



CITY OF MANHATTAN BEACH
DEPARTMENT OF COMMUNITY DEVELOPMENT
MEMORANDUM

DATE: April 29, 2020

TO: Planning Commission

FROM: Carrie Tai, AICP, Director of Community Development

BY: Ted Fatuross, Assistant Planner

SUBJECT: Proposed Master Use Permits for 1) A New Commercial Building with a Personal Improvement Service Use and a Restaurant with Beer and Wine Service on a 13,168 square-foot lot at 1100 N. Sepulveda Blvd and 2) A New Commercial Building with a Credit Union and a Restaurant with Beer and Wine Service on a 24,494 square-foot lot at 1120 N. Sepulveda Blvd; both in the CG-D8 zone; and Make an Environmental Determination in Accordance with the California Environmental Quality Act (Kinecta Federal Credit Union)

RECOMMENDATION

Staff recommends that the Planning Commission **CONDUCT** the Public Hearing and **ADOPT** the attached resolutions approving the Master Use Permits subject to certain conditions.

APPLICANT

Kinecta Federal Credit Union
1440 Rosecrans Avenue
Manhattan Beach, CA 90266

BACKGROUND

On August 29, 2019, the Community Development Department received applications requesting two Master Use Permits for two separately-owned adjacent lots that the applicant proposes to redevelop as one site. **The site's two lots will be kept under** separate ownership. One of the two Master Use Permit requests proposes to build a 4,650 square-foot commercial building with a credit union and restaurant with on-site beer and wine service at 1120 N. Sepulveda Boulevard (southeast corner of

Manhattan Beach Boulevard and Sepulveda Boulevard). The other Master Use Permit request proposes to build a 4,920 square-foot commercial building on top of a semi-underground parking garage, with the commercial building having a personal improvement service use and a restaurant with on-site beer and wine service at 1100 N. Sepulveda Boulevard (northeast corner of Sepulveda Boulevard and 11th Street). The subject site is **located in the “CG-D8”** (General Commercial, Sepulveda Boulevard Corridor Overlay) design overlay district in Area District I.

The northern part of the site (1120 N. Sepulveda Boulevard) is a 24,494 square-foot lot with street frontage along both Sepulveda Boulevard and Manhattan Beach Boulevard. Vehicles could access this portion of the site from both streets. A gas station was located on this northern part of the site before being demolished in 2008. The southern part of the site (1100 N. Sepulveda Boulevard) is a 13,168 square-foot lot with street frontage along Sepulveda Boulevard and 11th Street. Vehicles could access this portion of the site from 11th Street. A vacant commercial building is currently located on this southern portion of the site, with the commercial building formerly occupied by a liquor store, gym, and offices. In February 2008, the City Council approved the redevelopment of the entire site as a Rite-Aid pharmacy (City Council Resolution No. 6122). **Rite-Aid’s entitlements and building permits** have all expired, and their project was never built. Nevertheless, a construction fence was placed around the property, and the gas station at 1120 N. Sepulveda Boulevard was demolished while the commercial building at 1100 N. Sepulveda Boulevard was vacated. The site has been uninhabited by any commercial tenants for over 10 years. Approval of the proposed project would see the remaining structures on the site demolished in order to make way for the proposed buildings.

The site has two different property owners, with the Nayebdadash Family Trust owning the northern portion of the site (1120 N. Sepulveda Boulevard) and the Sackley Family Trust owning the southern portion of the site (1100 N. Sepulveda Boulevard). The existing property line between the two lots is jagged, awkward, and makes development of both sites difficult. The two property owners have agreed to a lot line adjustment that will create two lots with straight property lines in order to facilitate easier development of the site. Rite-Aid is the lessor to the applicant, Kinecta Federal Credit Union, as Rite-Aid still has a long-term lease on the entire site.

PROJECT OVERVIEW

Location: 1100 – 1120 N. Sepulveda Boulevard
(see Vicinity Map- Attachment D)

Legal Description: 1100 N. Sepulveda Blvd
Portions of Lots 15 through 18, Block 2, Tract No. 142

1120 N. Sepulveda Blvd
Portions of Lots 9 through 12 and Portions of Lots 15 through 18,
Block 2, Tract No. 142

LAND USE

General Plan:	General Commercial
Zoning:	CG-D8, General Commercial, Sepulveda Blvd Corridor Overlay
Area District:	I

Land Use:	<u>1100 N. Sepulveda Blvd</u> Personal Improvement Service/Restaurant- Take-Out	<u>1120 N. Sepulveda Blvd</u> Credit Union/Restaurant- Take-Out
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Required Parking:	<u>1100 N. Sepulveda Blvd</u> 43 Parking Spaces	<u>1120 N. Sepulveda Blvd</u> 30 Parking Spaces
Provided Parking:	43 Parking Spaces	36 Parking Spaces

Neighboring Zoning and Land Uses:

North (across MBB)	CG-D8: Retail/Bank (Target/Chase/AT&T)
South (across 11 th Street)	CG-D8: Medical Office (Providence Urgent Care)
East	CG: Office/Personal Service
West (across Sepulveda Blvd)	CG-D8: Medical Office/Auto Service

PROJECT DETAILS

	<u>1100 N. Sepulveda Blvd</u>	<u>1120 N. Sepulveda Blvd</u>
Lot Size- Pre-Dedication:	13,932 square feet	26,259 square feet
Lot Size- Post-Dedication:	13,168 square feet	24,494 square feet
Maximum Buildable Floor Area:	19,752 square feet	36,741 square feet
Proposed Buildable Floor Area:	4,920 square feet	4,650 square feet
Maximum Height:	30 feet	30 feet (sloping roof) 22 feet (non-sloping roof)
Proposed Height:	30 feet	30 feet/22 feet
Restaurant- Take-Out Details:		
Alcohol Service:	On-Site Beer & Wine	On-Site Beer & Wine
Live Entertainment:	None	None
Hours of Operation:	Mon - Sun: 6 a.m. – 11 p.m.	Mon – Sun: 6 a.m. – 11 p.m.

DISCUSSION

The applicant is requesting two Master Use Permits for two separately-owned adjacent lots that are being proposed to be redeveloped as one site. A Master Use Permit is required for each lot because

each lot will remain separately owned for the foreseeable future, regardless of whether the redevelopment of the site is approved.

One of the two Master Use Permit requests proposes a new 4,650 square-foot commercial building on the northern portion of the site, at 1120 N. Sepulveda Boulevard (southeast corner of Manhattan Beach Boulevard and Sepulveda Boulevard). The proposed building will be located in the northwest corner of the site close to the street, with parking behind the building away from the street in a configuration that creates a pedestrian-oriented design. Vehicles and pedestrians will be able to access this portion of the site from both Sepulveda Boulevard and Manhattan Beach Boulevard. Pedestrians will also be able to access the northern portion of the site from the southern portion of the site (1100 N. Sepulveda Boulevard). The building will have two separate tenants, a 3,422 square-foot credit union (Kinecta Federal Credit Union) and a 1,227 square-foot restaurant with on-site beer and wine service. A restaurant tenant has not been identified as the applicant has yet to sign a lease with a prospective tenant. The restaurant will have **145 square feet of outdoor seating**. The restaurant's proposed hours are 6:00 a.m. to 11:00 p.m., Monday through Sunday. No live entertainment is proposed for the restaurant use.

The other Master Use Permit request proposes a new 4,920 square-foot commercial building with both surface parking and a semi-underground parking garage in the southern portion of the site, at 1100 N. Sepulveda Boulevard (northeast corner of Sepulveda Boulevard and 11th Street). The **semi-underground parking structure's** footprint takes up most of the southern portion of the site, with the commercial building and surface-level parking located above the semi-underground garage. The commercial building and surface-level parking is approximately level with the grade of the northern portion of the site (1120 N. Sepulveda Boulevard). The surface-level parking is accessed from the northern portion of the site. Automobile access to the semi-underground parking garage is from 11th Street. Stairs and an elevator connect the semi-underground garage to the surface level parking lot.

The proposed building on the southern portion of the site will have two tenants, a 2,203 square foot personal improvement service use and a 2,408 square foot restaurant use with on-site beer and wine service. The applicant has not identified tenants for the building, as the applicant has yet to sign a lease with any prospective tenants. The restaurant will have 174 square feet of outdoor seating. The proposed hours for the restaurant are 6:00 a.m. to 11:00 p.m., Monday through Sunday. No live entertainment is proposed for the restaurant use.

The **applicant's architect**, Tomaro Architecture, has incorporated glass and stone into the design of both buildings to give the entire site a contemporary feel. The design of 1120 N. Sepulveda Boulevard is particularly noteworthy for incorporating a dramatically sloped roof that seems appropriately suited for one of the most important intersections in the City. The buildings meet development standards for height, landscaping, setbacks, and maximum buildable floor area. Both proposed structures are significantly below the maximum buildable floor area allowed for each lot. The proposed structure at 1100 N. Sepulveda Boulevard is only 25% of the maximum buildable floor area (4,920 square feet proposed vs the maximum 19,752 square feet allowed). The proposed structure at

1120 N. Sepulveda Boulevard is only 12.7% of the maximum buildable floor area allowed on the lot (4,650 square feet proposed vs the maximum 36,741 square feet allowed).

The proposed uses for 1100 N. Sepulveda Boulevard generate the need for 43 off-street parking spaces, and the applicant is providing 43 off-street parking spaces on the lot. The applicant has **chosen a conservative approach to calculating parking for the site's southern lot by choosing the personal improvement service use as one of the building's tenants.** The personal improvement use has a higher parking standard (one parking space per 250 square feet of tenant space) when compared to other potential uses like office or personal service uses (one parking space per 300 square feet of tenant space). Uses that generate less parking demand, like office and/or personal service, will be allowed to occupy the 2,203 square foot personal improvement service tenant space. The proposed uses for 1120 N. Sepulveda Boulevard, generate the need for 30 off-street parking spaces, and the applicant is providing 36 off-street parking spaces for the lot. When viewed as one site, there is an excess of six off-street parking spaces. Because both lots will function as one site, the Draft Resolutions (Attachments A and B) will require that the property owners sign and record a reciprocal access agreement that will allow customers visiting a business at one lot to be able to park at the other lot, and vice versa. The applicant is requesting that employees who work at any of the businesses at the site be required to park in the semi-underground parking structure at 1100 N. Sepulveda Boulevard.

The proposed plans show four bicycle racks on each lot. The bicycle racks are located adjacent to the pedestrian access off Manhattan Beach Boulevard on the northern part of the site, and close to the trash enclosure on the southern part of the site. Each lot is required to have at least two bicycle parking spaces per M.B.M.C 10.64.080, and the proposed plans exceed this requirement for both lots.

The applicant has provided a Remedial Action Report (Attachment E) from HVN Environmental Service Company that details the soil remediation on the site, as the northern portion of the site was previously used as a gas station. Most of the remediation was completed in 2008 when the structures, underground storage tanks, and piping were removed from the site. Soil samples were taken in 2018 and 2019, and additional remediation was completed in 2019. In February 2020, the Los Angeles **Regional Water Quality Control Board issued a "pre-closure notification" (Attachment F) stating that the agency has reviewed the Final Remedial Action Report and "has determined that this case meets the Regional Board's low threat criteria for a case closure."**

A Use Permit is required for any site over 10,000 square feet in size and/or any building over 5,000 square feet in size in the CG zone. A Master Use Permit is required when a site has multiple uses (MBMC 10.84.105). Staff has prepared a Draft Resolution for each lot approving a Master Use Permit, with the Draft Resolutions incorporating comments from several City departments as well as the latest conditions the City places on eating and drinking establishments.

OTHER DEPARTMENT COMMENTS

Various City departments and divisions have reviewed the proposed plans and issued comments to **the applicant's architect**. **The applicant's** architect has incorporated these various comments into the design of both lots.

The Public Works Department has worked very closely with the architect to accommodate a 10-foot dedication along Sepulveda Boulevard, as well as a redesign of **the site's** northwest and southwest public right-of-way corners, to accommodate the widening of Sepulveda Boulevard. The widening is necessary to accommodate planned improvements to the intersection that will include two left-hand turn lanes from northbound Sepulveda Boulevard to westbound Manhattan Beach Boulevard. The Public Works Department has been working closely with the California Department of Transportation (Caltrans) on the proposed improvements at the intersection, as Sepulveda Boulevard is a state highway and is under the jurisdiction of Caltrans. The Public Works Department has several conditions that have been incorporated into the Draft Resolution.

The architect is working with **the City's Public Works** Department and Caltrans on an alternative design of the **site's previously approved northwest** public right-of-way corner design. The goal of this alternative design would be to push the 1120 N. Sepulveda Boulevard building further north and create wider tenant spaces while maintaining the same building square footages, building layout, and general site plan design. The architect has included different versions of the site plan in the plans that reflect the possibility of a different northwest public right-of-way curb design (Attachment H).

The City's Traffic Engineer has reviewed the Traffic Impact Analysis prepared by Linscott, Law, & Greenspan Engineers (Attachment G). The City Traffic Engineer supports the findings in the study that no significant traffic impacts are anticipated on the roadway network as the result of the project. Based on the recommendation of the City Traffic Engineer, the Master Use Permit for 1100 N. Sepulveda Boulevard will require that the outbound driveway on 11th Street be restricted to right turns out only, as commercial traffic should be directed to the nearest arterial street instead of local residential streets.

REQUIRED FINDINGS

Section 10.84.010 of the Manhattan Beach Municipal Code states that "Use Permits are required for use classifications typically having unusual site development features or operating characteristics requiring special consideration so that they may be designed, located, and operated compatibly with uses on adjoining properties and in the surrounding area."

The following findings must be met in order to grant a Master Use Permit for each lot. Staff suggests the following findings in support of the Master Use Permit request for each lot that is part of the project.

- 1. The proposed location of the use is in accord with the objectives of this title and the purposes of the district in which the site is located.*

The property is located within Area District I and is zoned CG-D8 (General Commercial, Sepulveda Boulevard Corridor Overlay). The proposed commercial uses are permitted by the zoning code and are appropriate as conditioned for the General Commercial, Sepulveda Boulevard Corridor Overlay zone. The surrounding Manhattan Beach properties consist of CG-D8 (General Commercial, Sepulveda Boulevard Corridor Overlay) to the north, south, and west; and CG (General Commercial) to the east. The proposed location of the Project (Sepulveda Boulevard) is in accord with the objectives of the Zoning Code and the purposes of the district in which the site is located because Sepulveda Boulevard is a main commercial thoroughfare and is within a commercial district where the uses will complement a full range of retail and service businesses suitable for Manhattan Beach.

2. *The proposed location of the uses and the proposed conditions under which the uses would be operated or maintained will be consistent with the General Plan; will not be detrimental to the public health, safety or welfare of persons residing or working on the proposed project site or in or adjacent to the neighborhood of such uses; and will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city.*

The proposed uses are commercial uses **consistent with the General Plan's** General Commercial land use designation assigned of the project site and lot, as well as neighboring properties. The proposed uses are consistent with neighboring uses, as the neighboring lots have also been developed with commercial uses. The proposed location of the uses and the proposed conditions under which they would be operated and maintained will not be detrimental to the public health, safety or welfare of persons residing or working on the Project site or in the surrounding area because Municipal Code requirements and conditions of approval address security, safety, aesthetics, hours of operation and parking. The Project will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city, in that the area already supports commercial uses, and parking supplies are adequate. The General Plan recognizes that Sepulveda Boulevard corridor is a **"regional-serving commercial district"**, and the proposed uses can be part of the commercial mix of businesses that help create a dynamic commercial corridor along Sepulveda Boulevard.

3. *The proposed uses will comply with the provisions of the City's Planning and Zoning Title, including any specific condition required for the proposed uses in the district in which they would be located.*

The proposed uses comply with all provisions of Municipal Code Title 10 Planning and Zoning and any specific conditions imposed.

4. *The uses will not adversely impact or be adversely impacted by nearby properties.*

The proposed uses are located at a site on the Sepulveda commercial corridor, at one of the busiest intersections in the City. The surrounding properties are also zoned General Commercial and have similar uses. Significant buffers exist between the proposed uses and residents in nearby blocks, with Sepulveda Boulevard, Manhattan Beach Boulevard, 11th Street, and other commercial properties providing barriers that help minimize any impacts associated with the uses. Accordingly, any potential impacts arising from the uses related to traffic, parking noise, vibration, odors, resident security and personal safety, and aesthetics are either minimal or mitigated by conditions of approval contained herein. The uses will not create demands exceeding the capacity of public services and facilities.

General

The General Plan encourages uses in the General Commercial (CG) **zone that are “intended to meet the needs of local residents and businesses and to provide goods and services for the regional market”**. **The project is specifically consistent with General Plan Policies as follows:**

LU-6: Maintain the viability of the commercial areas of Manhattan Beach.

LU-8: Maintain Sepulveda Boulevard as a regional-serving commercial district.

The project helps further the General Plan Policies identified above by providing new commercial tenant spaces that meet the operational needs of businesses by providing well-sized tenant spaces, ample parking, outdoor seating areas for the restaurants, and other attractive amenities. The project thus creates a hospitable place for potential businesses that serve both residents and the broader region.

PUBLIC COMMENT

Public notices for the Master Use Permits were published in The Beach Reporter on April 16, 2020 and mailed to all property owners within a 500-foot radius of the site. The public notices indicated that members of the public would not be allowed in the City Council chambers in order to adhere to social distancing requirements in light of the Covid-19 pandemic. The public notices did include information on how members of the public could comment via email and voicemail prior to the meeting. The notices also indicated that the public would be able to attend the meeting remotely with instructions posted on **the City’s website and meeting agenda**. As of the writing of this report, staff has not received any public comment.

ENVIRONMENTAL DETERMINATION

The Project is Categorically Exempt from the requirements of the California Environmental Quality Act (CEQA), pursuant to State CEQA Guidelines Section 15303 (New Construction of Small Structures) in that the project proposes the construction of small structures that are collectively under 10,000 square feet of buildable floor area. The proposed structures are located in an urbanized area, do not involve significant amounts of hazardous substances, are located in an area where all necessary

public services and facilities are available, and are located in an area where the surrounding area is not environmentally sensitive.

CONCLUSION

Staff recommends that the Planning Commission conduct the public hearing, discuss the applicant's request, and approve the attached resolutions approving the Master Use Permits subject to certain conditions.

Attachments:

- A. Draft Resolution No. PC 20- (1100 N. Sepulveda Boulevard)
- B. Draft Resolution No. PC 20- ((1120 N. Sepulveda Boulevard)
- C. **Applicant's Written Documents**
- D. Vicinity Map
- E. Remedial Action Report- December 2019
- F. LA Regional Water Quality Control Board Notification of Pre-Closure- February 2020
- G. Traffic Impact Analysis- March 2020
- H. Plans- 1100 – 1120 N Sepulveda Boulevard

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Attachment A

RESOLUTION NO. PC 20-

RESOLUTION OF THE MANHATTAN BEACH PLANNING COMMISSION APPROVING A MASTER USE PERMIT FOR A NEW 4,920 SQUARE-FOOT COMMERCIAL BUILDING WITH A PERSONAL IMPROVEMENT SERVICE USE AND A RESTAURANT WITH BEER & WINE SERVICE ON A 13,168 SQUARE FOOT LOT AT 1100 N. SEPULVEDA BOULEVARD (KINECTA FEDERAL CREDIT UNION)

THE MANHATTAN BEACH PLANNING COMMISSION DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. Kinecta Federal Credit Union (“Applicant”) has applied for a Master Use Permit to construct a 4,920 square foot commercial building located at 1100 N. Sepulveda Boulevard (the “site”), occupied by a personal improvement service use and restaurant with on-site beer and wine service (the “Project”).

SECTION 2. On April 29, 2020, the Planning Commission conducted a duly noticed public hearing to consider the application. The Commission provided an opportunity for the public to provide evidence and testimony at the public hearing.

SECTION 3. The Project is Categorically Exempt from the requirements of the California Environmental Quality Act (CEQA), pursuant to State CEQA Guidelines Section 15303 (New Construction of Small Structures) in that the project proposes the construction of small structures that are collectively under 10,000 square feet of buildable floor area. The proposed structures are located in an urbanized area, do not involve significant amounts of hazardous substances, are located in an area where all necessary public services and facilities are available, and are located in an area where the surrounding area is not environmentally sensitive. The project will neither individually nor cumulatively have an adverse effect on wildlife resources, as defined in California Fish and Game Code Section 711.2.

SECTION 4. The record of the public hearing indicates:

A. The legal description of the site is: Portions of Lots 15 through 18, Block 2, Tract No. 142, in the City of Manhattan Beach, County of Los Angeles. The site is located in Area District I and is zoned CG-D8, General Commercial- Sepulveda Boulevard Corridor Overlay. The surrounding properties are zoned CG-D8 to the North, CG-D8 to the South (across 11th Street), CG to the East, and CG-D8 to the West (across Sepulveda Boulevard).

B. The uses are permitted in the CG-D8 zone subject to a Master Use Permit and are in compliance with the City’s General Plan designation of General Commercial. The General Plan designation for the property is General Commercial. The General Plan encourages businesses in the CG zone that are “intended to meet the needs of local residents and businesses and to provide goods and services for the regional market.”

C. The proposed uses are located at a site on the Sepulveda commercial corridor, at one of the busiest intersections in the City. The surrounding properties are also zoned General Commercial and have similar uses. Significant buffers exist between the proposed uses and residents in nearby blocks, with Sepulveda Boulevard, Manhattan Beach Boulevard, 11th Street, and other commercial properties providing barriers that help minimize any impacts associated with the uses.

E. The site currently does not have any entitlements. There are no operating businesses or commercial activities at the site.

F. The applicant is requesting to construct a 4,920 square-foot commercial building with a personal improvement service use and restaurant with on-site beer and wine service.

H. The project is specifically consistent with General Plan Policies as follows:

LU-6: Maintain the viability of the commercial areas of Manhattan Beach.

LU-8: Maintain Sepulveda Boulevard as a regional-serving commercial district.

The project helps further the General Plan Policies identified above by providing new commercial tenant spaces that meet the operational needs of businesses by providing well-sized tenant spaces, ample parking, outdoor seating areas for the restaurants, and other attractive amenities. The project thus creates a hospitable place for potential businesses that serve both residents and the broader region.

SECTION 5. Based upon substantial evidence in the record, and pursuant to Manhattan Beach Municipal Code Section 10.84.060, the Planning Commission hereby finds:

1. **The proposed location of the uses are in accord with the objectives of this title and the purposes of the district in which the site is located.**

The property is located within Area District I and is zoned CG-D8 (General Commercial, Sepulveda Boulevard Corridor Overlay). The proposed commercial uses are permitted by the zoning code and are appropriate as conditioned for the General Commercial, Sepulveda Boulevard Corridor Overlay zone. The surrounding Manhattan Beach properties consist of CG-D8 (General Commercial, Sepulveda Boulevard Corridor Overlay) to the north, south, and west; and CG (General Commercial) to the east. The proposed location of the Project (Sepulveda Boulevard) is in accord with the objectives of the Zoning Code and the purposes of the district in which the site is located because Sepulveda Boulevard is a main commercial thoroughfare and is within a commercial district where the uses will complement a full range of retail and service businesses suitable for Manhattan Beach.

2. **The proposed location of the uses and the proposed conditions under which the uses would be operated or maintained will be consistent with the General Plan; will not be detrimental to the public health, safety or welfare of persons residing or working on the proposed project site or in or adjacent to the neighborhood of such uses; and will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city.**

The proposed uses are commercial uses consistent with the General Plan's General Commercial land use designation assigned of the project site and lot, as well as neighboring properties. The proposed uses are consistent with neighboring uses, as the neighboring lots have also been developed with commercial uses. The proposed location of the uses and the proposed conditions under which they would be operated and maintained will not be detrimental to the public health, safety or welfare of persons residing or working on the Project site or in the surrounding area because Municipal Code requirements and conditions of approval address security, safety, aesthetics, hours of operation and parking. The Project will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city, in that the area already supports commercial uses, and parking supplies are adequate. The General Plan recognizes that Sepulveda Boulevard corridor is a "regional-serving commercial district", and the proposed uses can be part of the commercial mix of businesses that help create a dynamic commercial corridor along Sepulveda Boulevard.

3. **The proposed uses will comply with the provisions of the City's Planning and Zoning Title, including any specific condition required for the proposed uses in the district in which they would be located.**

The proposed uses comply with all provisions of Municipal Code Title 10 Planning and Zoning and any specific conditions imposed.

4. **The uses will not adversely impact or be adversely impacted by nearby properties.**

The proposed uses are located at a site on the Sepulveda commercial corridor, at one of the busiest intersections in the City. The surrounding properties are also zoned General Commercial and have similar uses. Significant buffers exist between the proposed uses and residents in nearby blocks, with Sepulveda Boulevard, Manhattan Beach Boulevard, 11th Street, and other commercial properties providing barriers that help minimize any impacts associated with the uses. Accordingly, any potential impacts arising from the uses related to traffic, parking noise, vibration, odors, resident security and personal safety, and aesthetics are either minimal or mitigated by conditions of approval contained herein. The uses will not create demands exceeding the capacity of public services and facilities.

SECTION 6. Based upon the foregoing, the Planning Commission hereby **APPROVES** the Master Use Permit to allow the construction of the commercial building subject to the following conditions:

1. The project shall be in substantial conformance with the plans and project description submitted to, and approved by the Planning Commission on April 29, 2020 as conditioned. Any substantial deviation from the approved plans and project description, as conditioned, shall require review by the Community Development Director to determine if approval from the Planning Commission is required.

- 2. Any questions of intent or interpretation of any condition will be reviewed by the Community Development Director to determine if Planning Commission review and action is required.
- 3. A Construction Management and Parking Plan (CMPP) shall be submitted by the applicant with the submittal of plans to the Building Division. The CMPP shall be reviewed and approved by the City, including but not limited to, the City Traffic Engineer, Planning, Fire, Police and Public Works, prior to permit issuance. The Plan shall include, but not be limited to, provisions for the management of all construction related traffic, parking, staging, materials delivery, materials storage, and buffering of noise and other disruptions. The Plan shall minimize construction-related impacts to the surrounding neighborhood, and shall be implemented in accordance with the requirements of the Plan.
- 4. All electrical, telephone, cable television system, and similar service wires and cables shall be installed underground to the appropriate utility connections in compliance with all applicable Building and Electrical Codes, safety regulations, and orders, rules of the Public Utilities Commission, the serving utility company, and specifications of the Public Works Department.

Operation

- 5. If the tenant space occupied by the personal improvement service is vacated, any permitted use in the CG zone, as permitted by M.B.M.C. Section 10.16.020, with the same or less-demanding parking requirement as the personal improvement service use (one requiring one parking space per 250 square feet of tenant space) may move into said tenant space without the need to revise this Master Use Permit. Any change in the uses occupying the tenant spaces which are permitted uses in the CG zone, as permitted by M.B.M.C Section 10.16.020, and do not generate parking demand beyond the capacity of the on-site parking provided will not require the revision of this Master Use Permit.
- 6. The management of the property shall police the property and all areas adjacent to the business during the hours of operation to keep it free of litter and food debris.
- 7. The operators of the business shall provide adequate management and supervisory techniques to prevent loitering and other security concerns outside the subject business.
- 8. All rooftop mechanical equipment shall be screened from the public right-of-way.
- 9. All mats for the restaurant shall be cleaned on the premises with no outside cleaning of mats permitted. If any floor mats cannot be cleaned within the premises, a service company must be contracted.
- 10. Hours of operation for the restaurant shall be permitted as follows:

Monday – Sunday

6:00 a.m. – 11:00 p.m.
- 11. Operation of the restaurant shall be in substantial compliance with all restrictions imposed by the Alcohol Beverage Control Board (ABC) prior to service of beer and wine.
- 12. Beer and wine service shall be conducted only in conjunction with food service during all hours of operation.
- 13. Food service shall be available at all seats, and no specific bar area serving exclusively alcohol shall be permitted.
- 14. At all times the restaurant business shall identify itself as a “restaurant” and will not identify itself as a “bar” in public advertisements.
- 15. Live entertainment is prohibited in the restaurant.
- 16. Noise emanating from the property shall be within the limitations prescribed by the City Noise Ordinance and shall not create a nuisance to nearby property owners. Noise shall not be audible beyond the premises.
- 17. The restaurant management shall control the volume of any background music.
- 18. At any time in the future, the Planning Commission or City Council may review the Master Use Permit for the purpose of revocation or modification in accordance with the requirements of the

MBMC Chapter 10.104. Modification may consist of conditions deemed reasonable to mitigate or alleviate impacts to adjacent land uses.

