APPENDIX D

TRAFFIC ANALYSIS

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MEMORANDUM

DATE: December 2, 2019

TO: Christopher Koontz

FROM: Arthur Black

SUBJECT: Belmont Plaza Pool Revised Traffic Analysis

The City of Long Beach (City) is proposing to reconstruct the Belmont Pool at its historic location, which is currently the location of a temporary pool. This memorandum compares the traffic analysis presented in the August 2016 Final Environmental Impact Report (EIR) to a revised traffic analysis prepared in November 2019. The November 2019 traffic analysis was prepared with updated existing (2019) conditions and consistent with the City's revised Traffic Impact Analysis Guidelines. The City also provided a current list of approved/pending projects for analysis of cumulative traffic impacts. Traffic analysis worksheets are provided as attachments.

SCOPING PROCESS

The City distributed the first Notice of Preparation (NOP) for the EIR for public review between April 18 and May 17, 2013. The City received three comment letters in response to the original NOP. No comment letters associated with Traffic and Transportation were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued and circulated the NOP for public review between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. A comment letter from the Los Angeles County Metropolitan Transportation Authority (Metro) provided recommendations on the geographic area to be included in the Traffic Impact Analysis. Additionally, Metro provided recommended guidelines and guidance policies to be followed during the preparation of the *Traffic Impact Analysis* for the proposed Project to ensure compliance with the 2010 Congestion Management Program (CMP) for the County of Los Angeles (County). None of the arterial monitoring stations identified in Appendix A of the 2010 CMP for the County are located near the proposed Project, and the Project is not anticipated to conflict with standards established for designated roads or highways.

Subsequent to circulation of the Draft EIR in April 2016, comment letters were received from the public. Among the comments was a request to add two additional intersections to the study area (Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street). While the Final EIR correctly stated that project trips at these intersections were below the threshold for inclusion in the study area (i.e., 50 or more trips in the peak hour), in an effort to provide as much information about the modified Project as possible, the November 2019 analysis included these two additional intersections.

METHODOLOGY

The impacts of the added vehicle trips generated by the modified Project were evaluated in comparison to the existing traffic conditions. The study intersection level of service (LOS) analysis was conducted for the weekday a.m. peak hour, the weekday p.m. peak hour, and the Saturday midday peak hour. As stated above, the study area was expanded and includes the following 12 intersections:

1. Redondo Avenue/Ocean Boulevard
2. Loma Avenue/Ocean Boulevard
3. Ocean Boulevard/Livingston Drive
4. Termino Avenue/Livingston Drive
5. Bennett Avenue/Livingston Drive (stop-controlled intersection)
6. Ximeno Avenue/Livingston Drive
7. 2nd Street/Livingston Drive
8. Termino Avenue/Ocean Boulevard
9. Bennett Avenue/Ocean Boulevard (stop-controlled intersection)
10. Granada Avenue/Ocean Boulevard (stop-controlled intersection)
11. Pacific Coast Highway/2nd Street
12. Studebaker Road/2nd Street

Intersection Measures of Effectiveness

Vistro (Version 6.0) computer software was utilized to determine the study intersection LOS based on the intersection capacity utilization (ICU) methodology for the signalized study intersections and the *Highway Capacity Manual* (HCM) methodology for unsignalized intersections. Consistent with the City's requirements, the ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums up these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. Typical intersection operations by LOS grade are described in Table A.

The relationship between LOS and the ICU value (i.e., v/c ratio) is shown in Table B.

For the HCM methodology, the LOS is presented in terms of total intersection delay (in seconds per vehicle). The relationship between LOS and the delay at unsignalized intersections is shown in Table C.

The City considers LOS D as the upper limit of satisfactory operations for total intersection operation. Mitigation is required for any signalized intersection where a project's traffic causes the intersection to deteriorate from LOS D to LOS E or F, or if the Project traffic causes an increase in v/c ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition. Mitigation is required for any unsignalized intersection where a project's traffic increases the intersection delay by 2 percent or greater when the entire intersection is operating at LOS E or F in the baseline condition.

Table A: LOS Descriptions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

LOS = level of service

Table B: LOS/ICU Value Comparison

Level of Service	Volume-to-Capacity (ICU Methodology)	Level of Service	Volume-to-Capacity (ICU Methodology)
A	≤0.60	D	>0.80 and ≤0.90
B	>0.60 and ≤0.70	E	>0.90 and ≤1.00
C	>0.70 and ≤0.80	F	>1.00

ICU = intersection capacity utilization
LOS = level of service

Table C: LOS/Unsignalized Intersection Delay Comparison

LOS	Unsignalized Intersection Delay (seconds) per Vehicle
A	≤ 10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

LOS = level of service

EXISTING SETTING

Existing Circulation System

The Belmont Pool Plaza is located in the Belmont neighborhood in the southeastern portion of Long Beach. The former Belmont Pool building was located near the intersection of Ocean Boulevard and Livingston Drive. A temporary outdoor pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction) is located in the Beach Parking Lot. Access to parking for the Belmont Pool is provided from Ocean Boulevard via Termino Avenue and Bennett Avenue. Public transportation in the vicinity of the Project is provided by Long Beach Transit. Long Beach Transit Routes 121 and 131 stop near the intersection of Termino Avenue/ Ocean Boulevard. The Shoreline Beach Bike Path provides a Class I off-street bike path from the Los Angeles River to 54th Place and provides access to the Belmont Pool for bicycles. The location of the Project site is illustrated on Figure 1.

Prior to certifying the Final EIR, the City completed a road diet on Ocean Boulevard between Livingston Drive and Alamitos Park. The road diet restriped Ocean Boulevard to provide one vehicle lane and one bicycle lane in each direction. This project changed intersection geometrics at Bennett Avenue/Ocean Boulevard and had the potential to redistribute traffic volumes.

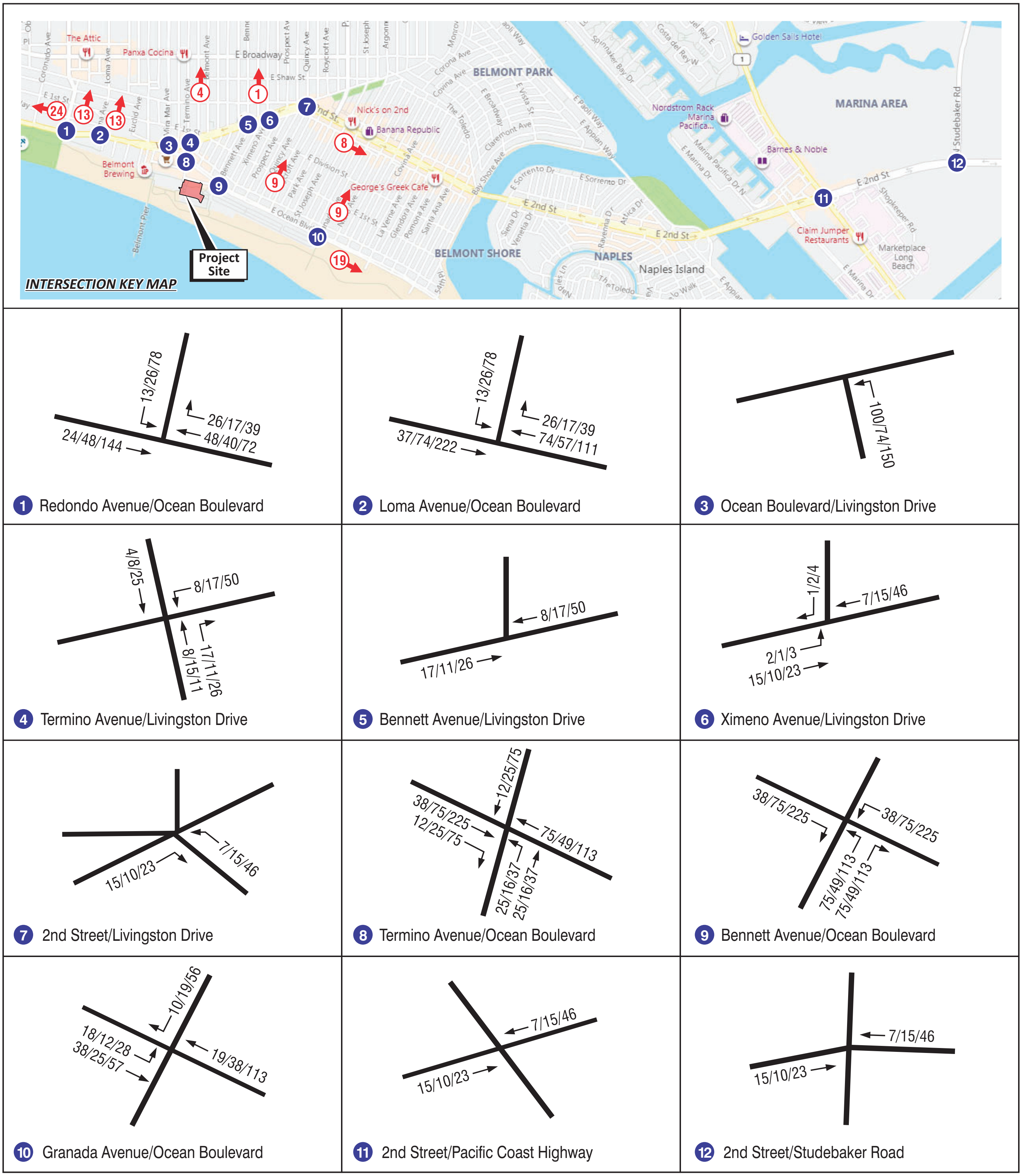
Existing Level of Service with Outdoor Pool

Traffic volumes were collected in February 2016 and analyzed to determine the existing LOS at the 10 study intersections included in the Final EIR during the weekday a.m. peak hour, the weekday p.m. peak hour, and the weekend midday peak hour. The previously disclosed existing (2016) LOS is listed in Table D1. Updated traffic volumes were collected in October 2019 for the same 10 study intersections. Due to ongoing construction in the vicinity of the additional two intersections, previously collected traffic volumes were used, and an ambient growth rate of 3 percent was added to approximate existing conditions. The existing (2019) LOS is listed in Table D2. Worksheets providing LOS calculations are provided as an attachment.

Table D2 shows that the intersection of Studebaker Road/2nd Street operates worse than the City's performance standard during the p.m. peak hour. A comparison of Tables D1 and D2 reveals that all intersections previously operating at a satisfactory LOS continue to operate within the City's standard.

Level of Service Based on Historical Operations

At the time intersection traffic volumes were collected, the temporary outdoor pool at Belmont Pool Plaza was open for use by clubs, local high schools, and the general public. However, because of the smaller size of the outdoor pool compared to the indoor pool, it is not believed that the traffic volumes collected reflect historic typical conditions during operation of the entire Belmont Pool facility. In order to determine traffic conditions during typical operation of the entire Belmont Pool facility, historic data for the operation of the pool were examined.



LSA

FIGURE 1

LEGEND

XX/YY/ZZ - AMPeak Hour/PM Peak Hour/ Saturday Midday Volumes

(X) - Trip Distribution Percent

(X) - Study Area Intersection

N

SCHEMATIC - NOT TO SCALE

Belmont Pool Revitalization Project

Trip Distribution and Assignment

I:\CLB1904.06\G\Trip Distribution.cdr (11/1/2019)

Table D1: Existing (2016) Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.70	C	0.72	C	0.59	A
2. Loma Avenue/Ocean Boulevard	0.61	B	0.65	B	0.46	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.58	A	0.45	A
4. Termino Avenue/Livingston Drive	0.40	A	0.63	B	0.47	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.14	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.30	A	0.40	A	0.34	A
9. Bennett Avenue/Ocean Boulevard	9.6 sec	A	11.2 sec	B	10.8 sec	B
10. Granada Avenue/Ocean Boulevard	8.6 sec	A	9.6 sec	A	9.5 sec	B

ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Table D2: Existing (2019) Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.67	B	0.70	B	0.52	A
2. Loma Avenue/Ocean Boulevard	0.55	A	0.65	B	0.40	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.60	B	0.48	A
4. Termino Avenue/Livingston Drive	0.42	A	0.63	B	0.51	A
5. Bennett Avenue/Livingston Drive	8.3 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.46	A	0.40	A
7. 2nd Street/Livingston Drive	0.54	A	0.60	A	0.62	B
8. Termino Avenue/Ocean Boulevard	0.40	A	0.50	A	0.45	A
9. Bennett Avenue/Ocean Boulevard	10.9 sec	B	14.9 sec	B	12.2 sec	B
10. Granada Avenue/Ocean Boulevard	9.8 sec	A	12.3 sec	B	10.9 sec	B
11. Pacific Coast Highway/2nd Street	0.86	D	0.87	D	0.78	C
12. Studebaker Road/2nd Street	0.87	D	**0.98**	**E**	0.77	C

Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Belmont Pool was open year-round but use can vary by season and temperature. In examining pool operations to determine historic typical trip generation, typical but busy conditions were analyzed. Special events were not considered because they do not occur on a typical day. Information regarding Belmont Pool's past operation was available from records of the City of Long Beach Parks and Recreation Department and interviews with Lori Jamacz, who works for the City of Long Beach Parks, Recreation, and Marine Department at Belmont Pool.

Belmont Pool was used by local high school swimming and water polo teams, swimming, diving, and water polo clubs, and the general public, including recreational swimming, lap swimming for fitness, and swim lessons. These uses were programmed throughout the day and not all resulted in trips to or from Belmont Pool in the typical commute peak hours. For example, clubs using the pool for swimming, diving, and water polo arrived before the start of the p.m. peak hour and left after the end of the p.m. peak hour.

Open swim for recreation and fitness of the general public began at 5:30 a.m. The typical stay at the pool complex for lap swimmers was 1 to 1.5 hours, including time before and after their swim. During the peak hour between 7:00 a.m. and 9:00 a.m., it is estimated that 50 patrons arrived at and 100 patrons departed from the pool. Many of the patrons of Belmont Pool who were swimming for fitness arrived by bicycle. However, to be consistent with the conservative methodology used to calculate Project traffic described below, each patron was analyzed as traveling in a single-occupant vehicle.

High school swimming and water polo teams arrived at Belmont Pool for practice after school and before the start of the p.m. peak hour but departed during the p.m. peak hour. The pool has historically reopened to open swim for recreation and fitness of the general public at 4:00 p.m. During the peak hour between 4:00 p.m. and 6:00 p.m., it is estimated that 100 patrons arrived at and 65 patrons departed from the pool. To be consistent with the conservative methodology used to calculate Project traffic, each patron was analyzed as traveling in a single-occupant vehicle.

On weekends, Belmont Pool was open for recreation and fitness of the general public during the midday peak hour. During the peak hour between 12:00 p.m. and 2:00 p.m. it is estimated that up to 300 patrons could have arrived at and 150 patrons could have departed from the pool. Families arriving for recreational swimming typically travel in one car. Patrons swimming laps for fitness could have arrived at the pool by bicycle on weekends. Again, to be consistent with the conservative methodology used to calculate Project traffic, each patron was analyzed as traveling in a single-occupant vehicle. The resulting historic trip generation is displayed in Table E.

Table E: Belmont Pool Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Belmont Pool	50	100	150	100	65	165	300	150	450

PROJECT BUILDOUT YEAR PLUS CUMULATIVE PROJECTS

Construction of the modified Project is anticipated to commence in 2021 at the earliest and be completed within approximately 18 months. Cumulative projects include any committed and/or approved developments within 1.5 miles of the Project site that will generate future vehicle trips that utilize intersections identified in the Project traffic study area. According to the City, three projects were identified within the cumulative project study area: a new condominium and hotel

use at 2010 Ocean Boulevard, a commercial development at 6398 Pacific Coast Highway, and the 2nd and PCH commercial project at 6400 Pacific Coast Highway[1].

LSA identified the traffic volumes for the 2nd and PCH project from that project's traffic study (2nd and PCH Project Traffic Impact Analysis, April 2017). LSA manually generated and distributed potential traffic volumes for the other two cumulative projects using trip generation rates published in Institute of Transportation Engineers (ITE) *Trip Generation Manual*, Tenth Edition. The cumulative traffic volumes were added to existing conditions to produce the cumulative baseline conditions. Table F presents the intersection LOS conditions in the cumulative baseline condition.

Table F: Project Buildout Year (2022) Plus Cumulative Projects Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.67	B	0.71	C	0.52	A
2. Loma Avenue/Ocean Boulevard	0.56	A	0.65	B	0.40	A
3. Ocean Boulevard/Livingston Drive	0.48	A	0.60	B	0.46	A
4. Termino Avenue/Livingston Drive	0.42	A	0.64	B	0.51	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.47	A	0.41	A
7. 2nd Street/Livingston Drive	0.57	A	0.65	B	0.59	A
8. Termino Avenue/Ocean Boulevard	0.40	A	0.52	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.9 sec	B	14.9 sec	B	12.2 sec	B
10. Granada Avenue/Ocean Boulevard	9.8 sec	A	12.3 sec	B	10.9 sec	B
11. Pacific Coast Highway/2nd Street	**0.90**	**E**	**0.97**	**E**	**0.96**	**E**
12. Studebaker Road/2nd Street	**0.90**	**E**	**1.00**	**F**	**0.90**	**E**

Note: Shaded cells indicate unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

As Table F shows, the 10 intersections closest to the project site that were originally included in the study area are anticipated to operate at LOS D or better. However, cumulative project traffic volume is anticipated to degrade the LOS at Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street without the project.

PROJECT TRAFFIC

Similar to the Project presented in the Final EIR, the modified Belmont Pool Project involves the construction of a new pool facility. When compared to the former Belmont Pool, the modified Project water surface area would be increased from 18,410 square feet (sf) to 40,314 sf, which is slightly (10.6%) increased from the original proposed Project (36,450 sf). The modified Project no longer includes a standalone 1,500 sf cafe, but instead includes a concession stand within the locker

[1] The DEIR included the Leeway Sailing Center Pier Replacement as a cumulative project. This project has been completed and is reflected in the 2019 traffic volume data.

room/restroom building. As with the original Project, multiple user groups could be programmed concurrently throughout the day. In addition, one of the pools could remain open to the general public while a special event is being held. However, because events are scheduled throughout the day, increased concurrent programming would not necessarily affect traffic during the peak hours.

Two full-size outdoor pools could serve twice as many users as currently patronize the pool in the a.m. peak hour, the p.m. peak hour, and the weekend midday peak hour. To analyze this scenario, the operational traffic discussed above (and reported in Table E) was doubled. Travel to Belmont Pool is possible by public transit, bicycle, and carpool but each patron was analyzed as traveling by single-occupant vehicle to present a conservative ("worst-case") scenario. The resulting trip generation—identical to that analyzed in the EIR—is displayed in Table G.

Table G: Future with Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Modified Project	100	200	300	200	130	330	600	300	900

Parking for Belmont Pool is located in a metered parking lot accessible from Bennett Avenue. Patrons of the pool might also have parked in the lot for Belmont Pier at the end of Termino Avenue, which is a pay-and-display lot. Given the various utility of the two roadways providing access to Belmont Pool, 75 percent of traffic to and from the pool was assigned to Bennett Avenue while the remaining 25 percent was assigned to Termino Avenue. Regionally, trips were distributed based on the location of residential land uses likely to generate travel demand to the pool during the peak hours analyzed.

Figure 1 illustrates the trip distribution and subsequent project trip assignment at the 12 study intersections.

EXISTING PLUS PROJECT

The previously disclosed Existing (2016) Plus Project LOS is listed in Table G1. The updated Existing (2019) Plus Project LOS is listed in Table G2. Worksheets providing LOS calculations are provided as an attachment.

A comparison of Tables G1 and G2 reveals that all intersections previously operating at a satisfactory LOS continue to operate within the City's standard.

As Table G2 shows, all study intersections are anticipated to operate at LOS D or better in the Existing Plus Project condition except for the intersection of Studebaker Road/2nd Street, which operates at unsatisfactory LOS E in existing conditions. The modified project would increase the v/c ratio at this intersection by less than 0.02. According to the City's Traffic Impact Analysis Guidelines, the Project's impact would be less than significant, and no mitigation is required.

