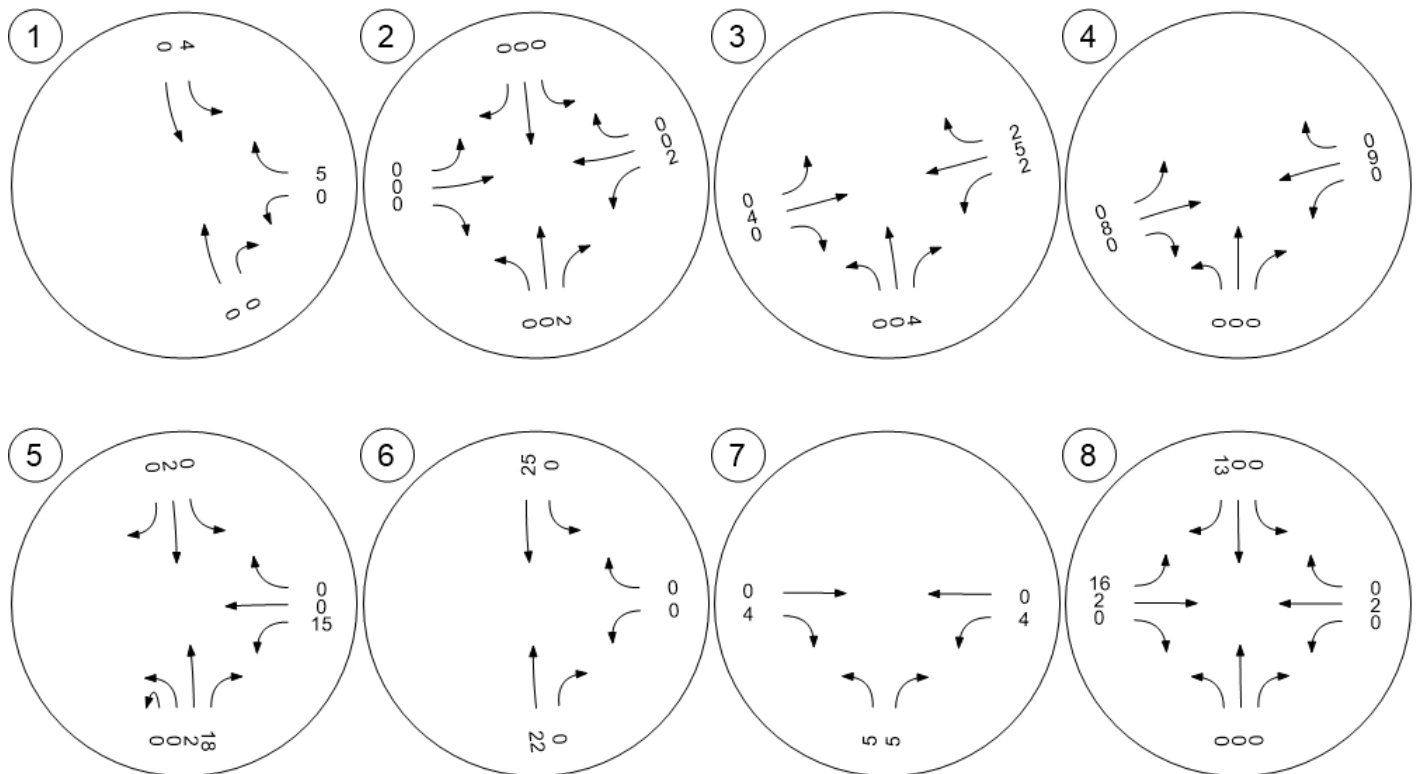
Traffic Volume - Net New Site Trips



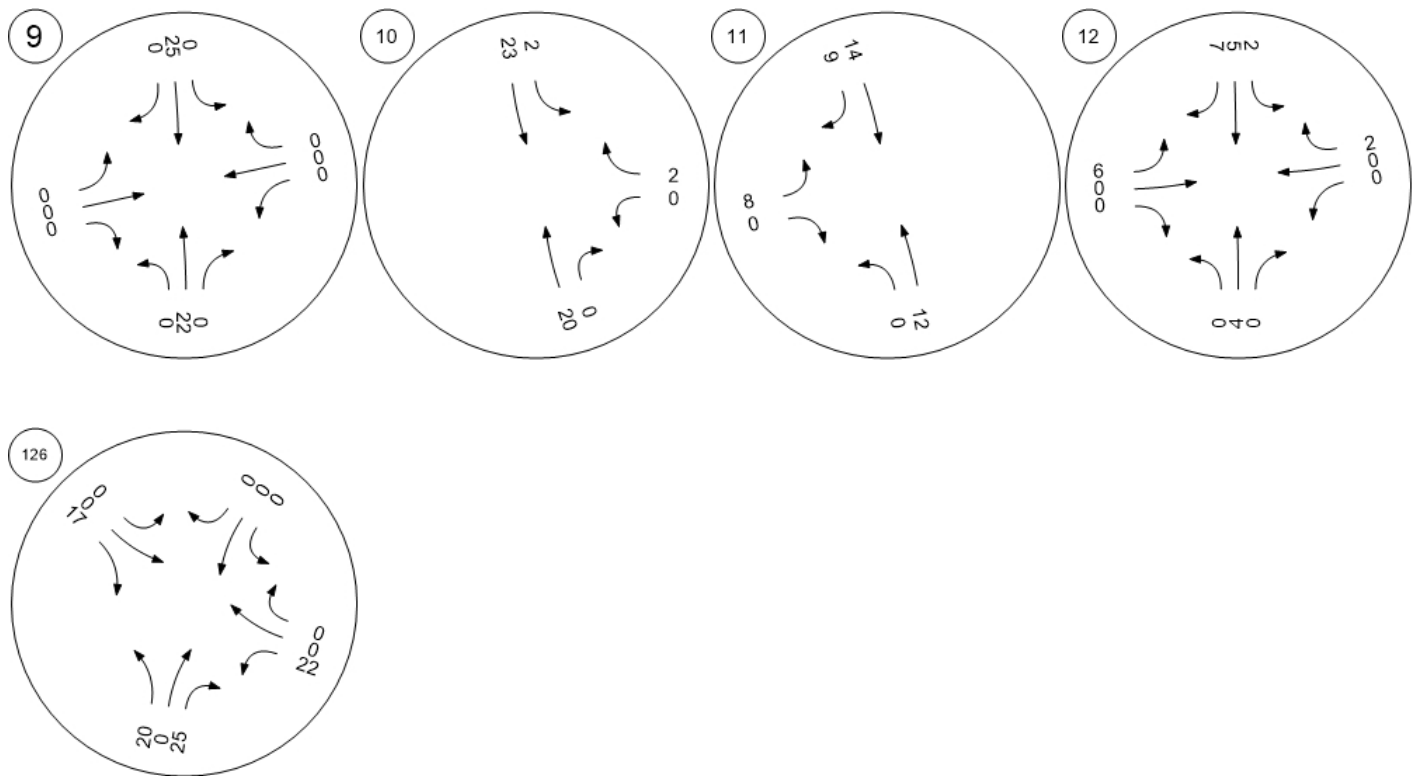
Traffic Volume - Net New Site Trips



Traffic Volume - Net New Site Trips



Traffic Volume - Net New Site Trips



Appendix G. Collision History

Appendices

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Collision Details for: Case ID 4046484

Collision Information

County	Los Angeles
City	Manhattan Beach
Date & Time (M/D/Y HH:MM)	12/13/2008 13:18
Location (Intersection)	Manor Dr & 23rd St
Dist. & Dir. from Intersection	0.00 ft East
State Highway	No
Latitude & Longitude	33.89330673, -118.41119215

Type of Collision	D - Broadside	Motor Vehicle Involved With	G - Bicycle
Collision Severity	3 - Injury (Other Visible)	Pedestrian Accident	No
PCF Violation Category	12 - Traffic Signals and Signs	Bicycle Accident	Yes
Weather	A - Clear	Motorcycle Accident	No
Alcohol Involved	No	Truck Accident	No