19. The Community Development Department staff shall be allowed to inspect the site at any time.

Refuse

20. A covered enclosure(s) with adequate capacity for different types of trash for all tenants shall be constructed. This trash enclosure shall be constructed per the latest City standard including drainage to the sanitary sewer system. The enclosure shall be subject to specifications and approval of the Public Works Department, Community Development Department, and the City's waste contractor. A trash and recycling plan shall be required to be submitted to the Public Works Department.
21. The management shall arrange for special on-site pickup as often as necessary to ensure that the refuse area has adequate space to accommodate the needs of the subject business.
22. No refuse generated at the subject site shall be located in the Public Right-of-Way for storage or pickup, including the disposal of refuse in any refuse container established for public use.
23. All outside site lighting shall be directed away from the public right-of-way and shall minimize spill-over onto the sidewalks and street. Shields and directional lighting shall be used where necessary.

Signage

24. The applicant shall obtain a Master Sign Program, and all new signs shall receive permits and shall be in compliance with the City's sign code.
25. A-frame or other sidewalk signs in the public right-of-way shall be prohibited.
26. No temporary banner or other signs shall be placed on the site without City permit and approval.

Parking

27. A reciprocal access parking agreement shall be signed between the property owners of 1100 N. Sepulveda Boulevard and 1120 N. Sepulveda Boulevard to allow customers and employees to access and park in all parking areas on either property, notwithstanding other conditions. This agreement shall be recorded on both properties.
28. Wheel stops or bollards are required for all parking spaces inside a parking lot or structure except those spaces abutting a masonry wall or protected by a 6-inch high curb. A 2-1/2 foot overhang may be included in the stall length when calculating planters and walkway widths adjacent to parking stalls per M.B.M.C. 10.64.100 (D).
29. All parking spaces at the surface parking lots shall remain unrestricted for all users, with the exception of Building Code and Green Code required parking spaces. The semi-underground parking lot at 1100 N. Sepulveda Boulevard may be restricted and posted for employees of both properties only. Employees of both properties shall be prohibited from parking in the surface parking lots unless the subterranean parking structure is fully occupied. Employees shall not park on public streets.
30. All compact spaces, electric vehicle charging, and clean air vehicle spaces shall be posted with signs and labeled with stencil markings at the back of each space.
31. The driveway on 11th Street shall be posted with Right Turn Only signs for outbound traffic as directed by the City Traffic Engineer.

Public Works

32. The applicant shall be required to process the necessary paperwork and record an Irrevocable Offer of Dedication for the 10-foot permanent dedication along the eastern-side of the property. Furthermore, since it is likely the City will be constructing the future street improvements within the full proposed 10-foot permanent dedication, the applicant must also process the necessary paperwork and record a one-foot wide temporary construction access easement immediately to the east of the proposed permanent 10-foot dedication that will be good for 12 months from the

date the street widening construction field operation starts. No permanent structures or improvements may be constructed (above or below ground) within this one-foot temporary construction easement area.

33. A corner cut-off street dedication shall be required to provide sufficient right-of-way for future pedestrian ramps and traffic signal poles at the southeast corner of Sepulveda Boulevard and Manhattan Beach Boulevard as directed by the City and Caltrans. The applicant shall reconstruct disabled access ramp(s) on the same corner, if the existing ramp is not code compliant.
34. A 15-foot corner cut-off street dedication shall be required to provide sufficient right-of-way for pedestrian ramps at the northeast corner of Sepulveda Boulevard and 11th Street. The applicant shall reconstruct with a wider curb radius, disabled access ramp and sidewalk on the same corner. The applicant's proposed project design layout shall comply with these right-of-way limits and any additional one-foot temporary construction access easement clearances.
35. All Sepulveda Boulevard associated street right-of-way dedications shall be separately processed for dedication to the City, as the City will eventually be conveying these street right-of-way dedications to Caltrans.
36. The design the proposed landscaping within the identified right-of-way dedication area shall be easily removed during the street widening project without impacting the rest of the site landscaping when the street widening project commences. The landscaping type and design shall be subject to the approval of the Public Works Departments.
37. All proposed pedestrian/ADA walkways and stairs/door landing shall conform to the grades proposed in the City's street improvement plans. All of the applicant's off-site street improvement plans, on-site grading plans, on-site drainage plans, landscaping plans and other plans described herein shall be prepared by a registered Civil Engineer in order to be reviewed and approved by the Public Works Department.
38. The applicant shall be required to construct a minimum of six-foot clear sidewalk behind the curb (i.e. 6.5-foot clear from the face of the curb) per City Standard MBSI-112 and MBSI-115, driveway approach per City Standard MBSI-116, and replace any damaged curb and gutter per City Standard MBSI-120 along the property frontage of 11th Street. In order to comply with City sidewalk standards MBSI-112 and MBSI-115 additional street rights-of-way dedication may be required. MBSI-115 specifically addresses ADA clearances for sidewalk flaring next to street furniture such as fire hydrants, poles, etc. All sidewalk shall be constructed to comply with the latest ADA requirements including meeting the cross-slope grade of less than 2%.
39. It shall be the responsibility of the applicant to protect all street signs, hydrants, and other street furniture around the property. If they are damaged, lost or removed, it shall be the responsibility of the applicant/contractor to replace them at their expense.
40. No discharge of construction wastewater, building materials, debris, or sediment from the site shall be permitted. No refuse of any kind generated on a construction site shall be deposited in residential, commercial, or public refuse containers at any time. The utilization of weekly refuse collection service by the city's hauler for any refuse generated at the construction site shall be strictly prohibited. Full documentation of all materials/trash landfilled and recycled shall be submitted to the Permits Division in compliance of the city's Construction and Demolition Recycling Ordinance.
41. Erosion and sediment control devices BMPs (Best Management Practices) shall be implemented around the construction site to prevent discharges to the street and adjacent properties. BMPs shall be identified and shown on the plans. Control measures shall also be taken to prevent street surface water entering the site.

Procedural

42. The applicant shall apply for and complete a lot line adjustment to move the northern property line to match the property line shown in the plans as reviewed by the Planning Commission.
43. The applicant shall be required to obtain a City of Manhattan Beach right-of-way encroachment permit for any projections into the public right-of-way.

44. Terms and Conditions are Perpetual; Recordation of Covenant. The provisions, terms and conditions set forth herein are perpetual, and are binding on the applicant, its successors-in-interest, and, where applicable, all tenants and lessees of the site. Further, the applicant shall submit the covenant, prepared and approved by the City, indicating its consent to the conditions of approval of this Resolution, and the City shall record the covenant with the Office of the County Clerk/Recorder of Los Angeles. Applicant shall deliver the executed covenant, and all required recording and related fees, to the Department of Community Development within 30 days of the adoption of this Resolution. Notwithstanding the foregoing, the Director may, upon a request by applicant, grant an extension to the 30-day time limit. The project approval shall not become effective until recordation of the covenant.
45. *Indemnity, Duty to Defend and Obligation to Pay Judgments and Defense Costs, Including Attorneys' Fees, Incurred by the City.* The applicant shall defend, indemnify, and hold harmless the City, its elected officials, officers, employees, volunteers, agents, and those City agents serving as independent contractors in the role of City officials (collectively "Indemnitees") from and against any claims, damages, actions, causes of actions, lawsuits, suits, proceedings, losses, judgments, costs, and expenses (including, without limitation, attorneys' fees or court costs) in any manner arising out of or incident to this approval, related entitlements, or the City's environmental review thereof. The applicant shall pay and satisfy any judgment, award or decree that may be rendered against City or the other Indemnitees in any such suit, action, or other legal proceeding. The City shall promptly notify the applicant of any claim, action, or proceeding and the City shall reasonably cooperate in the defense. If the City fails to promptly notify the applicant of any claim, action, or proceeding, or if the City fails to reasonably cooperate in the defense, the applicant shall not thereafter be responsible to defend, indemnify, or hold harmless the City or the Indemnitees. The City shall have the right to select counsel of its choice. The applicant shall reimburse the City, and the other Indemnitees, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. Nothing in this Section shall be construed to require the applicant to indemnify Indemnitees for any Claim arising from the sole negligence or willful misconduct of the Indemnitees. In the event such a legal action is filed challenging the City's determinations herein or the issuance of the approval, the City shall estimate its expenses for the litigation. The applicant shall deposit said amount with the City or enter into an agreement with the City to pay such expenses as they become due.

SECTION 7. The Planning Commission's decision is based upon each of the totally independent and separate grounds stated herein, each of which stands alone as a sufficient basis for its decision.

SECTION 8. This Resolution shall become effective when all time limits for appeal as set forth in MBMC Chapter 10.100 have expired.

SECTION 9. The Secretary of the Planning Commission shall certify to the adoption of this Resolution and shall forward a copy of this Resolution to the applicant. The Secretary shall make this resolution readily available for public inspection.

SECTION 10. This Master Use Permit shall lapse two years after its date of approval, unless implemented or extended pursuant to 10.84.090 of the Municipal Code.

April 29, 2020

Planning Commission Chair

I hereby certify that the following is a full, true, and correct copy of the Resolution as **ADOPTED** by the Planning Commission at its regular meeting on **April 29, 2020** and that said Resolution was adopted by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Carrie Tai, AICP,
Secretary to the Planning Commission

Rosemary Lackow,
Recording Secretary

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Attachment B

RESOLUTION NO. PC 20-

RESOLUTION OF THE MANHATTAN BEACH PLANNING COMMISSION APPROVING A MASTER USE PERMIT FOR A NEW 4,650 SQUARE-FOOT COMMERCIAL BUILDING WITH A CREDIT UNION AND A RESTAURANT WITH BEER & WINE SERVICE ON A 24,494 SQUARE FOOT LOT AT 1120 N. SEPULVEDA BOULEVARD (KINECTA FEDERAL CREDIT UNION)

THE MANHATTAN BEACH PLANNING COMMISSION DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. Kinecta Federal Credit Union (“Applicant”) has applied for a Master Use Permit to construct a 4,650 square foot commercial building located at 1120 N. Sepulveda Boulevard (the “site”), occupied by a credit union and restaurant with on-site beer and wine service (the “Project”).

SECTION 2. On April 29, 2020, the Planning Commission conducted a duly noticed public hearing to consider the application. The Commission provided an opportunity for the public to provide evidence and testimony at the public hearing.

SECTION 3. The Project is Categorically Exempt from the requirements of the California Environmental Quality Act (CEQA), pursuant to State CEQA Guidelines Section 15303 (New Construction of Small Structures) in that the project proposes the construction of small structures that are collectively under 10,000 square feet of buildable floor area. The proposed structures are located in an urbanized area, do not involve significant amounts of hazardous substances, are located in an area where all necessary public services and facilities are available, and are located in an area where the surrounding area is not environmentally sensitive. The project will neither individually nor cumulatively have an adverse effect on wildlife resources, as defined in California Fish and Game Code Section 711.2.

SECTION 4. The record of the public hearing indicates:

A. The legal description of the site is: Portions of Lots 9 through 12 and Portions of Lots 15 through 18, Block 2, Tract No. 142, in the City of Manhattan Beach, County of Los Angeles. The site is located in Area District I and is zoned CG-D8, General Commercial- Sepulveda Boulevard Corridor Overlay. The surrounding properties are zoned CG-D8 to the North (across Manhattan Beach Boulevard), CG-D8 to the South, CG to the East, and CG-D8 to the West (across Sepulveda Boulevard).

B. The uses are permitted in the CG-D8 zone subject to a Master Use Permit and are in compliance with the City’s General Plan designation of General Commercial. The General Plan designation for the property is General Commercial. The General Plan encourages businesses in the CG zone that are “intended to meet the needs of local residents and businesses and to provide goods and services for the regional market.”

C. The proposed uses are located at a site on the Sepulveda commercial corridor, at one of the busiest intersections in the City. The surrounding properties are also zoned General Commercial and have similar uses. Significant buffers exist between the proposed uses and residents in nearby blocks, with Sepulveda Boulevard, Manhattan Beach Boulevard, 11th Street, and other commercial properties providing barriers that help minimize any impacts associated with the uses.

E. The site currently does not have any entitlements. There are no operating businesses or commercial activities at the site.

F. The applicant is requesting to construct a 4,650 square-foot commercial building with a credit union and restaurant with on-site beer and wine service.

H. The project is specifically consistent with General Plan Policies as follows:

LU-6: Maintain the viability of the commercial areas of Manhattan Beach.

LU-8: Maintain Sepulveda Boulevard as a regional-serving commercial district.

The project helps further the General Plan Policies identified above by providing new commercial tenant spaces that meet the operational needs of businesses by providing well-sized tenant spaces, ample parking, outdoor seating areas for the restaurants, and other attractive amenities. The project thus creates a hospitable place for potential businesses that serve both residents and the broader region.

SECTION 5. Based upon substantial evidence in the record, and pursuant to Manhattan Beach Municipal Code Section 10.84.060, the Planning Commission hereby finds:

1. **The proposed location of the uses are in accord with the objectives of this title and the purposes of the district in which the site is located.**

The property is located within Area District I and is zoned CG-D8 (General Commercial, Sepulveda Boulevard Corridor Overlay). The proposed commercial uses are permitted by the zoning code and are appropriate as conditioned for the General Commercial, Sepulveda Boulevard Corridor Overlay zone. The surrounding Manhattan Beach properties consist of CG-D8 (General Commercial, Sepulveda Boulevard Corridor Overlay) to the north, south, and west; and CG (General Commercial) to the east. The proposed location of the Project (Sepulveda Boulevard) is in accord with the objectives of the Zoning Code and the purposes of the district in which the site is located because Sepulveda Boulevard is a main commercial thoroughfare and is within a commercial district where the uses will complement a full range of retail and service businesses suitable for Manhattan Beach.

2. **The proposed location of the uses and the proposed conditions under which the uses would be operated or maintained will be consistent with the General Plan; will not be detrimental to the public health, safety or welfare of persons residing or working on the proposed project site or in or adjacent to the neighborhood of such uses; and will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city.**

The proposed uses are commercial uses consistent with the General Plan's General Commercial land use designation assigned of the project site and lot, as well as neighboring properties. The proposed uses are consistent with neighboring uses, as the neighboring lots have also been developed with commercial uses. The proposed location of the uses and the proposed conditions under which they would be operated and maintained will not be detrimental to the public health, safety or welfare of persons residing or working on the Project site or in the surrounding area because Municipal Code requirements and conditions of approval address security, safety, aesthetics, hours of operation and parking. The Project will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city, in that the area already supports commercial uses, and parking supplies are adequate. The General Plan recognizes that Sepulveda Boulevard corridor is a "regional-serving commercial district", and the proposed uses can be part of the commercial mix of businesses that help create a dynamic commercial corridor along Sepulveda Boulevard.

3. **The proposed uses will comply with the provisions of the City's Planning and Zoning Title, including any specific condition required for the proposed uses in the district in which they would be located.**

The proposed uses comply with all provisions of Municipal Code Title 10 Planning and Zoning and any specific conditions imposed.

4. **The uses will not adversely impact or be adversely impacted by nearby properties.**

The proposed uses are located at a site on the Sepulveda commercial corridor, at one of the busiest intersections in the City. The surrounding properties are also zoned General Commercial and have similar uses. Significant buffers exist between the proposed uses and residents in nearby blocks, with Sepulveda Boulevard, Manhattan Beach Boulevard, 11th Street, and other commercial properties providing barriers that help minimize any impacts associated with the uses. Accordingly, any potential impacts arising from the uses related to traffic, parking noise, vibration, odors, resident security and personal safety, and aesthetics are either minimal or mitigated by conditions of approval contained herein. The uses will not create demands exceeding the capacity of public services and facilities.

SECTION 6. Based upon the foregoing, the Planning Commission hereby **APPROVES** the Master Use Permit to allow the construction of the commercial building subject to the following conditions:

1. The project shall be in substantial conformance with the plans and project description submitted to, and approved by the Planning Commission on April 29, 2020 as conditioned. Any substantial deviation from the approved plans and project description, as conditioned, shall require review by the Community Development Director to determine if approval from the Planning Commission is required.

- 2. Any questions of intent or interpretation of any condition will be reviewed by the Community Development Director to determine if Planning Commission review and action is required.
- 3. A Construction Management and Parking Plan (CMPP) shall be submitted by the applicant with the submittal of plans to the Building Division. The CMPP shall be reviewed and approved by the City, including but not limited to, the City Traffic Engineer, Planning, Fire, Police and Public Works, prior to permit issuance. The Plan shall include, but not be limited to, provisions for the management of all construction related traffic, parking, staging, materials delivery, materials storage, and buffering of noise and other disruptions. The Plan shall minimize construction-related impacts to the surrounding neighborhood, and shall be implemented in accordance with the requirements of the Plan.
- 4. All electrical, telephone, cable television system, and similar service wires and cables shall be installed underground to the appropriate utility connections in compliance with all applicable Building and Electrical Codes, safety regulations, and orders, rules of the Public Utilities Commission, the serving utility company, and specifications of the Public Works Department.

Operation

- 5. If the tenant space occupied by the credit union is vacated, any permitted use in the CG zone, as permitted by M.B.M.C. Section 10.16.020, with the same or less-demanding parking requirement as the credit union use (one requiring one parking space per 300 square feet of tenant space) may move into said tenant space without the need to revise this Master Use Permit. Any change in the uses occupying the tenant spaces which are permitted uses in the CG zone, as permitted by M.B.M.C Section 10.16.020, and do not generate parking demand beyond the capacity of the on-site parking provided will not require the revision of this Master Use Permit.
- 6. The management of the property shall police the property and all areas adjacent to the business during the hours of operation to keep it free of litter and food debris.
- 7. The operators of the business shall provide adequate management and supervisory techniques to prevent loitering and other security concerns outside the subject business.
- 8. All rooftop mechanical equipment shall be screened from the public right-of-way.
- 9. All mats for the restaurant shall be cleaned on the premises with no outside cleaning of mats permitted. If any floor mats cannot be cleaned within the premises, a service company must be contracted.
- 10. Hours of operation for the restaurant shall be permitted as follows:

Monday – Sunday

6:00 a.m. – 11:00 p.m.
- 11. Operation of the restaurant shall be in substantial compliance with all restrictions imposed by the Alcohol Beverage Control Board (ABC) prior to service of beer and wine.
- 12. Beer and wine service shall be conducted only in conjunction with food service during all hours of operation.
- 13. Food service shall be available at all seats, and no specific bar area serving exclusively alcohol shall be permitted.
- 14. At all times the restaurant business shall identify itself as a “restaurant” and will not identify itself as a “bar” in public advertisements.
- 15. Live entertainment is prohibited in the restaurant.
- 16. Noise emanating from the property shall be within the limitations prescribed by the City Noise Ordinance and shall not create a nuisance to nearby property owners. Noise shall not be audible beyond the premises.
- 17. The restaurant management shall control the volume of any background music.
- 18. At any time in the future, the Planning Commission or City Council may review the Master Use Permit for the purpose of revocation or modification in accordance with the requirements of the

MBMC Chapter 10.104. Modification may consist of conditions deemed reasonable to mitigate or alleviate impacts to adjacent land uses.

19. The Community Development Department staff shall be allowed to inspect the site at any time.

Refuse

20. A covered enclosure(s) with adequate capacity for different types of trash for all tenants shall be constructed. This trash enclosure shall be constructed per the latest City standard including drainage to the sanitary sewer system. The enclosure shall be subject to specifications and approval of the Public Works Department, Community Development Department, and the City's waste contractor. A trash and recycling plan shall be required to be submitted to the Public Works Department.
21. The management shall arrange for special on-site pickup as often as necessary to ensure that the refuse area has adequate space to accommodate the needs of the subject business.
22. No refuse generated at the subject site shall be located in the Public Right-of-Way for storage or pickup, including the disposal of refuse in any refuse container established for public use.
23. All outside site lighting shall be directed away from the public right-of-way and shall minimize spill-over onto the sidewalks and street. Shields and directional lighting shall be used where necessary.

Signage

24. The applicant shall obtain a Master Sign Program, and all new signs shall receive permits and shall be in compliance with the City's sign code.
25. A-frame or other sidewalk signs in the public right-of-way shall be prohibited.
26. No temporary banner or other signs shall be placed on the site without City permit and approval.

Parking

27. A reciprocal access parking agreement shall be signed between the property owners of 1100 N. Sepulveda Boulevard and 1120 N. Sepulveda Boulevard to allow customers and employees to access and park in all parking areas on either property, notwithstanding other conditions. This agreement shall be recorded on both properties.
28. Wheel stops or bollards are required for all parking spaces inside a parking lot or structure except those spaces abutting a masonry wall or protected by a 6-inch high curb. A 2-1/2 foot overhang may be included in the stall length when calculating planters and walkway widths adjacent to parking stalls per M.B.M.C. 10.64.100 (D).
29. All parking spaces at the surface parking lots shall remain unrestricted for all users, with the exception of Building Code and Green Code required parking spaces. The semi-underground parking lot at 1100 N. Sepulveda Boulevard may be restricted and posted for employees of both properties only. Employees of both properties shall be prohibited from parking in the surface parking lots unless the subterranean parking structure is fully occupied. Employees shall not park on public streets.
30. All compact spaces, electric vehicle charging, and clean air vehicle spaces shall be posted with signs and labeled with stencil markings at the back of each space.
31. The driveways on Sepulveda Boulevard and Manhattan Beach Boulevard shall be restricted to Right Turn In/Right Turn Out only and posted with signs as directed by the City Traffic Engineer and/or Caltrans.

Public Works

32. The applicant shall be required to process the necessary paperwork and record an Irrevocable Offer of Dedication for the 10-foot permanent dedication along the eastern-side of the property. Furthermore, since it is likely the City will be constructing the future street improvements within the full proposed 10-foot permanent dedication, the applicant must also process the necessary paperwork and record a one-foot wide temporary construction access easement immediately to

the east of the proposed permanent 10-foot dedication that will be good for 12 months from the date the street widening construction field operation starts. No permanent structures or improvements may be constructed (above or below ground) within this one-foot temporary construction easement area.

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34. A 15-foot corner cut-off street dedication shall be required to provide sufficient right-of-way for pedestrian ramps at the northeast corner of Sepulveda Boulevard and 11th Street. The applicant shall reconstruct with a wider curb radius, disabled access ramp and sidewalk on the same corner. The applicant's proposed project design layout shall comply with these right-of-way limits and any additional one-foot temporary construction access easement clearances.
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Procedural

42. The applicant shall apply for and complete a lot line adjustment to move the northern property line to match the property line shown in the plans as reviewed by the Planning Commission.
43. The applicant shall be required to obtain a City of Manhattan Beach right-of-way encroachment permit for any projections into the public right-of-way.

44. Terms and Conditions are Perpetual; Recordation of Covenant. The provisions, terms and conditions set forth herein are perpetual, and are binding on the applicant, its successors-in-interest, and, where applicable, all tenants and lessees of the site. Further, the applicant shall submit the covenant, prepared and approved by the City, indicating its consent to the conditions of approval of this Resolution, and the City shall record the covenant with the Office of the County Clerk/Recorder of Los Angeles. Applicant shall deliver the executed covenant, and all required recording and related fees, to the Department of Community Development within 30 days of the adoption of this Resolution. Notwithstanding the foregoing, the Director may, upon a request by applicant, grant an extension to the 30-day time limit. The project approval shall not become effective until recordation of the covenant.
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SECTION 7. The Planning Commission's decision is based upon each of the totally independent and separate grounds stated herein, each of which stands alone as a sufficient basis for its decision.

SECTION 8. This Resolution shall become effective when all time limits for appeal as set forth in MBMC Chapter 10.100 have expired.

SECTION 9. The Secretary of the Planning Commission shall certify to the adoption of this Resolution and shall forward a copy of this Resolution to the applicant. The Secretary shall make this resolution readily available for public inspection.

SECTION 10. This Master Use Permit shall lapse two years after its date of approval, unless implemented or extended pursuant to 10.84.090 of the Municipal Code.

April 29, 2020

Planning Commission Chair

I hereby certify that the following is a full, true, and correct copy of the Resolution as **ADOPTED** by the Planning Commission at its regular meeting on **April 29, 2020** and that said Resolution was adopted by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Carrie Tai, AICP,
Secretary to the Planning Commission

Rosemary Lackow,
Recording Secretary

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Attachment C

USE PERMIT APPLICATION FOR 1100 and 1108 N. SEPULVEDA BLVD. Proposed Restaurant and Personal Improvement Spaces

Project Description and Findings

This application is submitted on behalf of Kinecta Federal Credit Union for the demolition of a vacant retail/office building and construction of a commercial building to house a restaurant/take-out business and a personal improvement business on the northeast corner of Sepulveda Blvd. and 11th Street. The proposed building will have two levels consisting of 4,918 square feet of indoor space over a partially below-grade 9,563 square foot parking garage with 30 parking spaces. The westerly half of the building will have 2,408 square feet of restaurant/take-out space. The restaurant will have on-site beer and wine service and operating hours of 6am -11pm, Monday – Sunday. The easterly half of the building will have 2,203 square feet of space, to be occupied by a personal improvement business.

The site is in the General Commercial (CG) zone. Under Manhattan Beach Municipal Code section 10.16.010, personal improvement use is generally permitted in the CG zone without the need for a use permit application. Restaurant/take-out use is permitted with a use permit. This development requires a use permit for the proposed restaurant use and due to its size and location on Sepulveda Blvd., which has special development standards. Concurrent with this application, the applicant is separately applying for an adjustment of the lot line between the south and south lots at 1100 N. Sepulveda Blvd. The site survey and site plans submitted with this application show the existing and proposed lot lines, respectively.

The required findings related to the proposed development are as follows:

1. The proposed location of the use is in accord with the objectives of this title and the purposes of the district in which the site is located.

The proposed development promotes the objectives for Commercial Districts set forth in Section 10.16.010 of the Code. The proposed businesses will serve the needs of those who live and work in Manhattan Beach and surrounding cities. The restaurant space will provide a facility for a small food service business suitable to this area, which currently has a variety of business, including retail, banks, restaurants, and office space. The site is part of an established commercial area that can incorporate the proposed development without a significant impact on surrounding residential areas. The project also promotes the specific objectives of the CG Commercial District, in that it facilitates economic activity in the area by expanding the customer base of nearby business. The retail/office space currently on the site has been vacant for several years.

In addition, the proposed development will conform to the special standards of the Sepulveda Blvd. development guidelines for landscaping and building orientation. The frontage on Sepulveda Blvd. will have large glass windows with a mix of finishes to

USE PERMIT APPLICATION FOR 1120 and 1116 N. SEPULVEDA BLVD.
Proposed Credit Union/Restaurant Space

Project Description and Findings

This application is submitted on behalf of Kinecta Federal Credit Union for development of the vacant lot at the southeast corner of Sepulveda Blvd. and Manhattan Beach Blvd.

The development will include 3,422 square feet of space to be occupied by Kinecta Federal Credit Union as a financial services institution, including retail banking and lending activities commonly found at a first-class shopping center. The hours of operation will be 9 a.m. to 6 p.m., Monday through Friday, and 9 a.m. to 2 p.m. on Saturday. Peak hours are expected to be from 9 a.m. to 10 a.m., 12 p.m. to 1 p.m., and 5 p.m. to 6 p.m. The premises will have a well-lit 24-hour ATM vestibule. The facility will have no more than 6 employees, who will all be able to park on site. During peak hours, approximately 10 customers will be at the facility. The development will also include 1,116 square feet of restaurant/take-out space in the same building as the Credit Union facility. The restaurant will have on-site beer and wine service and operating hours of 6am -11pm, Monday – Sunday. A 36-space parking lot will serve both the credit union and restaurant.

The site is in the General Commercial (CG) zone. Under Manhattan Beach Municipal Code section 10.16.010, banking use is generally permitted in the CG zone without the need for a use permit application. Restaurant/take-out use is permitted with a use permit. This development requires a use permit for the proposed restaurant use and due to its size and location on Sepulveda Blvd., which has special development standards. Concurrent with this application, the applicant is separately applying for an adjustment of the lot line between the north and south lots at 1100 N. Sepulveda Blvd. The site survey and site plans submitted with this application show the existing and proposed lot lines, respectively.

The required findings related to the proposed development are as follows.

1. The proposed location of the use is in accord with the objectives of this title and the purposes of the district in which the site is located.