Table G1: Existing (2016) Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.73	C	0.75	C	0.68	B
2. Loma Avenue/Ocean Boulevard	0.65	B	0.69	B	0.56	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.61	B	0.50	A
4. Termino Avenue/Livingston Drive	0.41	A	0.65	B	0.52	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.15	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.66	B
8. Termino Avenue/Ocean Boulevard	0.34	A	0.44	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.7 sec	A	12.3 sec	B	16.4 sec	C
10. Granada Avenue/Ocean Boulevard	8.8 sec	A	10.1 sec	A	11.0 sec	B

ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Table G2: Existing (2019) Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.71	C	0.74	C	0.60	B
2. Loma Avenue/Ocean Boulevard	0.59	A	0.69	B	0.52	A
3. Ocean Boulevard/Livingston Drive	0.53	A	0.63	A	0.53	A
4. Termino Avenue/Livingston Drive	0.44	A	0.66	B	0.58	A
5. Bennett Avenue/Livingston Drive	8.3 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.47	A	0.42	A
7. 2nd Street/Livingston Drive	0.58	A	0.61	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.47	A	0.56	A	0.63	B
9. Bennett Avenue/Ocean Boulevard	12.9 sec	B	18.1 sec	C	21.1 sec	C
10. Granada Avenue/Ocean Boulevard	10.4 sec	B	13.6 sec	B	14.8 sec	B
11. Pacific Coast Highway/2nd Street	0.86	D	0.87	D	0.79	C
12. Studebaker Road/2nd Street	0.87	D	**0.98**	**E**	0.78	C

Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

PROJECT BUILDOUT YEAR PLUS CUMULATIVE PROJECTS PLUS PROJECT

Project traffic volumes were added to the cumulative baseline conditions and analyzed to determine the Project's potential impacts in the Project Buildout Year Plus Cumulative Projects Plus Project conditions. Table H displays the results. Worksheets providing LOS calculations are provided as an attachment.

As Table H shows, all study intersections are anticipated to operate at LOS D or better in the Project Buildout Year Plus Cumulative Projects Plus Project condition except for the intersections of Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street, which operate at unsatisfactory LOS in the cumulative baseline condition. The modified project would increase the v/c ratio at these intersections by less than 0.02.[1] According to the City's Traffic Impact Analysis Guidelines, the Project's impact would be less than significant, and no mitigation is required.

Table H: Project Buildout Year (2022) Plus Cumulative Projects Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.71	C	0.74	C	0.61	B
2. Loma Avenue/Ocean Boulevard	0.59	A	0.69	B	0.53	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.62	A	0.51	A
4. Termino Avenue/Livingston Drive	0.44	A	0.66	B	0.58	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.50	A	0.47	A	0.43	A
7. 2nd Street/Livingston Drive	0.57	A	0.65	B	0.61	B
8. Termino Avenue/Ocean Boulevard	0.48	A	0.59	A	0.63	B
9. Bennett Avenue/Ocean Boulevard	12.9 sec	B	18.1 sec	C	21.1 sec	C
10. Granada Avenue/Ocean Boulevard	10.3 sec	A	13.6 sec	B	14.8 sec	B
11. Pacific Coast Highway/2nd Street	**0.90**	**E**	**0.97**	**E**	**0.97**	**E**
12. Studebaker Road/2nd Street	**0.90**	**E**	**1.00**	**E**	**0.91**	**E**

Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

SPECIAL EVENT TRAFFIC

Typical daily operation of the new Belmont Pool with up to 900 patrons in a peak hour is not anticipated to result in a significant traffic impact to the study intersections. This includes typical daily use by local high school swimming and water polo teams for training; swimming, diving, and water polo clubs; and the general public, including recreational swimming, lap swimming for fitness, and swim lessons. Several times per year, Belmont Pool facilitates special events such as high school and collegiate swimming and water polo competitions. The previous facility provided 2,500 seats for spectators at events such as these at the indoor pool. The original proposed Project would have provided 1,250 permanent seats for the indoor pool and up to 3,000 temporary seats for the outdoor pool. As stated in the project description, the modified Project would provide 1,555 permanent seats for the main pool, and approximately 310 temporary seats for the secondary (Myrtha) pool. No permanent spectator seating at the Myrtha pool is included in the modified

[1] While these intersections were not analyzed in the 2016 Environmental Impact Report (EIR), the original Project would have had exactly the same effect on these intersections, since the modified Project is expected to generate the same amount of traffic as the original Project.

Project. Thus, the modified proposed Project has significantly less overall capacity for special events than the original Project. Likewise, even if special events are held at both pools simultaneously, the maximum number of spectators for the modified Project would be well under the baseline conditions of the former Belmont Pool facility prior to its demolition.

The Belmont Pool hosted the United States Olympic Swim trials in 1968 and 1976, the National Collegiate Athletic Association (NCAA) swimming championships in 1974 and 1978, and the NCAA water polo championships in all but 3 years from 1969 to 1994. If special events such as these again occur at the Belmont Pool after the modified Project is constructed, they are not expected to occur regularly. In the event that a large special event is held at Belmont Pool, an Event Traffic Management Plan would need to be developed that addresses potential impacts to traffic circulation and the steps necessary to avoid potential significant traffic congestion and parking impacts. With typical average vehicle occupancy of 1.5 passengers per vehicle, an event with 450 spectators would be expected to generate 300 outbound trips, which is the traffic volume that was analyzed in the weekend midday peak hour. Therefore, any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan. This plan may include active traffic management and/or off-site parking and shuttles. Because special events are sporadic and would occur at specific times per year consistent with existing (pre-closure) conditions, the impacts of special event traffic would not cause significant peak-hour LOS impacts. Mitigation Measure 4.12.1 (included in the Final EIR) requires the City to prepare and implement an Event Traffic Management Plan that requires traffic and control measures for special events to be reviewed and approved by the City of Long Beach Traffic Engineer. Implementation of Mitigation Measure 4.12.1 is applicable to the Modified project and would reduce special event traffic impacts to the surrounding residences and businesses to less than significant levels.

CONSTRUCTION TRAFFIC

Construction of the modified Project would require a net export of approximately 8,500 cubic yards (cy) of material, and construction worker commutes for the duration of the construction period. The staging area for construction would be in the Beach Parking Lot. Construction of the modified Project is anticipated to commence in 2021, at the earliest, and be completed within approximately 18 months.

Trips generated by construction traffic in the a.m. and p.m. peak hours could include construction workers arriving at the site, equipment and material delivery, and material export during the demolition phase. Large trucks, used for the delivery and removal of equipment and materials, utilize more roadway capacity than passenger vehicles due to their larger size, slower start-up times, and reduced maneuverability. In order to account for the increase in roadway capacity utilized by construction vehicles, passenger car equivalent (PCE) factors are used. These factors were applied to the vehicle trip generation to account for the difference in operational characteristics of heavy vehicles. In total, however, construction traffic is not anticipated to exceed the 100 inbound and 200 outbound trips already analyzed in the a.m. peak hour or the 200 inbound and 130 outbound trips already analyzed in the p.m. peak hour that would be expected with operation of the completed pool facility. Therefore, similar to operation of the completed pool facility, intersection operation is expected to remain at acceptable LOS during construction. Therefore, the modified Project would not result in a significant impact related to construction traffic, and no mitigation is required.

Potential temporary lane closures could restrict access for emergency vehicles. Mitigation Measure 4.12.2 (included in the Final EIR) requires that a Construction Traffic Management Plan be prepared for the modified Project that would ensure emergency vehicles would be able to navigate through streets adjacent to the Project site, which may experience congestion due to construction activities. A Construction Traffic Management Plan that identifies traffic control for any potential street closures, detours, or other disruption to traffic circulation and public transit routes is necessary for the modified Project. A Construction Traffic Management Plan also identifies the routes that construction vehicles are authorized to use to access the site, the hours of construction traffic, traffic controls and detours, and staging areas for equipment. Mitigation Measure 4.12.2 also requires that all emergency access to the Project site and adjacent areas be kept clear and unobstructed during all phases of construction. Traffic management personnel (flag persons), required as part of the Construction Traffic Management Plan, would be trained to assist in emergency response by restricting or controlling the movement of traffic that could interfere with emergency vehicle access. If a partial street closure (i.e., a lane closure) were to be required, notice would be provided to the Long Beach Police Department, and flag persons would be used to facilitate the traffic flow until construction is complete. With implementation of Mitigation Measure 4.12.2, potential impacts related to emergency access during construction would be less than significant.

MITIGATION MEASURES

The following mitigation measures included in the Final EIR would continue to adequately ensure that potential traffic impacts resulting from Project implementation would be reduced to less than significant levels.

Mitigation Measure 4.12.1: **Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.

Mitigation Measure 4.12.2: **Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop a Construction Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a

minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt.

SUMMARY

The Final EIR for the Belmont Pool project was certified in 2016. Based on operational data used to calculate trip generation, the traffic expected to be generated by the modified Project is the same as that expected from the original Project. To prepare this updated traffic impact analysis, LSA:

- Collected current (2019) existing conditions;
- Added two additional intersections requested in the Draft EIR comments;
- Followed the City's updated Traffic Impact Analysis Guidelines;
- Requested an updated cumulative project list from the City; and
- Incorporated adjusted intersection geometries resulting from the Ocean Boulevard restriping.

LSA compared the results of the revised traffic impact analysis to the analysis previously disclosed in the Final EIR. The existing intersection LOS are not substantially changed. The Project has no new traffic impacts. While cumulative projects are shown to degrade LOS at Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street, the Project would not result in a significant impact at either location according to the thresholds established in the City's Traffic Impact Analysis Guidelines. It should be noted that degraded LOS at these two intersections was identified in the environmental document for the 2nd and PCH commercial project.

Attachments: A – Traffic Volume Data
B – Existing Intersection LOS Worksheets
C – Cumulative Baseline Intersection LOS Worksheets
D – Existing Plus Project Intersection LOS Worksheets
E – Cumulative Plus Project Intersection LOS Worksheets

ATTACHMENT A

TRAFFIC VOLUME DATA

National Data & Surveying Services

Intersection Turning Movement Count

Location: Redondo Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05606-001
Date: 10/9/2019

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	17	0	29	0	14	173	0	0	0	276	25	0	534
7:15 AM	0	0	0	0	15	0	20	0	15	163	0	0	0	313	17	0	543
7:30 AM	0	0	0	0	23	0	28	0	16	183	0	0	0	314	12	0	576
7:45 AM	0	0	0	0	30	0	27	0	18	219	0	0	0	303	22	0	619
8:00 AM	0	0	0	0	37	0	21	0	25	164	0	0	0	343	25	0	615
8:15 AM	0	0	0	0	43	0	31	0	21	167	0	0	0	281	17	0	560
8:30 AM	0	0	0	0	24	0	16	0	20	154	0	0	0	255	31	0	500
8:45 AM	0	0	0	0	33	0	27	0	11	139	0	0	0	234	29	0	473
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	222	0	199	0	140	1362	0	0	0	2319	178	0	4420
APPROACH %'s :					52.73%	0.00%	47.27%	0.00%	9.32%	90.68%	0.00%	0.00%	0.00%	92.87%	7.13%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	133	0	107	0	80	733	0	0	0	1241	76	0	2370
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.773	0.000	0.863	0.000	0.800	0.837	0.000	0.000	0.000	0.905	0.760	0.000	0.957
					0.811				0.858				0.895				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	41	0	21	0	26	329	0	0	0	206	26	0	649
4:15 PM	0	0	0	0	46	0	28	0	33	323	0	0	0	209	22	0	661
4:30 PM	0	0	0	0	44	0	14	0	33	340	0	0	0	200	26	0	657
4:45 PM	0	0	0	0	36	0	20	0	25	380	0	0	0	209	26	0	696
5:00 PM	0	0	0	0	50	0	17	0	28	387	0	0	0	205	32	0	719
5:15 PM	0	0	0	0	44	0	23	0	43	379	0	0	0	217	42	0	748
5:30 PM	0	0	0	0	33	0	38	0	28	361	0	0	0	211	23	0	694
5:45 PM	0	0	0	0	47	0	24	0	18	302	0	0	0	219	22	0	632
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	341	0	185	0	234	2801	0	0	0	1676	219	0	5456
APPROACH %'s :					64.83%	0.00%	35.17%	0.00%	7.71%	92.29%	0.00%	0.00%	0.00%	88.44%	11.56%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	163	0	98	0	124	1507	0	0	0	842	123	0	2857
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.815	0.000	0.645	0.000	0.721	0.974	0.000	0.000	0.000	0.970	0.732	0.000	0.955
					0.919				0.966				0.931				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Loma Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05606-002
Date: 10/9/2019

Total

NS/EW Streets:	Loma Ave				Loma Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	5	0	4	0	3	186	0	0	0	298	1	0	497
7:15 AM	0	0	0	0	3	0	2	0	1	173	0	0	0	335	2	0	516
7:30 AM	0	0	0	0	2	0	9	0	2	208	0	0	0	332	7	0	560
7:45 AM	0	0	0	0	2	0	6	0	3	252	0	0	0	305	1	0	569
8:00 AM	0	0	0	0	3	0	4	0	3	195	0	0	0	363	5	0	573
8:15 AM	0	0	0	0	1	0	3	0	1	214	0	0	0	300	4	0	523
8:30 AM	0	0	0	0	1	0	3	0	2	181	0	0	0	280	2	0	469
8:45 AM	0	0	0	0	1	0	5	0	1	163	0	0	0	244	6	0	420
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	18	0	36	0	16	1572	0	0	0	2457	28	0	4127
APPROACH %'s :					33.33%	0.00%	66.67%	0.00%	1.01%	98.99%	0.00%	0.00%	0.00%	98.87%	1.13%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	8	0	22	0	9	869	0	0	0	1300	17	0	2225
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.667	0.000	0.611	0.000	0.750	0.862	0.000	0.000	0.000	0.895	0.607	0.000	0.971
					0.682				0.861				0.895				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	3	0	6	0	4	374	0	0	0	228	5	0	620
4:15 PM	0	0	0	0	3	0	3	0	9	342	0	0	0	222	15	0	594
4:30 PM	0	0	0	0	3	0	2	0	5	394	0	0	0	243	14	0	661
4:45 PM	0	0	0	0	2	0	1	0	8	414	0	0	0	218	13	0	656
5:00 PM	0	0	0	0	2	0	3	0	5	427	0	1	0	247	9	0	694
5:15 PM	0	0	0	0	3	0	5	0	4	411	0	0	0	239	5	0	667
5:30 PM	0	0	0	0	3	0	2	0	12	385	0	0	0	245	8	0	655
5:45 PM	0	0	0	0	5	0	5	0	11	338	0	2	0	229	10	0	600
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	24	0	27	0	58	3085	0	3	0	1871	79	0	5147
APPROACH %'s :					47.06%	0.00%	52.94%	0.00%	1.84%	98.06%	0.00%	0.10%	0.00%	95.95%	4.05%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	10	0	11	0	22	1646	0	1	0	947	41	0	2678
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.833	0.000	0.550	0.000	0.688	0.964	0.000	0.250	0.000	0.959	0.732	0.000	0.965
					0.656				0.964				0.961				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ocean Blvd & Ocean Blvd/Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-003
Date: 10/23/2019

Total

NS/EW Streets:	Ocean Blvd				Ocean Blvd				Ocean Blvd/Livingston Dr				Ocean Blvd/Livingston Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	0	0	1	2	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	82	0	1	0	0	0	5	0	0	167	42	0	0	241	3	0	541
7:15 AM	98	0	0	0	0	0	3	0	0	164	48	3	0	220	2	0	538
7:30 AM	98	0	0	0	0	0	1	0	0	215	38	2	0	283	7	0	644
7:45 AM	93	0	0	0	0	0	5	0	0	208	69	1	0	282	3	0	661
8:00 AM	99	0	0	0	0	0	2	0	0	183	53	0	0	262	4	0	603
8:15 AM	100	0	2	0	0	0	4	0	0	158	58	5	0	243	1	0	571
8:30 AM	82	0	0	0	0	0	1	0	0	160	51	0	0	198	3	0	495
8:45 AM	71	0	0	0	0	0	6	0	1	143	44	1	0	219	1	0	486
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	723	0	3	0	0	0	27	0	1	1398	403	12	0	1948	24	0	4539
APPROACH %'s :	99.59%	0.00%	0.41%	0.00%	0.00%	0.00%	100.00%	0.00%	0.06%	77.07%	22.22%	0.66%	0.00%	98.78%	1.22%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	390	0	2	0	0	0	12	0	0	764	218	8	0	1070	15	0	2479
PEAK HR FACTOR :	0.975	0.000	0.250	0.000	0.000	0.000	0.600	0.000	0.000	0.888	0.790	0.400	0.000	0.945	0.536	0.000	0.938
	0.961				0.600				0.890				0.935				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	0	0	1	2	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	88	0	2	0	0	0	2	0	0	266	121	2	0	141	1	0	623
4:15 PM	79	0	0	0	0	0	2	0	4	283	120	5	0	175	9	0	677
4:30 PM	82	0	1	0	0	0	2	0	3	281	112	1	0	156	5	0	643
4:45 PM	90	0	1	0	0	0	2	0	2	307	134	2	0	156	3	0	697
5:00 PM	82	0	0	0	0	0	3	0	2	302	140	5	0	152	6	0	692
5:15 PM	89	0	2	0	0	0	5	0	3	304	137	7	0	151	3	0	701
5:30 PM	82	0	1	0	0	0	2	0	3	255	145	0	0	163	3	0	654
5:45 PM	93	0	0	0	0	0	5	0	3	243	122	3	0	163	5	0	637
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	685	0	7	0	0	0	23	0	20	2241	1031	25	0	1257	35	0	5324
APPROACH %'s :	98.99%	0.00%	1.01%	0.00%	0.00%	0.00%	100.00%	0.00%	0.60%	67.56%	31.08%	0.75%	0.00%	97.29%	2.71%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	343	0	4	0	0	0	12	0	10	1168	556	14	0	622	15	0	2744
PEAK HR FACTOR :	0.953	0.000	0.500	0.000	0.000	0.000	0.600	0.000	0.833	0.951	0.959	0.500	0.000	0.954	0.625	0.000	0.979
	0.953				0.600				0.969				0.959				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-004
Date: 10/9/2019

Total

NS/EW Streets:	Termino Ave				Termino Ave				Livingston Dr				Livingston Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	1	0.5	0.5	0	0	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	0	22	0	5	11	3	0	0	138	5	0	8	190	0	0	386
7:15 AM	6	0	20	0	5	5	1	0	0	143	0	0	9	251	0	3	443
7:30 AM	3	0	14	0	5	7	4	0	0	179	3	0	12	234	0	1	462
7:45 AM	6	0	22	0	5	10	2	0	0	175	4	0	18	231	0	2	475
8:00 AM	11	0	19	0	4	5	3	0	0	130	3	0	14	236	0	2	427
8:15 AM	3	0	26	0	6	7	0	0	0	159	0	1	18	210	0	3	433
8:30 AM	3	0	34	0	8	6	5	0	0	142	7	0	15	194	0	3	417
8:45 AM	11	0	22	0	5	12	2	0	0	113	5	0	19	163	0	2	354
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	47	0	179	0	43	63	20	0	0	1179	27	1	113	1709	0	16	3397
APPROACH %'s :	20.80%	0.00%	79.20%	0.00%	34.13%	50.00%	15.87%	0.00%	0.00%	97.68%	2.24%	0.08%	6.15%	92.98%	0.00%	0.87%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	26	0	75	0	19	27	10	0	0	627	10	0	53	952	0	8	1807
PEAK HR FACTOR :	0.591	0.000	0.852	0.000	0.950	0.675	0.625	0.000	0.000	0.876	0.625	0.000	0.736	0.948	0.000	0.667	0.951
	0.842				0.824				0.875				0.963				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	1	0.5	0.5	0	0	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	0	30	0	5	12	3	0	0	283	6	0	24	151	0	4	527
4:15 PM	8	0	25	0	2	16	1	0	0	239	4	0	35	177	0	4	511
4:30 PM	13	0	24	0	7	12	2	0	0	265	4	0	24	173	0	3	527
4:45 PM	15	0	29	0	8	11	0	0	0	270	2	0	17	152	0	3	507
5:00 PM	10	0	32	1	6	12	2	0	0	321	11	0	15	176	0	3	589
5:15 PM	9	0	30	0	7	11	2	0	0	253	5	0	21	181	0	2	521
5:30 PM	6	0	35	0	5	11	5	0	0	251	5	0	20	162	0	1	501
5:45 PM	10	0	29	0	2	15	3	0	0	195	7	0	19	159	0	3	442
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	80	0	234	1	42	100	18	0	0	2077	44	0	175	1331	0	23	4125
APPROACH %'s :	25.40%	0.00%	74.29%	0.32%	26.25%	62.50%	11.25%	0.00%	0.00%	97.93%	2.07%	0.00%	11.45%	87.05%	0.00%	1.50%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	47	0	115	1	28	46	6	0	0	1109	22	0	77	682	0	11	2144
PEAK HR FACTOR :	0.783	0.000	0.898	0.250	0.875	0.958	0.750	0.000	0.000	0.864	0.500	0.000	0.802	0.942	0.000	0.917	0.910
	0.926				0.952				0.852				0.944				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Livingston Dr
City: Long Beach
Control: 1-Way Stop(SB)