Parties: 2

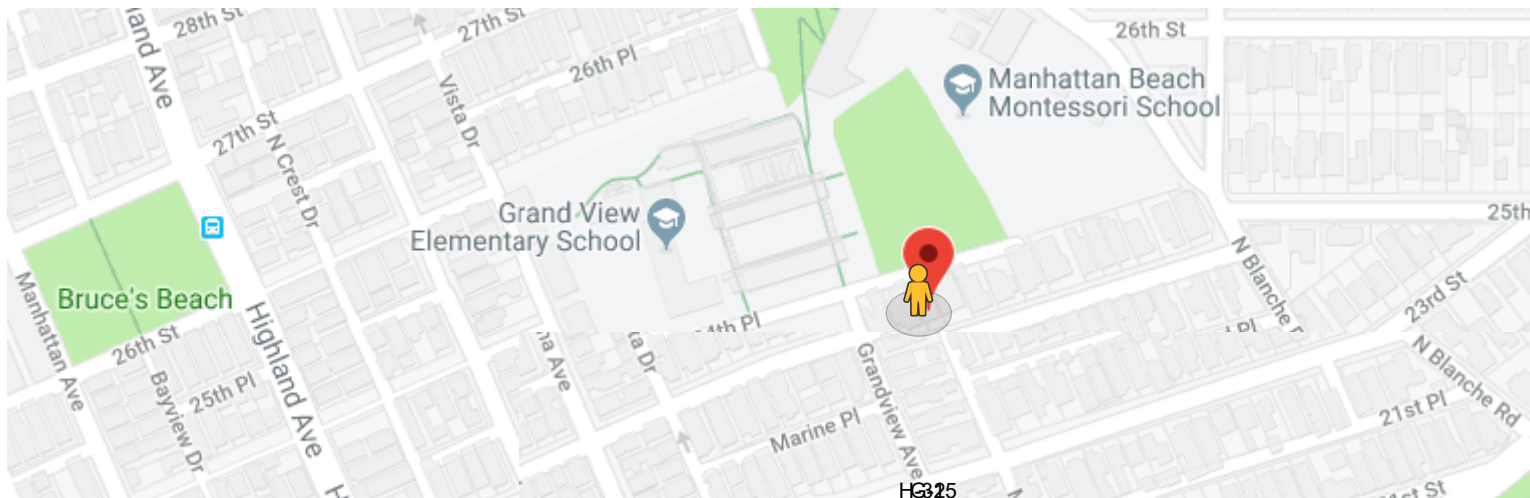
Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
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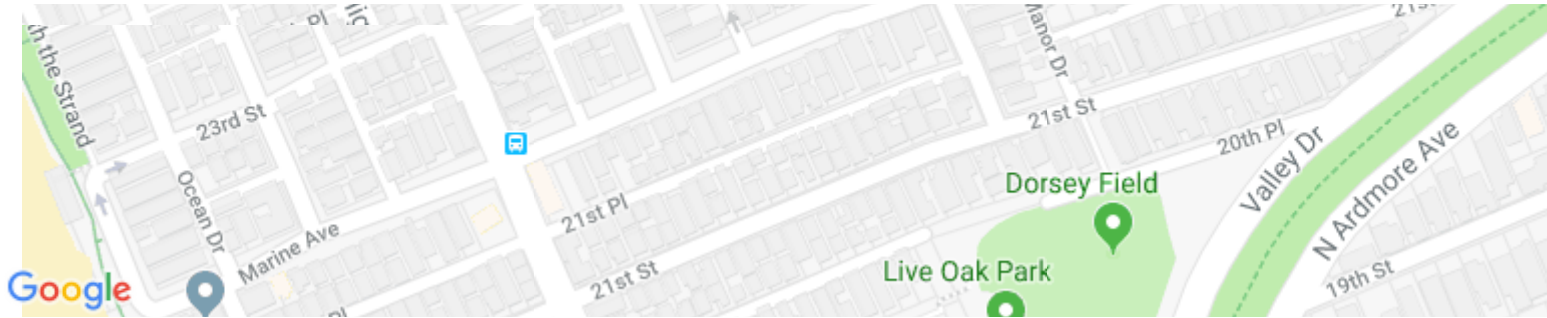
Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	4 - Bicyclist	L - Bicycle	Yes	North	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	B - Proceeding Straight