The proposed development promotes the objectives for Commercial Districts set forth in Section 10.16.010 of the Code. The bank and restaurant space will serve the needs of residents of, and visitors to, the City and region. The restaurant space will provide a facility for a small food service business suitable to this area, which currently has a variety of business, including retail, banks, restaurants, and office space. The site is part of an established commercial area that can incorporate the proposed development without a significant impact on nearby residential areas. The project also is consistent with the specific objectives of the CG Commercial District, in that it provides space for commercial uses already deemed suitable for this area.

In addition, the proposed development will conform to the special standards of the Sepulveda Blvd. development guidelines for landscaping and building orientation. The bank and restaurant spaces will have entrances on Sepulveda Blvd., as well as pedestrian

access from Manhattan Beach Blvd. Parking access will be from both Sepulveda and Manhattan Beach Blvds. No parking areas, utility, storage, or trash areas will be adjacent to Sepulveda Blvd.

2. The proposed location of the use and the proposed conditions under which it would be operated or maintained will be consistent with the General Plan; will not be detrimental to the public health, safety or welfare of persons residing or working in or adjacent to the neighborhood of such use; and will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city.

The General Plan describes Sepulveda Blvd. as the major commercial corridor in Manhattan Beach, with primarily regional-serving and large-scale businesses, which is consistent with a retail banking use. The General Plan also speaks to ensuring quality design to avoid monotonous and overbearing buildings, safeguard pedestrian safety and access, and promote compatibility with residential neighborhoods. The proposed building design includes multiple aspects of architectural interest, including large glass windows that minimize massing of the structure. Landscaping and hardscaping designs include open space with outdoor seating to activate the frontage on Sepulveda Blvd.

3. The proposed use will comply with the provisions of this title, including any specific condition required for the proposed use in the district in which it would be located.

The proposed use and development are within the range of uses anticipated for this area. The proposed overall building scale is well within the parameters permitted for the area, and the elevations create an attractive architectural addition to the Sepulveda corridor.

4. The proposed use will not adversely impact nor be adversely impacted by nearby properties. Potential impacts are related but not necessarily limited to: traffic, parking, noise, vibration, odors, resident security and personal safety, and aesthetics, or create demands exceeding the capacity of public services and facilities which cannot be mitigated.

The proposed development will be bordered by other CG-zoned properties. To the east are an office building and parking lot. To the south is a currently vacant commercial structure and parking. Planned development for the southerly lot includes restaurant and personal improvement spaces with surface parking and subterranean parking accessible from 11th Street. Therefore, the proposed development will not affect the traffic pattern associated with the southerly lot.

The bank and restaurant use will be a low-noise use, without any expected generation of vibration or odors. The use is not expected to create an excessive need for public services or facilities. By replacing a vacant fenced lot with operating businesses, the development will increase security for pedestrians on Sepulveda Blvd and residents in the community.

bring architectural interest to the façade. The design will integrate with that of the bank and restaurant space proposed to the immediate north of this development. It replaces a façade consisting of blank wall and boarded-up windows, as well as a fenced vacant parking lot.

2. The proposed location of the use and the proposed conditions under which it would be operated or maintained will be consistent with the General Plan; will not be detrimental to the public health, safety or welfare of persons residing or working in or adjacent to the neighborhood of such use; and will not be detrimental to properties or improvements in the vicinity or to the general welfare of the city.

The proposed building will be consistent with the goal of the General Plan by ensuring quality design to avoid monotonous and overbearing buildings, safeguard pedestrian safety and access, and promote compatibility with residential neighborhoods. It replaces a commercial building that currently has a blank wall spanning approximately 80 feet of 11th Street. The new building will include a variety of finishes and landscaping on the 11th Street frontage. Landscaping and hardscaping designs fronting Sepulveda Blvd. will have open space with outdoor seating that will activate the sidewalk.

The site currently has a parking lot accessible from 11th street, across from residential units. The proposed design of the subterranean parking garage in the new commercial building will involve a similar traffic pattern. In addition, there will be no loss in street parking.

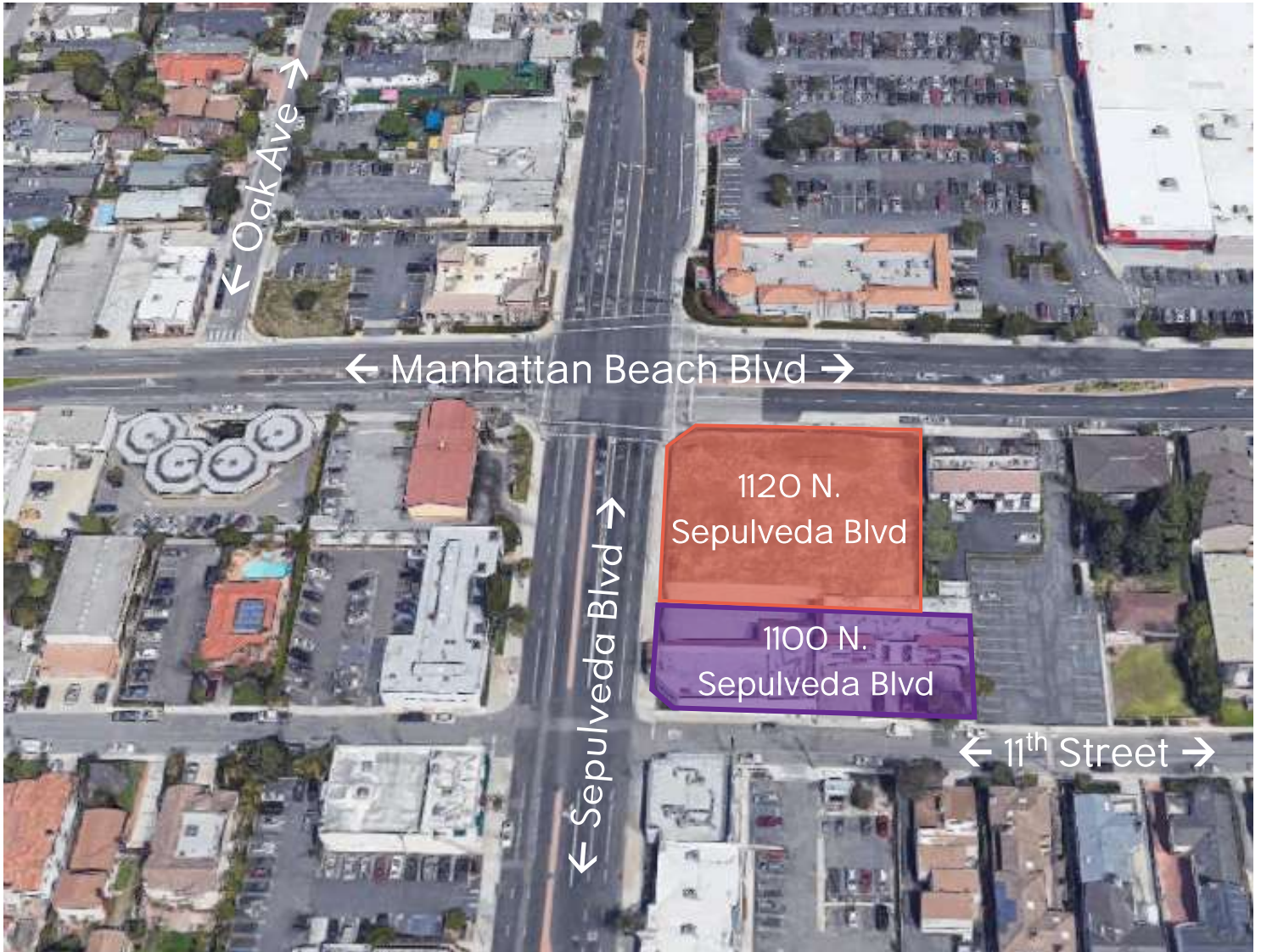
3. The proposed use will comply with the provisions of this title, including any specific condition required for the proposed use in the district in which it would be located.

The proposed use and development are within the range of uses designated for this area under the Code. The proposed overall building scale is within the parameters permitted for the area, and the elevations create an attractive architectural addition to the Sepulveda corridor.

4. The proposed use will not adversely impact nor be adversely impacted by nearby properties. Potential impacts are related but not necessarily limited to: traffic, parking, noise, vibration, odors, resident security and personal safety, and aesthetics, or create demands exceeding the capacity of public services and facilities which cannot be mitigated.

The proposed development will be bordered by other CG-zoned properties and multifamily residences. To the east is a parking lot appurtenant to a church and Sunday School, which is expected to be empty during the facility's operating hours. To the south are a medical care facility and multifamily residences. The proposed use is not expected to generate vibration or odors. By replacing a vacant fenced parking lot and vacant commercial space with operating businesses, the development will increase security for pedestrians on Sepulveda Blvd. and residents in the community.

Attachment D
Vicinity Map



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Attachment E



HVN ENVIRONMENTAL SERVICE CO., INC

ENVIRONMENTAL ENGINEERS/CONTRACTORS



A Report Prepared For:

December 19, 2019

Los Angeles Regional Water Quality Control Board
320 W. 4th St., Suite 200
Los Angeles, CA 90013
Attn: Mr. Joshua Cwikla, PG

File 2211S

GeoTracker # T0000012701

**REMEDIAL ACTION REPORT
FOR
1100 MANHATTAN BEACH BLVD
MANHATTAN BEACH, CA 90266**



Kenneth K. Hekimian, Ph.D., RCE, M.ASCE
California Registered Civil Engineer No.29257
Principal in Charge
Kenneth@hvnenvironmental.com

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HVN ENVIRONMENTAL SERVICE CO., INC

ENVIRONMENTAL ENGINEERS/CONTRACTORS



A Report Prepared for:

December 19, 2019

File 2211S

Los Angeles Regional Water Quality Control Board
320 West 4th St. Suite 200
Los Angeles, CA 90013
Attn: Joshua Cwikla, P.G.
Engineering Geologist

**Subject: REMEDIAL ACTION REPORT AT 1100 MANHATTAN BEACH BLVD.,
MANHATTAN BEACH, CA 90266 (T10000012701)**

BACKGROUND

This Site is a former Texaco-branded service station and auto repair facility. In June 2008, HVN Environmental Service Co., Inc. (“HVN”) removed all structures, tanks and piping from the Site, issued an Underground Storage Tank Closure Report and received a Closure Certification Letter from L. A. County Department of Public Works (DPW) –UST Program in July 2008.

(References 1 and 2). On October 18, 2018, Stantec Consulting Services (“Stantec”) advanced five (5) borings to 15 ft below ground surface (bgs), obtained and analyzed soil and soil gas samples in each boring and issued a Phase II Environmental Site Assessment Report. (Reference 3) The Report concluded that a thin and localized layer of soil impacted with TPH and fuel related VOCs is present at about 7.5 ft bgs in the area of boring B2, within the footprint of the former north dispenser canopy. “The impacted soil is a visibly stained black layer with strong odors. The detected concentrations in soil at the 7.5 ft depth exceeded typical regulatory thresholds but appear to decrease to concentrations below regulatory thresholds by 10 ft bgs, and to below laboratory report limits (“non-detect”) by 15 ft bgs.” Additionally, soil vapor concentrations above regulatory screening levels (RSLs) were detected only at boring B2 and were either non-detect (ND) or well below RSLs at the other four boring locations that were positioned in key areas (USTs, dispensers, etc) where former fueling and automotive repair infrastructure was located based on available records. (See Figure 1) Stantec’s Report recommended that the impacted soil above regulatory thresholds at boring B2 be excavated and removed in order to reduce the health risk to future building occupants from vapor intrusion. The Report estimated that 50 cu.yds. (roughly 70 tons) would be required to be excavated and disposed based on: 1) the only one area affected by elevated soil vapor concentrations, in the

vicinity of boring B2, and 2) past soil and soil vapor assessment data from the mid-2000s that indicated no significant TPH or VOCs in the vicinity of boring B2.

On January 30, 2019, as required by the city of Manhattan Beach and the Property Owner, HVN submitted the Stantec Report to the L. A. County DPW-UST Program for the initial review. Then, on February 5, 2019, a case was opened by the UST Program and referred to the Los Angeles Regional Water Quality Control Board (“Water Board”) for Corrective Action. On February 6, 2019, Mr. Joshua Cwikla, PG, of the Water Board issued a Directive to the Property Owner requesting him to “Take Corrective Action” and to provide “additional information”. (Reference 4) On February 19, 2019, following the submission of document to the GeoTracker and a meeting between Dr. Hekimian and Mr. Cwikla, the Water Board issued a “Directive to Take Corrective Action ...” to submit a Work Plan to delineate the extent of soil impacts, obtain the necessary Permits and submit a Health and Safety Plan (HASP), prior to the start of the fieldwork. (Reference 5) Later the same day, HVN uploaded the HASP to the GeoTracker. Two days later, HVN submitted and uploaded to GeoTracker, a Work Plan to perform a subsurface soil investigation, prior to soils excavation and soils management on the Site. On March 5, 2019, the Water Board issued an approval of both the Work Plan and the HASP.

In early March, HVN implemented the approved Work Plan and advanced five (5) boring about 15 ft distance in a north, south, east and west direction from boring B2, taking soil samples at 5-ft intervals in depth. Because petroleum contamination was discovered at 10 ft bgs in the “east” boring (E1), another boring 15 ft east of E1, designated as “E2”, was advanced at which all soil samples were found to be “ND” to 20 ft bgs. On March 20, 2019, the Additional Subsurface Investigation (Reference 6) was uploaded to GeoTracker and was approved by the Water Board on April 9, 2019 (Reference 7). The Report and Approval Letter were submitted to the city of Manhattan Beach in support of obtaining a Grading Permit “to remove hazardous waste” which was issued on April 17, 2019 (Reference 8). The actual field work was performed on April 19, May 15 and 16, 2019. On April 19, HVN implemented the city-approved plan, excavated a rectangular-shaped hole to a depth of about 8 ft bgs, and took samples in the four (4) sidewalls and in the bottom and in the Spoils Pile. The samples confirmed that the east, west and south walls were clean to acceptable levels but additional excavation was warranted in the north wall and in the bottom. On May 15, the additional contaminated soil was excavated and all 95 tons were loaded and hauled to an approved disposal site. On May 16, the excavation was backfilled with a mixture of clean onsite soils and import clean fill sand and compacted with a sheeps-foot attachment to the backhoe. On May 31, a signed and stamped compaction report was presented to the City Inspector during his Final Inspection and sign-off on the Job Card (Appendix G). This Soils Management Report documents the various activities successfully performed to complete the various requirements of the city, L.A. County DPW-UST Program and Water Board.

On July 26, 2019, Stantec advanced five soil borings and soil vapor probes (SV-1 through SV-5) in the areas centered at former B2. Boring SV-1 was located approximately at the former

location of B-2. The remaining four soil vapor borings (SV-2 through SV-5) were advanced 15 feet to the north, east, south and west. Only one soil sample collected showed detection of chemicals of concern. Boring SV-1 sampled at five feet bgs detected concentrations of TPHg at 720 mg/kg, TPHd at 130 mg/kg, ethylbenzene at 2.6 mg/kg, total xylenes at 4.3 mg/kg, and naphthalene at 7.0 mg/kg. The soil sample was also noted as having “black staining and hydrocarbon odors”. Soil borings were converted into temporary soil vapor sampling points set at 5 and 10 feet bgs. Soil vapor samples revealed maximum concentrations from boring SV-1 at five feet bgs with benzene at 340 µg/m³, ethylbenzene at 12,000 µg/m³, and total xylenes at 13,700 µg/m³, which exceed the Low Threat Underground Storage Tank Case Closure Policy (LTCP) soil gas criteria for sites without a bioattenuation zone.

SOILS MANAGEMENT DURING FIELD ACTIVITIES

Dust and Odor Control

Dust and odor control measures were implemented at the Site, in accordance with the Air Quality Management District (AQMD) Rule 1166. These measures specify that:

- Exposed soil at the Site was lightly sprayed with water to minimize dust and odors during construction activities, including demolition, excavation, and site grading;
- All active construction areas were watered at a minimum of twice daily to prevent visible dust plumes from migrating outside of the Site limit;
- Water was misted or sprayed while loading transportation vehicles;
- Drop heights were minimized while loading transportation vehicles;
- Tarpaulins or other effective covers were used for trucks carrying soils that travel on public streets;
- Access roads, parking areas, and staging areas were paved, watered or covered with non-toxic soil stabilizers as needed;
- All paved access routes, public streets, parking areas, and staging areas were swept daily, if visibly soiled; and
- The miniRAE 2000 PID, calibrated for Hexane, was used daily, per AQMD Rule 1166.

Soil Stockpile Management

The petroleum-contaminated soils were segregated and stockpiled separately from non-petroleum affected soil, concrete, debris, and other materials removed during excavation activities. Petroleum-impacted soils were stockpiled in a designated area and were maintained with 6-millimeter plastic liner underneath and covering over the entire stockpiled soil.

Excavated soil was temporarily stockpiled adjacent to the area of the excavation, and was moved to the designated stockpile area as soon as practical.

All soil stockpiled at the Site was lightly sprayed with water, as needed, to minimize dust during excavation and loading operations. Soil stockpiles were covered with 6-mil plastic sheeting at times when not in active use. The plastic lining covering the contaminated soil stockpiles was securely held down by weighted material such as wood planks, rocks or pieces of concrete and/or asphalt in order to minimize impact of wind on removing or tearing the stockpile covers

Soil Loading, Transportation and Disposal

Soil that was generated at the Site that required off-Site disposal was segregated and separately stockpiled. Prior to disposal, the soil was tested for the presence of hazardous materials according to the profiling requirements of the facility at which the soil will be disposed. A state-approved manifest system was used so that wastes can be tracked from generation to ultimate disposal. The manifests for the non-RCRA contaminated soils were provided by Waste Management, Inc. and complied with all provisions of the appropriate transportation and disposal regulations.

Appropriate vehicles and operating practices were used to prevent spillage or leakage of materials from occurring on-Site or en-route. Transport vehicles were securely covered prior to leaving the Site and were appropriately decontaminated and inspected before leaving the Site. All vehicles leaving work areas were inspected to check that no soil was adhering to its wheels or undercarriage. Any such material was removed at the work area or decontamination pad before the truck was allowed to leave the Site. Offsite roadways were inspected along the designated routes that the vehicles took from the Site to the major highways leading to Simi Valley Landfill to confirm that no tracking had occurred along the designated roadways.

Health and Safety Plan

Standard health and safety precautions were followed in accordance with HVN's Health and Safety Plan (HASP) for the Site for all personnel working on Site. The HASP refers to relevant provisions of this Soils Management Report. Contractors independently evaluated health and safety requirements, as outlined in HVN's HASP, for their own employees and followed any Site-specific Health and Safety Protocols for their use as-needed—using HVN's HASP as an overarching guideline.

MANAGEMENT OF PETROLEUM-IMPACTED SOILS

Summary

Field Activities - Day 1 – Tuesday 12/3/19

After receiving the RAP Approval from the Water Board (dated November 5, 2019), HVN and Rocky's Concrete Removal crew ("Rocky's" crew) arrived the site at 7AM and, using the soil vapor probes at B2 as the center, laid out a grid of 20 ft by 20 ft and started excavating and placing the soil on 6 mil plastic sheets. Using the newly- calibrated miniRAE2000 PID, each bucket was directed to either the "Clean" pile or the "Contaminated" pile. Every aspect of the soils investigation was observed by Mr. Essie Nayebdadash, property owner, including the soil sampling of four (4) walls and bottoms of the excavation. The seven (7) samples, taken with EnCore Sampler per EPA Method 5035, were delivered to Chemtek Labs, in an ice-filled chest at the end of the day. Because of the inclement weather, all piles of material were covered by 6 mil plastic sheeting at the end of the day. Also, in preparation of the backfilling operation, two (2) loads of certified new "Clean fill" were imported into the site by West Coast Sand and Gravel Company. The "certification" of the "fill sand" was conducted by A & R Labs in Ontario, CA using two (2) samples for analysis, one from the Azusa quarry and one from the Durbin/ Baldwin Park quarry. In Monday 12/2/19, the lab results were submitted to and approved by Joshua Cwikla of the Water Board prior to dispatch of material.

Field Activities – Day 2 – Thursday 12/5/19

After experiencing a rain day delay on Wednesday, HVN and Rock's crew arrived at the site at 7AM. A truck from Sandoval Trucking arrived at 7:30am and was loaded with a total of 24.39 tons with the now-uncovered "contaminated" soil for transport and disposal as "Non-RCRA" soil at the Waste Management's Simi Valley Landfill. Next, the soils technician from Nor Cal Engineering arrived to supervise and monitor the backfilling of the clean on-site and import soils. At the owner's request, a 20 ft x 20 ft sheet of 6 mil plastic was set at about 5 ft bgs. The clean fill was compacted above and below the plastic sheeting.

LABORATORY RESULTS

This section discusses all laboratory results from analysis of soil samples for TPH carbon chain, Volatile Organic Compounds (VOCs) (full scan). In order to perform confirmation sampling HVN took soil samples from the teeth of the excavator bucket; in order to comply with EPA Method 5035, the samples were taken with Encore samplers and labeled and sealed in individual envelopes prior to placement in the blue-ice filled, air tight cooler chest.

Soil Samples

Soil samples were taken from the following locations:

1. W-W-8: West wall at 8 ft bgs
2. SE-Btm- 9: Bottom of excavation in southeast corner @ 9 ft bgs
3. SW -W- 7: Southwest wall at 7 ft bgs
4. NW -W- 8: Northwest wall at 8 ft bgs
5. NE-W-8: Northeast wall at 8 ft bgs
6. SW-W-7: Southwest wall at 7 ft bgs
7. Btm-9: Center bottom of excavation at 9 ft bgs

Of these seven (7) samples taken, only two (2) registered detectable hydrocarbons; TPHd and TPHo were detected at 16.8 ppm and 103ppm, respectively, in the northwest wall sample at 8 ft bgs; all VOCs were ND. TPHo was detected at 98.2 ppm in the center bottom of the excavation at 9 ft bgs. In all seven (7) soil samples, the VOCs (full scan) were non-detect (ND) or de minimus, in the case of Btm-9. The detected levels for 1,2,4-TMB and 1,3,5-TMB were 5 ppb and 2 ppb respectively, and the action levels for residential are 300 ppm and 270 ppm respectively.

CONCLUSIONS

In October 2018, a Stantec Report revealed that a previously unknown lens of contaminated petroleum hydrocarbon soil at a depth between 7.5 and 10 ft bgs in an area of the former Texaco-branded Service Station where the dispense island was location. At the time, Stantec estimated that about 50 cubic yards (70 tons) would have to be excavated and disposed and the resulting excavation backfilled to achieve an acceptable result. Actually, HVN excavated and removed a total of 95.55 tons.

In August 2019, a subsequent Stantec Report revealed a previously undetected lens of contaminated petroleum hydrocarbon soil was detected at a depth between 5 and 7 ft bgs in an area southwest and contiguous to the previous excavation. HVN responded and, this time, excavated and removed and disposed of additional 24.39 tons at the Simi Valley Landfill. HVN is confident that the origin/source of this old, weathered, contamination plume has been found because the pea gravel was found at the south-western wall. The pea gravel is indicative of the backfill material that was used to provide support for the underground fuel tanks.

Therefore, having met all of the requirements of the various agencies, HVN respectfully requests the issuance of a “no further action” case closure from the Water Board.

LIMITATIONS

This Report identifies the actions taken by HVN based on the subsequent assessment by Stantec. Although HVN remediated the soils which were identified as being above action levels, this report is not a guarantee that all remaining soils are below action levels.

This Report presents a summary of work completed by HVN and its subcontractors. The completed work includes observations of site conditions encountered and the analytical results provided by an independent third-party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

All conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document. HVN warrants that the environmental consulting services contained herein were accomplished in accordance with generally accepted practices in the environmental engineering, geology and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

REFERENCES

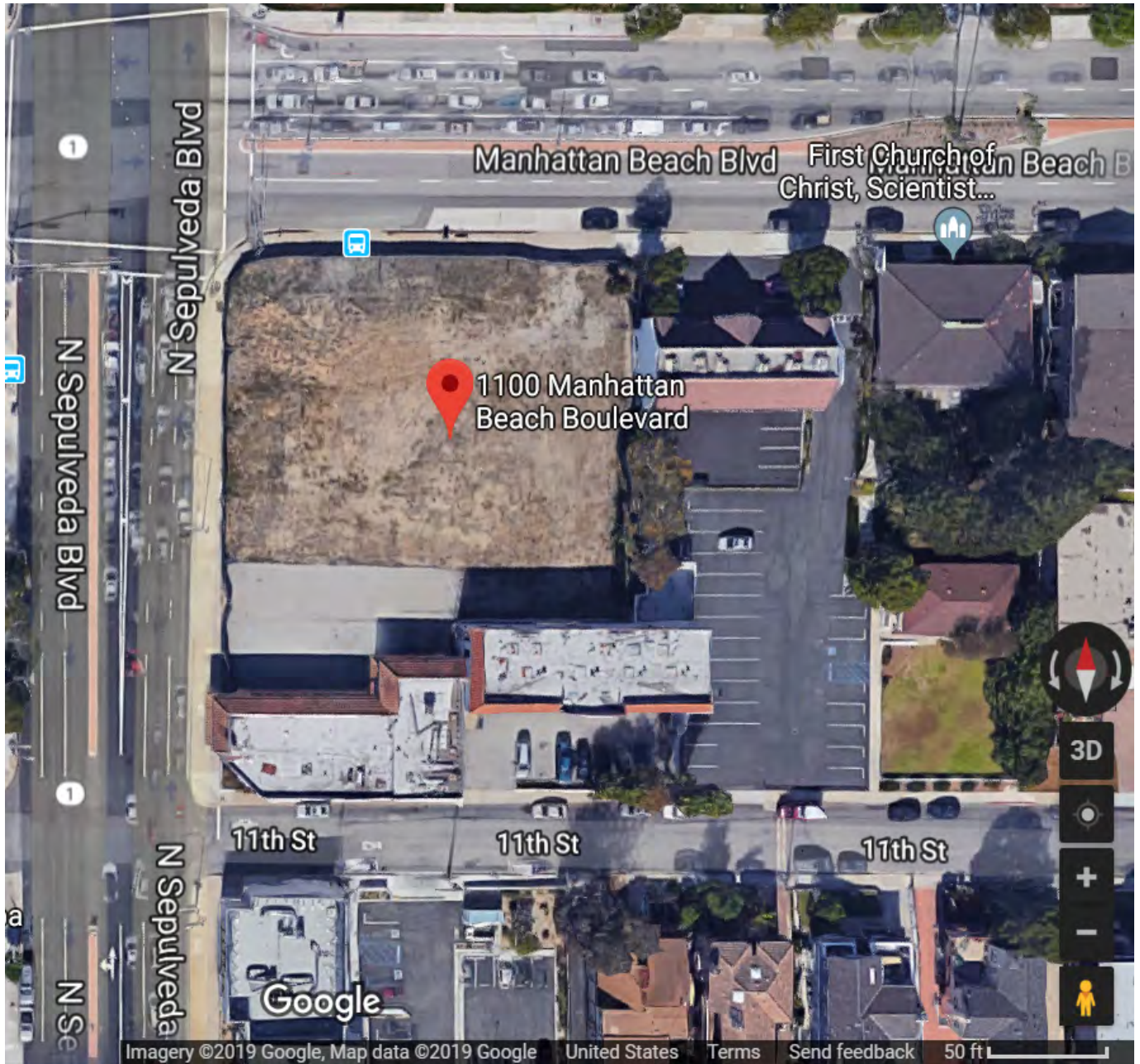
1. Underground Tank Closure Report For Manhattan Beach Fuel Station..., HVN Environmental Service Co., Inc (*June 18, 2008*)
2. Hazardous Materials Underground Storage Tank Closure Certification (Closure Application No.: A570880), County of Los Angeles Department of Public Works (*July 9, 2008*)
3. Phase II Environmental Site Assessment, Stantec (*October 31, 2018*)
4. UST Program- Directive to Take Corrective Action ..., Additional Information, Los Angeles Regional Water Quality Control Board (*February 6, 2019*)
5. UST Program- Directive to Take Corrective Action..., Work Plan and HASP, Los Angeles Regional Water Quality Control Board (*March 5, 2019*)
6. Additional Subsurface Investigation... HVN (*March 20, 2019*)

7. Conditional Approval of Additional Subsurface Investigation; Los Angeles Regional Water Quality Control Board (*April 9, 2019*)
8. Report of Geotechnical Observation and Testing of Excavation Backfill Operations, 1100 Manhattan Beach Blvd, M.B., CA, Norcal Engineering (*May 23, 2019*)
9. Phase II Environmental Site Assessment Report, Stantec (*August 29, 2019*)
10. Soil Excavation Remedial Action Plan. HVN (*October 18, 2019*)
11. RAP Approval Directive, Los Angeles Regional Water Quality Control Board (*November 5, 2019*)

FIGURES

FIGURE 1

Site Vicinity Map



HVN ENVIRONMENTAL SERVICE CO., INC.