Project ID: 19-05606-005
Date: 10/9/2019

Total

NS/EW Streets:	Bennett Ave				Bennett Ave					Livingston Dr				Livingston Dr						
AM	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND				WESTBOUND2		
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	218	0	0	0	0	218
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0	2	0	232
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260	0	0	1	0	261
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	238	0	0	1	1	241
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	277	0	0	3	2	283
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	0	0	1	3	216
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202	0	0	3	0	205
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	190	0	0	0	1	192
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1827	0	0	11	7	1848
APPROACH %'s :					0.00%	0.00%	0.00%	0.00%	100.00%					0.00%	100.00%	0.00%	0.00%	61.11%	38.89%	
PEAK HR :	**07:00 AM - 08:00 AM**																			TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	0	0	0	0	0	946	0	0	4	1	952
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.910	0.000	0.000	0.500	0.250	0.912
							0.250								0.910			0.625		

PM	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND				WESTBOUND2		
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	177	0	0	6	0	184
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195	0	0	1	0	196
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	208	0	0	2	0	211
4:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	179	0	0	2	1	185
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	195	0	0	4	0	201
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	3	0	203
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	203	0	0	3	0	206
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	190	0	0	1	0	192
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	8	0	0	0	0	0	1547	0	0	22	1	1578
APPROACH %'s :					0.00%	0.00%	0.00%	0.00%	100.00%					0.00%	100.00%	0.00%	0.00%	95.65%	4.35%	
PEAK HR :	**04:00 PM - 05:00 PM**																			TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	5	0	0	0	0	0	759	0	0	11	1	776
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.912	0.000	0.000	0.458	0.250	0.919
							0.417								0.912			0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ximeno Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-006
Date: 10/9/2019

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave					Livingston Dr					Livingston Dr							
AM	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND							
	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1.5	0.5	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
7:00 AM	0	0	0	0	0	0	11	0	0	20	0	0	1	0	0	187	0	0	0	1	1	221
7:15 AM	0	0	0	0	0	0	13	0	0	22	0	0	1	1	0	234	0	0	1	0	1	273
7:30 AM	0	0	0	0	0	0	9	0	1	21	0	0	0	0	0	244	0	0	0	0	0	275
7:45 AM	0	0	0	0	0	0	12	0	2	27	0	0	0	1	0	231	0	0	0	0	0	273
8:00 AM	0	0	0	0	0	0	12	0	0	16	0	0	0	2	0	248	2	0	1	0	0	281
8:15 AM	0	0	0	0	0	0	13	0	3	24	0	0	0	0	0	196	0	0	0	0	1	237
8:30 AM	0	0	0	0	0	0	14	0	0	27	0	0	0	1	0	195	0	0	0	0	0	237
8:45 AM	0	0	0	0	0	0	17	0	0	27	0	0	1	0	0	161	1	0	0	0	1	208
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	101	0	6	184	0	0	3	5	0	1696	3	0	2	1	4	2005
APPROACH %'s :					0.00%	0.00%	94.39%	0.00%	5.61%	95.83%	0.00%	0.00%	1.56%	2.60%	0.00%	99.82%	0.18%	0.00%	28.57%	14.29%	57.14%	
PEAK HR :	**07:00 AM - 08:00 AM**																					TOTAL
PEAK HR VOL :	0	0	0	0	0	0	45	0	3	90	0	0	2	2	0	896	0	0	1	1	2	1042
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.865	0.000	0.375	0.833	0.000	0.000	0.500	0.500	0.000	0.918	0.000	0.000	0.250	0.250	0.500	0.947
							0.857					0.839				0.918						

PM	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND							
	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1.5	0.5	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
4:00 PM	0	0	0	0	0	0	20	0	4	38	0	0	0	2	0	161	2	0	0	0	0	227
4:15 PM	0	0	0	0	0	0	23	0	0	28	0	0	1	0	0	185	1	0	0	1	1	240
4:30 PM	0	0	0	0	0	0	18	0	2	24	0	0	0	0	0	186	0	0	0	0	0	230
4:45 PM	0	0	0	0	0	0	9	0	3	25	0	0	0	0	0	167	1	0	0	1	2	208
5:00 PM	0	0	0	0	0	0	12	0	2	42	0	0	0	3	0	176	1	0	1	0	0	237
5:15 PM	0	0	0	0	0	0	19	0	1	35	0	0	1	0	0	189	1	0	0	0	0	246
5:30 PM	0	0	0	0	0	0	19	0	1	38	0	0	0	2	0	167	4	0	0	0	0	231
5:45 PM	0	0	0	0	0	0	19	0	2	31	0	0	0	0	0	167	0	0	0	0	0	219
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	139	0	15	261	0	0	2	7	0	1398	10	0	1	2	3	1838
APPROACH %'s :					0.00%	0.00%	90.26%	0.00%	9.74%	96.67%	0.00%	0.00%	0.74%	2.59%	0.00%	99.29%	0.71%	0.00%	16.67%	33.33%	50.00%	
PEAK HR :	**04:00 PM - 05:00 PM**																					TOTAL
PEAK HR VOL :	0	0	0	0	0	0	70	0	9	115	0	0	1	2	0	699	4	0	0	2	3	905
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.761	0.000	0.563	0.757	0.000	0.000	0.250	0.250	0.000	0.940	0.500	0.000	0.000	0.500	0.375	0.943
							0.823					0.738				0.945						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Quincy Ave/2nd St & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-007
Date: 10/9/2019

Total

NS/EW Streets:	Quincy Ave/2nd St							Quincy Ave/2nd St						Livingston Dr							Livingston Dr							
AM	NORTHBOUND							SOUTHBOUND						EASTBOUND							WESTBOUND						EASTBOUND2		
	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0	2	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
7:00 AM	162	8	0	1	0	1	2	1	40	0	0	0	0	0	10	160	0	0	0	0	0	17	0	0	0	3	0	405
7:15 AM	226	17	1	1	0	1	1	1	30	0	0	0	0	0	24	146	0	0	1	0	0	18	0	0	0	1	0	468
7:30 AM	226	20	1	0	0	1	0	4	31	0	0	3	0	0	16	162	1	0	0	0	0	21	2	0	0	3	2	493
7:45 AM	209	21	0	1	0	0	1	3	26	0	0	3	0	0	23	179	0	0	0	1	0	24	0	0	0	3	0	494
8:00 AM	244	27	1	5	1	0	1	6	38	0	0	2	0	0	17	135	0	0	0	1	0	14	1	0	0	3	0	496
8:15 AM	180	43	2	2	1	1	1	2	35	0	0	1	0	0	10	142	0	0	2	0	0	14	1	0	2	3	0	442
8:30 AM	159	33	0	1	1	1	2	4	38	0	0	1	0	1	28	126	0	1	1	0	0	22	2	0	0	0	2	423
8:45 AM	146	29	2	1	1	0	5	7	36	0	0	5	0	0	22	118	0	0	3	0	0	25	1	0	0	2	0	403
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
TOTAL VOLUMES :	1552	198	7	12	4	5	13	28	274	0	0	15	0	1	150	1168	1	1	7	2	0	155	7	0	2	18	4	3624
APPROACH %'s :	86.66%	11.06%	0.39%	0.67%	0.22%	0.28%	0.73%	8.83%	86.44%	0.00%	0.00%	4.73%	0.00%	0.08%	11.28%	87.82%	0.08%	0.08%	0.53%	0.15%	0.00%	94.51%	4.27%	0.00%	1.22%	81.82%	18.18%	
PEAK HR :	07:00 AM - 08:00 AM																											TOTAL
PEAK HR VOL :	823	66	2	3	0	3	4	9	127	0	0	6	0	0	73	647	1	0	1	1	0	80	2	0	0	10	2	1860
PEAK HR FACTOR :	0.910	0.786	0.500	0.750	0.000	0.750	0.500	0.563	0.794	0.000	0.000	0.500	0.000	0.000	0.760	0.904	0.250	0.000	0.250	0.250	0.000	0.833	0.250	0.000	0.000	0.833	0.250	0.941
				0.908							0.866						0.890						0.854				0.600	

PM	NORTHBOUND							SOUTHBOUND						EASTBOUND							WESTBOUND						EASTBOUND2		
	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0	2	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
4:00 PM	138	45	1	0	5	0	11	5	27	0	0	5	0	0	38	233	0	1	5	0	0	21	5	0	2	1	1	544
4:15 PM	167	46	2	0	6	1	12	5	27	0	0	7	1	0	39	210	0	0	1	0	0	28	5	0	2	1	0	560
4:30 PM	143	46	1	0	1	1	7	6	39	0	0	2	0	0	41	231	0	0	1	0	0	40	5	0	0	1	0	565
4:45 PM	144	41	0	0	3	1	7	10	55	0	0	4	2	1	37	249	0	1	1	1	0	18	4	0	2	3	0	584
5:00 PM	151	47	4	2	3	1	9	4	36	0	0	6	0	0	47	245	0	0	3	0	0	33	7	0	0	1	1	600
5:15 PM	150	50	0	2	2	1	4	9	26	0	0	7	0	1	57	228	0	0	6	1	0	33	3	0	0	1	0	581
5:30 PM	173	43	2	1	1	1	6	6	36	0	0	4	1	0	37	192	0	1	2	0	1	26	6	0	1	3	0	543
5:45 PM	116	43	3	2	1	3	10	6	36	0	0	4	0	0	29	176	1	2	8	1	0	29	8	1	0	0	1	480
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
TOTAL VOLUMES :	1182	361	13	7	22	9	66	51	282	0	0	39	4	2	325	1764	1	5	27	3	1	228	43	1	7	11	3	4457
APPROACH %'s :	71.20%	21.75%	0.78%	0.42%	1.33%	0.54%	3.98%	13.56%	75.00%	0.00%	0.00%	10.37%	1.06%	0.09%	15.28%	82.93%	0.05%	0.24%	1.27%	0.14%	0.36%	81.43%	15.36%	0.36%	2.50%	78.57%	21.43%	
PEAK HR :	04:00 PM - 05:00 PM																											TOTAL
PEAK HR VOL :	592	178	4	0	15	3	37	26	148	0	0	18	3	1	155	923	0	2	8	1	0	107	19	0	6	6	1	2253
PEAK HR FACTOR :	0.886	0.967	0.500	0.000	0.625	0.750	0.771	0.650	0.673	0.000	0.000	0.643	0.375	0.250	0.945	0.927	0.000	0.500	0.400	0.250	0.000	0.669	0.950	0.000	0.750	0.500	0.250	0.964
				0.886							0.687						0.940						0.733				0.583	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05606-008
Date: 10/9/2019

Total

NS/EW Streets:	Termino Ave				Termino Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	3	3	0	8	16	2	0	4	35	4	2	5	83	20	3	193
7:15 AM	10	9	4	0	5	5	2	0	3	32	6	2	2	71	11	3	165
7:30 AM	4	4	4	0	11	9	2	0	3	30	3	2	5	73	12	3	165
7:45 AM	9	7	5	0	12	17	3	0	9	50	8	3	7	68	17	3	218
8:00 AM	12	9	7	0	4	13	6	0	5	43	13	1	5	75	10	2	205
8:15 AM	9	6	6	0	7	16	1	0	4	48	9	2	6	83	20	2	219
8:30 AM	10	7	9	0	10	16	1	1	9	30	8	3	5	80	20	1	210
8:45 AM	14	8	4	0	16	10	5	0	11	46	5	2	6	65	18	1	211
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	73	53	42	0	73	102	22	1	48	314	56	17	41	598	128	18	1586
APPROACH %'s :	43.45%	31.55%	25.00%	0.00%	36.87%	51.52%	11.11%	0.51%	11.03%	72.18%	12.87%	3.91%	5.22%	76.18%	16.31%	2.29%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	40	29	27	0	33	62	11	1	27	171	38	9	23	306	67	8	852
PEAK HR FACTOR :	0.833	0.806	0.750	0.000	0.688	0.912	0.458	0.250	0.750	0.855	0.731	0.750	0.821	0.922	0.838	0.667	0.973
	0.857				0.836				0.875				0.910				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	18	4	0	22	13	5	0	11	70	6	3	7	72	10	4	253
4:15 PM	21	10	3	0	19	34	4	0	8	83	8	3	5	55	14	4	271
4:30 PM	15	9	13	0	19	18	3	0	16	99	14	4	11	65	15	1	302
4:45 PM	8	16	12	0	16	12	2	0	15	81	15	1	6	68	11	3	266
5:00 PM	4	8	10	0	23	17	0	0	15	113	9	1	9	83	20	5	317
5:15 PM	6	15	5	0	15	18	3	0	8	114	12	2	5	60	12	3	278
5:30 PM	15	13	6	0	20	17	2	1	13	126	16	3	11	68	22	3	336
5:45 PM	16	11	7	0	13	17	1	0	10	89	15	3	6	53	17	1	259
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	93	100	60	0	147	146	20	1	96	775	95	20	60	524	121	24	2282
APPROACH %'s :	36.76%	39.53%	23.72%	0.00%	46.82%	46.50%	6.37%	0.32%	9.74%	78.60%	9.63%	2.03%	8.23%	71.88%	16.60%	3.29%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	33	52	33	0	74	64	7	1	51	434	52	7	31	279	65	14	1197
PEAK HR FACTOR :	0.550	0.813	0.688	0.000	0.804	0.889	0.583	0.250	0.850	0.861	0.813	0.583	0.705	0.840	0.739	0.700	0.891
	0.819				0.913				0.861				0.831				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Ocean Blvd
City: Long Beach
Control: 3-Way Stop(NB/EB/WB)

Project ID: 19-05606-009
Date: 10/9/2019

Total

NS/EW Streets:	Bennett Ave				Bennett Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	0	3	1	0	0	0	0	2	31	10	1	4	84	1	3	143
7:15 AM	7	0	5	0	0	0	0	0	1	30	6	3	6	67	0	0	125
7:30 AM	6	0	1	0	0	0	0	0	2	41	3	4	3	82	2	2	146
7:45 AM	6	1	2	0	0	0	0	0	2	49	4	3	6	79	6	5	163
8:00 AM	4	0	3	0	0	0	0	0	6	47	4	4	11	90	3	2	174
8:15 AM	7	0	4	0	0	0	0	0	4	50	3	2	10	104	4	3	191
8:30 AM	2	0	2	0	0	0	0	0	10	46	6	5	7	95	0	1	174
8:45 AM	6	1	4	1	0	0	0	0	7	47	9	6	10	77	3	2	173
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	41	2	24	2	0	0	0	0	34	341	45	28	57	678	19	18	1289
APPROACH %'s :	59.42%	2.90%	34.78%	2.90%					7.59%	76.12%	10.04%	6.25%	7.38%	87.82%	2.46%	2.33%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	19	1	13	1	0	0	0	0	27	190	22	17	38	366	10	8	712
PEAK HR FACTOR :	0.679	0.250	0.813	0.250	0.000	0.000	0.000	0.000	0.675	0.950	0.611	0.708	0.864	0.880	0.625	0.667	0.932
	0.708								0.928				0.872				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	1	3	0	0	0	0	0	15	71	11	1	6	87	3	2	209
4:15 PM	9	0	4	0	0	0	0	0	8	94	14	2	13	63	12	2	221
4:30 PM	7	3	8	0	0	0	0	0	11	115	6	2	12	68	2	4	238
4:45 PM	6	3	5	0	0	0	0	0	6	104	3	6	8	71	11	2	225
5:00 PM	6	2	6	0	0	0	0	0	9	122	9	4	10	93	6	2	269
5:15 PM	7	0	3	0	0	0	0	0	10	122	12	2	9	65	6	3	239
5:30 PM	11	1	11	0	0	0	0	0	13	117	5	6	6	76	5	4	255
5:45 PM	8	1	12	0	0	0	0	0	8	111	5	1	15	65	8	6	240
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	63	11	52	0	0	0	0	0	80	856	65	24	79	588	53	25	1896
APPROACH %'s :	50.00%	8.73%	41.27%	0.00%					7.80%	83.51%	6.34%	2.34%	10.60%	78.93%	7.11%	3.36%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	32	4	32	0	0	0	0	0	40	472	31	13	40	299	25	15	1003
PEAK HR FACTOR :	0.727	0.500	0.667	0.000	0.000	0.000	0.000	0.000	0.769	0.967	0.646	0.542	0.667	0.804	0.781	0.625	0.932
	0.739								0.952				0.854				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Granada Ave & Ocean Blvd
City: Long Beach
Control: 4-Way Stop

Project ID: 19-05606-010
Date: 10/9/2019

Total

NS/EW Streets:	Granada Ave				Granada Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	5	0	2	1	1	0	3	29	3	0	3	53	9	1	112
7:15 AM	2	0	2	0	6	0	5	0	6	33	1	0	0	48	5	0	108
7:30 AM	1	2	4	0	1	1	5	0	0	47	1	0	1	62	2	2	129
7:45 AM	0	0	2	0	2	0	8	0	5	44	0	4	1	59	3	2	130
8:00 AM	9	12	9	0	7	0	5	0	9	43	4	7	1	58	4	0	168
8:15 AM	3	5	4	0	4	1	6	0	5	35	2	3	4	65	5	3	145
8:30 AM	0	4	2	0	6	0	4	0	7	49	0	1	2	50	5	0	130
8:45 AM	0	3	4	0	10	1	10	0	8	35	5	2	5	69	10	0	162
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	15	28	32	0	38	4	44	0	43	315	16	17	17	464	43	8	1084
APPROACH %'s :	20.00%	37.33%	42.67%	0.00%	44.19%	4.65%	51.16%	0.00%	11.00%	80.56%	4.09%	4.35%	3.20%	87.22%	8.08%	1.50%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	12	24	19	0	27	2	25	0	29	162	11	13	12	242	24	3	605
PEAK HR FACTOR :	0.333	0.500	0.528	0.000	0.675	0.500	0.625	0.000	0.806	0.827	0.550	0.464	0.600	0.877	0.600	0.250	0.900
	0.458				0.643				0.853				0.836				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	4	3	0	4	4	6	0	9	65	0	1	2	63	3	0	166
4:15 PM	5	3	2	0	2	3	5	0	4	99	2	0	1	57	4	0	187
4:30 PM	2	2	4	0	5	2	13	0	11	101	2	1	3	48	11	1	206
4:45 PM	3	1	2	0	3	0	8	0	9	91	2	1	1	60	7	2	190
5:00 PM	3	1	2	0	5	1	8	0	8	101	6	5	1	66	6	3	216
5:15 PM	1	1	0	0	6	1	5	0	10	91	2	1	1	65	4	2	190
5:30 PM	3	1	4	0	7	1	4	0	16	72	3	6	2	48	8	1	176
5:45 PM	3	2	1	0	5	3	4	0	13	93	3	1	2	66	5	2	203
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	15	18	0	37	15	53	0	80	713	20	16	13	473	48	11	1534
APPROACH %'s :	40.00%	27.27%	32.73%	0.00%	35.24%	14.29%	50.48%	0.00%	9.65%	86.01%	2.41%	1.93%	2.39%	86.79%	8.81%	2.02%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	9	5	8	0	19	4	34	0	38	384	12	8	6	239	28	8	802
PEAK HR FACTOR :	0.750	0.625	0.500	0.000	0.792	0.500	0.654	0.000	0.864	0.950	0.500	0.400	0.500	0.905	0.636	0.667	0.928
	0.688				0.713				0.921				0.924				