Victims: 2

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	4 - Bicyclist	M - Male	12	3 - Other Visible Injury
1	2 - Passenger	M - Male	12	3 - Other Visible Injury

Map View





Map data ©2018 Google

Street View



498 23rd St
 Manhattan Beach, California
 View on Google Maps



Map data ©2018 Google

Collision Details for: Case ID 8359055

Collision Information

County	Los Angeles
City	Manhattan Beach
Date & Time (M/D/Y HH:MM)	04/16/2017 15:47
Location (Intersection)	Blanche Rd & 26th St
Dist. & Dir. from Intersection	0.00 ft East
State Highway	No
Latitude & Longitude	33.89542008, -118.40965013

Type of Collision	D - Broadside	Motor Vehicle Involved With	C - Other Motor Vehicle
Collision Severity	4 - Injury (Complaint of Pain)	Pedestrian Accident	No
PCF Violation Category	12 - Traffic Signals and Signs	Bicycle Accident	No
Weather	A - Clear	Motorcycle Accident	No
Alcohol Involved	No	Truck Accident	No

Parties: 2

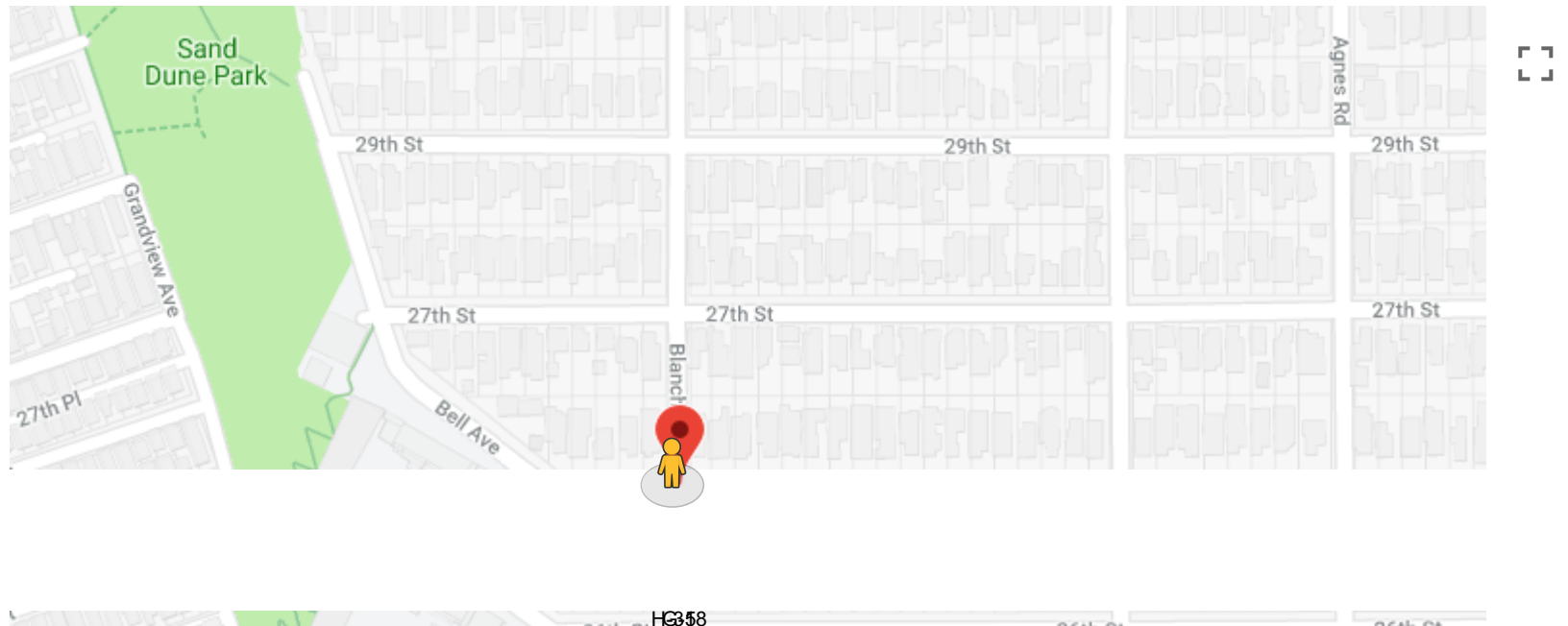
Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
--------------	------------	------------------------	----------	-----------------	------------------------------