ENVIRONMENTAL ENGINEERS/CONTRACTORS

3870 Del Amo Blvd., Ste 501
Torrance, CA 90503
(310) 370-9656

Figure 1

Vicinity Map for 1100 Manhattan Beach Blvd., Manhattan Beach, CA

Google Imagery 2018

2/21/19

Scale As Shown

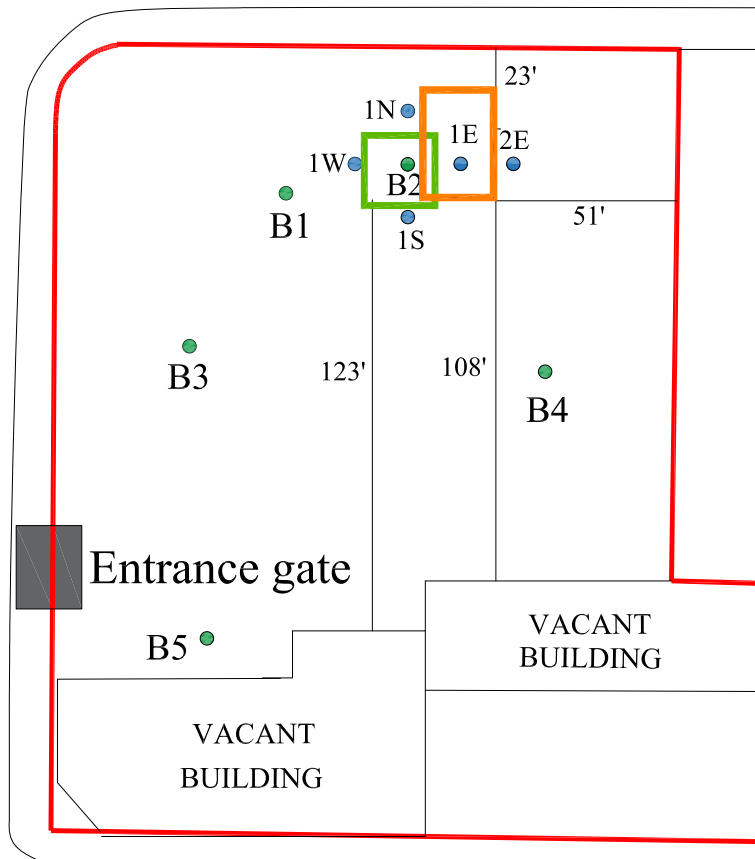
FIGURE 2

Site Map



Manhattan Beach Blvd.

N. Sepulveda Blvd.



- Location of Soil Borings to 25 ft bgs*
* Boring 2E to 20 ft bgs

- Previous boring locations

- Property Line



APPROXIMATE LIMITS OF FILL
(DECEMBER 2019)



APPROXIMATE LIMITS OF FILL
(MAY 2019)



CHECKED BY:
KENNETH HEKIMIAN
Ph.D.,RCE

SITE MAP INCLUDING LOCATIONS OF SOIL FILL
1100 MANHATTAN BEACH BLVD., MANHATTAN BEACH, CA

12/19/2019

HVN ENVIRONMENTAL SERVICE CO., INC.

ENVIRONMENTAL ENGINEERS/CONTRACTORS

3870 Del Amo Blvd., Ste 501
Torrance, CA 90503
(310) 370-9656

TABLE

TABLE 1

Summary of Final Lab Data from Chemtek

TABLE 1 – SUMMARY OF LAB RESULTS
1100 Manhattan Beach Blvd. Manhattan Beach

Sample I.D.	Location	EPA Test Method	Results (in µg/kg or ppb)
W-W - 8	West Wall at 8 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = ND < 5 ppm TPH _O = ND < 40 ppm
		8260B	All VOCs = ND
S-E Btm - 9	Southeast bottom at 9 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = ND < 5 ppm TPH _O = ND < 40 ppm
		8260B	All VOCs = ND
SW-W - 7	Southwest Wall at 7 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = ND < 5 ppm TPH _O = ND < 40 ppm
		8260B	All VOCs = ND
NW-W - 8	Northwest wall at 8 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = 16.8 ppm TPH _O = 103 ppm
		8260B	All VOCs = ND
NE-W - 8	Northeast wall at 8 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = ND < 5 ppm TPH _O = ND < 40 ppm
		8260B	All VOCs = ND
SW-W - 7	Southwest wall at 7 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = ND < 5 ppm TPH _O = ND < 40 ppm
		8260B	All VOCs = ND
Btm - 9	Center bottom at 9 ft bgs	8015M	TPH _G = ND < 0.20 ppm TPH _D = ND < 5 ppm TPH _O = 98.2 ppm
		8260B	1,2,4 –TMB = 5 ppb 1,3,5 – TMB = 2 ppb All other VOCs = ND

NOTE:

Reportable Limits as of November 2019

TPH_G = 100 ppm

TPH_D = 1000 ppm

TPH_O = 10,000 ppm

1,2,4-TMB and 1,3,5 – TMB = 300 and 270 ppb, respectively

APPENDIX A

Photo Report

Photo Journal December 3 - 5, 2019

Photo 1: Two (2) Loads of Approved clean fill for use as backfill



Photo 2: Bobcat loader for Contaminated Soil



Photo 3: Bobcat Loading and Excavator with Sheeps-foot compactor



Photo 4: Driver covering Contaminated Soil with Tarp



Photo 5: Placement of 6 mil plastic liner at 5 ft bgs



Photo 6: Backfilling of top of excavated area



APPENDIX B

CHEMTEK RESULTS AND CHAIN OF CUSTODY FOR

December 3, 2019

13554 Larwin Circle, Santa Fe Springs, CA 90670

Tel. (562) 926-9848 FAX (562) 926-8324 Email: ChemtekLabs@hotmail.com

CA Dept of Health Accredited. (ELAP No. 1435) & Mobile Lab (ELAP No. 2629)

Job No.: 912010

Page: 1 of 1

CUSTOMER INFORMATION							ANALYSIS REQUIRED																	
COMPANY NAME: HVN ENVIRONMENTAL							8015M TPH G or GRO	8015M TPH D or DRO	CARBON CHAIN	VOCs (8260 B) FULL	OXYGENATES (8260 B) SHORT	COD / TSS / BOD / TDS	pH, Conductivity, Turbidity	Sulfide, Cyanide, O&G	CAM 17 Metals									
PROJECT CONTACT: KEN HEKIMIAN Email:																								
ADDRESS: 3870 DEL AMO BLVD., #501, TORRANCE, CA 90503																								
PHONE: FAX:																								
PROJECT INFORMATION																								
PROJECT NAME: ESSIE						P.O. No.																		
SITE ADDRESS: 1100 M.B. Blvd., M.B.																								
SAMPLED BY: KEN HEKIMIAN <input type="checkbox"/> EDF						Turn Around Time NORM <input checked="" type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> Other <input type="checkbox"/>																		
SAMPLE ID	DATE SAMPLED	TIME SAMPLED	TYPE *	pH/Time	REMARKS	Preserved	NO. OF CONT																	
1	West Wall-6	12/03/19	11:30	So	Blue Ice EnCore		1																	
2	SE Bottom-9		11:45		EnCore		1																	
3	SW Wall-7		11:50		EnCore		1																	
4	NW Wall-8		noon		EnCore		1																	
5	NE Wall-8		12:05		EnCore		1																	
6	SW Wall-7		12:10		EnCore		1																	
7	Bottom-9		12:15		EnCore		1																	
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								

SIGNATURE	PRINT NAME	COMPANY NAME	DATE	TIME
RELINQUISHED BY: Kenneth K. Hekimian	KENNETH K. HEKIMIAN	HVN ENVIRONMENTAL	12/3/19	2:55
RECEIVED BY: Kenneth K. Hekimian	KENNETH K. HEKIMIAN	HVN ENVIRONMENTAL	12/3/19	2:55
RELINQUISHED BY: Kenneth K. Hekimian	KENNETH K. HEKIMIAN	HVN ENVIRONMENTAL	12/3/19	2:55
RECEIVED FOR LABORATORY BY: Gary Beckman	Gary Beckman	Chemtek	12/3/19	2:55

NOTE: Samples are discarded 30 days after results are reported unless other arrangements are made.

Distribution: WHITE with report / YELLOW to CHEMTEK / PINK to courier



Certificate of Analysis

Page 1

Client: HVN ENVIRONMENTAL
3870 Del Amo Blvd #501
Torrance, CA

Project No.
Project Site: Essie
1100 MB Blvd
MB, CA

Job No: 912010
Report Date: 12/10/19
Date Received: 12/03/19
Number of Samples: 7
Sample Matrix: Soil

Attention:

This is the Certificate of Analysis for the following samples:

SAMPLE IDENTIFICATION	DATE OF SAMPLE	LABORATORY IDENTIFICATION
West Wall-6	12/03/19	912010-01A
SE Btm-9	12/03/19	912010-02A
SW Wall-7	12/03/19	912010-03A
NW-Wall-8	12/03/19	912010-04A
NE Wall-8	12/03/19	912010-05A
SW Wall-7	12/03/19	912010-06A
Btm-9	12/03/19	912010-07A

Reviewed and Approved:

For **Michael C.C. Lu**
Laboratory Director



Certificate of Analysis

Page 2

Client: HVN ENVIRONMENTAL
3870 Del Amo Blvd #501
Torrance, CA
Sample Matrix: Soil

EPA Method 8260B
Project Site: Essie
1100 MB Blvd
Units: ppb or µg/kg

Job No: 912010
Report Date: #####
Date of Sample: #####
Date Received: #####

Client Sample ID:	West Wall-6	SE Btm-9	SW Wall-7	NW-Wall-8	NE Wall-8	SW Wall-7	Btm-9	Detection
Dilution Factor:	1	1	1	1	1	1	1	Limit
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	(ppb)
Benzene	ND	ND	ND	ND	ND	ND	ND	1
Bromobenzene	ND	ND	ND	ND	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	1
Bromoform	ND	ND	ND	ND	ND	ND	ND	1
Bromomethane	ND	ND	ND	ND	ND	ND	ND	1
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	1
sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	1
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	1
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	1
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	1
Chloroethane	ND	ND	ND	ND	ND	ND	ND	1
Chloroform	ND	ND	ND	ND	ND	ND	ND	1
Chloromethane	ND	ND	ND	ND	ND	ND	ND	1
2-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	1
4-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	1
2-Chloroethyl vinyl ether	ND	ND	ND	ND	ND	ND	ND	2
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	1
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	1
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	ND	ND	1
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	1
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	1
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	1
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	1
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	1
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	1
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	1
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	1
cis-1,2 Dichloroethene	ND	ND	ND	ND	ND	ND	ND	1
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	1
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	1
1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	1
2,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	1
1,1-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	1
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	1
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	1
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	1
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	1
4-Isopropyltoluene	ND	ND	ND	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	20
Naphthalene	ND	ND	ND	ND	ND	ND	ND	1
n-propylbenzene	ND	ND	ND	ND	ND	ND	ND	1
Styrene	ND	ND	ND	ND	ND	ND	ND	1
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	1
Tetrachloroethene(PCE)	ND	ND	ND	ND	ND	ND	ND	1
Toluene	ND	ND	ND	ND	ND	ND	ND	1
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	1
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	1
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	1
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	1
Trichloroethene(TCE)	ND	ND	ND	ND	ND	ND	ND	1
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	1
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	1
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	5	1
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	2	1
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	1
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	2
Ethanol	ND	ND	ND	ND	ND	ND	ND	250
MTBE	ND	ND	ND	ND	ND	ND	ND	1
ETBE	ND	ND	ND	ND	ND	ND	ND	1
DIPE	ND	ND	ND	ND	ND	ND	ND	1
TAME	ND	ND	ND	ND	ND	ND	ND	1
TBA	ND	ND	ND	ND	ND	ND	ND	20
MEK	ND	ND	ND	ND	ND	ND	ND	10
MIBK	ND	ND	ND	ND	ND	ND	ND	10
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	10

Analysis Date: 12/9/19

12/9/19

12/9/19

12/9/19

12/9/19

12/9/19

12/9/19

ND: Not Detected Below (DF x Detection Limit)

DF: Dilution Factor



Certificate of Analysis

Page 3

Client: HVN ENVIRONMENTAL
Project Site:
Essie
1100 MB Blvd

EPA Method: 8015B, 8260B
units: mg/kg

Job No: 912010
Report Date: 12/10/19
Date of Sample: 12/03/19
Date Received: 12/03/19
Sample Matrix: Soil

Sample ID	UNITS	Gas range (C4-C12)	DF	DLR	Diesel Range (C13-C22)	DF	DLR	Oil Range (C23-36)	DF	DLR
West Wall-6	MG/KG	ND	1	0.20	ND	1	5	ND	1	40
SE Btm-9	MG/KG	ND	1	0.20	ND	1	5	ND	1	40
SW Wall-7	MG/KG	ND	1	0.20	ND	1	5	ND	1	40
NW-Wall-8	MG/KG	ND	1	0.20	16.8	1	5	103	1	40
NE Wall-8	MG/KG	ND	1	0.20	ND	1	5	ND	1	40
SW Wall-7	MG/KG	ND	1	0.20	ND	1	5	ND	1	40
Btm-9	MG/KG	ND	1	0.20	ND	1	5	98.2	1	40
Method Blank	mg/kg	ND	1	0.20	ND	1	5	ND	1	40
Sample Date:		12/03/19			12/03/19			12/03/19		
Analysis Date:		12/09/19			12/10/19			12/10/19		

ND : Not detected at or above DLR

DLR: Detection Limit for Reporting Purposes



Certificate of Analysis

Page 4

QC Analysis Date: 12/09/19
QC Lab ID: 912034-1A
Units: ppb

Job No: 912010

QUALITY CONTROL DATA

EPA METHOD: 8260B(VOC's)

ANALYTE	BLANK RESULT	SPIKE CONC.	MS % REC	MSD % REC	% RPD	% RPD ACCEPT LIMITS	% REC ACCEPT LIMITS
1,1-Dichloroethene	ND	25	78.2	90.8	14.9%	30	70-130
Benzene	ND	25	87.8	100.2	13.2%	30	70-130
Trichloroethylene	ND	25	85.1	98.2	14.3%	30	70-130
Toluene	ND	25	93.4	104.7	11.4%	30	70-130
Chlorobenzene	ND	25	90.9	105.2	14.6%	30	70-130

QC Analysis Date: 12/09/19
QC Lab ID: 912034-1A
Units: ppm

QUALITY CONTROL DATA

EPA METHOD: 8260B(TPH Gas Range Organics)

ANALYTE	BLANK RESULT	SPIKE CONC.	MS % REC	MSD % REC	% RPD	% RPD ACCEPT LIMITS	% REC ACCEPT LIMITS
GRO (TPH)	ND	0.5	98.3	94.5	3.9%	30	70-130

APPENDIX C

Certified Clean Fill Testing from A & R Labs

November 26, 2019



A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C

ONTARIO, CA 91761

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

 Ken Zheng, President
11/26/2019 13:04:19

Laboratory Job No. (Certificate of Analysis No.)

1911-00152

Project Name / No.

WEST COAST AZUSA

Dates Sampled (from/to)

11/19/19 To 11/19/19

Dates Received (from/to)

11/19/19 To 11/19/19

Dates Reported (from/to)

11/26/19 To 11/26/2019

Chains of Custody Received

Yes

Comments:

Subcontracting

Inorganic Analyses

No analyses sub-contracted

Other Analyses

1 PLM sample(s) reported by technician LAT were contracted to LA TESTING (EMSL)

All results for sub-contracted analyses may be sent separately

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

None



A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C
ONTARIO, CA 91761
951-779-0310 FAX 951-779-0344
www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
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	2790
	2122

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CERTIFICATE OF ANALYSIS

1911-00152

HVN ENVIRONMENTAL SERVICE CO.
Kenneth Hekimian
3870 DEL AMO BLVD., SUITE 501
TORRANCE, CA 90503

Date Reported 11/26/19
Date Received 11/19/19
Invoice No. 87394
Cust # H093
Permit Number
Customer P.O.

Project: WEST COAST AZUSA

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 WEST COAST AZUSA					Date & Time Sampled:		11/19/19 @ 12:00	
Sample Matrix: Soil								
pH	7.47		units	EPA 9045C	1.0	0	11/19/19	JEN
[Metals Title 22 no Hg]								
Metals Acid Digestion	Complete			EPA 3050B	1.0		11/22/19	TLB
Antimony	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Arsenic	3.37		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Barium	105		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Beryllium	<0.500		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Cadmium	<0.500		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Chromium	12.5		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Cobalt	5.27		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Copper	19.5		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Lead	3.53		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Molybdenum	<0.500		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Nickel	8.22		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Selenium	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Silver	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Thallium	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Vanadium	33.2		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Zinc	30.8		mg/Kg	EPA 6010B	1.0	5.00	11/22/19	TLB
[Mercury]								
Mercury Digestion	Complete			EPA 7471A	1.0		11/19/19	KZ
Mercury	<0.20		mg/Kg	EPA 7471A	1.0	0.20	11/19/19	KZ
Asbestos	SEE ATTACHED			PLM	1.0		11/26/19	LAT

Respectfully Submitted:

Ken Zheng

Ken Zheng - Lab Director



A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C
ONTARIO, CA 91761
951-779-0310 FAX 951-779-0344
www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
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	2790
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QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.
For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



A & R Laboratories, Inc.

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 ONTARIO, CA 91761
 951-779-0310 FAX 951-779-0344
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QUALITY CONTROL DATA REPORT

HVN ENVIRONMENTAL SERVICE CO.

1911-00152

Kenneth Hekimian

3870 DEL AMO BLVD., SUITE 501

TORRANCE, CA 90503

Date Reported 11/26/2019

Date Received 11/19/2019

Date Sampled 11/19/2019

Invoice No. 87394

Customer # H093

Customer P.O.

Project: WEST COAST AZUSA

Method # EPA 6010B

QC Reference # 86043

Date Analyzed: 11/22/2019

Technician: TLB

Samples 001

Results

	LCS %REC	LCS %DUP	LCS %RPD	SPIKE %REC	SPIKE %DUP	SPIKE %RPD		LCS %REC	LCS %RPD	SPIKE %RPD
Antimony	105	110	4.3	101	102	1.0		75 - 125	0 - 20	0 - 20
Arsenic	103	103	0.0	99	101	1.7		75 - 125	0 - 20	0 - 20
Barium	98	101	2.8	100	100	0.0		75 - 125	0 - 20	0 - 20
Beryllium	99	101	2.4	110	111	0.9		75 - 125	0 - 20	0 - 20
Cadmium	102	102	0.3	93	93	0.8		75 - 125	0 - 20	0 - 20
Chromium	98	99	1.5	79	80	0.8		75 - 125	0 - 20	0 - 20
Cobalt	101	101	0.4	96	97	1.0		75 - 125	0 - 20	0 - 20
Copper	100	103	2.8	103	104	0.9		75 - 125	0 - 20	0 - 20
Lead	102	101	0.3	87	88	1.1		75 - 125	0 - 20	0 - 20
Molybdenum	102	103	0.2	107	108	1.0		75 - 125	0 - 20	0 - 20
Nickel	101	100	0.8	95	96	1.1		75 - 125	0 - 20	0 - 20
Selenium	104	105	1.5	82	82	0.0		75 - 125	0 - 20	0 - 20
Silver	92	93	1.3	105	107	1.1		75 - 125	0 - 20	0 - 20
Thallium	99	105	5.9	96	99	3.2		75 - 125	0 - 20	0 - 20
Vanadium	99	100	0.5	102	105	1.2		75 - 125	0 - 20	0 - 20
Zinc	102	101	0.0	89	91	1.0		75 - 125	0 - 20	0 - 20

Method # EPA 7471A

QC Reference # 85967

Date Analyzed: 11/19/2019

Technician: KZ

Samples 001

Results

	LCS %REC	LCS %DUP	LCS %RPD	SPIKE %REC	SPIKE %DUP	SPIKE %RPD		LCS %REC	LCS %RPD	SPIKE %RPD
Mercury	78	80	5	78	76	3		75 - 125	0 - 25	0 - 25

No method blank results were above reporting limit

Respectfully Submitted:

Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



LA Testing

5431 Industrial Drive, Huntington Beach, CA 92649

Phone/Fax: (714) 828-4999 / (714) 828-4944

<http://www.LATesting.com>

gardengrovelab@latesting.com

LA Testing Order: 331924653
CustomerID: 32CENT50
CustomerPO: 1911-00152
ProjectID:

Attn: **Jennifer Iniguez**
A & R Laboratories
1650-C South Grove Avenue
Ontario, CA 91761

Phone: (800) 798-9336
Fax: (951) 779-0344
Received: 11/20/19 11:40 AM
Analysis Date: 11/26/2019
Collected: 11/19/2019

Project: **West Coast Azusa**

Test Report: Asbestos Analysis via Polarized Light Microscopy, Qualitative

Sample	Description	Appearance	Result	Notes
331924653-0001	West Coast Azusa	Gray/White/Variou s Non-Fibrous Heterogeneous	None Detected	

Analyst(s)

Brian Magumcia (1)

Michael DeCavallas, Laboratory Manager
or other approved signatory

LA Testing recommends that soil samples reported as "ND" be tested by the EPA Screening Method/Qualitative. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by LA Testing, Inc. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Samples received in good condition unless otherwise noted.

Samples analyzed by LA Testing Huntington Beach, CA

Initial report from 11/26/2019 09:15:48



Asbestos Chain of Custody

LA Testing Order Number (Lab Use Only):

#331924653

LA TESTING
5431 INDUSTRIAL DR.
HUNTINGTON BEACH, CA
92649
800-755-1794

Company : A & R Laboratories		LA Testing-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 1650 S. Grove Ave., Ste. C		Third Party Billing requires written authorization from third party	
City: Ontario	State/Province: CA	Zip/Postal Code: 91761	Country: USA
Report To (Name): Jennifer Iniguez		Fax #: 951-779-0344	
Telephone #: 951-779-0310		Email Address: jennifer.iniguez@arlaboratories.com	
Project Name/Number: West Coast Azusa			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: 1911-00152	U.S. State Samples Taken: CA
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
*For TEM Air 3 hours through 6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with LA Testing's Terms and Conditions located in the Analytical Price Guide.			
PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
		TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) Other: <input checked="" type="checkbox"/> PLM Qualitative	
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group			
Samplers Name:		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
	West Coast Azusa	1-8oz Jar	11/19/19 @ 1200
Client Sample # (s):	-	Total # of Samples:	1
Relinquished (Client):	Date: 11-20-19	Time:	4:40
Received (Lab):	Date: 11-20-19	Time:	11:40
Comments/Special Instructions:			

office@arlaboratories.com

Chain of Custody Record

A & R Work Order #:

1911-00152

Page 1 of 1

[illegible]

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The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

White Copy - Original (Accompanies Samples)

Yellow Copy - A & R Files

Page 69 of 562
PC-MTG 04-29-20



Sample Acceptance Checklist

CLIENT: HVN ENV. SERVICE

WORK ORDER NUMBER: 1911-00152

Temperature: (Criteria: 0.0°C-6.0°C)

Sample Temp. (w/CF) °C(w/CF) 4.2°C

- ☐ Sample(s) outside temperature criteria: PM contacted by : _____
- ☐ Sample(s) outside temperature criteria, but received on ice/chilled on same day of sampling.
- ☐ Sample(s) received at ambient temperature; placed on ice for transport by courier.
- Ambient Temperature ☐ Air ☐ Filter

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present and Not Intact ☒ Not Present
Sample(s) ☐ Present and Intact ☐ Present and Not Intact ☒ Not Present

Sample Condition:

	Yes	No	N/A
Was a COC received	✓		
Were sample IDs present?	✓		
Were sampling dates & times present?	✓		
Was a relinquished signature present?	✓		
Were the tests required clearly indicated?	✓		
Were all samples sealed in plastic bags?		✓	
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of samples sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?			✓

Explanations/Comments:

Notification:

For discrepancies, how was the Project Manager notified? Verbal

Verbal: PM Initials: _____ Data/Time: _____

Email: Send to: _____ Data/Time: _____

Project Manager's response:

Completed By: [Signature]

Date: 11-19-19

AR Laboratories
1650 S. Grove Ave., Suite C, Ontario, CA 91761
PH: 951-779-0310 Fax: 951-779-0344
Email: office@arlaboratories.com



A & R Laboratories, Inc.

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FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

 Ken Zheng, President
11/26/2019 13:04:26

Laboratory Job No. (Certificate of Analysis No.)

1911-00154

Project Name / No.

LAB-DURBIN, BALDWIN PARK

Dates Sampled (from/to)

11/19/19 To 11/19/19

Dates Received (from/to)

11/19/19 To 11/19/19

Dates Reported (from/to)

11/26/19 To 11/26/2019

Chains of Custody Received

Yes

Comments:

Subcontracting

Inorganic Analyses

No analyses sub-contracted

Other Analyses

1 PLM sample(s) reported by technician LAT were contracted to LA TESTING (EMSL)

All results for sub-contracted analyses may be sent separately

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

None



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CERTIFICATE OF ANALYSIS

1911-00154

HVN ENVIRONMENTAL SERVICE CO.
 Kenneth Hekimian
 3870 DEL AMO BLVD., SUITE 501
 TORRANCE, CA 90503

Date Reported 11/26/19
 Date Received 11/19/19
 Invoice No. 87395
 Cust # H093
 Permit Number
 Customer P.O.

Project: LAB-DURBIN, BALDWIN PARK

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 LAB-DURBIN, BALDWIN PARK					Date & Time Sampled:		11/19/19 @ 12:10	
Sample Matrix: Soil								
pH	7.76		units	EPA 9045C	1.0	0	11/19/19	JEN
[Metals Title 22 no Hg]								
Metals Acid Digestion	Complete			EPA 3050B	1.0		11/22/19	TLB
Antimony	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Arsenic	2.41		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Barium	50.7		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Beryllium	<0.500		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Cadmium	<0.500		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Chromium	8.91		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Cobalt	3.55		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Copper	10.5		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Lead	2.46		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Molybdenum	<0.500		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Nickel	6.10		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Selenium	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Silver	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Thallium	<1.00		mg/Kg	EPA 6010B	1.0	1.00	11/22/19	TLB
Vanadium	22.0		mg/Kg	EPA 6010B	1.0	0.500	11/22/19	TLB
Zinc	19.7		mg/Kg	EPA 6010B	1.0	5.00	11/22/19	TLB
[Mercury]								
Mercury Digestion	Complete			EPA 7471A	1.0		11/19/19	KZ
Mercury	<0.20		mg/Kg	EPA 7471A	1.0	0.20	11/19/19	KZ
Asbestos	SEE ATTACHED			PLM	1.0		11/26/19	LAT

Respectfully Submitted:

Ken Zheng

Ken Zheng - Lab Director



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QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.

B1 = BOD dilution water is over specifications. The reported result may be biased high.

D = Surrogate recoveries are not calculated due to sample dilution.

E = Estimated value; Value exceeds calibration level of instrument.

H = Analyte was prepared and/or analyzed outside of the analytical method holding time

I = Matrix Interference.

J = Analyte concentration detected between RL and MDL.

Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.

S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor

RL = Reporting Limit, Adjusted by DF

MDL = Method Detection Limit, Adjusted by DF

Qual = Qualifier

Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



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QUALITY CONTROL DATA REPORT

HVN ENVIRONMENTAL SERVICE CO.

1911-00154

Kenneth Hekimian

3870 DEL AMO BLVD., SUITE 501

TORRANCE, CA 90503

Date Reported 11/26/2019

Date Received 11/19/2019

Date Sampled 11/19/2019

Invoice No. 87395

Customer # H093

Customer P.O.