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

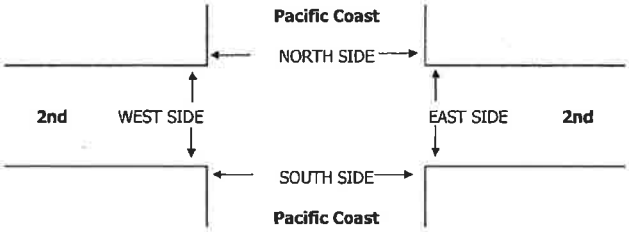
DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Pacific Coast	LOCATION #:	17
	EAST & WEST:	2nd	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND 2nd			WESTBOUND 2nd				U-TURNS				
	LANES:	NL 2	NT 3	NR 0	SL 2	ST 3	SR 1	EL 2	ET 2.5	ER 1.5	WL 2	WT 3	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	79	300	71	39	265	28	53	261	119	84	197	48	1,544	0	0	0	1	1
AM	7:15 AM	95	249	67	64	268	23	52	333	119	78	213	54	1,615	0	0	0	0	0
AM	7:30 AM	109	312	78	58	248	32	52	333	113	71	198	68	1,672	0	0	0	1	1
AM	7:45 AM	87	292	94	56	191	67	55	298	71	87	287	73	1,658	0	0	0	0	0
AM	8:00 AM	101	278	74	64	210	44	68	267	111	84	229	111	1,641	0	0	0	1	1
AM	8:15 AM	105	303	79	50	170	38	67	244	82	68	164	46	1,416	0	0	1	1	2
AM	8:30 AM	114	255	61	32	192	59	50	272	92	43	200	75	1,445	0	0	0	1	1
AM	8:45 AM	124	251	47	31	182	52	78	212	75	85	205	83	1,425	0	0	1	2	3
AM	VOLUMES	814	2,240	571	394	1,726	343	475	2,220	782	600	1,693	558	12,416	0	0	2	7	9
AM	APPROACH %	22%	62%	16%	16%	70%	14%	14%	64%	22%	21%	59%	20%						
AM	APP/DEPART	3,625	/	3,271	2,463	/	3,101	3,477	/	3,192	2,851	/	2,852	0					
AM	BEGIN PEAK HR		7:15 AM																
AM	VOLUMES	392	1,131	313	242	917	166	227	1,231	414	320	927	306	6,586					
AM	APPROACH %	21%	62%	17%	18%	69%	13%	12%	66%	22%	21%	60%	20%						
AM	PEAK HR FACTOR		0.920			0.933			0.929			0.869		0.985					
AM	APP/DEPART	1,836	/	1,664	1,325	/	1,649	1,872	/	1,788	1,553	/	1,485	0					
PM	4:00 PM	105	246	75	61	202	98	75	267	59	69	248	66	1,571	0	0	0	1	1
PM	4:15 PM	91	232	71	56	251	96	66	303	69	65	285	69	1,654	0	0	0	0	0
PM	4:30 PM	119	218	59	58	231	106	82	302	89	79	293	75	1,711	0	0	0	2	2
PM	4:45 PM	96	216	85	71	256	97	93	244	64	92	292	75	1,681	0	0	1	2	3
PM	5:00 PM	86	261	94	76	258	102	45	287	64	71	303	95	1,742	0	0	0	1	1
PM	5:15 PM	119	234	68	62	246	110	78	262	80	90	307	91	1,747	0	0	0	2	2
PM	5:30 PM	73	239	82	59	274	85	93	221	36	70	266	79	1,577	0	1	1	3	5
PM	5:45 PM	110	199	75	68	221	100	64	323	70	70	345	67	1,712	0	0	0	4	4
PM	VOLUMES	799	1,845	609	511	1,939	794	596	2,209	531	606	2,339	617	13,395	0	1	2	15	18
PM	APPROACH %	25%	57%	19%	16%	60%	24%	18%	66%	16%	17%	66%	17%						
PM	APP/DEPART	3,253	/	3,057	3,244	/	3,061	3,336	/	3,343	3,562	/	3,934	0					
PM	BEGIN PEAK HR		4:30 PM																
PM	VOLUMES	420	929	306	267	991	415	298	1,095	297	332	1,195	336	6,881					
PM	APPROACH %	25%	56%	18%	16%	59%	25%	18%	65%	18%	18%	64%	18%						
PM	PEAK HR FACTOR		0.938			0.959			0.893			0.954		0.985					
PM	APP/DEPART	1,655	/	1,562	1,673	/	1,613	1,690	/	1,675	1,863	/	2,031	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	4	1	5	4	14	3	0	0	1	4	1	1	5	3	10
AM	7:15 AM	2	1	2	0	5	0	0	0	0	0	2	1	2	0	5
AM	7:30 AM	3	1	2	4	10	2	0	1	2	5	1	1	1	2	5
AM	7:45 AM	2	1	8	1	12	1	1	2	1	5	1	0	6	0	7
AM	8:00 AM	3	1	5	5	14	2	1	2	3	8	1	0	3	2	6
AM	8:15 AM	2	0	4	0	6	2	0	3	0	5	0	0	1	0	1
AM	8:30 AM	4	3	2	2	11	3	2	2	1	8	1	1	0	1	3
AM	8:45 AM	2	3	3	5	13	1	0	1	1	3	1	3	2	4	10
AM	TOTAL	22	11	31	21	85	14	4	11	9	38	8	7	20	12	47
PM	4:00 PM	8	5	9	7	29	8	1	8	3	20	0	4	1	4	9
PM	4:15 PM	6	6	8	5	25	2	1	4	2	9	4	5	4	3	16
PM	4:30 PM	4	4	6	5	19	3	3	4	4	14	1	1	2	1	5
PM	4:45 PM	9	2	9	6	26	9	1	8	4	22	0	1	1	2	4
PM	5:00 PM	2	2	3	1	8	1	2	1	1	5	1	0	2	0	3
PM	5:15 PM	5	0	4	7	16	5	0	4	5	14	0	0	0	2	2
PM	5:30 PM	3	1	3	8	15	2	1	3	5	11	1	0	0	3	4
PM	5:45 PM	10	2	4	6	22	6	2	3	5	16	4	0	1	1	6
PM	TOTAL	47	22	46	45	160	36	11	35	29	111	11	11	11	16	49

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

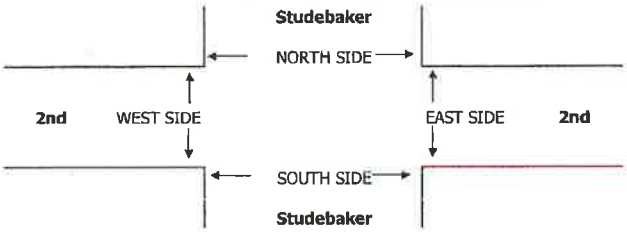
DATE:				
Tue, Nov 15, 16	LOCATION:	Long Beach	PROJECT #:	SC1123
	NORTH & SOUTH:	Studebaker	LOCATION #:	19
	EAST & WEST:	2nd	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ◄ W ▲ N S ▼ E ►

☑ Add U-Turns to Left Turns

		NORTHBOUND Studebaker			SOUTHBOUND Studebaker			EASTBOUND 2nd			WESTBOUND 2nd				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 2	ST X	SR 2	EL 2	ET 2	ER X	WL X	WT 3	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	165	0	145	244	159	0	0	185	91	989	0	0	0	0	0
	7:15 AM	0	0	0	154	0	135	233	246	0	0	214	127	1,109	0	0	0	0	0
	7:30 AM	0	0	0	142	0	169	251	237	0	0	250	133	1,182	0	0	0	0	0
	7:45 AM	0	0	0	120	0	160	232	222	0	0	238	114	1,086	0	0	0	0	0
	8:00 AM	0	0	0	116	0	203	218	174	0	0	248	113	1,072	0	0	0	0	0
	8:15 AM	0	0	0	86	0	157	200	171	0	0	131	73	818	0	0	0	0	0
	8:30 AM	0	0	0	71	0	142	222	133	0	0	209	106	883	0	0	0	0	0
	8:45 AM	0	0	0	63	0	196	166	119	0	0	213	120	877	0	0	0	0	0
	VOLUMES	0	0	0	917	0	1,307	1,766	1,461	0	0	1,688	877	8,016	0	0	0	0	0
	APPROACH %	0%	0%	0%	41%	0%	59%	55%	45%	0%	0%	66%	34%						
	APP/DEPART	0	/	2,643	2,224	/	0	3,227	/	2,378	2,565	/	2,995	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	532	0	667	934	879	0	0	950	487	4,449					
	APPROACH %	0%	0%	0%	44%	0%	56%	52%	48%	0%	0%	66%	34%						
	PEAK HR FACTOR		0.000			0.940			0.929			0.938		0.941					
	APP/DEPART	0	/	1,421	1,199	/	0	1,813	/	1,411	1,437	/	1,617	0					
PM	4:00 PM	0	0	0	80	0	267	286	174	0	0	187	136	1,130	0	0	0	0	0
	4:15 PM	0	0	0	89	0	246	276	185	0	0	200	138	1,134	0	0	0	0	0
	4:30 PM	0	0	0	82	0	216	198	126	0	0	169	141	932	0	0	0	0	0
	4:45 PM	0	0	0	90	0	225	315	217	0	0	243	177	1,267	0	0	0	0	0
	5:00 PM	0	0	0	103	0	272	313	170	0	0	254	182	1,294	0	0	0	0	0
	5:15 PM	0	0	0	132	0	231	288	177	0	0	277	174	1,279	0	0	0	0	0
	5:30 PM	0	0	0	99	0	204	221	229	0	0	252	111	1,116	0	0	0	0	0
	5:45 PM	0	0	0	101	0	192	233	241	0	0	237	76	1,080	0	0	0	0	0
	VOLUMES	0	0	0	776	0	1,853	2,130	1,519	0	0	1,819	1,135	9,232	0	0	0	0	0
	APPROACH %	0%	0%	0%	30%	0%	70%	58%	42%	0%	0%	62%	38%						
	APP/DEPART	0	/	3,265	2,629	/	0	3,649	/	2,295	2,954	/	3,672	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	0	424	0	932	1,137	793	0	0	1,026	644	4,956					
	APPROACH %	0%	0%	0%	31%	0%	69%	59%	41%	0%	0%	61%	39%						
	PEAK HR FACTOR		0.000			0.904			0.907			0.926		0.957					
	APP/DEPART	0	/	1,781	1,356	/	0	1,930	/	1,217	1,670	/	1,958	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	2	1	1	4	0	0	1	0	1	0	2	0	1	3
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	7:45 AM	2	1	0	0	3	1	0	0	0	1	1	1	0	0	2
	8:00 AM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
	8:15 AM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	TOTAL	3	5	2	3	13	1	0	1	0	2	2	5	1	3	11
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	4:30 PM	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
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	5:30 PM	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
	TOTAL	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2

National Data & Surveying Services

Intersection Turning Movement Count

Location: Redondo Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05607-001
Date: 2019-10-12

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	43	0	35	0	25	161	0	0	0	171	30	0	465
12:15 PM	0	0	0	0	39	0	30	0	25	211	0	0	0	149	23	0	477
12:30 PM	0	0	0	0	45	0	29	0	14	184	0	0	0	167	30	0	469
12:45 PM	0	0	0	0	39	0	19	0	18	183	0	0	0	170	28	0	457
1:00 PM	0	0	0	0	37	0	18	0	26	139	0	0	0	164	40	0	424
1:15 PM	0	0	0	0	44	0	22	0	21	163	0	0	0	150	33	0	433
1:30 PM	0	0	0	0	35	0	31	0	23	178	0	0	0	126	34	0	427
1:45 PM	0	0	0	0	33	0	29	0	24	151	0	0	0	147	38	0	422
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	315	0	213	0	176	1370	0	0	0	1244	256	0	3574
APPROACH %'s :					59.66%	0.00%	40.34%	0.00%	11.38%	88.62%	0.00%	0.00%	0.00%	82.93%	17.07%	0.00%	
PEAK HR :	**12:00 PM - 01:00 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	166	0	113	0	82	739	0	0	0	657	111	0	1868
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.922	0.000	0.807	0.000	0.820	0.876	0.000	0.000	0.000	0.961	0.925	0.000	0.979
						0.894				0.870				0.955			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Loma Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05607-002
Date: 2019-10-12

Total

NS/EW Streets:	Loma Ave				Loma Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	1	0	2	0	3	204	0	0	0	208	15	0	433
12:15 PM	0	0	0	0	3	0	3	0	3	242	0	0	0	166	7	0	424
12:30 PM	0	0	0	0	6	0	6	0	6	218	0	0	0	196	10	0	442
12:45 PM	0	0	0	0	4	0	1	0	4	212	0	1	0	177	6	0	405
1:00 PM	0	0	0	0	5	0	4	0	2	182	0	2	0	202	8	0	405
1:15 PM	0	0	0	0	2	0	7	0	2	210	0	0	0	178	9	0	408
1:30 PM	0	0	0	0	3	0	4	0	4	205	0	0	0	155	6	0	377
1:45 PM	0	0	0	0	4	0	7	0	4	179	0	0	0	181	6	0	381
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	28	0	34	0	28	1652	0	3	0	1463	67	0	3275
APPROACH %'s :					45.16%	0.00%	54.84%	0.00%	1.66%	98.16%	0.00%	0.18%	0.00%	95.62%	4.38%	0.00%	
PEAK HR :	**12:00 PM - 01:00 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	14	0	12	0	16	876	0	1	0	747	38	0	1704
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.583	0.000	0.500	0.000	0.667	0.905	0.000	0.250	0.000	0.898	0.633	0.000	0.964
						0.542				0.911				0.880			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ocean Blvd & Ocean Blvd/Livingston Dr
City: Long Beach
Control: 1-Way Stop (NB)

Project ID: 19-05607-003
Date: 10/26/2019

Total

NS/EW Streets:	Ocean Blvd				Ocean Blvd				Ocean Blvd/Livingston Dr				Ocean Blvd/Livingston Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	1	0	1	2	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	105	0	0	0	0	0	6	0	0	156	115	4	0	111	3	0	500
12:15 PM	117	0	0	0	0	0	5	0	2	133	95	4	0	137	2	0	495
12:30 PM	117	0	0	0	0	0	3	0	5	161	114	4	0	132	3	0	539
12:45 PM	109	0	2	0	0	0	6	0	1	163	114	1	0	145	8	0	549
1:00 PM	104	0	0	0	0	0	5	0	2	146	98	0	0	155	5	0	515
1:15 PM	96	0	2	0	0	0	2	0	2	169	86	1	0	140	6	0	504
1:30 PM	94	0	0	0	0	0	5	0	2	141	84	3	0	135	7	0	471
1:45 PM	94	0	1	0	0	0	2	0	0	178	112	3	0	150	3	0	543
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	836	0	5	0	0	0	34	0	14	1247	818	20	0	1105	37	0	4116
APPROACH %'s :	99.41%	0.00%	0.59%	0.00%	0.00%	0.00%	100.00%	0.00%	0.67%	59.41%	38.97%	0.95%	0.00%	96.76%	3.24%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	426	0	4	0	0	0	16	0	10	639	412	6	0	572	22	0	2107
PEAK HR FACTOR :	0.910	0.000	0.500	0.000	0.000	0.000	0.667	0.000	0.500	0.945	0.904	0.375	0.000	0.923	0.688	0.000	0.959
	0.919				0.667				0.939				0.928				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05607-004
Date: 2019-10-12

Total

NS/EW Streets:	Termino Ave				Termino Ave				Livingston Dr				Livingston Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	1	0.5	0.5	0	0	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	17	0	40	0	6	18	4	0	0	118	4	1	32	103	0	1	344
12:15 PM	18	0	43	0	4	12	8	0	0	163	6	0	26	100	0	6	386
12:30 PM	16	0	31	0	3	8	7	0	0	147	5	0	16	103	0	7	343
12:45 PM	14	0	41	0	5	14	7	0	0	129	7	0	16	96	0	7	336
1:00 PM	16	0	37	0	7	13	6	0	0	103	4	0	23	103	0	3	315
1:15 PM	17	0	34	0	7	11	5	0	0	134	4	0	20	109	0	4	345
1:30 PM	17	0	25	0	2	6	5	0	0	133	5	0	17	92	0	9	311
1:45 PM	12	0	25	0	7	9	4	0	0	106	6	0	18	113	0	3	303
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	127	0	276	0	41	91	46	0	0	1033	41	1	168	819	0	40	2683
APPROACH %'s :	31.51%	0.00%	68.49%	0.00%	23.03%	51.12%	25.84%	0.00%	0.00%	96.09%	3.81%	0.09%	16.36%	79.75%	0.00%	3.89%	
PEAK HR :	**12:00 PM - 01:00 PM**																TOTAL
PEAK HR VOL :	65	0	155	0	18	52	26	0	0	557	22	1	90	402	0	21	1409
PEAK HR FACTOR :	0.903	0.000	0.901	0.000	0.750	0.722	0.813	0.000	0.000	0.854	0.786	0.250	0.703	0.976	0.000	0.750	0.913
	0.902				0.857				0.858				0.943				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Livingston Dr
City: Long Beach
Control: 1-Way Stop(SB)

Project ID: 19-05607-005
Date: 2019-10-12

Total

NS/EW Streets:	Bennett Ave				Bennett Ave					Livingston Dr				Livingston Dr						
NOON	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND						
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	0	0	3	0	145
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	0	0	3	1	132
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133	0	0	2	1	136
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0	4	1	119
1:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	136	0	0	2	0	139
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139	0	0	0	0	139
1:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	112	0	0	3	1	117
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0	0	2	0	132
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1034	0	0	19	4	1059
APPROACH %'s :					0.00%	0.00%	0.00%	0.00%	100.00%					0.00%	100.00%	0.00%	0.00%	82.61%	17.39%	
PEAK HR :	**12:00 PM - 01:00 PM**																			TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	517	0	0	12	3	532
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.910	0.000	0.000	0.750	0.750	0.917
															0.910					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ximeno Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05607-006
Date: 2019-10-12

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave					Livingston Dr					Livingston Dr							
NOON	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND							
	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1.5	0.5	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
12:00 PM	0	0	0	0	0	0	13	0	3	33	0	0	0	0	0	120	7	0	0	0	1	177
12:15 PM	0	0	0	0	0	0	20	0	2	42	0	0	0	2	0	109	7	0	0	1	1	184
12:30 PM	0	0	0	0	0	0	14	0	1	43	0	0	0	0	0	109	8	0	0	0	0	175
12:45 PM	0	0	0	0	0	0	21	0	3	33	0	0	0	2	0	91	2	0	0	1	3	156
1:00 PM	0	0	0	0	0	0	20	0	7	28	0	0	1	1	0	108	9	0	0	0	1	175
1:15 PM	0	0	0	0	0	0	19	0	5	37	0	0	1	2	0	106	6	0	0	1	0	177
1:30 PM	0	0	0	0	0	0	12	0	2	28	0	0	1	0	0	99	9	0	2	0	0	153
1:45 PM	0	0	0	0	0	0	18	0	2	27	0	0	0	0	0	109	7	0	0	0	0	163
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	137	0	25	271	0	0	3	7	0	851	55	0	2	3	6	1360
APPROACH %'s :					0.00%	0.00%	84.57%	0.00%	15.43%	96.44%	0.00%	0.00%	1.07%	2.49%	0.00%	93.93%	6.07%	0.00%	18.18%	27.27%	54.55%	
PEAK HR :	**12:00 PM - 01:00 PM**																					TOTAL
PEAK HR VOL :	0	0	0	0	0	0	68	0	9	151	0	0	0	4	0	429	24	0	0	2	5	692
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.810	0.000	0.750	0.878	0.000	0.000	0.000	0.500	0.000	0.894	0.750	0.000	0.000	0.500	0.417	0.940
							0.802					0.881				0.892						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Quincy Ave/2nd St & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05607-007
Date: 2019-10-12