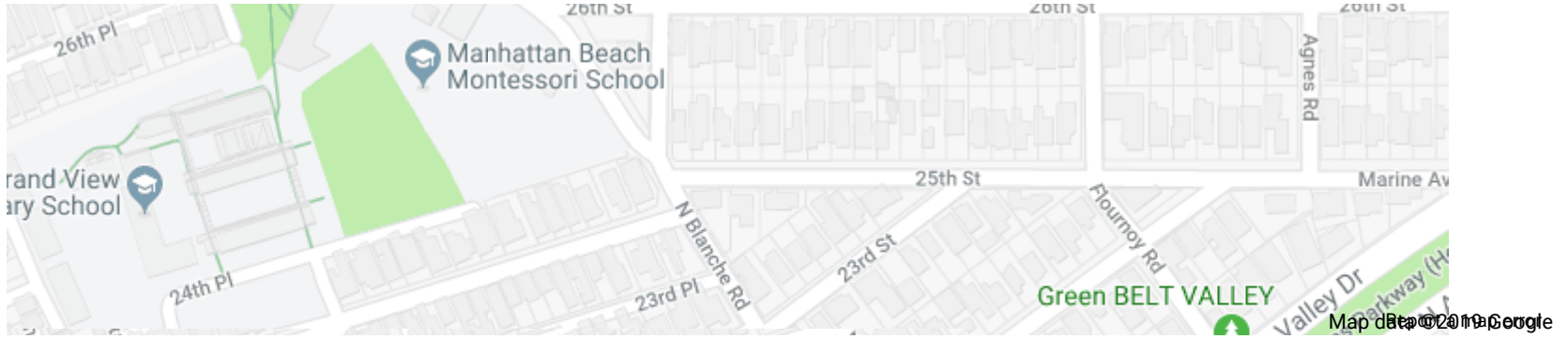
Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	East	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	B - Proceeding Straight

Victims: 2

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	21	0 - No Injury
2	1 - Driver	F - Female	25	4 - Complaint of Pain

Map View





Street View

598 26th St
 Manhattan Beach, California
 View on Google Maps



Collision Details for: Case ID 4855161

Collision Information

County	Los Angeles
City	Manhattan Beach
Date & Time (M/D/Y HH:MM)	08/13/2010 08:14
Location (Intersection)	Highland Av & 24th St
Dist. & Dir. from Intersection	0.00 ft East
State Highway	No
Latitude & Longitude	33.89300486, -118.41423215

Type of Collision	B - Sideswipe	Motor Vehicle Involved With	C - Other Motor Vehicle
Collision Severity	3 - Injury (Other Visible)	Pedestrian Accident	No
PCF Violation Category	06 - Improper Passing	Bicycle Accident	No
Weather	A - Clear	Motorcycle Accident	Yes
Alcohol Involved	No	Truck Accident	No