Project: LAB-DURBIN, BALDWIN PARK

Method # EPA 6010B

QC Reference # 86043

Date Analyzed: 11/22/2019

Technician: TLB

Samples 001

Results

	LCS %REC	LCS %DUP	LCS %RPD	SPIKE %REC	SPIKE %DUP	SPIKE %RPD		LCS %REC	LCS %RPD	SPIKE %RPD
Antimony	105	110	4.3	101	102	1.0		75 - 125	0 - 20	0 - 20
Arsenic	103	103	0.0	99	101	1.7		75 - 125	0 - 20	0 - 20
Barium	98	101	2.8	100	100	0.0		75 - 125	0 - 20	0 - 20
Beryllium	99	101	2.4	110	111	0.9		75 - 125	0 - 20	0 - 20
Cadmium	102	102	0.3	93	93	0.8		75 - 125	0 - 20	0 - 20
Chromium	98	99	1.5	79	80	0.8		75 - 125	0 - 20	0 - 20
Cobalt	101	101	0.4	96	97	1.0		75 - 125	0 - 20	0 - 20
Copper	100	103	2.8	103	104	0.9		75 - 125	0 - 20	0 - 20
Lead	102	101	0.3	87	88	1.1		75 - 125	0 - 20	0 - 20
Molybdenum	102	103	0.2	107	108	1.0		75 - 125	0 - 20	0 - 20
Nickel	101	100	0.8	95	96	1.1		75 - 125	0 - 20	0 - 20
Selenium	104	105	1.5	82	82	0.0		75 - 125	0 - 20	0 - 20
Silver	92	93	1.3	105	107	1.1		75 - 125	0 - 20	0 - 20
Thallium	99	105	5.9	96	99	3.2		75 - 125	0 - 20	0 - 20
Vanadium	99	100	0.5	102	105	1.2		75 - 125	0 - 20	0 - 20
Zinc	102	101	0.0	89	91	1.0		75 - 125	0 - 20	0 - 20

Method # EPA 7471A

QC Reference # 85967

Date Analyzed: 11/19/2019

Technician: KZ

Samples 001

Results

	LCS %REC	LCS %DUP	LCS %RPD	SPIKE %REC	SPIKE %DUP	SPIKE %RPD		LCS %REC	LCS %RPD	SPIKE %RPD
Mercury	78	80	5	78	76	3		75 - 125	0 - 25	0 - 25

No method blank results were above reporting limit

Respectfully Submitted:

Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



LA Testing

5431 Industrial Drive, Huntington Beach, CA 92649

Phone/Fax: (714) 828-4999 / (714) 828-4944

<http://www.LATesting.com>

gardengrovelab@latesting.com

LA Testing Order: 331924648
CustomerID: 32CENT50
CustomerPO: 1911-00154
ProjectID:

Attn: **Jennifer Iniguez**
A & R Laboratories
1650-C South Grove Avenue
Ontario, CA 91761

Phone: (800) 798-9336
Fax: (951) 779-0344
Received: 11/20/19 11:40 AM
Analysis Date: 11/26/2019
Collected: 11/19/2019

Project: **Lab-Durbin, Baldwin Park**

Test Report: Asbestos Analysis via Polarized Light Microscopy, Qualitative

Sample	Description	Appearance	Result	Notes
331924648-0001	Lab-Durbin, Baldwin Park	Gray/White/Variou s Non-Fibrous Heterogeneous	None Detected	

Analyst(s)

Brian Magumcia (1)

Michael DeCavallas, Laboratory Manager
or other approved signatory

LA Testing recommends that soil samples reported as "ND" be tested by the EPA Screening Method/Qualitative. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by LA Testing, Inc. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Samples received in good condition unless otherwise noted.

Samples analyzed by LA Testing Huntington Beach, CA

Initial report from 11/26/2019 09:14:47



Asbestos Chain of Custody

LA Testing Order Number (Lab Use Only):

#331924648

LA TESTING
5431 INDUSTRIAL DR.
HUNTINGTON BEACH, CA
92649
800-755-1794

Company : A & R Laboratories		LA Testing-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 1650 S. Grove Ave., Ste. C		Third Party Billing requires written authorization from third party	
City: Ontario	State/Province: CA	Zip/Postal Code: 91761	Country: USA
Report To (Name): Jennifer Iniguez		Fax #: 951-779-0344	
Telephone #: 951-779-0310		Email Address: jennifer.iniguez@arlaboratories.com	
Project Name/Number: Lab-Durbin, Baldwin Park			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: 1911-00154	U.S. State Samples Taken: CA
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
<small>*For TEM Air 3 hours through 6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with LA Testing's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
		TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) Other: <input checked="" type="checkbox"/> PLM Qualitative	
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group			
Samplers Name:		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
	Lab-Durbin, Baldwin Park	1-8oz Jar	11/19/19 @ 1210
Client Sample # (s):	-	Total # of Samples:	1
Relinquished (Client):	KG	Date: 11/20/19	Time: 11:40
Received (Lab):	AC(wi)	Date: 11-20-19	Time: 11:40
Comments/Special Instructions:			

1650-C S. Grove Avenue
Ontario, CA 91761
V: 951.779.0310 • 800.798.9336 F: 951.779.0344
office@arlaboratories.com

A & R Work Order #:

1911-00154

Page 1 of 1

Page 77 of 562
Pink Copy - Client Copy
PC MTG 04-29-20



Sample Acceptance Checklist

CLIENT: HVN ENV. SERVICEWORK ORDER NUMBER: 1911-00154**Temperature:** (Criteria: 0.0°C-6.0°C)Sample Temp. (w/CF) °C(w/CF) 3.9°

- ☐ Sample(s) outside temperature criteria: PM contacted by : _____
- ☐ Sample(s) outside temperature criteria, but received on ice/chilled on same day of sampling.
- ☐ Sample(s) received at ambient temperature; placed on ice for transport by courier.
- Ambient Temperature ☐ Air ☐ Filter

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present and Not Intact ☒ Not Present

Sample(s) ☐ Present and Intact ☐ Present and Not Intact ☒ Not Present

Sample Condition:

	Yes	No	N/A
Was a COC received	✓		
Were sample IDs present?	✓		
Were sampling dates & times present?	✓		
Was a relinquished signature present?	✓		
Were the tests required clearly indicated?	✓		
Were all samples sealed in plastic bags?		✓	
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of samples sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?			✓

Explanations/Comments:**Notification:**For discrepancies, how was the Project Manager notified? Verbal

Verbal: PM Initials: _____ Data/Time: _____

Email: Send to: _____ Data/Time: _____

Project Manager's response: _____

Completed By: [Signature]Date: 11-19-19

A R Laboratories
1650 S. Grove Ave., Suite C, Ontario, CA 91761
PH: 951-779-0310 Fax: 951-779-0344
Email: office@arlaboratories.com

APPENDIX D

Waste Management Manifest

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Not Required

Manifest Doc. No.

02

2. Page 1
of 01

3. Generator's Name and Mailing Address

Esra Mayedbadash
1100 Manhattan Beach Blvd.
Manhattan Beach, CA 90265

1100 Manhattan Beach Blvd
Manhattan Beach, CA 90265

4. Generator's Phone ()

5. Transporter 1 Company Name

SANDOVAL TRUCK

6. US EPA ID Number

N/A

A. Transporter's Phone

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

Waste Management, 2100 Valley Lane
2501 Hudson Road
Valley, Ca 93065
805-539-1267

10. US EPA ID Number

C. Facility's Phone

Not Required

11. Waste Shipping Name and Description

12. Containers
No. Type

13. Total
Quantity

a.

Non Hazardous Waste, 011311
(Soil)

001

WT

10

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Residue from
Waste (Inappropriate Waste Treatment/Storage/Disposal)

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste

Printed/Typed Name

Signature

Month Day

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day

Customer Summary Report**Criteria: 12/05/2019 12:00 AM to 12/05/2019 11:59 PM****Business Unit Name: Simi Valley Landfill and Recycling Center - S04108 (USA)****User: rritter****Date: Dec 17 2019, 1:39:32 PM - Central Standard Time****Operation Type: All****Customer Name: All****Ticket Type: All****Customer Type: All****PMT Category: All****Profile: 638174CA**

Ticket Date	Ticket ID	Cust Code	MAS Unique ID	Customer	Generator	Manifest	Profile	Truck	Material	Material Description
12/5/2019	2336446	0000849	137621073004	HVN ENVIRONMENTAL SERVICES CO INC	144-ESSIE MANHATTANBEACH 1100	NO#	638174CA	33	CSD	Special Waste Misc
Material Total	1									
12/5/2019	2337471	0000849	137621073004	HVN ENVIRONMENTAL SERVICES CO INC	144-ESSIE MANHATTANBEACH 1100		638174CA	NONE	DEM 15	DEMURRAGE 15 MINS
Material Total	1									
Customer Total	2									
Ticket Totals	2									

Origin	Rate	Rate Unit	Rate Qty	Yards	Tons	Material Revenue	Tax Revenue	Surcharge Revenue	Total
MANBCH	\$65.00	TON	24.39	0	24.39	\$1,585.35	\$0.00	\$0.00	\$1,585.35
			24.39	0	24.39	\$1,585.35	\$0.00	\$0.00	\$1,585.35
	\$31.25	EA	0	0	0	\$0.00	\$0.00	\$156.25	\$156.25
			0	0	0	\$0.00	\$0.00	\$156.25	\$156.25
			24.39	0	24.39	\$1,585.35	\$0.00	\$156.25	\$1,741.60
			24.39	0	24.39	\$1,585.35	\$0.00	\$156.25	\$1,741.60

APPENDIX E

West Coast Sand & Gravel Import Manifests

SO CALIFORNIA 800.522.0282
NOR CALIFORNIA 800.734.3053
ARIZONA 855.522.0282



TICK # **1498048**
DELIVERY TICKET

GET A QUOTE @www.wcsg.com

Date: 12-3-13

Job #: _____ P.O. #: Manhattan

Sold To: HVN Environmental

Job Location: 1100 N Sepulveda Blvd
Manhattan Beach

DRIVER: William Truck #: 60 Plant: Vul-Dur

Reference #: 10756675 Arrival Time: 1000

Gross Wt: 77460 Time Departed: 1025

Tare Wt: 27800 Total Time: 25 min

Net Wt: 24.83 Time Allowed: _____

Commodity: Fill sand Excess Time: _____

Other Notes: _____ Reason For Standby: _____

Deliveries shall be made where customer designates. Customer hereby assumes responsibility for damage inside curb or property line. Any and all claims for shortage and/or quality of product delivered will not be allowed unless made at time of delivery

Ken Hekimian

Consignor/Consignee Printed Name

Ken Hekimian

Consignor/Consignee Signature

SO CALIFORNIA 800.522.0282
NOR CALIFORNIA 800.734.3053
ARIZONA 855.522.0282



TICK # **1394754**
DELIVERY TICKET

GET A QUOTE @www.wcsg.com

Date: 12/3/19

Job #: _____ P.O. #: Manhattan

Sold To: HVN Environmental Serv Co. INC

Job Location: 1100 N Sepulveda Boulevard,
Manhattan Beach, CA, 90266

DRIVER: Deyon Truck #: 994 Plant: Vul-Durbin

Reference #: 10756673

Arrival Time: 10:05am

Gross Wt: 78,100

Time Departed: 10:35am

Tare Wt: 27,360

Total Time: 25min

Net Wt: 25.37

Commodity: Fill Sand

Time Allowed: _____

Excess Time: _____

Other Notes: _____

Reason For Standby: _____

Deliveries shall be made where customer designates. Customer hereby assumes responsibility for damage inside curb or property line. Any and all claims for shortage and/or quality of product delivered will not be allowed unless made at time of delivery

Kenneth K. Hekimian

Consignor/Consignee Printed Name

Kenneth K. Hekimian

Consignor/Consignee Signature

Page 85 of 562

PCMTG 04-29-20

APPENDIX F

***Supplemental* Report of**

Geotechnical Observation and Testing of

Excavation Backfill Operations

From NorCal Engineering

NorCal Engineering
Soils and Geotechnical Consultants
10641 Humbolt Street Los Alamitos, CA 90720
(562) 799-9469 Fax (562) 799-9459

December 16, 2019

Project Number 21132-19

Kenneth K. Hekimian
HVN Environmental Service Co., Inc.
3870 Del Amo Blvd. #501
Torrance, CA 90503

RE: **Supplemental Report of Geotechnical Observation and Testing of
Excavation Backfill Operations** – Located at 1100 Manhattan Beach
Boulevard, in the City of Manhattan Beach, California

Dear Mr. Hekimian:

Pursuant to your request, this firm has provided this geotechnical report to summarize the observation and testing performed by this firm at the above referenced project for the backfill operations that took place subsequent to our original report dated May 23, 2019. Our geotechnical services pertaining to the backfill of the excavation are summarized in the subsequent sections of this report.

Backfill Operations

An additional excavation was made along the west side of the previous excavation in order to remove contaminated material. The fill area consisted an excavation approximately 20 feet by 20 feet with a maximum depth of 7 feet below ground surface. The excavation was cleansed of all demolition debris and low-density soils to expose competent native soils. The excavation bottom was observed and approved by this firm prior to placement of fill. Fill material placed was compacted to a minimum 90% of the laboratory standard in lifts not in excess of eight inches in thickness. A sheepsfoot mounted backhoe was utilized for compaction control. A water hose provided moisture control.

Laboratory/Field Testing

The relative compaction was determined by Sand Cone Method (ASTM: D1556) and by the Drive Tube Method (ASTM: D2937). The maximum density of the fill soils was obtained by the laboratory standard (ASTM: D1557) and results are shown on Table I. Tests were performed a minimum of every 500 cubic yards placed and every two feet in depth of fill placed. A summary of the compaction tests of the backfill operations is given in Table II with locations shown on the accompanying plan.

No chemical analysis of soils was performed by this firm and is not within the scope of our services.

Limitations

It should be noted that our work does not warrant or guarantee that the contractor responsible for each phase of the project has performed his work in accordance with the project specifications.

We appreciate this opportunity to be of service to you. If you have any further questions, please do not hesitate to contact the undersigned.

Respectfully submitted,
NORCAL ENGINEERING

Keith D. Tucker

Keith D. Tucker
Project Engineer
R.G.E. 841



Mike A. Barone

Mike A. Barone
Project Manager

NorCal Engineering

TABLE I
MAXIMUM DENSITY TESTS
(ASTM: D1557-12)

<u>Sample</u>	<u>Classification</u>	<u>Optimum Moisture</u>	<u>Maximum Dry Density (lbs./cu.ft.)</u>
I	Silty SAND	9.0	120.5
II	Silty CLAY	13.5	116.5
III	Silty SAND	9.0	121.0
IV	Sandy SILT	9.0	118.0

SUMMARY OF COMPACTION TEST RESULTS

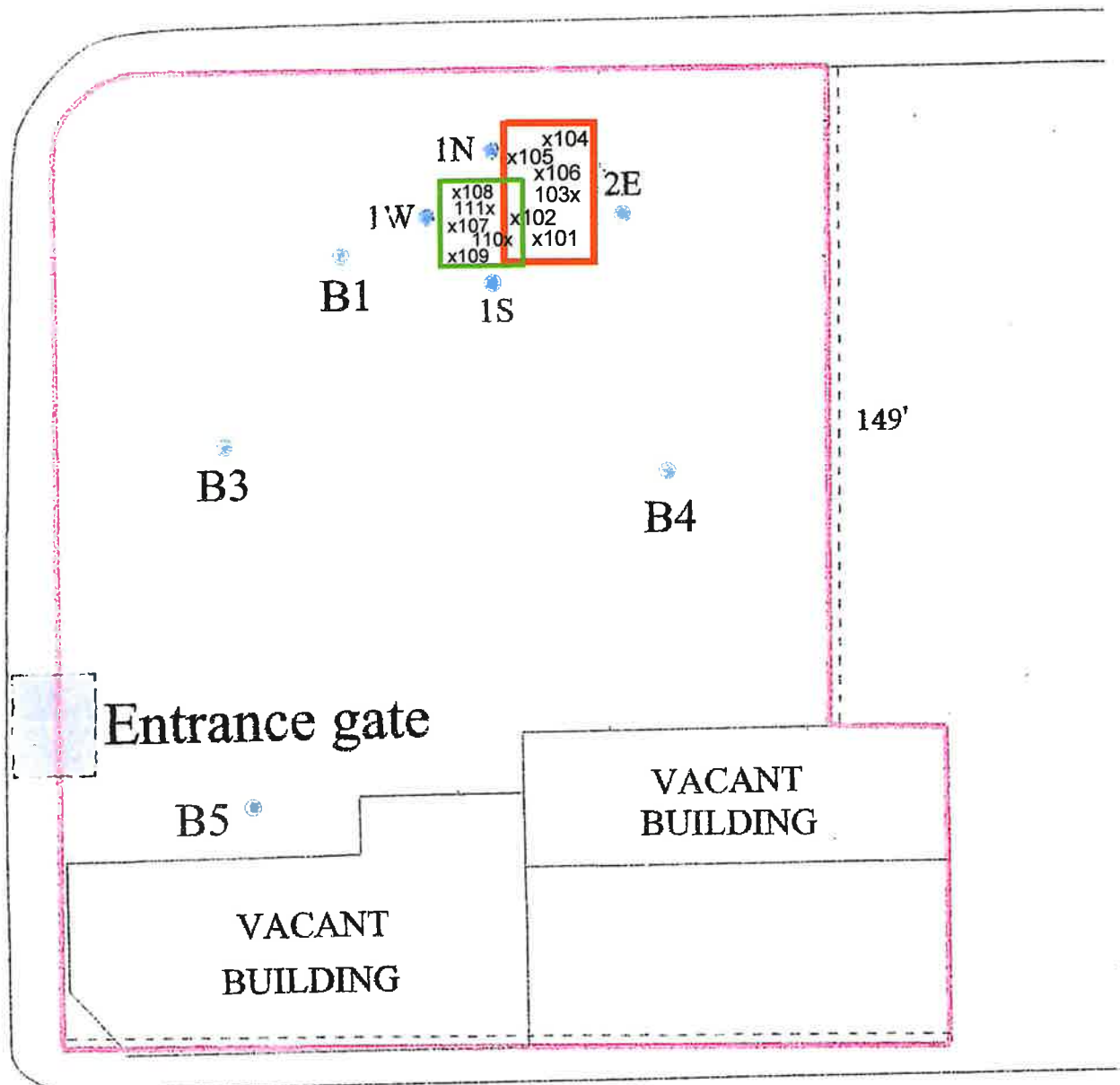
<u>Date of Test</u>	<u>Test No.</u>	<u>Location</u>	<u>Depth</u>	<u>Percent Moisture</u>	<u>Unit Wt. lbs./cu.ft.</u>	<u>Relative Compaction</u>	<u>Soil Type</u>	<u>Test S/D</u>
5/16/19	101	Excavation Btm	9.0-9.5	8.0	112.6	93	I	D
5/16/19	102	Excavation Bkfl	7.0-7.5	13.6	107.4	92	II	D
5/16/19	103	Excavation Bkfl	5.0-5.5	14.0	109.6	94	II	D
5/16/19	104	Excavation Bkfl	3.0-3.5	13.4	108.4	93	II	S
5/16/19	105	Excavation Bkfl	1.0-1.5	13.8	111.6	96	II	D
5/16/19	106	Excavation Bkfl	0.0-0.5	8.2	112.8	93	III	D
12/5/19	107	Excavation Bkfl	7.0-7.5	9.3	113.4	94	I	D
12/5/19	108	Excavation Bkfl	5.0-5.5	10.7	113.8	96	IV	S
12/5/19	109	Excavation Bkfl	3.0-3.5	10.4	109.6	93	IV	D
12/5/19	110	Excavation Bkfl	1.0-1.5	11.0	108.8	92	IV	S
12/5/19	111	Excavation Bkfl	0.0-0.5	9.0	113.0	96	IV	D

S=Sand Cone Method
D=Drive Tube Method



Manhattan Beach Blvd.

N. Sepulveda Blvd



- Location of Soil Borings to 25 ft bgs*
* Boring 2E to 20 ft bgs
- Previous boring locations
- Property Line

- = APPROXIMATE LIMITS OF FILL (MAY 2019)
- = APPROXIMATE LIMITS OF FILL (DECEMBER 2019)
- X = LOCATION OF COMPACTION TEST



1" = (+/-) 40'

NorCal Engineering
SOILS AND GEOTECHNICAL CONSULTANTS

HVN ENVIORNMENTAL

PROJECT 21132-19

DATE DECEMBER 2019

SITE PLAN

Los Angeles Regional Water Quality Control Board

February 25, 2020

Mr. Smail Nayebdadash
Nayebdadash Family Trust
28002 Beechgate Drive
Rancho Palos Verdes, California 90275

City of Manhattan Beach
Stephanie Katsouleas, Public Works Director
1400 Highland Avenue
Manhattan Beach, CA 90266

Underground Storage Tank Program – AB 681 Pre-Closure Notification

**Manhattan Beach Fuel
1100 Manhattan Beach Boulevard, Manhattan Beach (Case No. R-22525) (Global
ID No. T10000012701)**

Dear Mr. Nayebdadash and Ms. Katsouleas:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility for protection of ground and surface water for all beneficial uses within Los Angeles and Ventura counties. As such, we are the lead agency for overseeing corrective actions and cleanup of releases from leaking underground storage tank systems at the subject facility (the Site). We have completed our review and evaluation of the information provided to this agency for the underground storage tank release(s) at the Site and determined that this case meets the Regional Board's low threat criteria for a case closure.

Pursuant to California Health and Safety Code Section 25296.20(a) and Division 7 of the Porter Cologne Water Quality Control Act, and State Water Resources Control Board Resolution 2012-0016, the Regional Board is required to notify any and all interested parties (water authority or district, building permit agencies, owners and occupants of the properties impacted by the petroleum release, or adjacent properties) as defined in Resolution 2012-0016 prior to considering corrective actions or granting case closure. You are identified as the interested water company (City of Manhattan Beach Public Works) and a fee title holder (Nayebdadash Family Trust) for the Site. We hereby notify you of our plan to close this low threat underground storage tank case. In order to expedite the review and approval process, we request that you provide us with any comments on the proposed plan to close this case in writing by **April 27, 2020**. If you do

IRMA MUNOZ, CHAIR | RENEE PURDY, EXECUTIVE OFFICER

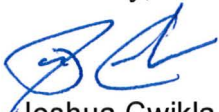
320 West 4th St., Suite 200, Los Angeles, CA 90013 | www.waterboards.ca.gov/losangeles

not wish to participate, you need not respond. If we do not receive a written response by **April 27, 2020**, the case will be closed, and you will be notified of our decision.

If you wish to obtain additional information regarding this site, you may log on <http://geotracker.waterboards.ca.gov/> for the subject site address, or arrange to review the case file for this site in our office by mailing in a written request to the address appearing in the bottom of this letter or by emailing a written request to Rb4-Publicrecords@waterboards.ca.gov. Regional Board staff will then contact you and arrange a time and date to visit the Regional Board office and review the files requested.

If you have any questions regarding this matter, please contact Mr. Joshua Cwikla at (213) 576-6713 or joshua.cwikla@waterboards.ca.gov

Sincerely,



Joshua Cwikla, P.G.
Engineering Geologist

Copy by e-mail:

Tim Smith, Los Angeles County Department of Public Works
Brian Partington Water Replenishment District of Southern California
Kenneth K. Hekimian, HVN Environmental Services Co

Copy by mail:

Sackley Family Trust, Adjacent Property Owner

Attachment G

REVISED TRAFFIC IMPACT ANALYSIS

KINECTA CENTER

Manhattan Beach, California

March 27, 2020

(Original dated December 17, 2019)

Prepared for:

WORKSMART DESIGN
5450 WEST 83RD STREET
Los Angeles, CA 90045



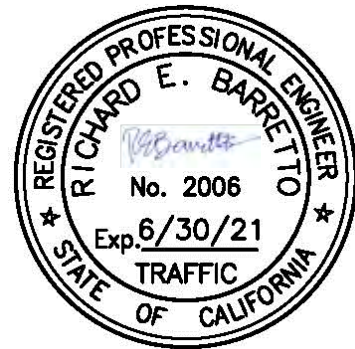
Prepared by:

Shane S. Green, P.E.
Transportation Engineer III
And
Megan Lam
Transportation Engineer II

LLG Ref. 2-19-4215-1

Under the Supervision of:

Richard E. Barretto, P.E.
Principal



Linscott, Law &
Greenspan, Engineers
2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175
949.825.6173
www.llgengineers.com

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EXECUTIVE SUMMARY

Project Description

- The Project site is comprised of two properties located east of Sepulveda Boulevard, south of Manhattan Beach Boulevard, and north of 11th Street in the City of Manhattan Beach, California. The Project site is a 0.88±-acre, square-shaped parcel of land, consisting of two lots, located at 1100 N. Sepulveda Boulevard. The subject property is mostly vacant but is also currently developed with an 8,638± square-foot (SF) retail/commercial.
- The proposed Project includes the construction of a mixed-use development with up to 2,704 SF restaurant and up to 2,683 SF fitness center located in “Lot A” to the south, and a 3,422 SF bank/credit union and 1,227 SF coffee shop/café located in “Lot B” to the north.

Please note that “Lot A” includes a 356 SF stairwell adjacent to the building which will be used to access the subterranean parking garage. The stair well will not have direct access to interior of the buildings and therefore should not be included as part of the total building square footage. However, to be conservative the square footage has been added to each of the two suites for “Lot A”. As such, the 356 SF was split proportionally between the restaurant and fitness center components, resulting in an additional 178 SF for each land use.

In addition, it should also be noted that an additional 200 SF has been added to each “Lot A” land uses to allow flexibility for any potential modifications to the project description in the future.

- The proposed bank, with an anticipated staff of six (6) employees, will operate Monday through Friday from 9:00 AM to 6:00 PM and 9:00 AM to 2:00 PM on Saturday (closed Sunday).
- Parking for the proposed Project will be provided via a 49-space surface parking lot and a 30-space subterranean parking garage. The surface parking lot would be accessed via proposed driveways on Sepulveda Boulevard and Manhattan Beach Boulevard, both of which would be restricted to “right-turn only movements”. The subterranean parking garage will be accessed via a full access driveway on 11th Street. Employees will be directed to park in the subterranean parking garage and the surface lot will be reserved for customers.

Study Area

- The eight (8) key study intersections selected for evaluation in this report, all of which are located within the City of Manhattan Beach, provide local access within the Project study area and were selected in consideration of the “50 trip” threshold criteria:

Key Study Intersections

1. Sepulveda Boulevard at Marine Avenue
2. Sepulveda Boulevard at 18th Street
3. Sepulveda Boulevard at Manhattan Beach Boulevard
4. Sepulveda Boulevard at 11th Street
5. Sepulveda Boulevard at 8th Street
6. Target Driveway at Manhattan Beach Boulevard
7. Meadows Avenue at Manhattan Beach Boulevard
8. Meadows Avenue at 11th Street

Related Projects Description

- The twenty-three (23) cumulative projects are expected to generate a combined total of 11,809 daily trips, 859 AM peak hour trips (602 inbound and 257 outbound) and 1,192 PM peak hour trips (454 inbound and 738 outbound) on a typical weekday.

Traffic Impact Analysis

Existing Traffic Conditions

- Three (3) of the eight key study intersections currently operate at LOS E or F during the AM and/or PM peak hours. The remaining key study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.915	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	0.997	E	0.969	E
4. Sepulveda Blvd at 11 th Street	-- ¹	F	44.8 s/v	E

Existing With Project Traffic Conditions

- The same three (3) key study intersections will continue to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

¹ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.918	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	1.006	F	0.977	E
4. Sepulveda Blvd at 11 th Street	-- ¹⁸	F	44.6 s/v	E

- The traffic associated with the proposed Project will not directly impact any of the eight (8) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Sepulveda Boulevard/Manhattan Beach Boulevard and Sepulveda Boulevard/11th Street are forecast to operate at LOS F during the AM and/or PM peak hours, the proposed project adds less than 0.02 to the ICU value and hence the Project's impact is considered insignificant based on the City's LOS standards and significance criteria.

Year 2021 Cumulative Traffic Conditions

- The three (3) of the eight intersections are forecast to operate at LOS E or F during the AM and/or PM peak hours with the addition of ambient traffic growth and cumulative project traffic. The remaining key study intersections are forecast to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.949	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	1.044	F	1.055	F
4. Sepulveda Blvd at 11 th Street	-- ²	F	55.9 s/v	F

Year 2021 Cumulative Plus Project Traffic Conditions

- The same three (3) key study intersections will continue to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.952	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	1.053	F	1.063	F
4. Sepulveda Blvd at 11 th Street	-- ²²	F	55.7 s/v	F

² The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

- The traffic associated with the proposed Project will not directly impact any of the eight (8) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Sepulveda Boulevard/Manhattan Beach Boulevard and Sepulveda Boulevard/11th Street are forecast to operate at LOS F during the AM and/or PM peak hours, the proposed project adds less than 0.02 to the ICU value and hence the Project's impact is considered insignificant based on the City's LOS standards and significance criteria.