Total

NS/EW Streets:	Quincy Ave/2nd St							Quincy Ave/2nd St							Livingston Dr							Livingston Dr							
	NORTHBOUND							SOUTHBOUND							EASTBOUND							WESTBOUND							
NOON	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0	0	2	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	SU2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
12:00 PM	103	81	5	2	10	4	10	6	60	0	0	8	8	0	0	30	115	0	2	4	4	0	29	7	0	1	2	1	492
12:15 PM	89	64	6	2	6	1	6	7	65	0	0	10	10	0	0	29	148	0	1	3	3	0	25	4	0	4	0	1	484
12:30 PM	101	74	8	1	3	4	3	3	53	0	0	3	3	0	0	34	119	0	0	1	1	0	22	7	0	1	0	1	442
12:45 PM	64	72	2	6	3	2	3	8	62	0	0	10	10	0	0	26	120	0	0	4	4	0	18	7	0	1	0	1	423
1:00 PM	99	70	6	1	6	2	6	8	54	0	0	8	8	0	0	18	98	0	0	3	3	0	21	10	0	1	0	0	422
1:15 PM	88	74	5	3	7	3	7	13	71	0	0	5	5	0	0	32	123	0	0	2	2	0	27	8	0	0	0	1	476
1:30 PM	83	76	3	4	6	4	6	5	66	0	0	8	8	0	0	27	105	0	1	2	2	0	21	8	0	3	0	0	438
1:45 PM	84	87	4	9	4	4	3	6	40	0	0	7	7	1	1	15	109	0	0	5	5	0	28	4	0	2	0	1	426
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	SU2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
TOTAL VOLUMES :	711	598	39	28	45	24	44	56	471	0	0	59	59	1	1	211	937	0	4	24	24	0	191	55	0	13	2	6	3603
APPROACH %'s :	47.75%	40.16%	2.62%	1.88%	3.02%	1.61%	2.96%	8.67%	72.91%	0.00%	0.00%	9.13%	9.13%	0.15%	0.08%	17.57%	78.02%	0.00%	0.33%	2.00%	2.00%	0.00%	73.75%	21.24%	0.00%	5.02%	25.00%	75.00%	
PEAK HR :	**12:00 PM - 01:00 PM**																												TOTAL
PEAK HR VOL :	357	291	21	11	22	11	22	24	240	0	0	31	31	0	0	119	502	0	3	12	12	0	94	25	0	7	2	4	1841
PEAK HR FACTOR :	0.867	0.898	0.656	0.458	0.550	0.688	0.550	0.750	0.923	0.000	0.000	0.775	0.775	0.000	0.000	0.875	0.848	0.000	0.375	0.750	0.750	0.000	0.810	0.893	0.000	0.438	0.250	1.000	0.935
				0.855							0.886							0.880						0.851					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05607-008
Date: 2019-10-12

Total

NS/EW Streets:	Termino Ave				Termino Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	10	14	6	0	24	28	9	0	11	66	5	3	7	100	29	2	314
12:15 PM	6	14	9	0	15	18	2	0	19	85	9	4	6	75	28	5	295
12:30 PM	13	13	7	0	16	10	2	0	10	77	5	5	7	72	22	4	263
12:45 PM	14	17	3	0	17	17	3	0	14	62	13	3	8	83	22	4	280
1:00 PM	14	19	6	0	19	15	1	0	15	67	9	5	5	84	11	3	273
1:15 PM	11	11	3	0	17	12	4	0	14	63	12	4	4	59	24	4	242
1:30 PM	4	10	7	0	13	13	4	0	19	67	14	3	10	65	15	5	249
1:45 PM	10	11	1	0	14	11	3	0	12	63	8	5	6	60	13	0	217
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	82	109	42	0	135	124	28	0	114	550	75	32	53	598	164	27	2133
APPROACH %'s :	35.19%	46.78%	18.03%	0.00%	47.04%	43.21%	9.76%	0.00%	14.79%	71.34%	9.73%	4.15%	6.29%	71.02%	19.48%	3.21%	
PEAK HR :	**12:00 PM - 01:00 PM**																TOTAL
PEAK HR VOL :	43	58	25	0	72	73	16	0	54	290	32	15	28	330	101	15	1152
PEAK HR FACTOR :	0.768	0.853	0.694	0.000	0.750	0.652	0.444	0.000	0.711	0.853	0.615	0.750	0.875	0.825	0.871	0.750	0.917
	0.926				0.660				0.835				0.859				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Ocean Blvd
City: Long Beach
Control: 3-Way Stop(NB/EB/WB)

Project ID: 19-05607-009
Date: 2019-10-12

Total

NS/EW Streets:	Bennett Ave				Bennett Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	16	1	9	0	0	0	0	0	11	75	15	9	13	103	2	2	256
12:15 PM	13	0	8	0	0	0	0	0	10	89	9	2	4	84	7	5	231
12:30 PM	16	1	3	0	0	0	0	0	11	73	7	4	13	83	4	4	219
12:45 PM	9	1	4	0	0	0	0	0	9	74	9	3	6	91	5	2	213
1:00 PM	7	1	8	0	0	0	0	0	9	67	11	4	9	86	3	10	215
1:15 PM	11	0	2	0	0	0	0	0	5	71	9	4	6	63	4	0	175
1:30 PM	7	2	5	0	0	0	0	0	3	78	11	1	6	74	3	2	192
1:45 PM	5	1	9	0	0	0	0	0	3	67	11	2	7	71	6	2	184
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	84	7	48	0	0	0	0	0	61	594	82	29	64	655	34	27	1685
APPROACH %'s :	60.43%	5.04%	34.53%	0.00%					7.96%	77.55%	10.70%	3.79%	8.21%	83.97%	4.36%	3.46%	
PEAK HR :	**12:00 PM - 01:00 PM**																TOTAL
PEAK HR VOL :	54	3	24	0	0	0	0	0	41	311	40	18	36	361	18	13	919
PEAK HR FACTOR :	0.844	0.750	0.667	0.000	0.000	0.000	0.000	0.000	0.932	0.874	0.667	0.500	0.692	0.876	0.643	0.650	0.897
	0.779								0.932				0.892				

National Data & Surveying Services

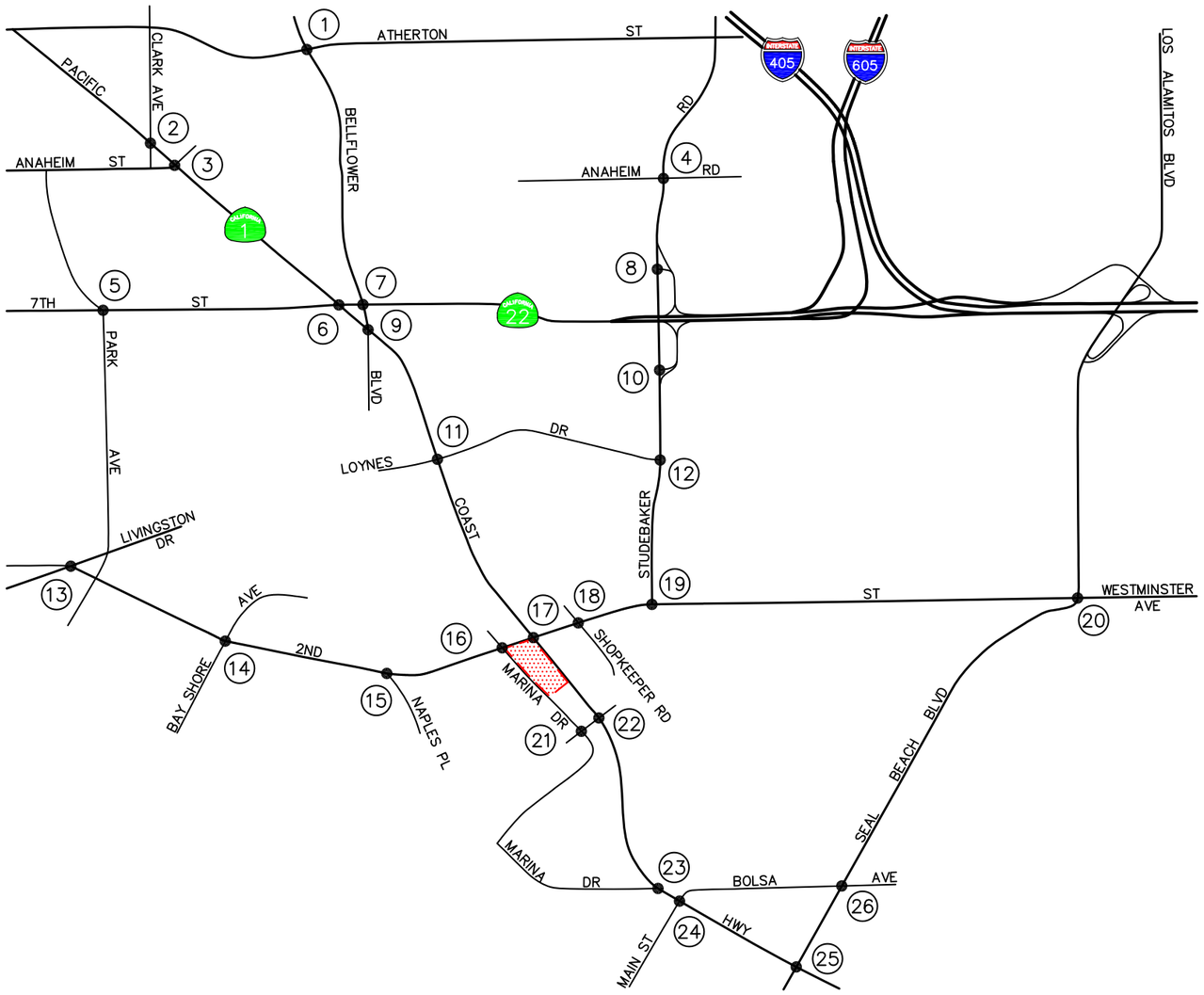
Intersection Turning Movement Count

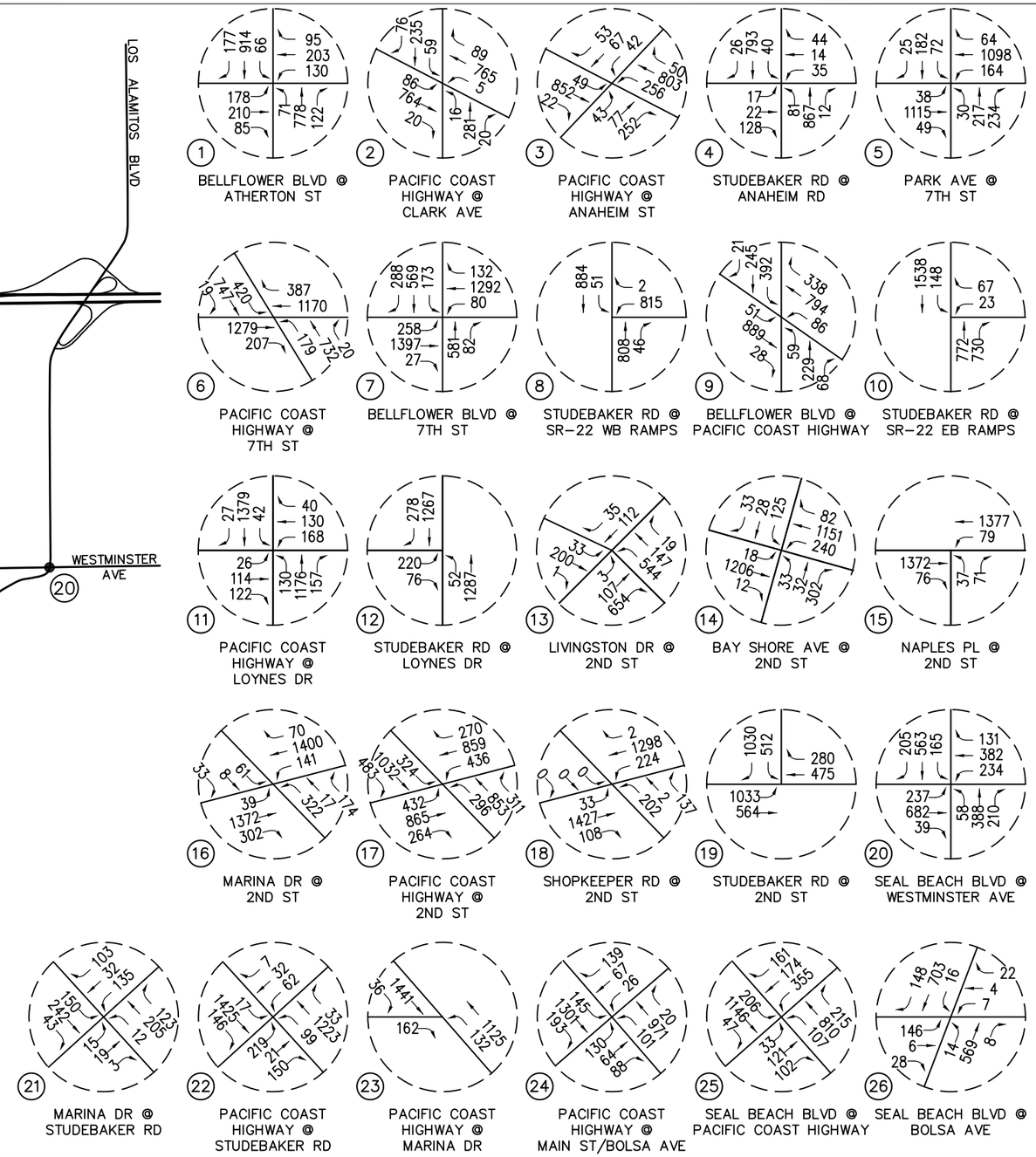
Location: Granada Ave & Ocean Blvd
City: Long Beach
Control: 4-Way Stop

Project ID: 19-05607-010
Date: 2019-10-12

Total

NS/EW Streets:	Granada Ave				Granada Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	15	11	9	0	9	3	5	0	8	57	1	1	3	59	6	3	190
12:15 PM	7	5	7	0	7	4	8	0	10	69	8	1	4	64	9	4	207
12:30 PM	7	7	3	0	8	4	9	0	11	62	4	2	4	55	12	3	191
12:45 PM	6	5	3	0	3	8	6	0	8	59	6	0	4	57	10	4	179
1:00 PM	6	4	9	0	5	4	7	1	5	54	6	0	4	61	7	5	178
1:15 PM	3	2	6	0	12	7	12	0	4	48	5	2	3	46	10	4	164
1:30 PM	3	3	4	0	11	2	10	0	9	61	5	0	4	51	10	5	178
1:45 PM	6	9	6	0	6	2	10	0	5	52	6	1	5	49	9	2	168
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	53	46	47	0	61	34	67	1	60	462	41	7	31	442	73	30	1455
APPROACH %'s :	36.30%	31.51%	32.19%	0.00%	37.42%	20.86%	41.10%	0.61%	10.53%	81.05%	7.19%	1.23%	5.38%	76.74%	12.67%	5.21%	
PEAK HR :	**12:00 PM - 01:00 PM**																TOTAL
PEAK HR VOL :	35	28	22	0	27	19	28	0	37	247	19	4	15	235	37	14	767
PEAK HR FACTOR :	0.583	0.636	0.611	0.000	0.750	0.594	0.778	0.000	0.841	0.895	0.594	0.500	0.938	0.918	0.771	0.875	0.926
	0.607				0.881				0.872				0.929				





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
(#) = STUDY INTERSECTION
= PROJECT SITE

FIGURE 3-5

EXISTING SATURDAY PEAK HOUR TRAFFIC VOLUMES
PCH AND 2ND PROJECT, LONG BEACH

ATTACHMENT B

EXISTING INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\01 EX AM Report.pdf

Scenario 1 01 Existing No Project AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.673	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.553	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.492	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.418	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.3	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.490	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.544	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.399	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.519	10.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.388	9.8	A
11	PCH/2nd Street	Signalized	ICU 1	EB Right	0.856	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.868	-	D

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	133	107	80	733	1241	76
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 Rate	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]	133	107	80	733	1241	76
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	28	21	193	327	20
Total Analysis Volume [veh/h]	140	113	84	772	1306	80
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.05	0.24	0.43	0.43
Intersection LOS	B					
Intersection V/C	0.673					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	8	22	9	869	1300	17
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 Rate	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]	8	22	9	869	1300	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	6	2	229	342	4
Total Analysis Volume [veh/h]	8	23	9	915	1368	18
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.43	0.43
Intersection LOS	A					
Intersection V/C	0.553					

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Intersection Level Of Service Report

Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	390	0	2	0	0	12	8	764	0	0	1070	15
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 Rate	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]	390	0	2	0	0	12	8	764	0	0	1070	15
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
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]	100	0	1	0	0	3	2	196	0	0	275	4
Total Analysis Volume [veh/h]	401	0	2	0	0	12	8	785	0	0	1100	15
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.01	0.25	0.00	0.00	0.23	0.01
Intersection LOS	A											
Intersection V/C	0.492											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	26	0	75	19	27	10	0	627	10	61	952	0
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 Rate	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]	26	0	75	19	27	10	0	627	10	61	952	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	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]	7	0	20	5	7	3	0	164	3	16	249	0
Total Analysis Volume [veh/h]	27	0	79	20	28	10	0	657	10	64	997	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.05	0.01	0.02	0.02	0.00	0.21	0.01	0.04	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.418											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	4	1
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 Rate	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]	0	1	0	0	4	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0
Total Analysis Volume [veh/h]	0	1	0	0	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.34	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.34		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.39					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	48	94	0	898	2
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 Rate	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]	0	48	94	0	898	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9460	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	0	236	1
Total Analysis Volume [veh/h]	0	51	99	0	945	2
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	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.00	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.490					

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Version 6.00-01

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	660	0	80	2	0
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 Rate	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	0	0	0	2	0	73	660	0	80	2	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	0	0	0	1	0	19	174	0	21	1	0
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	695	0	84	2	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.544											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	830	69	2	0	9	133	0	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	830	69	2	0	9	133	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	218	18	1	0	2	35	0	0
Total Analysis Volume [veh/h]	0	874	73	2	0	9	140	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.27	0.30	0.00	0.00	0.01	0.05	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.544								

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Version 6.00-01

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	40	29	27	34	62	11	36	171	38	31	306	67
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 Rate	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]	40	29	27	34	62	11	36	171	38	31	306	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	11	8	7	9	16	3	9	45	10	8	81	18
Total Analysis Volume [veh/h]	42	31	28	36	65	12	38	180	40	33	322	71
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	0.03	0.03	0.03	0.02	0.05	0.05	0.02	0.11	0.03	0.02	0.20	0.04
Intersection LOS	A											
Intersection V/C	0.399											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	20	1	13	0	0	0	44	190	22	46	366	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 Rate	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]	20	1	13	0	0	0	44	190	22	46	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	5	0	3	0	0	0	12	50	6	12	96	3
Total Analysis Volume [veh/h]	21	1	14	0	0	0	46	200	23	48	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	613		658	724	841	673	743	868
Degree of Utilization, x	0.06		0.07	0.28	0.03	0.07	0.52	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19		0.23	1.13	0.08	0.23	3.03	0.04
95th-Percentile Queue Length [ft]	4.67		5.63	28.18	2.11	5.74	75.68	0.96
Approach Delay [s/veh]	9.24	0.00	9.19			12.06		
Approach LOS	A	A	A			B		
Intersection Delay [s/veh]	10.89							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	25	42	162	11	15	242	24
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 Rate	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]	12	24	19	27	2	25	42	162	11	15	242	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	3	6	5	7	1	7	11	43	3	4	64	6
Total Analysis Volume [veh/h]	13	25	20	28	2	26	44	171	12	16	255	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	708	709	643	712	648	722
Degree of Utilization, x	0.08	0.08	0.07	0.26	0.02	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.26	0.22	1.02	0.08	1.84
95th-Percentile Queue Length [ft]	6.67	6.41	5.50	25.55	1.90	46.02
Approach Delay [s/veh]	8.54	8.51	9.34		10.69	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	9.82					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.856

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1166	323	250	945	172	234	1269	427	330	956	316
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 Rate	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]	404	1166	323	250	945	172	234	1269	427	330	956	316
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	106	307	85	66	249	45	62	334	112	87	252	83
Total Analysis Volume [veh/h]	425	1227	340	263	995	181	246	1336	449	347	1006	333
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.21	0.08	0.21	0.04	0.08	0.28	0.28	0.11	0.21	0.13
Intersection LOS	D											
Intersection V/C	0.856											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	45.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	549	688	963	906	979	502
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 Rate	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]	549	688	963	906	979	502
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	181	253	238	258	132
Total Analysis Volume [veh/h]	578	724	1014	954	1031	528
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.32	0.30	0.21	0.15
Intersection LOS	D					
Intersection V/C	0.868					

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Report File: P:\...\01 EX PM Report.pdf

Scenario 2 01 Existing No Project PM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.703	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.649	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.602	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.632	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.462	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.602	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.503	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.708	14.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.580	12.3	B
11	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.865	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.981	-	E

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	163	98	124	1507	842	123
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 Rate	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]	163	98	124	1507	842	123
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	26	33	397	222	32
Total Analysis Volume [veh/h]	172	103	131	1586	886	129
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.06	0.08	0.50	0.32	0.32
Intersection LOS	C					
Intersection V/C	0.703					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.649