Parties: 2

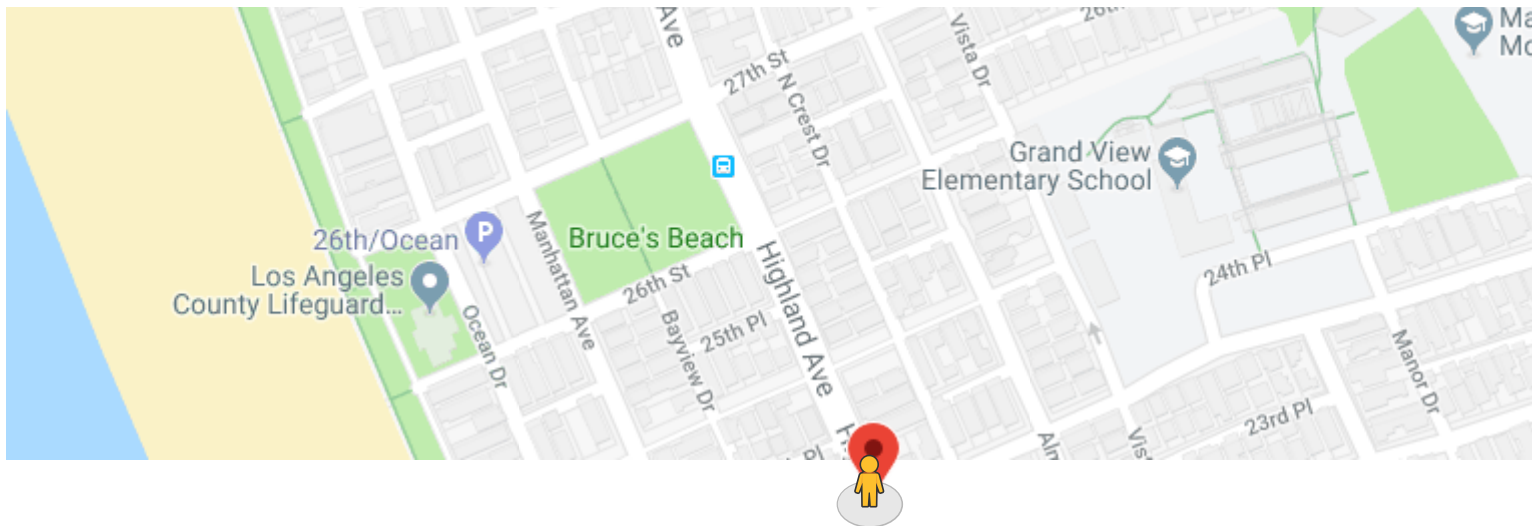
Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
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Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	C - Motorcycle/Scooter	Yes	North	I - Passing Other Vehicle
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	D - Making Right Turn

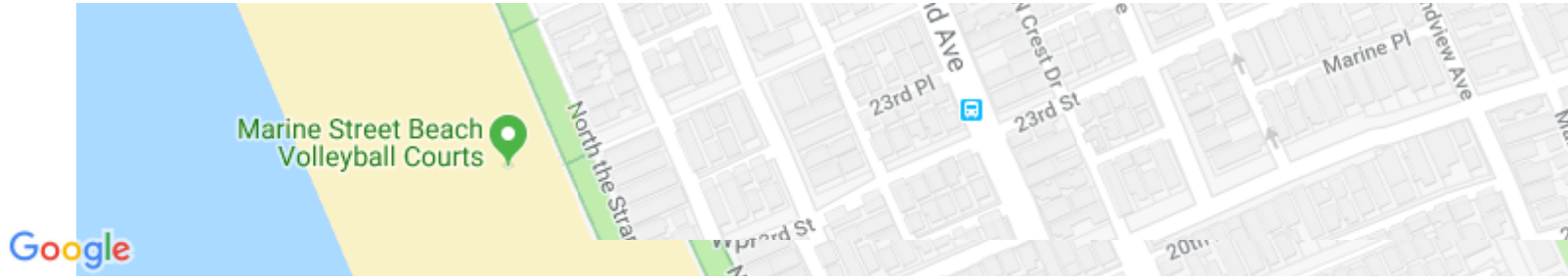
Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	M - Male	34	3 - Other Visible Injury

Map View



H0381



Map data ©2019 Google

Street View

2401 Highland Ave
 Manhattan Beach, California
[View on Google Maps](#)



Map data ©2019 Google