Caltrans Traffic Impact Analysis

Existing Traffic Conditions

- One (1) of the five state-controlled study intersections currently operate at LOS E or F during the AM and/or PM peak hours. The remaining state-controlled study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersection operating at LOS E or F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ³	F	44.8 s/v	E

Existing With Project Traffic Conditions

- The same state-controlled study intersection will continue to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersection operating at LOS E or F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ²⁷	F	44.6 s/v	E

- The traffic associated with the proposed Project will not directly impact any of the five (5) state-controlled study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Sepulveda Boulevard/11th Street is forecast to operate at LOS F and LOS E during the AM and PM peak hours, respectively, the proposed project does not contribute to an increase delay at the intersection and hence the Project's impact is considered insignificant based on the Caltrans LOS standards and significance criteria.

³ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

Year 2021 Cumulative Traffic Conditions

- One (1) of the five state-controlled study intersections is forecast to operate at LOS F during the AM and/or PM peak hours with the addition of ambient traffic growth and cumulative project traffic. The remaining state-controlled study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersection operating at LOS F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ³	F	55.9 s/v	F

Year 2021 Cumulative Plus Project Traffic Conditions

- One (1) state-controlled study intersection is forecast to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ³¹	F	55.7 s/v	F

- The traffic associated with the proposed Project will not directly impact any of the five (5) state-controlled study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Sepulveda Boulevard/11th Street is forecast to operate at LOS F during the AM and PM peak hours, respectively, the proposed project does not contribute to an increase delay at the intersection and hence the Project's impact is considered insignificant based on the Caltrans LOS standards and significance criteria.

Recommended Improvements

Existing Plus Project Traffic Conditions

- The proposed Project will not significantly impact any of the eight (8) key study intersections under the "Existing Plus Project" traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

Year 2021 Cumulative Plus Project Traffic Conditions

- The proposed Project will not significantly impact any of the eight (8) key study intersections under the "Year 2021 Cumulative Plus Project" traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

Existing Plus Project Traffic Conditions - Caltrans

- The proposed Project will not significantly impact any of the five (5) state-controlled study intersections under the “Existing Plus Project” traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

Year 2021 Cumulative Plus Project Traffic Conditions - Caltrans

- The proposed Project will not significantly impact any of the five (5) state-controlled study intersections under the “Year 2021 Cumulative Plus Project” traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

Site Access Evaluation

- The proposed driveways are forecast to operate at acceptable level of service except for Project Driveway 2 located along Sepulveda Boulevard, which is forecast to operate at LOS F during the AM peak hour. However, this intersection does not satisfy the criteria for the installation of a traffic signal and it is not uncommon for unsignalized driveways, such as that of Project Driveway 2, to experience a longer delay due to the heavy volumes on the major streets, such as Sepulveda Boulevard. Furthermore, due to the intersection being in close proximity to the signalized intersection of Sepulveda Boulevard/Manhattan Beach Boulevard, it is expected that gaps in traffic would occur and actual vehicular delay experienced would be lower than what is being reported within the HCM methodology. As such, the project site access is considered adequate.

Parking Analysis

- The direct application of the City Code parking ratios results in a total code-based parking requirement of 78 spaces. Comparing against a proposed parking supply of 79 spaces, the proposed Project site has a surplus of 1 spaces. As such, it is concluded that the Project’s parking supply is adequate.

REVISED TRAFFIC IMPACT ANALYSIS

KINECTA CENTER

Manhattan Beach, California

March 27, 2020 (Original dated December 17, 2019)

1.0 INTRODUCTION

This Traffic Impact Analysis report addresses the potential traffic impacts and circulation needs associated with the proposed Kinecta Center Project (hereinafter referred to as Project). The Project site is located at 1100 N. Sepulveda Boulevard in the City of Manhattan Beach, California. The Project is proposing to develop a 3,422 square-foot (SF) bank/credit union, a 1,227 SF coffee shop/café, up to 2,704 SF restaurant/take-out food service, and a fitness center with up to 2,683 SF of floor area.

1.1 Scope of Work

This report documents the findings and recommendations of a traffic impact analysis, conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts associated with the proposed Project. The traffic analysis evaluates the existing operating conditions at eight (8) key study intersections within the Project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future operating conditions without and with the Project. Where necessary, intersection improvements/mitigation measures are identified to offset the impact of the proposed Project. This traffic report is consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Los Angeles County for CMP Traffic Impact Analysis*. **Appendix A** contains the Scope of Work for this traffic study which was developed in conjunction with and approved by the City of Manhattan Beach staff.

The Project site has been visited by LLG and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at the eight (8) key study locations on a “typical” weekday for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the Project has been researched at the Cities of Manhattan Beach and Hermosa Beach. Based on our research, twenty-three (23) cumulative projects were considered in the cumulative traffic analysis for this Project.

This traffic report analyzes existing and future (near-term) weekday AM and PM peak hour traffic conditions for existing and Year 2021 traffic conditions without and with the proposed Project. Peak hour traffic forecasts for the Year 2021 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of one percent (1.0%) per year and adding cumulative projects traffic volumes.

1.2 Study Area

The eight (8) key study intersections selected for evaluation in this report, all of which are located within the City of Manhattan Beach, provide local access within the Project study area and were selected in consideration of the “50 trip” threshold criteria:

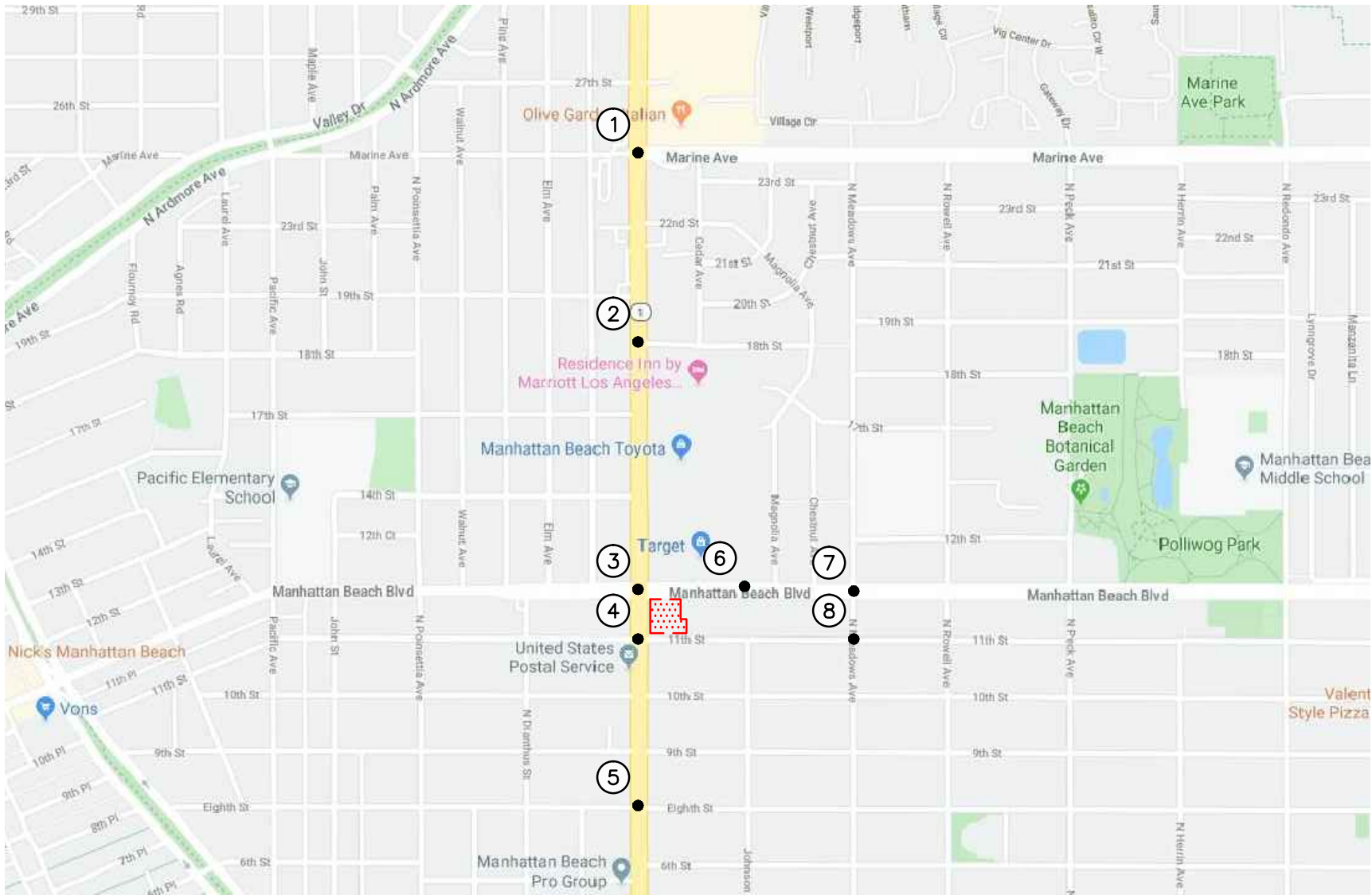
Key Study Intersections

1. Sepulveda Boulevard at Marine Avenue
2. Sepulveda Boulevard at 18th Street
3. Sepulveda Boulevard at Manhattan Beach Boulevard
4. Sepulveda Boulevard at 11th Street
5. Sepulveda Boulevard at 8th Street
6. Target Driveway at Manhattan Beach Boulevard
7. Meadows Avenue at Manhattan Beach Boulevard
8. Meadows Avenue at 11th Street

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system. The Volume-Capacity (V/C) and Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with the proposed Project.

Included in this traffic study report are:

- Existing traffic counts;
- Estimated Project traffic generation/distribution/assignment;
- Estimated cumulative Project traffic generation/distribution/assignment;
- AM and PM peak hour capacity analyses for existing conditions;
- AM and PM peak hour capacity analyses for existing plus Project conditions;
- AM and PM peak hour capacity analyses for future (Year 2021) conditions without and with Project traffic;
- Caltrans Analysis;
- Recommended Improvements;
- Site Access Evaluation; and
- Parking Assessment.



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NO SCALE

SOURCE: GOOGLE

KEY



= STUDY INTERSECTION



= PROJECT SITE

FIGURE 1-1

VICINITY MAP

KINECTA CENTER, MANHATTAN BEACH

2.0 PROJECT DESCRIPTION

The Project site is comprised of two properties located east of Sepulveda Boulevard, south of Manhattan Beach Boulevard, and north of 11th Street in the City of Manhattan Beach, California. The Project site is a 0.88±-acre, square-shaped parcel of land, consisting of two lots, located at 1100 N. Sepulveda Boulevard. The subject property is mostly vacant but is also currently developed with an 8,638± square-foot (SF) retail/commercial. **Figure 2-1** displays the existing site aerial.

Table 2-1 presents the project development summary. Review of **Table 2-1** indicates that the proposed Project includes the construction of a mixed-use development with up to 10,036 square-feet (SF) of floor area within two (2) buildings. The building on “Lot A” consists of up to 2,704 SF of restaurant/take-out food service floor area and a fitness center with up to 2,683 SF. The proposed building on “Lot B” includes development of a 3,422 SF bank/credit union and 1,227 SF coffee shop/café. The proposed bank, with an anticipated staff of six (6) employees, will operate Monday through Friday from 9:00 AM to 6:00 PM and 9:00 AM to 2:00 PM on Saturday (closed Sunday). The hours of operation of the remaining potential tenants is unknown at this time but is assumed to be in line that would be typical of these proposed land uses.

Please note that proposed building on “Lot A” includes a 356 SF stairwell adjacent to the building which will be used to access the subterranean parking garage. The stair well will not have direct access to interior of the buildings and therefore should not be included as part of the total building square footage. However, to be conservative the square footage has been added to each of the two suites for “Lot A”.

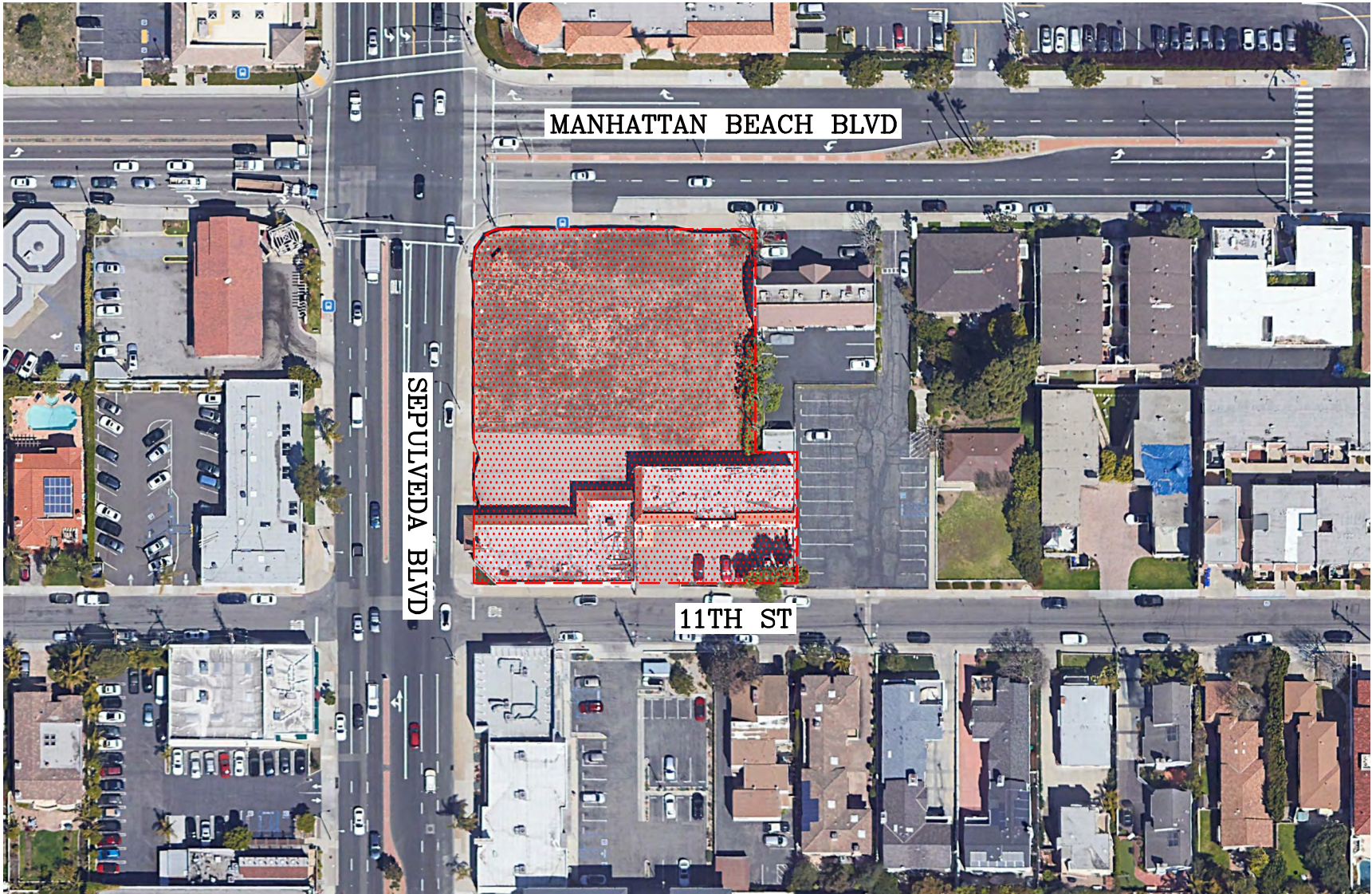
As such, the 356 SF was split proportionally between the restaurant and fitness center components, resulting in an additional 178 SF for each land use. In addition, to allow flexibility for the Project, an additional 200 SF of floor area has been added to the proposed uses to allow potential modifications to the project description in the future and as tenant improvements are developed in detail.

Figure 2-2 presents the proposed project site plan and **Figure 2-3** presents the basement level site plan, both of which were prepared by Tomaro Architecture.

2.1 Site Access

Parking for the proposed project will be provided via a 49-space surface parking lot and a 30-space subterranean parking garage. The surface parking lot would be accessed via proposed driveways on Sepulveda Boulevard and Manhattan Beach Boulevard, both of which would be restricted to “right-turn only movements”. The subterranean parking garage will be accessed via a full access driveway on 11th Street. As a part of the Project’s Parking Management Plan (PMP), employees will be directed to park in the subterranean parking garage, thereby allowing customers to parking on the Project’s surface lot will be reserved for customers.

The pedestrian entrances to the proposed bank and coffee shop will be provided on the east side of the building facing the surface parking lot. For the proposed preschool, pedestrian access will be provided on the north face of the building facing the surface parking lot and the proposed bank and coffee shop; pedestrian access from the basement level will also be provided from the parking garage.



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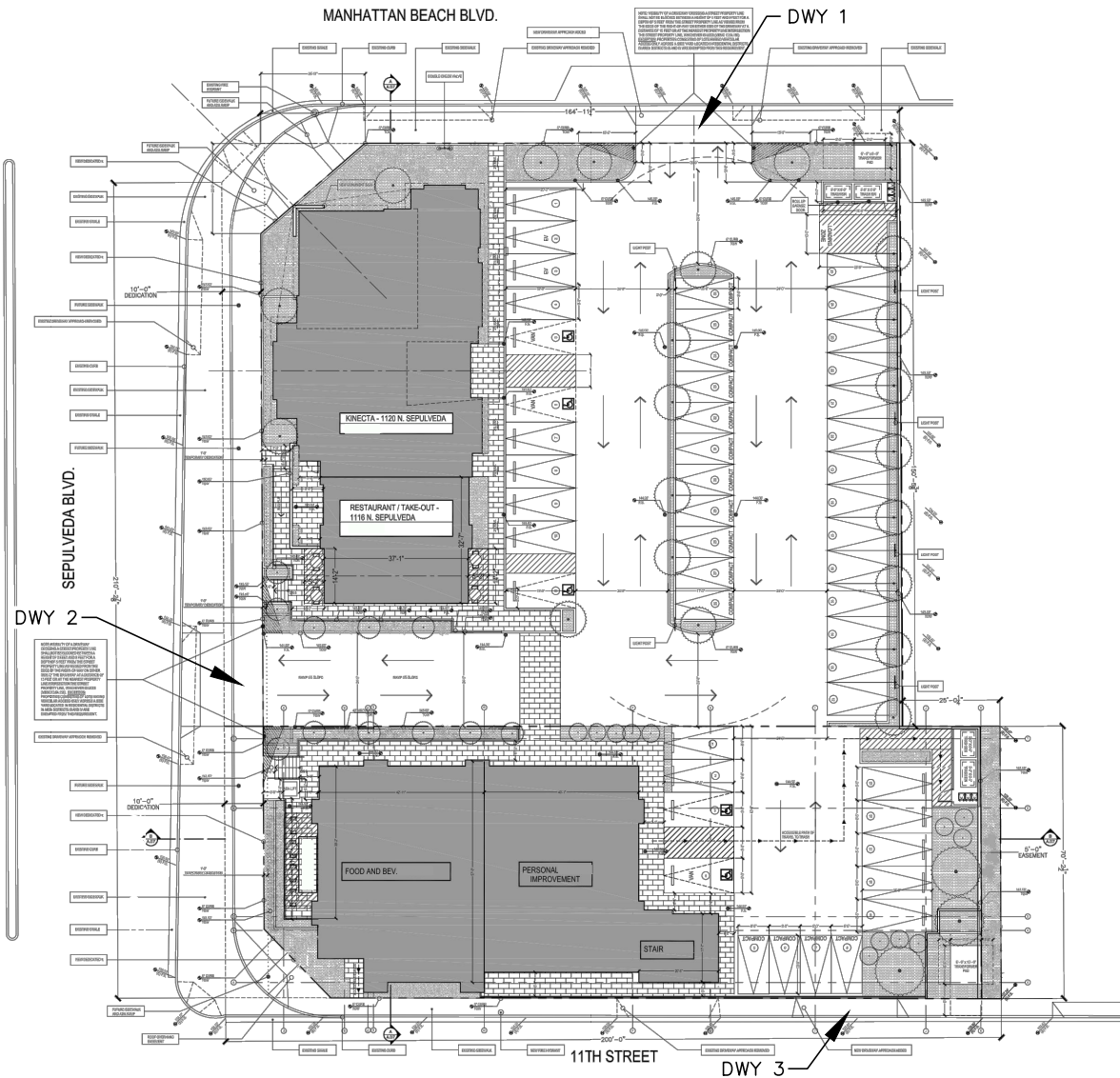
SOURCE: GOOGLE

KEY

 = PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL
KINECTA CENTER, MANHATTAN BEACH



SOURCE: TOMARO ARCHITECTURE

FIGURE 2-2

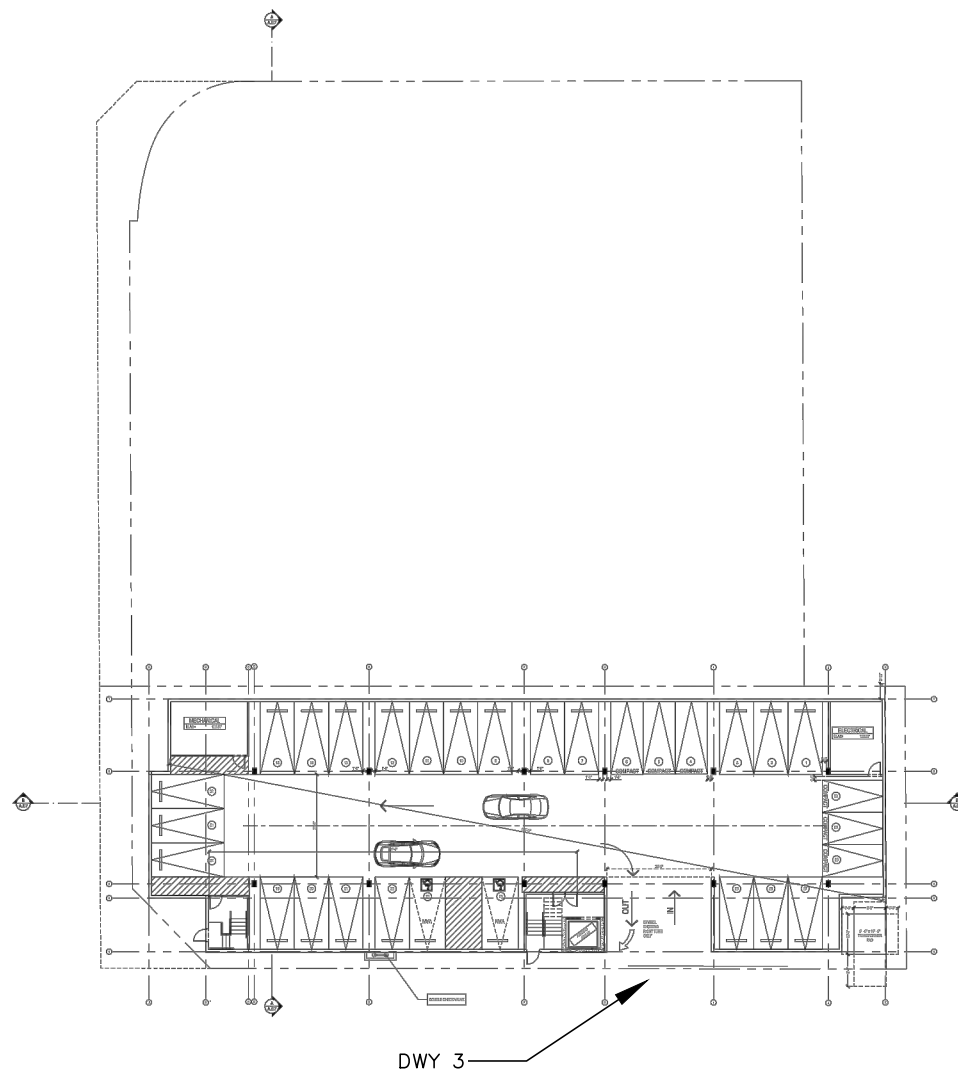
PROPOSED PROJECT SITE PLAN
KINECTA CENTER, MANHATTAN BEACH

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SOURCE: TOMARO ARCHITECTURE

FIGURE 2-3

PROPOSED PROJECT BASEMENT LEVEL PLAN
KINECTA CENTER, MANHATTAN BEACH

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TABLE 2-1
PROJECT DEVELOPMENT SUMMARY

Project Description	Development Totals / Square-Footage (SF)
<u>Proposed Project - "Lot A" (South)</u>	
▪ Restaurant/Take-out - High-Turnover Restaurant	2,704 SF ⁴
▪ Fitness Center	2,683 SF ⁴
<u>Proposed Project - "Lot B" (North)</u>	
▪ Kinecta Federal Credit Union	3,422 SF
▪ Coffee Shop/Café	1,227 SF
Total Project Floor Area	10,036 SF

⁴ Each of the proposed Project's floor areas for the proposed tenants of "Lot A" includes 178 SF of additional floor area to account for half of the exterior stairwell (356 SF), and 200 SF of additional floor area to allow for flexibility and potential modifications for tenant improvements to provide a conservative assessment given the site plan has not been finalized.

3.0 EXISTING CONDITIONS

3.1 Existing Street System

The principal local network of streets serving the Project site includes Sepulveda Boulevard, Meadows Avenue, Marine Avenue, 18th Street, Manhattan Beach Boulevard, 11th Street, and 8th Street. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Sepulveda Boulevard is a six-lane, divided roadway, oriented in the north-south direction. Parking is not permitted along either side of the roadway within the vicinity of the project. The posted speed limit on Sepulveda Boulevard is 35 miles per hour (mph). The intersections of Sepulveda Boulevard at Marine Avenue, 18th Street, Manhattan Beach Boulevard and 8th Street are controlled by a traffic signal.

Meadows Avenue is a two-lane, undivided roadway, oriented in the north-south direction. Parking is permitted on both sides of the roadway within the vicinity of the project. The posted speed limit on Meadows Avenue is 25 mph. The intersection of Meadows Avenue at Manhattan Beach Boulevard is controlled by a traffic signal.

Marine Avenue is a two-lane, undivided roadway, oriented in the east-west direction. Parking is not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Marine Avenue is 35 mph.

Manhattan Beach Boulevard is a four-lane, divided roadway, oriented in the east-west direction. Parking is generally permitted on both sides of the roadway within the vicinity of the Project. The posted speed limit on Manhattan Beach Boulevard is 35 mph.

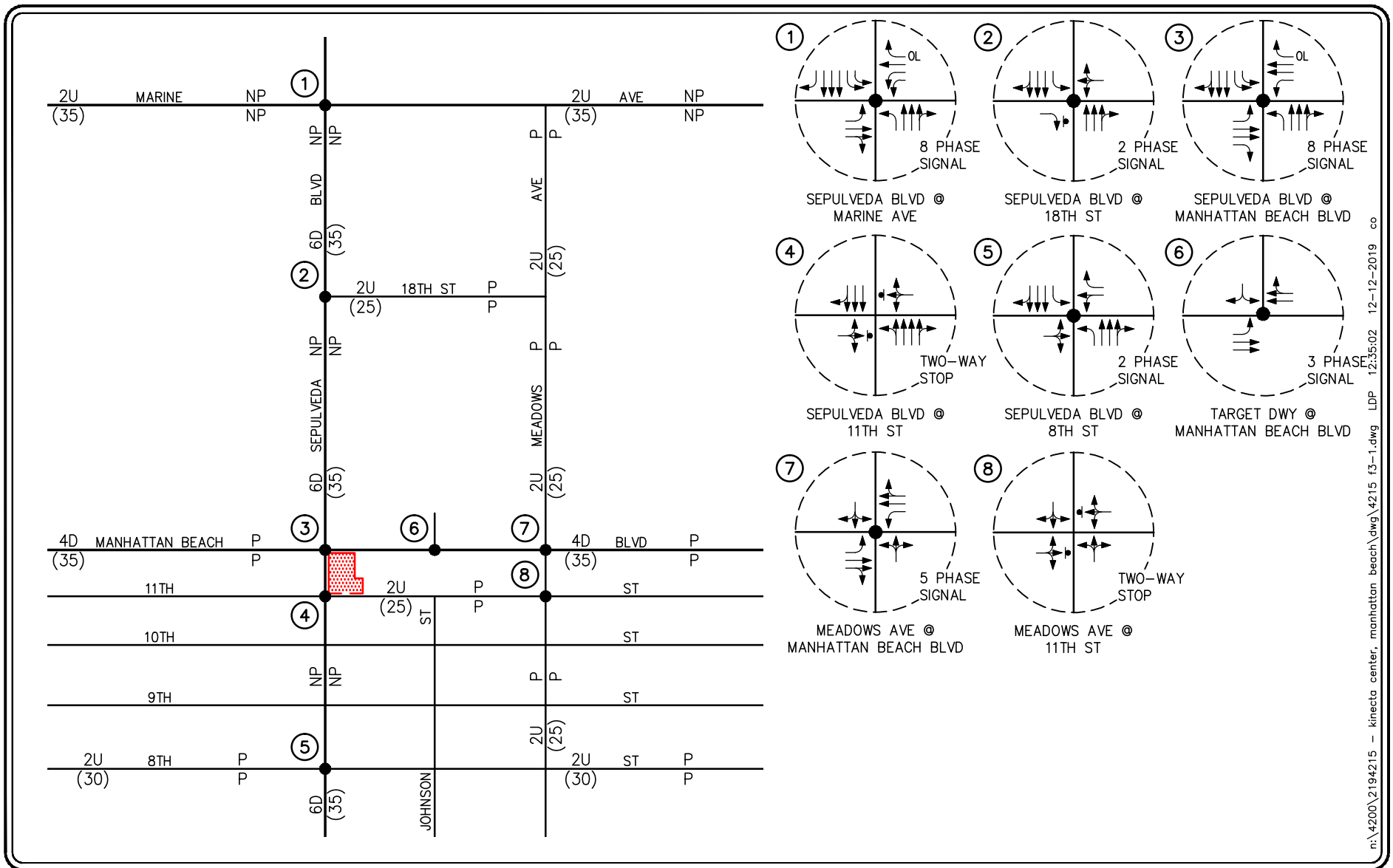
11th Street is a two-lane, undivided roadway, oriented in the east-west direction. Parking is generally permitted along both sides of the roadway within the vicinity of the project. The prima facie speed limit on 11th Street is 25 mph.