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	10	11	23	1646	947	41
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 Rate	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]	10	11	23	1646	947	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	6	433	249	11
Total Analysis Volume [veh/h]	11	12	24	1733	997	43
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.54	0.33	0.33
Intersection LOS	B					
Intersection V/C	0.649					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	343	0	4	0	0	12	24	1168	0	0	622	15
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 Rate	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]	343	0	4	0	0	12	24	1168	0	0	622	15
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
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]	88	0	1	0	0	3	6	298	0	0	159	4
Total Analysis Volume [veh/h]	350	0	4	0	0	12	25	1193	0	0	635	15
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.01
Intersection LOS	B											
Intersection V/C	0.602											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.632

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	48	0	115	28	46	6	0	1109	22	88	682	0
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 Rate	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]	48	0	115	28	46	6	0	1109	22	88	682	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	13	0	30	7	12	2	0	292	6	23	179	0
Total Analysis Volume [veh/h]	51	0	121	29	48	6	0	1167	23	93	718	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.08	0.02	0.03	0.03	0.00	0.36	0.01	0.06	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.632											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	11	1
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 Rate	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]	0	5	0	0	11	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
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	3	0
Total Analysis Volume [veh/h]	0	5	0	0	12	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.39	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.39		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.33					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	79	118	0	701	7
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 Rate	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]	0	79	118	0	701	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9580	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	0	184	2
Total Analysis Volume [veh/h]	0	83	124	0	738	7
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	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.00	0.23	0.23
Intersection LOS	A					
Intersection V/C	0.462					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	938	0	107	25	0
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 Rate	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	0	0	0	4	0	155	938	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	0	0	0	1	0	41	247	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	987	0	113	26	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.602											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	644	181	4	0	26	166	3	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	644	181	4	0	26	166	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	169	48	1	0	7	44	1	0
Total Analysis Volume [veh/h]	0	678	191	4	0	27	175	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.27	0.00	0.00	0.02	0.06	0.06	0.00
Intersection LOS	B								
Intersection V/C	0.602								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	33	52	33	75	64	7	58	434	52	45	279	65
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 Rate	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]	33	52	33	75	64	7	58	434	52	45	279	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	9	14	9	20	17	2	15	114	14	12	73	17
Total Analysis Volume [veh/h]	35	55	35	79	67	7	61	457	55	47	294	68
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	0.04	0.04	0.05	0.05	0.05	0.04	0.29	0.03	0.03	0.18	0.04
Intersection LOS	A											
Intersection V/C	0.503											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	32	4	32	0	0	0	53	472	31	55	299	25
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 Rate	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]	32	4	32	0	0	0	53	472	31	55	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	8	1	8	0	0	0	14	124	8	14	79	7
Total Analysis Volume [veh/h]	34	4	34	0	0	0	56	497	33	58	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	569		640	701	813	623	682	786
Degree of Utilization, x	0.13		0.09	0.71	0.04	0.09	0.46	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43		0.29	5.92	0.13	0.31	2.45	0.10
95th-Percentile Queue Length [ft]	10.80		7.17	147.95	3.17	7.67	61.15	2.56
Approach Delay [s/veh]	10.25	0.00	17.62			11.62		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	14.85							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	34	46	384	12	14	239	28
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 Rate	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]	9	5	8	19	4	34	46	384	12	14	239	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	2	1	2	5	1	9	12	101	3	4	63	7
Total Analysis Volume [veh/h]	9	5	8	20	4	36	48	404	13	15	252	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	637	665	651	720	634	705
Degree of Utilization, x	0.03	0.09	0.07	0.58	0.02	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.30	0.24	3.76	0.07	1.92
95th-Percentile Queue Length [ft]	2.68	7.40	5.95	94.06	1.82	47.94
Approach Delay [s/veh]	8.85	8.94	13.78		11.01	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	12.34					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	958	316	276	1022	428	308	1129	307	343	1232	347
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 Rate	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]	433	958	316	276	1022	428	308	1129	307	343	1232	347
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	114	252	83	73	269	113	81	297	81	90	324	91
Total Analysis Volume [veh/h]	456	1008	333	291	1076	451	324	1188	323	361	1297	365
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.21	0.21	0.09	0.22	0.18	0.10	0.25	0.20	0.11	0.27	0.14
Intersection LOS	D											
Intersection V/C	0.865											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	961	1172	818	1058	664
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 Rate	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]	437	961	1172	818	1058	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	253	308	215	278	175
Total Analysis Volume [veh/h]	460	1012	1234	861	1114	699
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.39	0.27	0.23	0.29
Intersection LOS	E					
Intersection V/C	0.981					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\01 EX (Weekend) Report.pdf

Scenario 3 01 Existing No Project Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.516	-	A
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.398	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.476	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.509	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.404	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.622	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.451	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.550	12.2	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.417	10.9	B
11	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.784	-	C
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.769	-	C

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	166	113	82	739	657	111
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 Rate	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]	166	113	82	739	657	111
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	30	22	194	173	29
Total Analysis Volume [veh/h]	175	119	86	778	692	117
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.07	0.05	0.24	0.25	0.25
Intersection LOS	A					
Intersection V/C	0.516					

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Version 6.00-01

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	14	12	17	876	747	38
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 Rate	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]	14	12	17	876	747	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	4	231	197	10
Total Analysis Volume [veh/h]	15	13	18	922	786	40
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.398					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	426	0	4	0	0	16	16	639	0	0	572	22
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 Rate	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]	426	0	4	0	0	16	16	639	0	0	572	22
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
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]	112	0	1	0	0	4	4	168	0	0	151	6
Total Analysis Volume [veh/h]	448	0	4	0	0	17	17	673	0	0	602	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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.00	0.00	0.01	0.01	0.21	0.00	0.00	0.13	0.01
Intersection LOS	A											
Intersection V/C	0.476											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	65	0	155	18	52	26	0	557	22	111	402	0
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 Rate	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]	65	0	155	18	52	26	0	557	22	111	402	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	17	0	41	5	14	7	0	147	6	29	106	0
Total Analysis Volume [veh/h]	68	0	163	19	55	27	0	586	23	117	423	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.10	0.01	0.05	0.05	0.00	0.18	0.01	0.07	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.509											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	12	3
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 Rate	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]	0	0	0	0	12	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	1
Total Analysis Volume [veh/h]	0	0	0	0	13	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.38	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.38		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	77	155	0	431	29
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 Rate	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]	0	77	155	0	431	29
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	41	0	113	8
Total Analysis Volume [veh/h]	0	81	163	0	454	31
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	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.00	0.15	0.15
Intersection LOS	A					
Intersection V/C	0.404					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	15	0	119	520	0	94	32	0
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 Rate	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	0	0	0	15	0	119	520	0	94	32	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	0	0	0	4	0	31	137	0	25	8	0
Total Analysis Volume [veh/h]	0	0	0	0	16	0	125	547	0	99	34	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.08	0.08	0.00
Intersection LOS	B											
Intersection V/C	0.622											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	412	302	21	0	24	271	31	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	412	302	21	0	24	271	31	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	108	79	6	0	6	71	8	0
Total Analysis Volume [veh/h]	0	434	318	22	0	25	285	33	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.24	0.01	0.00	0.02	0.11	0.11	0.00
Intersection LOS	B								
Intersection V/C	0.622								

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Version 6.00-01

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	43	58	25	72	73	16	69	290	32	43	330	101
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 Rate	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]	43	58	25	72	73	16	69	290	32	43	330	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	11	15	7	19	19	4	18	76	8	11	87	27
Total Analysis Volume [veh/h]	45	61	26	76	77	17	73	305	34	45	347	106
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	0.03	0.04	0.04	0.05	0.06	0.06	0.05	0.19	0.02	0.03	0.22	0.07
Intersection LOS	A											
Intersection V/C	0.451											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

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):	0.550

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	54	3	24	0	0	0	59	311	40	49	361	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 Rate	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]	54	3	24	0	0	0	59	311	40	49	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	14	1	6	0	0	0	16	82	11	13	95	5
Total Analysis Volume [veh/h]	57	3	25	0	0	0	62	327	42	52	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	573		629	690	796	631	691	799
Degree of Utilization, x	0.15		0.10	0.47	0.05	0.08	0.55	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52		0.33	2.56	0.17	0.27	3.38	0.07
95th-Percentile Queue Length [ft]	12.96		8.16	64.08	4.17	6.72	84.38	1.83
Approach Delay [s/veh]	10.38	0.00	11.55			13.21		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.22							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	28	41	247	19	29	235	37
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 Rate	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]	35	28	22	27	19	28	41	247	19	29	235	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	9	7	6	7	5	7	11	65	5	8	62	10
Total Analysis Volume [veh/h]	37	29	23	28	20	29	43	260	20	31	247	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	652	658	616	681	615	685
Degree of Utilization, x	0.14	0.12	0.07	0.41	0.05	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.47	0.40	0.22	2.02	0.16	2.06
95th-Percentile Queue Length [ft]	11.79	9.89	5.61	50.40	3.97	51.62
Approach Delay [s/veh]	9.40	9.20	11.28		11.39	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	10.92					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	853	311	324	1032	483	432	865	264	436	859	270
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 Rate	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]	296	853	311	324	1032	483	432	865	264	436	859	270
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	78	224	82	85	272	127	114	228	69	115	226	71
Total Analysis Volume [veh/h]	312	898	327	341	1086	508	455	911	278	459	904	284
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.19	0.20	0.11	0.23	0.18	0.14	0.19	0.17	0.14	0.19	0.07
Intersection LOS	C											
Intersection V/C	0.784											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.769

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	512	1030	1033	564	475	280
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 Rate	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]	512	1030	1033	564	475	280
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	135	271	272	148	125	74
Total Analysis Volume [veh/h]	539	1084	1087	594	500	295
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.04	0.34	0.19	0.10	0.02
Intersection LOS	C					
Intersection V/C	0.769					

ATTACHMENT C

CUMULATIVE BASELINE INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\03 CUML AM Report.pdf

Scenario 7 03 Cumulative NP AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Right	0.675	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.555	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.484	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.423	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.492	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.569	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.399	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.519	10.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.388	9.8	A
11	PCH/2nd Street	Signalized	ICU 1	EB Thru	0.896	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.895	-	D

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.675

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	133	107	80	741	1247	76
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 Rate	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]	133	107	80	741	1247	76
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	28	21	195	328	20
Total Analysis Volume [veh/h]	140	113	84	780	1313	80
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.05	0.24	0.44	0.44
Intersection LOS	B					
Intersection V/C	0.675					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	8	22	9	877	1306	17
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 Rate	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]	8	22	9	877	1306	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	6	2	231	344	4
Total Analysis Volume [veh/h]	8	23	9	923	1375	18
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.44	0.44
Intersection LOS	A					
Intersection V/C	0.555					

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Intersection Level Of Service Report

Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	390	0	2	0	0	12	8	772	0	0	1076	15
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 Rate	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]	390	0	2	0	0	12	8	772	0	0	1076	15
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]	98	0	1	0	0	3	2	193	0	0	269	4
Total Analysis Volume [veh/h]	390	0	2	0	0	12	8	772	0	0	1076	15
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.00	0.00	0.00	0.01	0.01	0.24	0.00	0.00	0.22	0.01
Intersection LOS	A											
Intersection V/C	0.484											

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Intersection Level Of Service Report

Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	26	0	75	19	27	10	0	635	10	61	958	0
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 Rate	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]	26	0	75	19	27	10	0	635	10	61	958	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	7	0	20	5	7	3	0	167	3	16	252	0
Total Analysis Volume [veh/h]	27	0	79	20	28	11	0	668	11	64	1008	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.05	0.01	0.02	0.02	0.00	0.21	0.01	0.04	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.423											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	10	1
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 Rate	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]	0	1	0	0	10	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	0
Total Analysis Volume [veh/h]	0	1	0	0	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	48	94	8	904	2
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 Rate	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]	0	48	94	8	904	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	2	238	1
Total Analysis Volume [veh/h]	0	51	99	8	952	2
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	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.00	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.492					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	668	0	80	2	0
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 Rate	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	0	0	0	2	0	73	668	0	80	2	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
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	0	0	0	1	0	19	176	0	21	1	0
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	703	0	84	2	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.569											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	836	88	2	0	9	159	0	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	836	88	2	0	9	159	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	220	23	1	0	2	42	0	0
Total Analysis Volume [veh/h]	0	880	93	2	0	9	167	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.30	0.00	0.00	0.01	0.06	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.569								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	40	29	27	34	62	11	36	171	38	31	306	67
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 Rate	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]	40	29	27	34	62	11	36	171	38	31	306	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	11	8	7	9	16	3	9	45	10	8	81	18
Total Analysis Volume [veh/h]	42	31	28	36	65	12	38	180	40	33	322	71
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	0.03	0.05	0.02	0.02	0.05	0.05	0.02	0.11	0.03	0.02	0.20	0.04
Intersection LOS	A											
Intersection V/C	0.399											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	20	1	13	0	0	0	44	190	22	46	366	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 Rate	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]	20	1	13	0	0	0	44	190	22	46	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	5	0	3	0	0	0	12	50	6	12	96	3
Total Analysis Volume [veh/h]	21	1	14	0	0	0	46	200	23	48	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	613		658	724	841	673	743	868
Degree of Utilization, x	0.06		0.07	0.28	0.03	0.07	0.52	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19		0.23	1.13	0.08	0.23	3.03	0.04
95th-Percentile Queue Length [ft]	4.67		5.63	28.18	2.11	5.74	75.68	0.96
Approach Delay [s/veh]	9.24	0.00	9.19			12.06		
Approach LOS	A	A	A			B		
Intersection Delay [s/veh]	10.89							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	25	42	162	11	15	242	24
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 Rate	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]	12	24	19	27	2	25	42	162	11	15	242	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	3	6	5	7	1	7	11	43	3	4	64	6
Total Analysis Volume [veh/h]	13	25	20	28	2	26	44	171	12	16	255	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	708	709	643	712	648	722
Degree of Utilization, x	0.08	0.08	0.07	0.26	0.02	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.26	0.22	1.02	0.08	1.84
95th-Percentile Queue Length [ft]	6.67	6.41	5.50	25.55	1.90	46.02
Approach Delay [s/veh]	8.54	8.51	9.34		10.69	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	9.82					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1217	339	258	1021	175	246	1289	427	389	959	325
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 Rate	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]	404	1217	339	258	1021	175	246	1289	427	389	959	325
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	106	320	89	68	269	46	65	339	112	102	252	86
Total Analysis Volume [veh/h]	425	1281	357	272	1075	184	259	1357	449	409	1009	342
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.27	0.22	0.09	0.22	0.03	0.08	0.28	0.28	0.13	0.21	0.13
Intersection LOS	D											
Intersection V/C	0.896											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	549	722	989	924	1012	502
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 Rate	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]	549	722	989	924	1012	502
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]	137	181	247	231	253	126
Total Analysis Volume [veh/h]	549	722	989	924	1012	502
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.31	0.29	0.21	0.14
Intersection LOS	D					
Intersection V/C	0.895					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\03 CUML PM Report.pdf

Scenario 8 03 Cumulative NP PM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.708	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.653	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.596	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.637	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.466	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.648	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.521	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.708	14.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.580	12.3	B
13	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.968	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	1.003	-	F

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	163	98	124	1520	854	123
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 Rate	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]	163	98	124	1520	854	123
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	26	33	400	225	32
Total Analysis Volume [veh/h]	172	103	131	1600	899	129
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.06	0.08	0.50	0.32	0.32
Intersection LOS	C					
Intersection V/C	0.708					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	10	11	23	1659	959	41
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 Rate	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]	10	11	23	1659	959	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	6	437	252	11
Total Analysis Volume [veh/h]	11	12	24	1746	1009	43
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.55	0.33	0.33
Intersection LOS	B					
Intersection V/C	0.653					

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Intersection Level Of Service Report

Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	343	0	4	0	0	12	24	1181	0	0	634	15
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 Rate	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]	343	0	4	0	0	12	24	1181	0	0	634	15
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]	86	0	1	0	0	3	6	295	0	0	159	4
Total Analysis Volume [veh/h]	343	0	4	0	0	12	24	1181	0	0	634	15
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.01
Intersection LOS	A											
Intersection V/C	0.596											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.637

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	48	0	115	28	46	6	0	1122	22	88	694	0
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 Rate	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]	48	0	115	28	46	6	0	1122	22	88	694	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	13	0	30	7	12	2	0	295	6	23	183	0
Total Analysis Volume [veh/h]	51	0	121	29	48	6	0	1181	23	93	731	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.08	0.02	0.03	0.03	0.00	0.37	0.01	0.06	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.637											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	23	1
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 Rate	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]	0	5	0	0	23	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
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	6	0
Total Analysis Volume [veh/h]	0	5	0	0	24	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.36	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	79	118	13	713	7
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 Rate	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]	0	79	118	13	713	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	3	188	2
Total Analysis Volume [veh/h]	0	83	124	14	751	7
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	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.00	0.24	0.24
Intersection LOS	A					
Intersection V/C	0.466					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	951	0	107	25	0
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 Rate	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	0	0	0	4	0	155	951	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
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	0	0	0	1	0	41	250	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	1001	0	113	26	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.648											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	656	220	4	0	26	211	3	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	656	220	4	0	26	211	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	173	58	1	0	7	56	1	0
Total Analysis Volume [veh/h]	0	691	232	4	0	27	222	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.29	0.00	0.00	0.02	0.08	0.08	0.00
Intersection LOS	B								
Intersection V/C	0.648								

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Version 6.00-01

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	33	52	33	75	64	7	58	434	52	45	279	65
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 Rate	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]	33	52	33	75	64	7	58	434	52	45	279	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	9	14	9	20	17	2	15	114	14	12	73	17
Total Analysis Volume [veh/h]	35	55	35	79	67	7	61	457	55	47	294	68
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	0.06	0.02	0.05	0.05	0.05	0.04	0.29	0.03	0.03	0.18	0.04
Intersection LOS	A											
Intersection V/C	0.521											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	32	4	32	0	0	0	53	472	31	55	299	25
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 Rate	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]	32	4	32	0	0	0	53	472	31	55	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	8	1	8	0	0	0	14	124	8	14	79	7
Total Analysis Volume [veh/h]	34	4	34	0	0	0	56	497	33	58	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	569		640	701	813	623	682	786
Degree of Utilization, x	0.13		0.09	0.71	0.04	0.09	0.46	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43		0.29	5.92	0.13	0.31	2.45	0.10
95th-Percentile Queue Length [ft]	10.80		7.17	147.95	3.17	7.67	61.15	2.56
Approach Delay [s/veh]	10.25	0.00	17.62			11.62		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	14.85							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	34	46	384	12	14	239	28
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 Rate	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]	9	5	8	19	4	34	46	384	12	14	239	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	2	1	2	5	1	9	12	101	3	4	63	7
Total Analysis Volume [veh/h]	9	5	8	20	4	36	48	404	13	15	252	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	637	665	651	720	634	705
Degree of Utilization, x	0.03	0.09	0.07	0.58	0.02	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.30	0.24	3.76	0.07	1.92
95th-Percentile Queue Length [ft]	2.68	7.40	5.95	94.06	1.82	47.94
Approach Delay [s/veh]	8.85	8.94	13.78		11.01	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	12.34					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.968

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	1073	361	298	1167	435	334	1162	307	544	1237	373
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 Rate	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]	433	1073	361	298	1167	435	334	1162	307	544	1237	373
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	114	282	95	78	307	114	88	306	81	143	326	98
Total Analysis Volume [veh/h]	456	1129	380	314	1228	458	352	1223	323	573	1302	393
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.24	0.24	0.10	0.26	0.18	0.11	0.25	0.20	0.18	0.27	0.15
Intersection LOS	E											
Intersection V/C	0.968											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	1034	1232	857	1129	664
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 Rate	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]	437	1034	1232	857	1129	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	272	324	226	297	175
Total Analysis Volume [veh/h]	460	1088	1297	902	1188	699
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.41	0.28	0.25	0.29
Intersection LOS	F					
Intersection V/C	1.003					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\03 CUML (Weekend) Report.pdf

Scenario 9 9 03 Cumulative NP Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.520	-	A
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.402	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.462	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.514	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.408	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.589	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.476	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.550	12.2	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.417	10.9	B
13	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.964	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.897	-	D