8th Street is a two-lane, undivided roadway, oriented in the east-west direction. Parking is generally permitted along both sides of the roadway within the vicinity of the project. The posted speed limit on 8th Street is 25 mph.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections are identified.

3.2 Existing Traffic Volumes

Eight (8) key study intersections have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential Project-related traffic will pass through each of these intersections, and their analysis will reveal the expected impact associated with the proposed Project.



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- ← = APPROACH LANE ASSIGNMENT
- = TRAFFIC SIGNAL, ▼ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)
- F = FREE-RIGHT, OL = OVERLAP
- [Red Hatched Box] = PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

KINECTA CENTER, MANHATTAN BEACH

Existing weekday peak hour traffic volumes for the eight (8) key study intersections evaluated in this report were obtained from manual turning movement counts conducted by National Data and Surveying Services in December 2019. **Figures 3-2** and **3-3** illustrate the existing weekday AM and PM peak hour traffic volumes at the eight (8) key study intersections evaluated in this report, respectively. **Appendix B** contains the detailed peak hour count sheets for the key intersections evaluated in this report.

3.3 Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for signalized intersections and the *Highway Capacity Manual* (HCM) methodology for unsignalized intersections.

3.3.1 *Intersection Capacity Utilization (ICU) Method of Analysis*

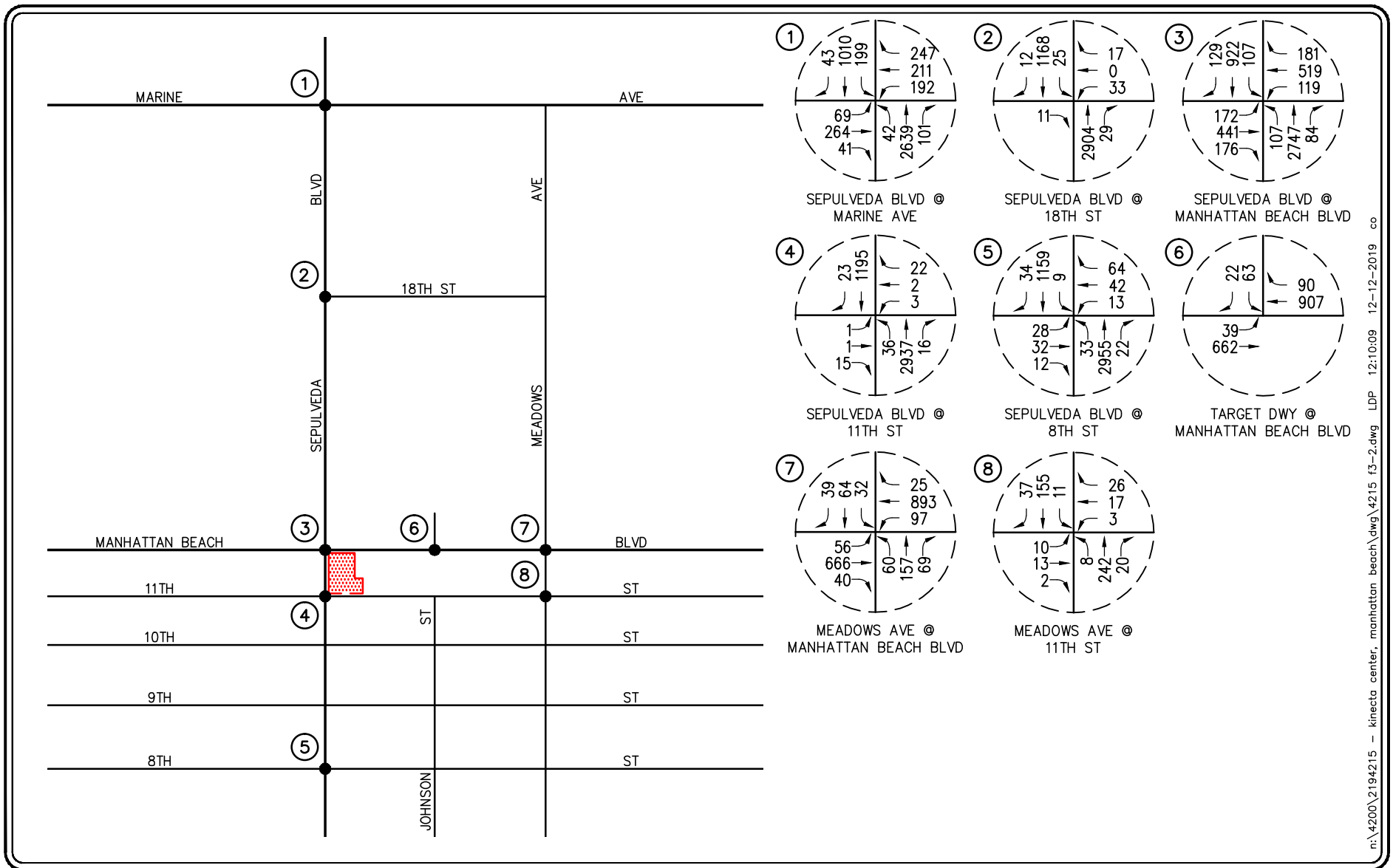
In conformance with City of Manhattan Beach and LA County CMP requirements, existing weekday peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per LA County CMP requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn, through, and right-turn lanes, and dual left turn capacity of 2,880 vph. A clearance interval of 0.10 is also added to each Level of Service calculation.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in **Table 3-1**. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements.

3.3.1 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle, and level of service is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in **Table 3-2**.



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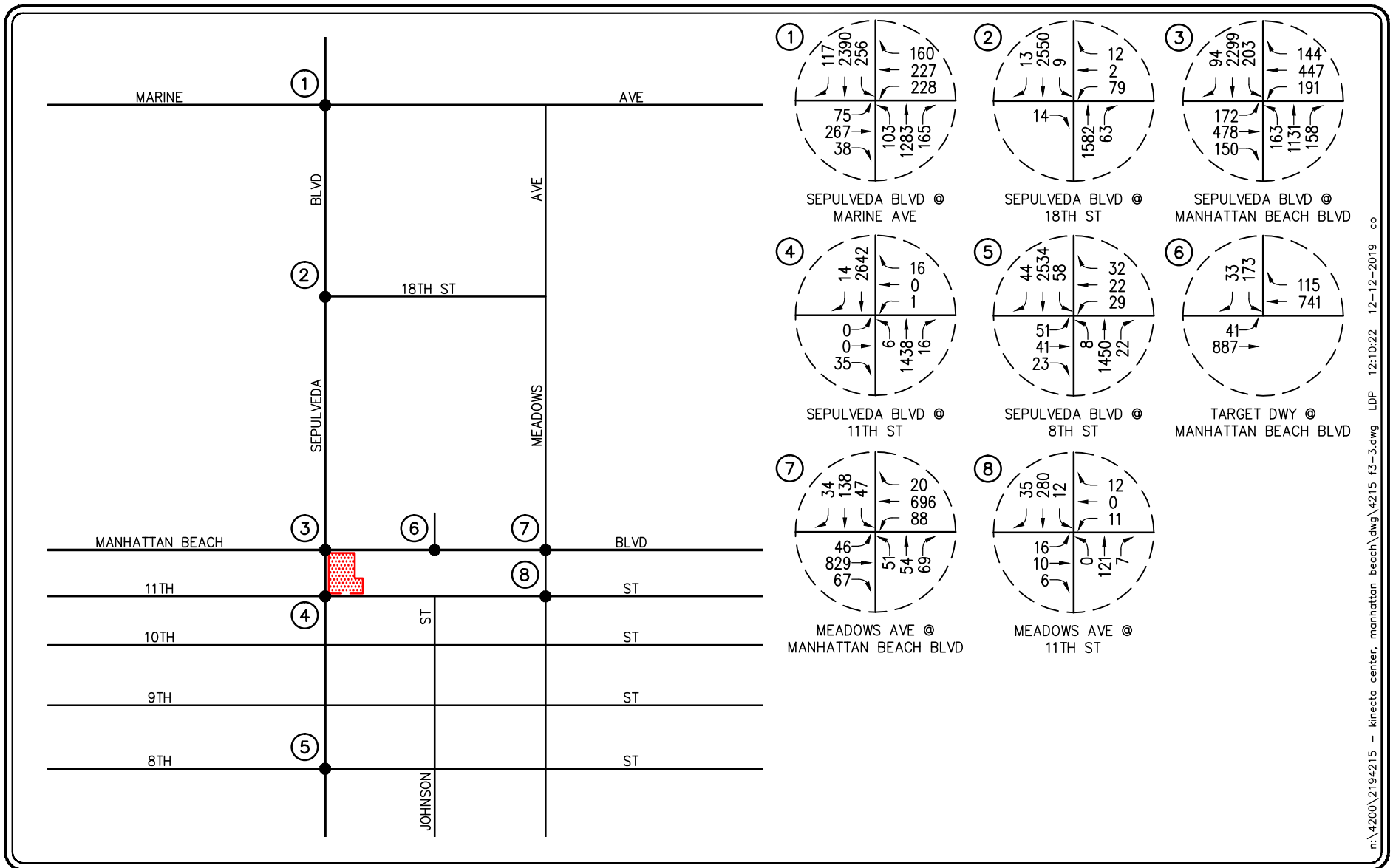
⊕ = STUDY INTERSECTION

= PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH



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= PROJECT SITE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH

3.4 Existing Level of Service Results

Table 3-3 summarizes the existing peak hour service level calculations for the eight (8) key study intersections based on existing traffic volumes and current street geometrics. Review of *Table 3-3* indicates that three (3) of the eight key study intersections currently operate at LOS E or F during the AM and/or PM peak hours. The remaining key study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.915	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	0.997	E	0.969	E
4. Sepulveda Blvd at 11 th Street	-- ⁵	F	44.8 s/v	E

Appendix C contains the detailed peak hour level of service worksheets for the key intersections evaluated in this report.

⁵ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

TABLE 3-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU)⁶

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.600	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.601 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

⁶ Source: *Transportation Research Board Circular 212 - Interim Materials on Highway Capacity*.

TABLE 3-2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM)⁷

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

⁷ Source: *Highway Capacity Manual 6th Edition*, Chapter 20 (Two-Way Stop Control).

TABLE 3-3
EXISTING (YEAR 2019) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersection	Time Period	Control Type	ICU/HCM	LOS
1. Sepulveda Boulevard at Marine Avenue	AM	8Ø Traffic	0.915	E
	PM	Signal	0.851	D
2. Sepulveda Boulevard at 18 th Street	AM	2Ø Traffic	0.758	C
	PM	Signal	0.692	B
3. Sepulveda Boulevard at Manhattan Beach Boulevard	AM	8Ø Traffic	0.997	E
	PM	Signal	0.969	E
4. Sepulveda Boulevard at 11 th Street	AM	Two-Way Stop	-- ⁸	F
	PM		44.8 s/v	E
5. Sepulveda Boulevard at 8 th Street	AM	2Ø Traffic	0.783	C
	PM	Signal	0.732	C
6. Target Driveway at Manhattan Beach Boulevard	AM	3Ø Traffic	0.489	A
	PM	Signal	0.522	A
7. Meadows Avenue at Manhattan Beach Boulevard	AM	5Ø Traffic	0.621	B
	PM	Signal	0.604	B
8. Meadows Avenue at 11 th Street	AM	Two-Way Stop	12.8 s/v	B
	PM		12.1 s/v	B

Notes:

- ICU = Intersection Capacity Utilization
- LOS = Level of Service, please refer to *Table 3-1* and *3-2* for the LOS definitions
- Ø = Phase
- s/v = seconds per vehicle (delay)

⁸ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors and equations used in this analysis are based on information found in the 10th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington, D.C., 2017].

Based on the description of the proposed Project, the Project's trip generation potential was estimated using ITE Land Use 492: Health Fitness Club, ITE Land Use 911: Walk-In Bank, ITE Land Use 932: High Turnover Sit Down Restaurant, and ITE Land 936: Coffee/Donut Shop Without Drive Through Window trip rates.

Table 5-1 summarizes the trip generation rates and forecast for the proposed Project. As shown in the lower half of this table, the proposed Project, after adjustment for pass-by trips, is forecast to generate 1,519 daily trips, with 90 trips (46 inbound, 44 outbound) generated during the AM peak hour and 93 trips (46 inbound, 47 outbound) generated during the PM peak hour.

Please note that the overall project trip generation includes adjustments for pass-by as recommended by ITE. The pass-by reduction factors that are utilized for the Project are based on a review of available information published in the *Trip Generation Handbook, 3rd Edition*, published by ITE (2017) and are summarized in the footnotes of *Table 5-1*. For the proposed bank, pass-by reduction factors of 10% and 17.5% were utilized for daily and PM peak hour. Pass-by reduction factors of 10%, 10% and 43% were utilized for daily, AM peak hour, and PM peak hour for the proposed restaurant, respectively. Pass-by reduction factors of 25%, 50%, and 25% were utilized for daily, AM peak hour, and PM peak hour for the proposed coffee shop, respectively.

TABLE 5-1
PROJECT TRAFFIC GENERATION FORECAST⁹

ITE Land Use / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<i>Generation Factors:</i>							
▪ 492: Health Fitness Club (TE/1,000 SF)	32.15 ¹⁰	51%	49%	1.31	57%	43%	3.45
▪ 911: Walk-In Bank (TE/1,000 SF)	98.31 ¹¹	--	--	--	44%	56%	12.13
▪ 932: High Turnover Sit Down Restaurant (TE/1,000 SF)	112.18	55%	45%	9.94	62%	38%	9.77
▪ 936: Coffee/Donut Shop Without Drive Through Window (TE/1000 SF)	932.39 ¹²	51%	49%	101.14	50%	50%	36.31
<i>Generation Forecast:</i>							
▪ Fitness Center (2,683 SF)	86	2	2	4	5	4	9
▪ Restaurant (2,704 SF)	303	15	12	27	16	10	26
Pass-By Trips ¹³	<u>-30</u>	<u>-2</u>	<u>-1</u>	<u>-3</u>	<u>-7</u>	<u>-4</u>	<u>-11</u>
Restaurant Net Trip Generation	273	13	11	24	9	6	15
▪ Kinecta FCU (3,422 SF)	336	--	--	--	18	24	42
Pass-by Trips ¹³	<u>-34</u>	--	--	--	<u>-3</u>	<u>-4</u>	<u>-7</u>
Kinecta FCU Net Trip Generation	302	0	0	0	15	20	35
▪ Coffee Shop/Café (1,227 SF)	1,144	63	61	124	23	22	45
Pass-By Trips ¹³	<u>-286</u>	<u>-32</u>	<u>-31</u>	<u>-62</u>	<u>-6</u>	<u>-6</u>	<u>-11</u>
Coffee Shop/Café Net Trip Generation	858	31	30	62	17	16	34
<i>Project Trip Generation Potential</i>	1,869	80	75	155	62	60	122
<i>Less Pass-By Trips</i>	<u>-350</u>	<u>-34</u>	<u>-31</u>	<u>-65</u>	<u>-16</u>	<u>-13</u>	<u>-29</u>
<i>Net Project Trip Generation Potential</i>	1,519	46	44	90	46	47	93

⁹ Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

¹⁰ Source: A daily trip generation rate is not provided per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). A ratio of the total PM rate and daily trip generation rate from *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012) was used and applied.

¹¹ The Daily trip rate for ITE Land Use 911: Walk-In Bank is not available in 10th Edition of *Trip Generation*. Hence, the Daily rate for this use was estimated using information in the 5th Edition of *Trip Generation* as a comparison and basis for development this rate.

¹² The Daily trip rate for ITE Land Use 936: Coffee/Donut Shop Without Drive-Through Window is not available in 10th Edition of *Trip Generation*. Hence, the Daily trip rate for this use was estimated using information for ITE Land Use 937: Coffee/Donut Shop with Drive-Through Window.

¹³ Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Handbook*, 3rd Edition, ITE 2017):

- ITE 911 Walk-In Bank: Daily – Assume 10%; PM Peak Hour – assume approximately half that of ITE Land Use 912: Drive-In Bank (50% x 35% = 17.5%)
- ITE 932 High Turnover Sit Down Restaurant: Daily – Assume 10%; AM Peak Hour – Assume 10%; PM Peak Hour – 43%
- ITE 936 Coffee/Donut Shop Without Drive-Through Window does not include pass-by rates, so engineering judgment was utilized. Assume Daily: 25%, AM peak hour: 50%, PM peak hour: 25%

5.2 Project Traffic Distribution and Assignment

Figure 5-1 illustrates the general, directional traffic distribution pattern for the proposed Project. Project traffic volumes both entering and exiting the Project site have been distributed and assigned to the adjacent street system based on the following considerations:

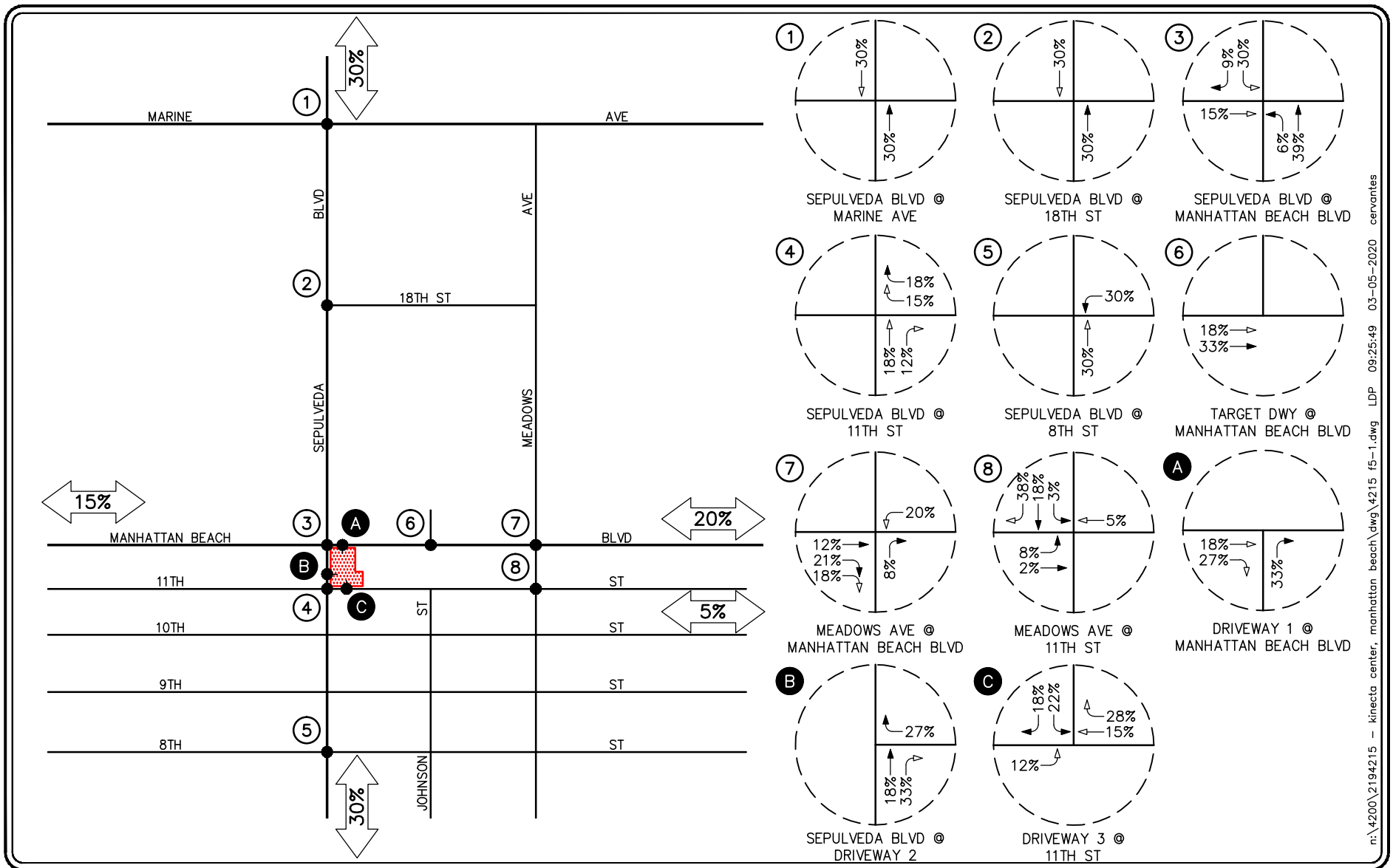
- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers and regional access routes,
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns,
- presence of traffic congestion in the surrounding vicinity, and
- ingress/egress availability at the Project site, and
- in consideration of Per LA County Congestion Management Program Guidelines for CMP Traffic Impact Analysis (Appendix B) as modified by the City Traffic Engineer

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project are presented in **Figures 5-2** and **5-3**, respectively. The traffic volume assignments presented in **Figures 5-2** and **5-3** reflect the traffic distribution characteristics shown in **Figure 5-1** and the traffic generation forecast presented in **Table 5-1**.

5.3 Existing Plus Project Traffic Conditions

The existing plus Project traffic conditions have been generated based upon existing conditions and the estimated Project traffic. These forecast traffic conditions have been prepared to assess the potential impacts of a Project upon the circulation system as it currently exists. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to mitigate the direct traffic impacts of the Project, if any, as required by the City.

Figures 5-4 and **5-5** present projected AM and PM peak hour traffic volumes at the eight (8) key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively.



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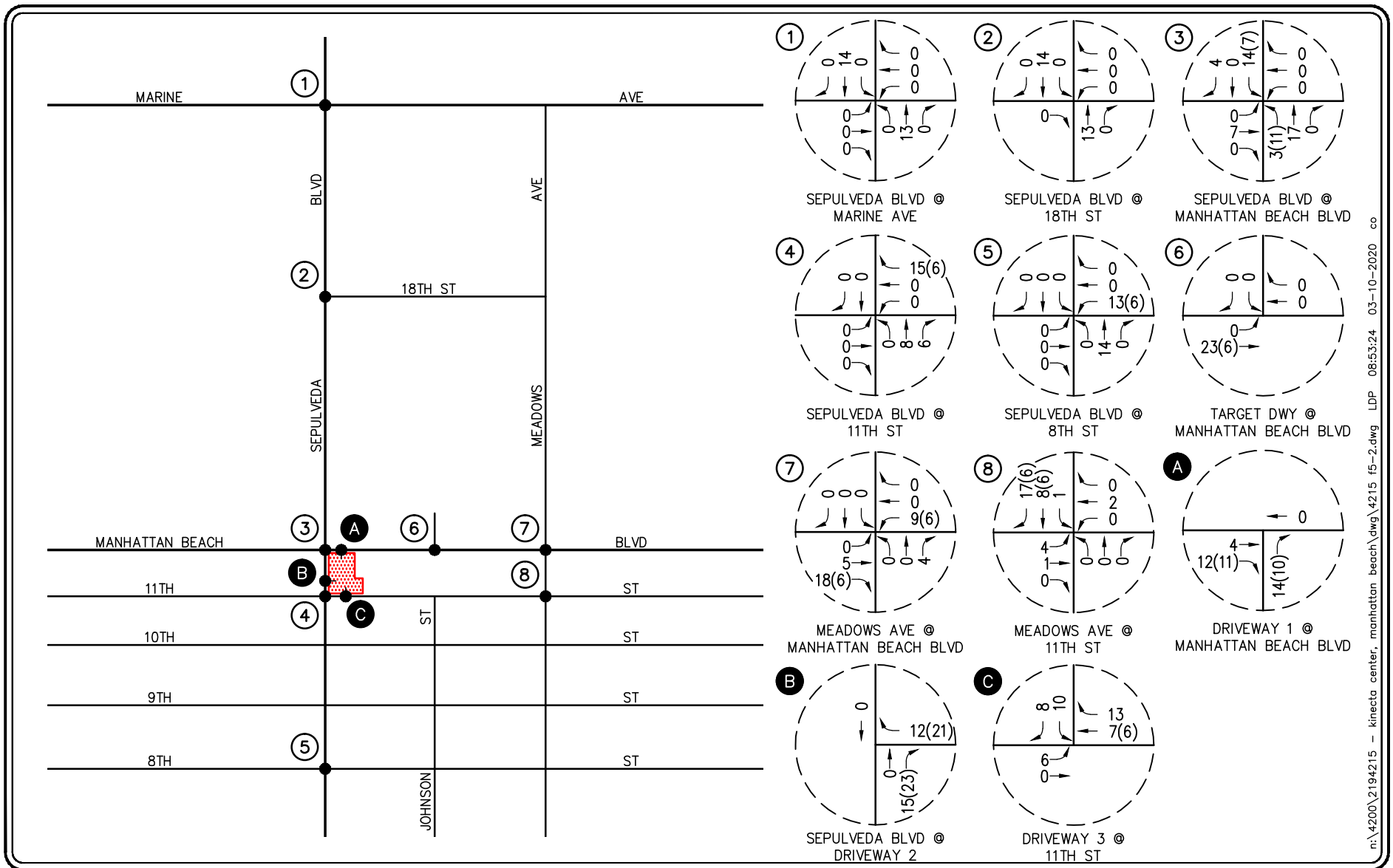
NOTE:
THE PROJECT DISTRIBUTION TAKES
INTO CONSIDERATION U-TURN
RESTRICTIONS AT THE
INTERSECTIONS OF MANHATTAN
BEACH BLVD AT SEPULVEDA BLVD,
TARGET DWY, AND MEADOWS AVE.