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	166	113	82	752	671	111
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 Rate	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]	166	113	82	752	671	111
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	30	22	198	177	29
Total Analysis Volume [veh/h]	175	119	86	792	706	117
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.07	0.05	0.25	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.520					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	14	12	17	889	761	38
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 Rate	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]	14	12	17	889	761	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	4	234	200	10
Total Analysis Volume [veh/h]	15	13	18	936	801	40
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.402					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	426	0	4	0	0	16	16	652	0	0	586	22
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 Rate	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]	426	0	4	0	0	16	16	652	0	0	586	22
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]	107	0	1	0	0	4	4	163	0	0	147	6
Total Analysis Volume [veh/h]	426	0	4	0	0	16	16	652	0	0	586	22
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.01	0.20	0.00	0.00	0.12	0.01
Intersection LOS	A											
Intersection V/C	0.462											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	65	0	155	18	52	26	0	570	22	111	416	0
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 Rate	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]	65	0	155	18	52	26	0	570	22	111	416	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	17	0	41	5	14	7	0	150	6	29	109	0
Total Analysis Volume [veh/h]	68	0	163	19	55	27	0	600	23	117	438	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.10	0.01	0.05	0.05	0.00	0.19	0.01	0.07	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.514											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	26	3
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 Rate	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]	0	0	0	0	26	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	7	1
Total Analysis Volume [veh/h]	0	0	0	0	27	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	77	155	13	445	29
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 Rate	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]	0	77	155	13	445	29
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	41	3	117	8
Total Analysis Volume [veh/h]	0	81	163	14	468	31
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	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.00	0.16	0.16
Intersection LOS	A					
Intersection V/C	0.408					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	15	0	119	533	0	94	32	0
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 Rate	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	0	0	0	15	0	119	533	0	94	32	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
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	0	0	0	4	0	31	140	0	25	8	0
Total Analysis Volume [veh/h]	0	0	0	0	16	0	125	561	0	99	34	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.08	0.08	0.00
Intersection LOS	A											
Intersection V/C	0.589											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	426	371	21	0	24	352	31	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	426	371	21	0	24	352	31	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	112	98	6	0	6	93	8	0
Total Analysis Volume [veh/h]	0	448	391	22	0	25	371	33	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.26	0.01	0.00	0.02	0.13	0.13	0.00
Intersection LOS	A								
Intersection V/C	0.589								

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Version 6.00-01

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	43	58	25	72	73	16	69	290	32	43	330	101
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 Rate	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]	43	58	25	72	73	16	69	290	32	43	330	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	11	15	7	19	19	4	18	76	8	11	87	27
Total Analysis Volume [veh/h]	45	61	26	76	77	17	73	305	34	45	347	106
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	0.03	0.07	0.02	0.05	0.06	0.06	0.05	0.19	0.02	0.03	0.22	0.07
Intersection LOS	A											
Intersection V/C	0.476											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

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):	0.550

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	54	3	24	0	0	0	59	311	40	49	361	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 Rate	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]	54	3	24	0	0	0	59	311	40	49	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	14	1	6	0	0	0	16	82	11	13	95	5
Total Analysis Volume [veh/h]	57	3	25	0	0	0	62	327	42	52	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	573		629	690	796	631	691	799
Degree of Utilization, x	0.15		0.10	0.47	0.05	0.08	0.55	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52		0.33	2.56	0.17	0.27	3.38	0.07
95th-Percentile Queue Length [ft]	12.96		8.16	64.08	4.17	6.72	84.38	1.83
Approach Delay [s/veh]	10.38	0.00	11.55			13.21		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.22							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	28	41	247	19	29	235	37
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 Rate	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]	35	28	22	27	19	28	41	247	19	29	235	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	9	7	6	7	5	7	11	65	5	8	62	10
Total Analysis Volume [veh/h]	37	29	23	28	20	29	43	260	20	31	247	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	652	658	616	681	615	685
Degree of Utilization, x	0.14	0.12	0.07	0.41	0.05	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.47	0.40	0.22	2.02	0.16	2.06
95th-Percentile Queue Length [ft]	11.79	9.89	5.61	50.40	3.97	51.62
Approach Delay [s/veh]	9.40	9.20	11.28		11.39	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	10.92					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	1042	409	348	1279	491	469	921	264	727	865	294
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 Rate	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]	296	1042	409	348	1279	491	469	921	264	727	865	294
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	78	274	108	92	337	129	123	242	69	191	228	77
Total Analysis Volume [veh/h]	312	1097	431	366	1346	517	494	969	278	765	911	309
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.23	0.27	0.11	0.28	0.17	0.15	0.20	0.17	0.24	0.19	0.08
Intersection LOS	E											
Intersection V/C	0.964											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.897

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	649	1030	1154	621	579	280
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 Rate	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]	649	1030	1154	621	579	280
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]	162	258	289	155	145	70
Total Analysis Volume [veh/h]	649	1030	1154	621	579	280
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.36	0.19	0.12	0.00
Intersection LOS	D					
Intersection V/C	0.897					

ATTACHMENT D

EXISTING PLUS PROJECT INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\02 E+P AM Report.pdf

Scenario 4 02 Existing Plus Project AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.706	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Right	0.586	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.528	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.440	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.3	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.494	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.575	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.473	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.595	12.8	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.425	10.4	B
11	PCH/2nd Street	Signalized	ICU 1	EB Thru	0.857	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.869	-	D

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	146	107	80	757	1289	102
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 Rate	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]	146	107	80	757	1289	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	28	21	199	339	27
Total Analysis Volume [veh/h]	154	113	84	797	1357	107
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.07	0.05	0.25	0.46	0.46
Intersection LOS	C					
Intersection V/C	0.706					

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Version 6.00-01

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	21	22	9	906	1374	43
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 Rate	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]	21	22	9	906	1374	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	2	238	362	11
Total Analysis Volume [veh/h]	22	23	9	954	1446	45
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.30	0.47	0.47
Intersection LOS	A					
Intersection V/C	0.586					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	490	0	2	0	0	12	8	764	0	0	1070	23
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 Rate	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]	490	0	2	0	0	12	8	764	0	0	1070	23
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
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]	126	0	1	0	0	3	2	196	0	0	275	6
Total Analysis Volume [veh/h]	504	0	2	0	0	12	8	785	0	0	1100	24
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.00	0.00	0.00	0.01	0.01	0.25	0.00	0.00	0.23	0.02
Intersection LOS	A											
Intersection V/C	0.528											

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Version 6.00-01

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	34	0	92	19	31	10	0	627	10	69	952	0
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 Rate	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]	34	0	92	19	31	10	0	627	10	69	952	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	9	0	24	5	8	3	0	165	3	18	251	0
Total Analysis Volume [veh/h]	36	0	97	20	33	11	0	660	11	73	1002	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.06	0.01	0.03	0.03	0.00	0.21	0.01	0.05	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.440											

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Version 6.00-01

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	4	1
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 Rate	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]	0	1	0	0	4	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0
Total Analysis Volume [veh/h]	0	1	0	0	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.34	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.34		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.39					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	49	96	0	905	2
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 Rate	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]	0	49	96	0	905	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9460	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	0	238	1
Total Analysis Volume [veh/h]	0	52	101	0	953	2
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	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.00	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.494					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	675	0	80	2	3
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 Rate	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	0	0	0	2	0	73	675	0	80	2	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	0	0	0	1	0	19	178	0	21	1	1
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	711	0	84	2	3
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.06	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.575											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	837	152	2	4	9	133	0	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	837	152	2	4	9	133	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	220	40	1	1	2	35	0	0
Total Analysis Volume [veh/h]	0	881	160	2	4	9	140	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.33	0.00	0.00	0.01	0.05	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.575								

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Version 6.00-01

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	65	54	27	34	74	11	36	209	50	31	381	67
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 Rate	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]	65	54	27	34	74	11	36	209	50	31	381	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	17	14	7	9	19	3	9	55	13	8	100	18
Total Analysis Volume [veh/h]	68	57	28	36	78	12	38	220	53	33	401	71
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	0.04	0.05	0.05	0.02	0.06	0.06	0.02	0.14	0.03	0.02	0.25	0.04
Intersection LOS	A											
Intersection V/C	0.473											

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Version 6.00-01

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	95	1	88	0	0	0	44	190	60	84	366	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 Rate	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]	95	1	88	0	0	0	44	190	60	84	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	25	0	23	0	0	0	12	50	16	22	96	3
Total Analysis Volume [veh/h]	100	1	93	0	0	0	46	200	63	88	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	591		574	625	712	593	646	741
Degree of Utilization, x	0.33		0.08	0.32	0.09	0.15	0.60	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.42		0.26	1.38	0.29	0.52	3.94	0.05
95th-Percentile Queue Length [ft]	35.62		6.51	34.45	7.26	12.97	98.53	1.13
Approach Delay [s/veh]	12.04	0.00	10.32			14.79		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.85							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	35	60	200	11	15	261	24
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 Rate	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]	12	24	19	27	2	35	60	200	11	15	261	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	3	6	5	7	1	9	16	53	3	4	69	6
Total Analysis Volume [veh/h]	13	25	20	28	2	37	63	211	12	16	275	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	680	693	635	702	636	706
Degree of Utilization, x	0.09	0.10	0.10	0.32	0.03	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.28	0.32	0.33	1.37	0.08	2.13
95th-Percentile Queue Length [ft]	6.97	7.99	8.23	34.18	1.93	53.19
Approach Delay [s/veh]	8.79	8.75	9.94		11.36	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.36					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.857

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1166	323	250	945	172	234	1284	427	330	963	316
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 Rate	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]	404	1166	323	250	945	172	234	1284	427	330	963	316
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	106	307	85	66	249	45	62	338	112	87	253	83
Total Analysis Volume [veh/h]	425	1227	340	263	995	181	246	1352	449	347	1014	333
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	7	4	0	3	8	8
Auxiliary Signal Groups												8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.21	0.08	0.21	0.00	0.08	0.28	0.28	0.11	0.21	0.21
Intersection LOS	D											
Intersection V/C	0.857											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	549	688	963	921	986	502
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 Rate	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]	549	688	963	921	986	502
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	181	253	242	259	132
Total Analysis Volume [veh/h]	578	724	1014	969	1038	528
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.32	0.30	0.22	0.15
Intersection LOS	D					
Intersection V/C	0.869					

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Report File: P:\...\02 E+P PM Report.pdf

Scenario 5 02 Existing Plus Project PM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.736	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.690	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.628	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.657	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.469	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.607	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.563	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.799	18.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.633	13.6	B
13	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.869	-	D
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.981	-	E

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	189	98	124	1555	882	140
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 Rate	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]	189	98	124	1555	882	140
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	26	33	409	232	37
Total Analysis Volume [veh/h]	199	103	131	1637	928	147
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.06	0.08	0.51	0.34	0.34
Intersection LOS	C					
Intersection V/C	0.736					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	36	11	23	1720	1004	58
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 Rate	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]	36	11	23	1720	1004	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	6	453	264	15
Total Analysis Volume [veh/h]	38	12	24	1811	1057	61
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.02	0.57	0.35	0.35
Intersection LOS	B					
Intersection V/C	0.690					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	417	0	4	0	0	12	24	1168	0	0	622	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 Rate	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]	417	0	4	0	0	12	24	1168	0	0	622	30
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
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]	106	0	1	0	0	3	6	298	0	0	159	8
Total Analysis Volume [veh/h]	426	0	4	0	0	12	25	1193	0	0	635	31
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.02
Intersection LOS	B											
Intersection V/C	0.628											

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Version 6.00-01

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	63	0	126	28	54	6	0	1109	22	105	682	0
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 Rate	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]	63	0	126	28	54	6	0	1109	22	105	682	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	17	0	33	7	14	2	0	292	6	28	179	0
Total Analysis Volume [veh/h]	66	0	133	29	57	6	0	1167	23	111	718	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.08	0.02	0.04	0.04	0.00	0.36	0.01	0.07	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.657											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	11	1
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 Rate	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]	0	5	0	0	11	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
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	3	0
Total Analysis Volume [veh/h]	0	5	0	0	12	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.39	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.39		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.33					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	119	0	716	7
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 Rate	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]	0	81	119	0	716	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9580	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	0	188	2
Total Analysis Volume [veh/h]	0	85	125	0	754	7
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	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.00	0.24	0.24
Intersection LOS	A					
Intersection V/C	0.469					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	948	0	107	25	0
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 Rate	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	0	0	0	4	0	155	948	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	0	0	0	1	0	41	249	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	998	0	113	26	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.607											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	659	181	4	0	26	166	3	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	659	181	4	0	26	166	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	173	48	1	0	7	44	1	0
Total Analysis Volume [veh/h]	0	694	191	4	0	27	175	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.28	0.00	0.00	0.02	0.06	0.06	0.00
Intersection LOS	B								
Intersection V/C	0.607								

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Version 6.00-01

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	49	68	33	75	89	7	58	509	77	45	328	65
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 Rate	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]	49	68	33	75	89	7	58	509	77	45	328	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	13	18	9	20	23	2	15	134	20	12	86	17
Total Analysis Volume [veh/h]	52	72	35	79	94	7	61	536	81	47	345	68
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	0.03	0.05	0.05	0.05	0.06	0.06	0.04	0.34	0.05	0.03	0.22	0.04
Intersection LOS	A											
Intersection V/C	0.563											

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Version 6.00-01

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	81	4	81	0	0	0	53	472	106	130	299	25
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 Rate	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]	81	4	81	0	0	0	53	472	106	130	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	21	1	21	0	0	0	14	124	28	34	79	7
Total Analysis Volume [veh/h]	85	4	85	0	0	0	56	497	112	137	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	539		572	622	709	556	604	685
Degree of Utilization, x	0.32		0.10	0.80	0.16	0.25	0.52	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.38		0.32	7.91	0.56	0.96	3.02	0.12
95th-Percentile Queue Length [ft]	34.62		8.10	197.78	13.97	24.06	75.54	2.96
Approach Delay [s/veh]	12.81	0.00	22.82			13.55		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	18.13							
Intersection LOS	C							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.633

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	53	58	409	12	14	277	28
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 Rate	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]	9	5	8	19	4	53	58	409	12	14	277	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	2	1	2	5	1	14	15	108	3	4	73	7
Total Analysis Volume [veh/h]	9	5	8	20	4	56	61	431	13	15	292	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	650	637	701	618	685
Degree of Utilization, x	0.04	0.12	0.10	0.63	0.02	0.47

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.42	0.32	4.53	0.07	2.51
95th-Percentile Queue Length [ft]	2.81	10.47	7.91	113.36	1.86	62.68
Approach Delay [s/veh]	9.14	9.32	15.37		12.33	
Approach LOS	A	A	C		B	
Intersection Delay [s/veh]	13.63					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	958	316	276	1022	428	308	1139	307	343	1247	347
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 Rate	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]	433	958	316	276	1022	428	308	1139	307	343	1247	347
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	114	252	83	73	269	113	81	300	81	90	328	91
Total Analysis Volume [veh/h]	456	1008	333	291	1076	451	324	1199	323	361	1313	365
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	7	4	0	3	8	8
Auxiliary Signal Groups												8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.21	0.21	0.09	0.22	0.00	0.10	0.25	0.20	0.11	0.27	0.23
Intersection LOS	D											
Intersection V/C	0.869											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	961	1172	828	1073	664
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 Rate	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]	437	961	1172	828	1073	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	253	308	218	282	175
Total Analysis Volume [veh/h]	460	1012	1234	872	1129	699
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.39	0.27	0.24	0.29
Intersection LOS	E					
Intersection V/C	0.981					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\02 E+P (Weekend) Report.pdf

Scenario 6 02 Existing Plus Project Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.603	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.522	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.531	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.576	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.423	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.653	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.628	-	B
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.734	21.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.643	14.8	B
13	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.791	-	C
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.779	-	C

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	244	113	82	883	729	150
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 Rate	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]	244	113	82	883	729	150
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	30	22	232	192	39
Total Analysis Volume [veh/h]	257	119	86	929	767	158
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.07	0.05	0.29	0.29	0.29
Intersection LOS	B					
Intersection V/C	0.603					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	92	12	17	1098	858	77
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 Rate	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]	92	12	17	1098	858	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	3	4	289	226	20
Total Analysis Volume [veh/h]	97	13	18	1156	903	81
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.36	0.31	0.31
Intersection LOS	A					
Intersection V/C	0.522					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	576	0	4	0	0	16	16	639	0	0	572	33
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 Rate	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]	576	0	4	0	0	16	16	639	0	0	572	33
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
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]	152	0	1	0	0	4	4	168	0	0	151	9
Total Analysis Volume [veh/h]	606	0	4	0	0	17	17	673	0	0	602	35
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.00	0.00	0.00	0.01	0.01	0.21	0.00	0.00	0.13	0.02
Intersection LOS	A											
Intersection V/C	0.531											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	76	0	181	18	77	26	0	557	22	161	402	0
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 Rate	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]	76	0	181	18	77	26	0	557	22	161	402	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	20	0	48	5	20	7	0	147	6	42	106	0
Total Analysis Volume [veh/h]	80	0	191	19	81	27	0	586	23	169	423	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.12	0.01	0.07	0.07	0.00	0.18	0.01	0.11	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.576											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	12	3
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 Rate	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]	0	0	0	0	12	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	1
Total Analysis Volume [veh/h]	0	0	0	0	13	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.38	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.38		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	158	0	477	29
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 Rate	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]	0	81	158	0	477	29
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	42	0	126	8
Total Analysis Volume [veh/h]	0	85	166	0	502	31
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	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.00	0.17	0.17
Intersection LOS	A					
Intersection V/C	0.423					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	86	633	2	121	41	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 Rate	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	0	0	0	2	0	86	633	2	121	41	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	0	0	0	1	0	23	167	1	32	11	2
Total Analysis Volume [veh/h]	0	0	0	0	2	0	91	666	2	127	43	8
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.11	0.11	0.11
Intersection LOS	B											
Intersection V/C	0.653											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	643	212	15	16	39	200	0	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	643	212	15	16	39	200	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	169	56	4	4	10	53	0	0
Total Analysis Volume [veh/h]	0	677	223	16	17	41	211	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.28	0.02	0.02	0.03	0.08	0.00	0.00
Intersection LOS	B								
Intersection V/C	0.653								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	80	95	25	72	148	16	69	515	107	43	443	101
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 Rate	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]	80	95	25	72	148	16	69	515	107	43	443	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	21	25	7	19	39	4	18	136	28	11	117	27
Total Analysis Volume [veh/h]	84	100	26	76	156	17	73	542	113	45	466	106
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	0.05	0.07	0.07	0.05	0.11	0.11	0.05	0.34	0.07	0.03	0.29	0.07
Intersection LOS	B											
Intersection V/C	0.628											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	167	3	137	0	0	0	59	311	265	274	361	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 Rate	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]	167	3	137	0	0	0	59	311	265	274	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	44	1	36	0	0	0	16	82	70	72	95	5
Total Analysis Volume [veh/h]	176	3	144	0	0	0	62	327	279	288	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	497		477	513	571	483	518	579
Degree of Utilization, x	0.65		0.13	0.64	0.49	0.60	0.73	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.60		0.44	4.44	2.67	3.84	6.10	0.10
95th-Percentile Queue Length [ft]	115.05		11.11	111.07	66.75	96.05	152.55	2.54
Approach Delay [s/veh]	22.73	0.00	17.70			23.53		
Approach LOS	C	A	C			C		
Intersection Delay [s/veh]	21.05							
Intersection LOS	C							

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Version 6.00-01

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	84	69	304	19	29	348	37
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 Rate	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]	35	28	22	27	19	84	69	304	19	29	348	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	9	7	6	7	5	22	18	80	5	8	92	10
Total Analysis Volume [veh/h]	37	29	23	28	20	88	73	320	20	31	366	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	570	608	571	625	572	630
Degree of Utilization, x	0.16	0.22	0.13	0.54	0.05	0.64

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.85	0.44	3.28	0.17	4.64
95th-Percentile Queue Length [ft]	13.75	21.30	10.93	81.98	4.28	116.03
Approach Delay [s/veh]	10.48	10.62	14.21		17.51	
Approach LOS	B	B	B		C	
Intersection Delay [s/veh]	14.78					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.791

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	853	311	324	1032	483	432	888	264	436	905	270
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 Rate	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]	296	853	311	324	1032	483	432	888	264	436	905	270
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	78	224	82	85	272	127	114	234	69	115	238	71
Total Analysis Volume [veh/h]	312	898	327	341	1086	508	455	935	278	459	953	284
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	7	4	0	3	8	8
Auxiliary Signal Groups												8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.19	0.20	0.11	0.23	0.00	0.14	0.19	0.17	0.14	0.20	0.18
Intersection LOS	C											
Intersection V/C	0.791											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	512	1030	1033	587	521	280
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 Rate	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]	512	1030	1033	587	521	280
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	135	271	272	154	137	74
Total Analysis Volume [veh/h]	539	1084	1087	618	548	295
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.04	0.34	0.19	0.11	0.02
Intersection LOS	C					
Intersection V/C	0.779					

ATTACHMENT E

CUMULATIVE PLUS PROJECT INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\04 C+P AM Report.pdf

Scenario 10 04 Cumulative + Project AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.708	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.588	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.519	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.443	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.496	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.571	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.475	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.595	12.8	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.422	10.3	B
11	PCH/2nd Street	Signalized	ICU 1	EB Thru	0.900	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.896	-	D

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	146	107	80	765	1295	102
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 Rate	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]	146	107	80	765	1295	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	28	21	201	341	27
Total Analysis Volume [veh/h]	154	113	84	805	1363	107
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.07	0.05	0.25	0.46	0.46
Intersection LOS	C					
Intersection V/C	0.708					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	21	22	9	914	1380	43
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 Rate	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]	21	22	9	914	1380	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	2	241	363	11
Total Analysis Volume [veh/h]	22	23	9	962	1453	45
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.30	0.47	0.47
Intersection LOS	A					
Intersection V/C	0.588					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	490	0	2	0	0	12	8	772	0	0	1076	23
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 Rate	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]	490	0	2	0	0	12	8	772	0	0	1076	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]	123	0	1	0	0	3	2	193	0	0	269	6
Total Analysis Volume [veh/h]	490	0	2	0	0	12	8	772	0	0	1076	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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.00	0.00	0.00	0.01	0.01	0.24	0.00	0.00	0.22	0.01
Intersection LOS	A											
Intersection V/C	0.519											

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Intersection Level Of Service Report

Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	34	0	92	19	31	10	0	635	10	69	958	0
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 Rate	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]	34	0	92	19	31	10	0	635	10	69	958	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	9	0	24	5	8	3	0	167	3	18	252	0
Total Analysis Volume [veh/h]	36	0	97	20	33	11	0	668	11	73	1008	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.06	0.01	0.03	0.03	0.00	0.21	0.01	0.05	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.443											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	10	1
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 Rate	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]	0	1	0	0	10	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	0
Total Analysis Volume [veh/h]	0	1	0	0	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	49	96	23	911	2
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 Rate	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]	0	49	96	23	911	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	6	240	1
Total Analysis Volume [veh/h]	0	52	101	24	959	2
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	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.01	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.496					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	683	0	80	2	0
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 Rate	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	0	0	0	2	0	73	683	0	80	2	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
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	0	0	0	1	0	19	180	0	21	1	0
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	719	0	84	2	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.571											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	843	88	2	0	9	159	0	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	843	88	2	0	9	159	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	222	23	1	0	2	42	0	0
Total Analysis Volume [veh/h]	0	887	93	2	0	9	167	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.31	0.00	0.00	0.01	0.06	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.571								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	65	54	27	34	74	11	36	209	50	31	381	67
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 Rate	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]	65	54	27	34	74	11	36	209	50	31	381	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	17	14	7	9	19	3	9	55	13	8	100	18
Total Analysis Volume [veh/h]	68	57	28	36	78	12	38	220	53	33	401	71
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	0.04	0.08	0.02	0.02	0.06	0.06	0.02	0.14	0.03	0.02	0.25	0.04
Intersection LOS	A											
Intersection V/C	0.475											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	95	1	88	0	0	0	44	190	60	84	366	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 Rate	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]	95	1	88	0	0	0	44	190	60	84	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	25	0	23	0	0	0	12	50	16	22	96	3
Total Analysis Volume [veh/h]	100	1	93	0	0	0	46	200	63	88	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	591		574	625	712	593	646	741
Degree of Utilization, x	0.33		0.08	0.32	0.09	0.15	0.60	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.42		0.26	1.38	0.29	0.52	3.94	0.05
95th-Percentile Queue Length [ft]	35.62		6.51	34.45	7.26	12.97	98.53	1.13
Approach Delay [s/veh]	12.04	0.00	10.32			14.79		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.85							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

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):	0.422

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	25	60	200	11	15	261	24
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 Rate	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]	12	24	19	27	2	25	60	200	11	15	261	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	3	6	5	7	1	7	16	53	3	4	69	6
Total Analysis Volume [veh/h]	13	25	20	28	2	26	63	211	12	16	275	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	684	685	638	706	640	711
Degree of Utilization, x	0.08	0.08	0.10	0.32	0.03	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.28	0.27	0.33	1.35	0.08	2.10
95th-Percentile Queue Length [ft]	6.93	6.65	8.17	33.85	1.92	52.61
Approach Delay [s/veh]	8.76	8.72	9.87		11.26	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.31					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1217	339	258	1021	175	246	1304	427	389	966	325
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 Rate	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]	404	1217	339	258	1021	175	246	1304	427	389	966	325
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	106	320	89	68	269	46	65	343	112	102	254	86
Total Analysis Volume [veh/h]	425	1281	357	272	1075	184	259	1373	449	409	1017	342
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.27	0.22	0.09	0.22	0.03	0.08	0.29	0.28	0.13	0.21	0.13
Intersection LOS	D											
Intersection V/C	0.900											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	549	722	989	939	1019	502
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 Rate	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]	549	722	989	939	1019	502
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]	137	181	247	235	255	126
Total Analysis Volume [veh/h]	549	722	989	939	1019	502
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

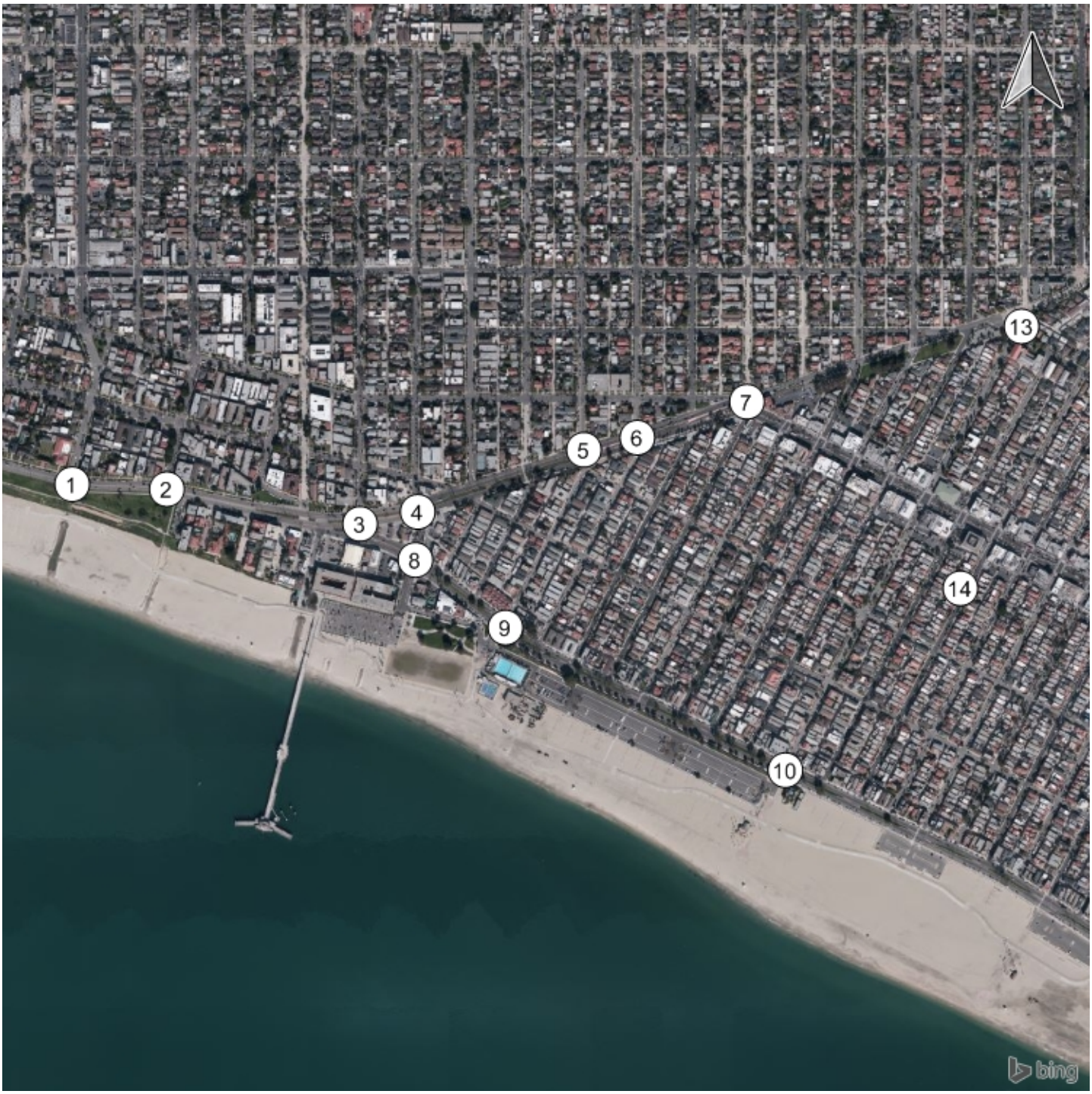
Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.31	0.29	0.21	0.14
Intersection LOS	D					
Intersection V/C	0.896					

Study Intersections



Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\04 C+P PM Report.pdf

Scenario 11 04 Cumulative + Project PM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.740	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.694	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.621	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.661	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.473	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.653	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.591	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.799	18.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.633	13.6	B
13	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.970	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	1.003	-	F

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.740

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	189	98	124	1568	894	140
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 Rate	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]	189	98	124	1568	894	140
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	26	33	413	235	37
Total Analysis Volume [veh/h]	199	103	131	1651	941	147
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.06	0.08	0.52	0.34	0.34
Intersection LOS	C					
Intersection V/C	0.740					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	36	11	23	1733	1016	58
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 Rate	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]	36	11	23	1733	1016	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	6	456	267	15
Total Analysis Volume [veh/h]	38	12	24	1824	1069	61
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.02	0.57	0.35	0.35
Intersection LOS	B					
Intersection V/C	0.694					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	417	0	4	0	0	12	24	1181	0	0	634	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 Rate	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]	417	0	4	0	0	12	24	1181	0	0	634	30
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]	104	0	1	0	0	3	6	295	0	0	159	8
Total Analysis Volume [veh/h]	417	0	4	0	0	12	24	1181	0	0	634	30
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.02
Intersection LOS	B											
Intersection V/C	0.621											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	63	0	126	28	54	6	0	1122	22	105	694	0
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 Rate	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]	63	0	126	28	54	6	0	1122	22	105	694	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	17	0	33	7	14	2	0	295	6	28	183	0
Total Analysis Volume [veh/h]	66	0	133	29	57	6	0	1181	23	111	731	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.08	0.02	0.04	0.04	0.00	0.37	0.01	0.07	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.661											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	23	1
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 Rate	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]	0	5	0	0	23	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
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	6	0
Total Analysis Volume [veh/h]	0	5	0	0	24	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.36	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	119	23	728	7
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 Rate	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]	0	81	119	23	728	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	6	192	2
Total Analysis Volume [veh/h]	0	85	125	24	766	7
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	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.01	0.24	0.24
Intersection LOS	A					
Intersection V/C	0.473					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	961	0	107	25	0
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 Rate	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	0	0	0	4	0	155	961	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
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	0	0	0	1	0	41	253	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	1012	0	113	26	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.653											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	671	220	4	0	26	211	3	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	671	220	4	0	26	211	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	177	58	1	0	7	56	1	0
Total Analysis Volume [veh/h]	0	706	232	4	0	27	222	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.29	0.00	0.00	0.02	0.08	0.08	0.00
Intersection LOS	B								
Intersection V/C	0.653								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	49	68	33	75	89	7	58	509	77	45	328	65
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 Rate	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]	49	68	33	75	89	7	58	509	77	45	328	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	13	18	9	20	23	2	15	134	20	12	86	17
Total Analysis Volume [veh/h]	52	72	35	79	94	7	61	536	81	47	345	68
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	0.03	0.08	0.02	0.05	0.06	0.06	0.04	0.34	0.05	0.03	0.22	0.04
Intersection LOS	A											
Intersection V/C	0.591											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	81	4	81	0	0	0	53	472	106	130	299	25
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 Rate	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]	81	4	81	0	0	0	53	472	106	130	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	21	1	21	0	0	0	14	124	28	34	79	7
Total Analysis Volume [veh/h]	85	4	85	0	0	0	56	497	112	137	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	539		572	622	709	556	604	685
Degree of Utilization, x	0.32		0.10	0.80	0.16	0.25	0.52	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.38		0.32	7.91	0.56	0.96	3.02	0.12
95th-Percentile Queue Length [ft]	34.62		8.10	197.78	13.97	24.06	75.54	2.96
Approach Delay [s/veh]	12.81	0.00	22.82			13.55		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	18.13							
Intersection LOS	C							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.633

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	53	58	409	12	14	277	28
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 Rate	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]	9	5	8	19	4	53	58	409	12	14	277	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	2	1	2	5	1	14	15	108	3	4	73	7
Total Analysis Volume [veh/h]	9	5	8	20	4	56	61	431	13	15	292	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	650	637	701	618	685
Degree of Utilization, x	0.04	0.12	0.10	0.63	0.02	0.47

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.42	0.32	4.53	0.07	2.51
95th-Percentile Queue Length [ft]	2.81	10.47	7.91	113.36	1.86	62.68
Approach Delay [s/veh]	9.14	9.32	15.37		12.33	
Approach LOS	A	A	C		B	
Intersection Delay [s/veh]	13.63					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.970

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	1073	361	298	1167	435	334	1172	307	544	1252	373
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 Rate	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]	433	1073	361	298	1167	435	334	1172	307	544	1252	373
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	114	282	95	78	307	114	88	308	81	143	329	98
Total Analysis Volume [veh/h]	456	1129	380	314	1228	458	352	1234	323	573	1318	393
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.24	0.24	0.10	0.26	0.18	0.11	0.26	0.20	0.18	0.27	0.15
Intersection LOS	E											
Intersection V/C	0.970											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	1034	1232	867	1144	664
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 Rate	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]	437	1034	1232	867	1144	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	272	324	228	301	175
Total Analysis Volume [veh/h]	460	1088	1297	913	1204	699
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	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.41	0.29	0.25	0.29
Intersection LOS	F					
Intersection V/C	1.003					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\04 C+P (Weekend) Report.pdf

Scenario 12 04 Cumulative + Project Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.608	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.526	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.514	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.580	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.428	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.605	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.629	-	B
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.734	21.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.643	14.8	B
13	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.969	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.906	-	E

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.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	244	113	82	896	743	150
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 Rate	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]	244	113	82	896	743	150
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	30	22	236	196	39
Total Analysis Volume [veh/h]	257	119	86	943	782	158
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	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.07	0.05	0.29	0.29	0.29
Intersection LOS	B					
Intersection V/C	0.608					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.526

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	92	12	17	1111	872	77
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 Rate	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]	92	12	17	1111	872	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	3	4	292	229	20
Total Analysis Volume [veh/h]	97	13	18	1169	918	81
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	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.37	0.31	0.31
Intersection LOS	A					
Intersection V/C	0.526					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
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	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	576	0	4	0	0	16	16	652	0	0	586	33
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 Rate	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]	576	0	4	0	0	16	16	652	0	0	586	33
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]	144	0	1	0	0	4	4	163	0	0	147	8
Total Analysis Volume [veh/h]	576	0	4	0	0	16	16	652	0	0	586	33
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	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.00	0.00	0.00	0.01	0.01	0.20	0.00	0.00	0.12	0.02
Intersection LOS	A											
Intersection V/C	0.514											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	76	0	181	18	77	26	0	570	22	161	416	0
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 Rate	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]	76	0	181	18	77	26	0	570	22	161	416	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	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]	20	0	48	5	20	7	0	150	6	42	109	0
Total Analysis Volume [veh/h]	80	0	191	19	81	27	0	600	23	169	438	0
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	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.12	0.01	0.07	0.07	0.00	0.19	0.01	0.11	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.580											

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Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	26	3
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 Rate	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]	0	0	0	0	26	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	7	1
Total Analysis Volume [veh/h]	0	0	0	0	27	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.428

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	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	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	158	36	491	29
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 Rate	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]	0	81	158	36	491	29
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	42	9	129	8
Total Analysis Volume [veh/h]	0	85	166	38	517	31
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	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.01	0.17	0.17
Intersection LOS	A					
Intersection V/C	0.428					

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Version 6.00-01

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	15	0	119	556	0	94	32	0
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 Rate	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	0	0	0	15	0	119	556	0	94	32	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
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	0	0	0	4	0	31	146	0	25	8	0
Total Analysis Volume [veh/h]	0	0	0	0	16	0	125	585	0	99	34	0
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.08	0.08	0.00
Intersection LOS	B											
Intersection V/C	0.605											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	472	371	21	0	24	352	31	0
Base Volume Adjustment Factor	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
Growth Rate	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
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	472	371	21	0	24	352	31	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	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	124	98	6	0	6	93	8	0
Total Analysis Volume [veh/h]	0	497	391	22	0	25	371	33	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

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

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.16	0.28	0.01	0.00	0.02	0.13	0.13	0.00
Intersection LOS	B								
Intersection V/C	0.605								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	80	95	25	72	148	16	69	515	107	43	443	101
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 Rate	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]	80	95	25	72	148	16	69	515	107	43	443	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	21	25	7	19	39	4	18	136	28	11	117	27
Total Analysis Volume [veh/h]	84	100	26	76	156	17	73	542	113	45	466	106
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	0.05	0.12	0.02	0.05	0.11	0.11	0.05	0.34	0.07	0.03	0.29	0.07
Intersection LOS	B											
Intersection V/C	0.629											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	167	3	137	0	0	0	59	311	265	274	361	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 Rate	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]	167	3	137	0	0	0	59	311	265	274	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	44	1	36	0	0	0	16	82	70	72	95	5
Total Analysis Volume [veh/h]	176	3	144	0	0	0	62	327	279	288	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	497		477	513	571	483	518	579
Degree of Utilization, x	0.65		0.13	0.64	0.49	0.60	0.73	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.60		0.44	4.44	2.67	3.84	6.10	0.10
95th-Percentile Queue Length [ft]	115.05		11.11	111.07	66.75	96.05	152.55	2.54
Approach Delay [s/veh]	22.73	0.00	17.70			23.53		
Approach LOS	C	A	C			C		
Intersection Delay [s/veh]	21.05							
Intersection LOS	C							

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Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
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	1	0	0	1
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	84	69	304	19	29	348	37
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 Rate	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]	35	28	22	27	19	84	69	304	19	29	348	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	9	7	6	7	5	22	18	80	5	8	92	10
Total Analysis Volume [veh/h]	37	29	23	28	20	88	73	320	20	31	366	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	570	608	571	625	572	630
Degree of Utilization, x	0.16	0.22	0.13	0.54	0.05	0.64

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.85	0.44	3.28	0.17	4.64
95th-Percentile Queue Length [ft]	13.75	21.30	10.93	81.98	4.28	116.03
Approach Delay [s/veh]	10.48	10.62	14.21		17.51	
Approach LOS	B	B	B		C	
Intersection Delay [s/veh]	14.78					
Intersection LOS	B					

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Version 6.00-01

Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
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	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	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	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	1042	409	348	1279	491	469	944	264	727	911	294
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 Rate	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]	296	1042	409	348	1279	491	469	944	264	727	911	294
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	78	274	108	92	337	129	123	248	69	191	240	77
Total Analysis Volume [veh/h]	312	1097	431	366	1346	517	494	994	278	765	959	309
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	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.23	0.27	0.11	0.28	0.17	0.15	0.21	0.17	0.24	0.20	0.08
Intersection LOS	E											
Intersection V/C	0.969											

Generated with PTV VISTRO
Version 6.00-01

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	649	1030	1154	644	625	280
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 Rate	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]	649	1030	1154	644	625	280
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]	162	258	289	161	156	70
Total Analysis Volume [veh/h]	649	1030	1154	644	625	280
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.36	0.20	0.13	0.00
Intersection LOS	E					
Intersection V/C	0.906					