KEY

- # = STUDY INTERSECTION
- ← = INBOUND PERCENTAGE
- = OUTBOUND PERCENTAGE
- = PROJECT SITE

FIGURE 5-1

PROJECT TRIP DISTRIBUTION PATTERN
KINECTA CENTER, MANHATTAN BEACH



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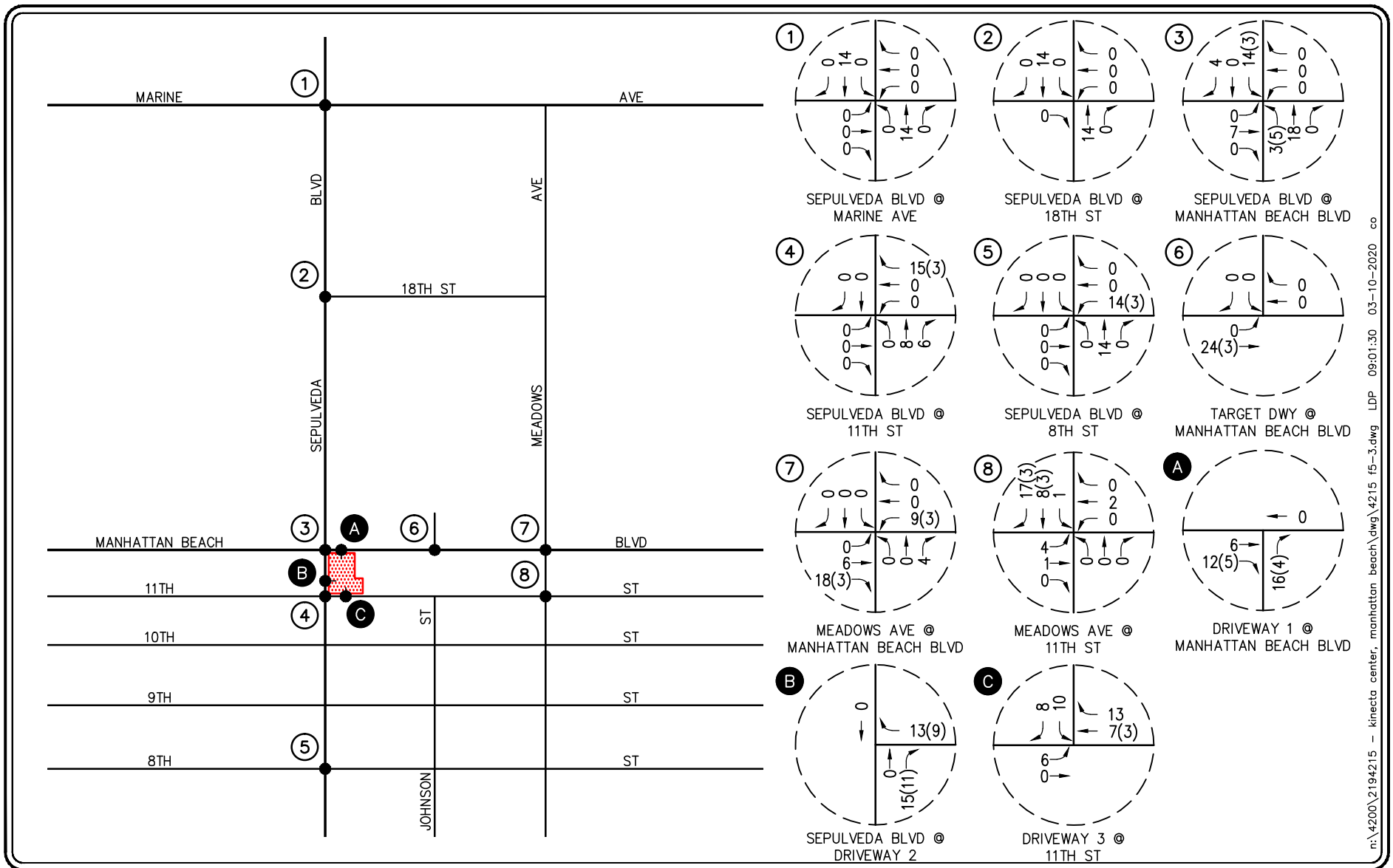
KEY

- # = STUDY INTERSECTION
- (XX) = PASS-BY TRIPS
- = PROJECT SITE

FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH



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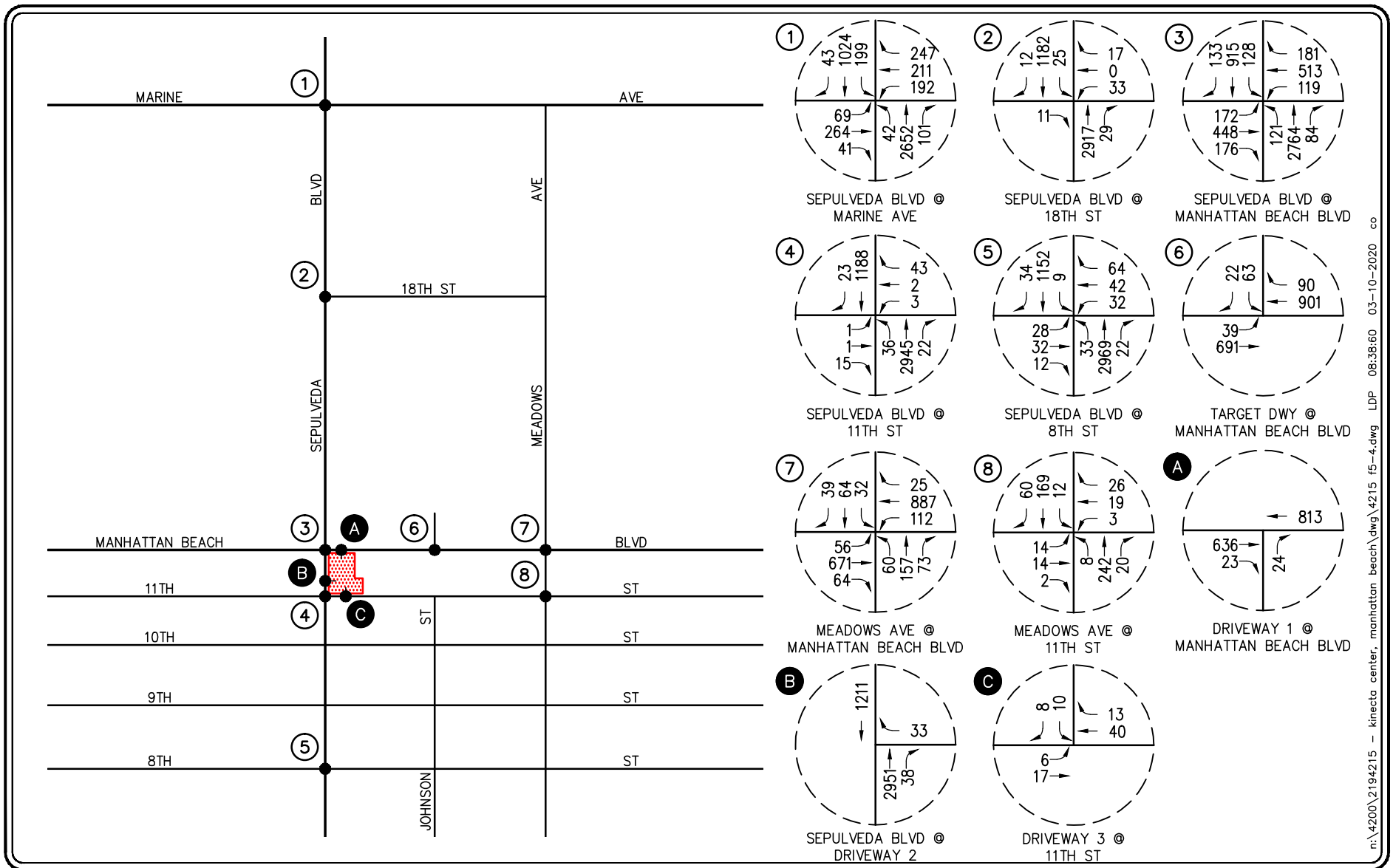
KEY

- # = STUDY INTERSECTION
- (XX) = PASS-BY
- XXXX = PROJECT SITE

FIGURE 5-3

PM PEAK HOUR PROJECT TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH



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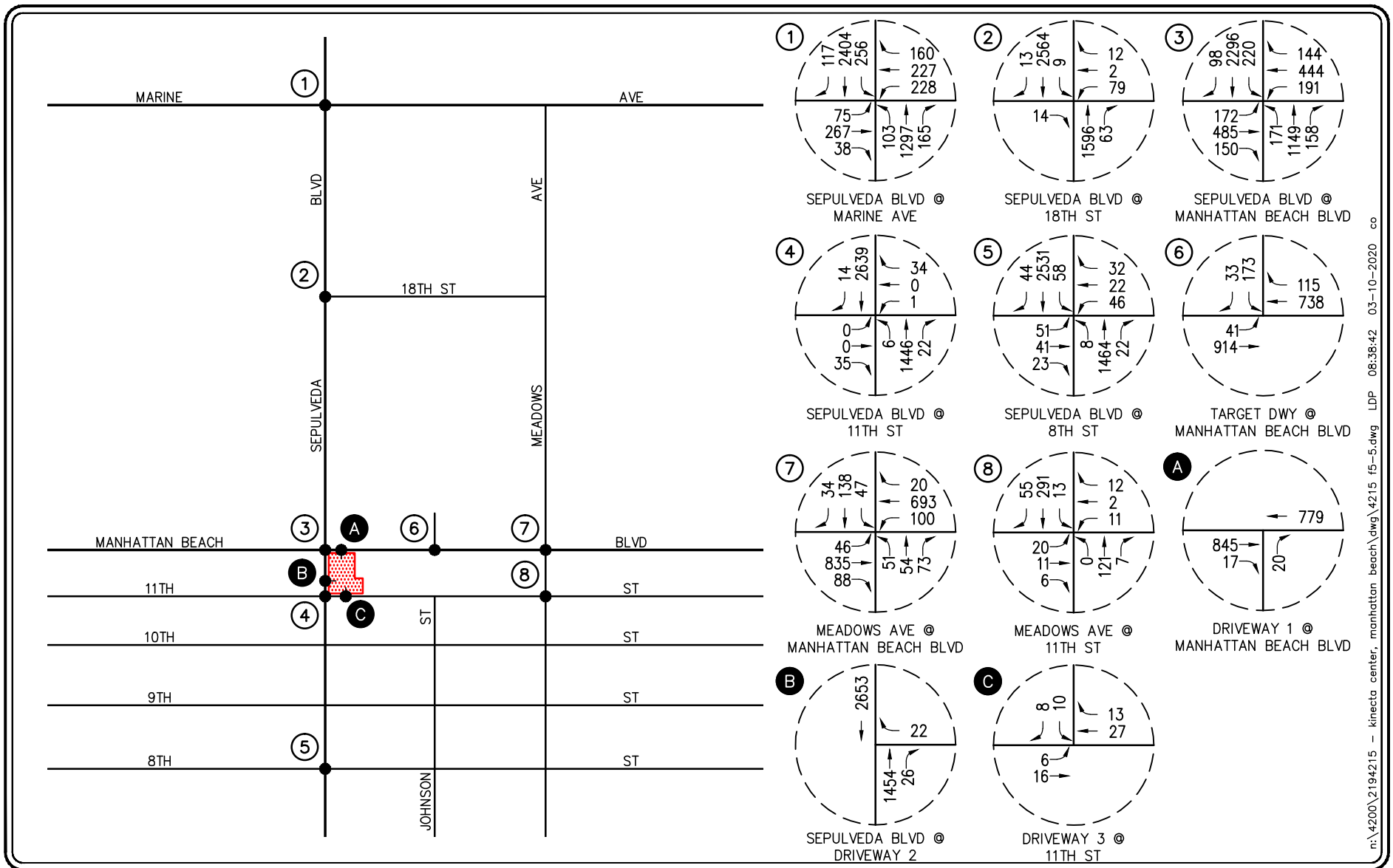
⊕ = STUDY INTERSECTION

▤ = PROJECT SITE

FIGURE 5-4

EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH



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GREENSPAN

engineers



NO SCALE

KEY

① = STUDY INTERSECTION

▤ = PROJECT SITE

FIGURE 5-5

EXISTING PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

Cumulative traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at one percent (1%) per year. Applied to existing Year 2019 traffic volumes results in a three percent (3%) increase of growth in existing volumes to horizon year 2021.

6.2 Cumulative Projects Traffic Characteristics

The Cities of Manhattan Beach and Hermosa Beach identified twenty-three (23) cumulative projects within the Project study area. Cumulative projects, as defined by Section 15355 of the CEQA Guidelines, are “closely related past, present and reasonably foreseeable probable future projects”. The Traffic Impact Analysis assumes that all these cumulative projects will be developed at their proposed size and density and operational when the proposed Project is operational. This is the most conservative, worst-case approach, since the exact timing of each cumulative project is uncertain. In addition, impacts for these cumulative projects would likely be, or have been, subject to mitigation measures and/or reduced in size, which could reduce potential impacts.

Under this analysis, however, those mitigation measures and/or reduction are not considered. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. There are fifteen (15) cumulative projects identified in Manhattan Beach and eight (8) cumulative projects identified in Hermosa Beach. These twenty-three (23) cumulative projects have been included as part of the cumulative background setting.

6.2.1 *Cumulative Projects Traffic Distribution and Assignment*

Cumulative project traffic volumes within the project study area have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers and regional access routes;
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns;
- presence of traffic congestion in the surrounding vicinity; and
- prior traffic studies if applicable.

6.2.2 Cumulative Projects Traffic Volumes

Table 6-1 provides the location and a brief description for each of the twenty-three (23) cumulative projects. **Figure 6-1** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the twenty-three (23) cumulative projects. As shown in **Table 6-2**, the twenty-three (23) cumulative projects are expected to generate a combined total of 11,809 daily trips, 859 AM peak hour trips (602 inbound and 257 outbound) and 1,192 PM peak hour trips (454 inbound and 738 outbound) on a typical weekday. The AM and PM peak hour traffic volumes associated with the twenty-three (23) cumulative projects are presented in **Figures 6-2** and **6-3** respectively.

6.3 Year 2021 Traffic Volumes

Figures 6-4 and **6-5** present future AM and PM peak hour cumulative traffic volumes at the eight (8) key study intersections for the Year 2021, respectively. Please note that the cumulative traffic volumes represent the accumulation of existing traffic, ambient growth traffic and cumulative projects traffic.

Figures 6-6 and **6-7** illustrate Year 2021 forecast AM and PM peak hour traffic volumes with the inclusion of the trips generated by the proposed Project, respectively.

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS¹⁴

No.	Location/Address	Location/Address	Description
<u>City of Manhattan Beach</u>			
1.	Manhattan Village Shopping Center	3200-3600 N. Sepulveda Boulevard	55,000 SF net new shopping center
2.	1133 Artesia Boulevard	1133 Artesia Boulevard	12,000 SF grocery store
3.	865 Manhattan Beach Boulevard	865 Manhattan Beach Boulevard	15,000 SF general office and 700 SF deli
4.	1000 N. Sepulveda Boulevard	1000 N. Sepulveda Boulevard	23,050 SF medical office, 665 SF pharmacy, and 1,715 SF coffee shop to replace an existing 5,400 SF restaurant
5.	Gelson's Market Plaza	707 N. Sepulveda Boulevard	7,000 SF bank
6.	1800 Manhattan Beach Boulevard	1800 Manhattan Beach Boulevard	3,000 SF general office to replace existing 3 DU apartments
7.	2205 N. Sepulveda Boulevard	2205 N. Sepulveda Boulevard	4,700 SF general office to replace existing 1,040 SF hair salon
8.	1762 Manhattan Beach Boulevard	1762 Manhattan Beach Boulevard	1,800 SF medical office and 1 DU apartment to replace existing 1 DU single-family residence
9.	1129 N. Sepulveda Boulevard	1129 N. Sepulveda Boulevard	2,000 SF retail
10.	516 N. Sepulveda Boulevard	516 N. Sepulveda Boulevard	Convert existing 10,900 SF restaurant building into office use
11.	Sunrise Senior Facility	250-400 N. Sepulveda Boulevard	79,200 SF and 111 DU senior living facility
12.	1701 Artesia Boulevard	1701 Artesia Boulevard	7 DU condominiums and 3,000 SF medical office
13.	Chocolate Factory	326 13 th Street	2,000 SF manufacturing and 250 SF retail
14.	Sketchers Site 1	305 S. Sepulveda Boulevard	37,174 SF office to replace existing 8,422 SF office. 4,000 SF retail and 2,815 SF auto care center
15.	Sketchers Site 2	330 S. Sepulveda Boulevard	20,328 SF office to replace existing 2,525 SF automated car wash
<u>City of Hermosa Beach</u>			
16.	Clash Hotel	1429 Hermosa Avenue	30 room hotel
17.	2101 Pacific Coast Highway	2101 Pacific Coast Highway	10,124 SF office
18.	906 Hermosa Avenue	906 Hermosa Avenue	8,780 SF office

Notes:

- SF = Square-feet
- DU = Dwelling units

¹⁴ Source: *Cities of Manhattan Beach and Hermosa Beach Planning Departments.*

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS¹⁵

No.	Location/Address	Location/Address	Description
<u>City of Hermosa Beach (Continued)</u>			
19.	824 1 st Street	824 1 st Street	3,000 SF office
20.	Strand & Pier Hotel Mixed-Use	NE Corner of The Strand/Pier Avenue	100 room hotel, 5,406 SF retail, and 8,213 SF restaurant to replace existing 9,300 SF restaurant and 6,000 SF retail
21.	2420 Pacific Coast Highway	2420 Pacific Coast Highway	32191 SF net new church and 30,078 SF supermarket to replace existing 15,000 SF office and 29,653 SF recreation center
22.	OTO Development Hotel	Beach Drive/11 th Street	100 room hotel
23.	Sketchers Site 3	2851, 2901 3001 and 3125 Pacific Coast Highway	100,296 SF design center, 19209 SF executive office, and 998 SF executive office coffee shop

Notes:

- SF = Square-feet
- DU = Dwelling units

¹⁵ Source: *Cities of Manhattan Beach and Hermosa Beach Planning Departments.*

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST¹⁶

Cumulative Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. Manhattan Village Shopping Center	1,868	29	18	47	81	87	168
2. 1133 Artesia Boulevard ¹⁷	1,227	25	16	41	58	56	114
3. 865 Manhattan Beach Boulevard ¹⁷	505	41	24	65	9	22	31
4. 1000 N. Sepulveda Boulevard ¹⁷	2,066	107	78	185	29	76	105
5. Gelson's Market Plaza	0	0	0	0	37	48	85
6. 1800 Manhattan Beach Boulevard ¹⁷	13	4	-1	3	0	2	2
7. 2205 N. Sepulveda Boulevard ¹⁷	32	5	1	6	1	4	5
8. 1762 Manhattan Beach Boulevard ¹⁷	62	3	1	4	2	4	6
9. 1129 N. Sepulveda Boulevard ¹⁷	85	1	1	2	3	4	7
10. 516 N. Sepulveda Boulevard	106	11	2	13	2	11	13
11. Sunrise Senior Facility	411	8	14	22	16	13	29
12. 1701 Artesia Boulevard	155	7	4	11	6	8	14
13. Chocolate Factory	17	1	0	1	0	2	2
14. Sketchers Site 1 ¹⁷	174	44	2	46	1	36	37
15. Sketchers Site 2 ¹⁷	-83	27	-2	25	-9	16	7
16. Clash Hotel ¹⁷	245	9	7	16	9	9	18
17. 2101 Pacific Coast Highway ¹⁷	112	14	2	16	3	12	15
18. 906 Hermosa Avenue ¹⁷	97	12	2	14	2	11	13
19. 824 1 st Street ¹⁷	33	4	1	5	1	3	4
20. Strand & Pier Hotel Mixed-Use ¹⁷	446	23	17	40	24	23	47
21. 2420 Pacific Coast Highway ¹⁷	2,200	14	22	36	110	90	200
22. OTO Development Hotel ¹⁷	817	31	22	53	31	29	60
23. Sketchers Site 3 ¹⁷	1,221	182	26	208	38	172	210
Cumulative Projects Trip Generation Forecast	11,809	602	257	859	454	738	1,192

¹⁶ Unless otherwise noted, Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

¹⁷ Source: *Sketchers Design Center and Offices Project TIA*, prepared by LLG in June 2016.



- KEY
1. MANHATTAN VILLAGE SHOPPING CENTER
 2. 1133 ARTESIA BOULEVARD
 3. 865 MANHATTAN BEACH BOULEVARD
 4. 1000 N. SEPULVEDA BOULEVARD
 5. GELSON'S MARKET PLAZA
 6. 1800 MANHATTAN BEACH BOULEVARD
 7. 2205 N. SEPULVEDA BOULEVARD
 8. 1762 MANHATTAN BEACH BOULEVARD
 9. 1129 N. SEPULVEDA BOULEVARD
 10. 516 N. SEPULVEDA BOULEVARD
 11. SUNRISE SENIOR FACILITY
 12. 1701 ARTESIA BOULEVARD
 13. CHOCOLATE FACTORY
 14. SKETCHERS SITE 1
 15. SKETCHERS SITE 2
 16. CLASH HOTEL
 17. 2101 PACIFIC COAST HIGHWAY
 18. 906 HERMOSA AVENUE
 19. 824 1ST STREET
 20. STRAND & PIER HOTEL MIXED-USE
 21. 2420 PACIFIC COAST HIGHWAY
 22. OTO DEVELOPMENT HOTEL
 23. SKETCHERS SITE 3

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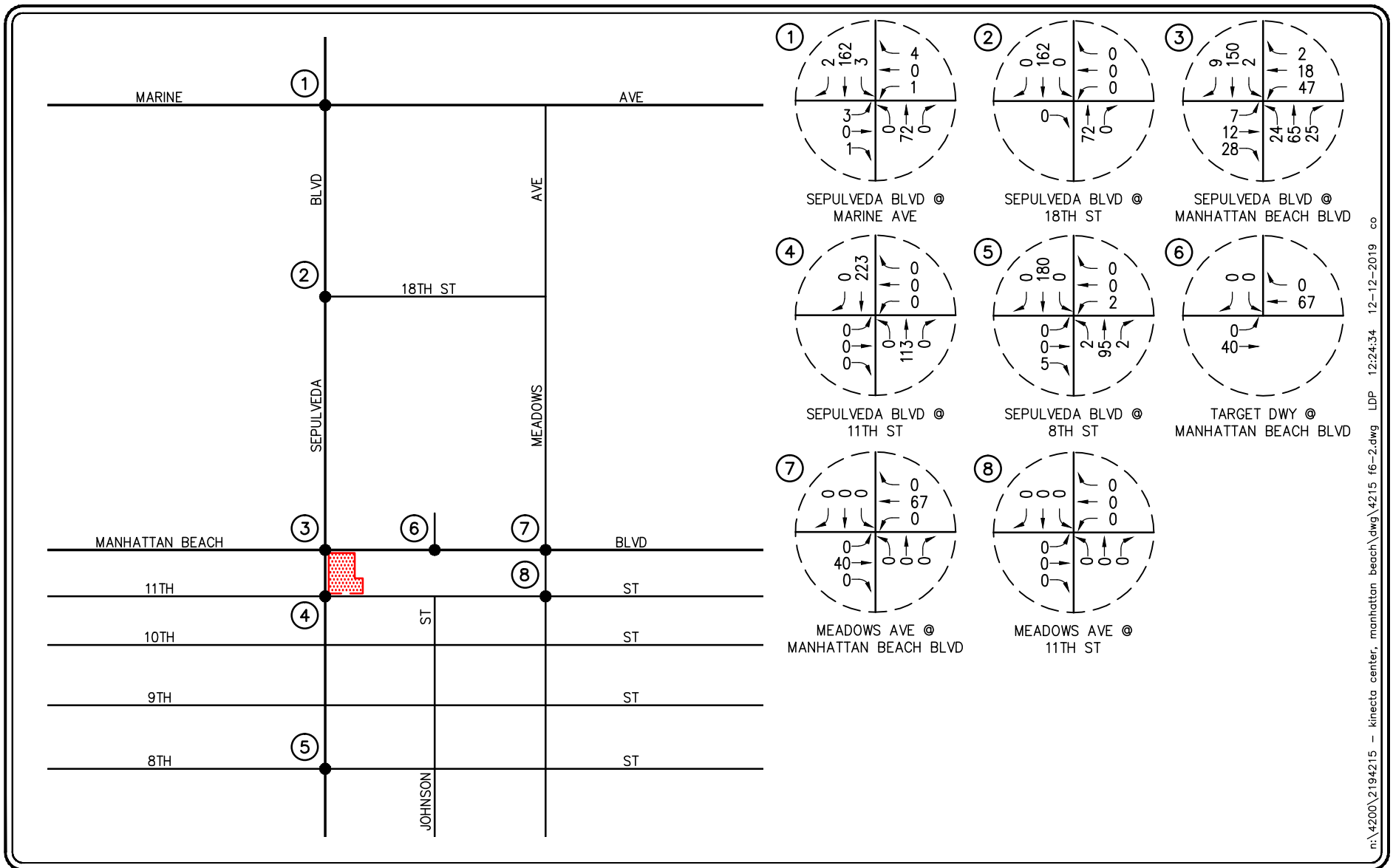
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GREENSPAN
engineers

NO SCALE

- SOURCE: GOOGLE
- KEY
- # = CUMULATIVE PROJECT LOCATIONS
 - Red rectangle = PROJECT SITE

FIGURE 6-1

LOCATION OF CUMULATIVE PROJECTS
KINECTA CENTER, MANHATTAN BEACH



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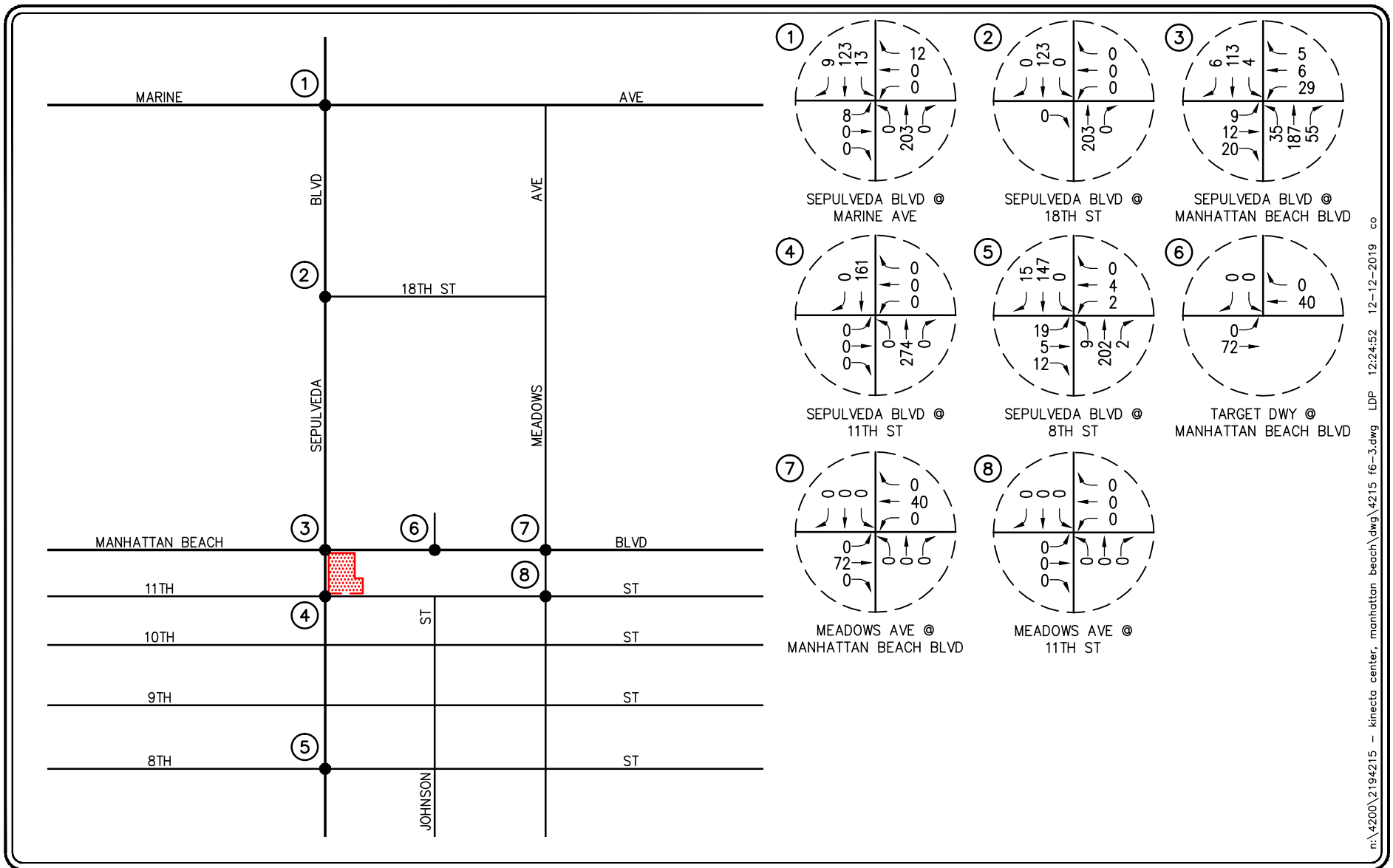
KEY

① = STUDY INTERSECTION

■ = PROJECT SITE

FIGURE 6-2

AM PEAK HOUR CUMULATIVE
PROJECT TRAFFIC VOLUMES
KINECTA CENTER, MANHATTAN BEACH



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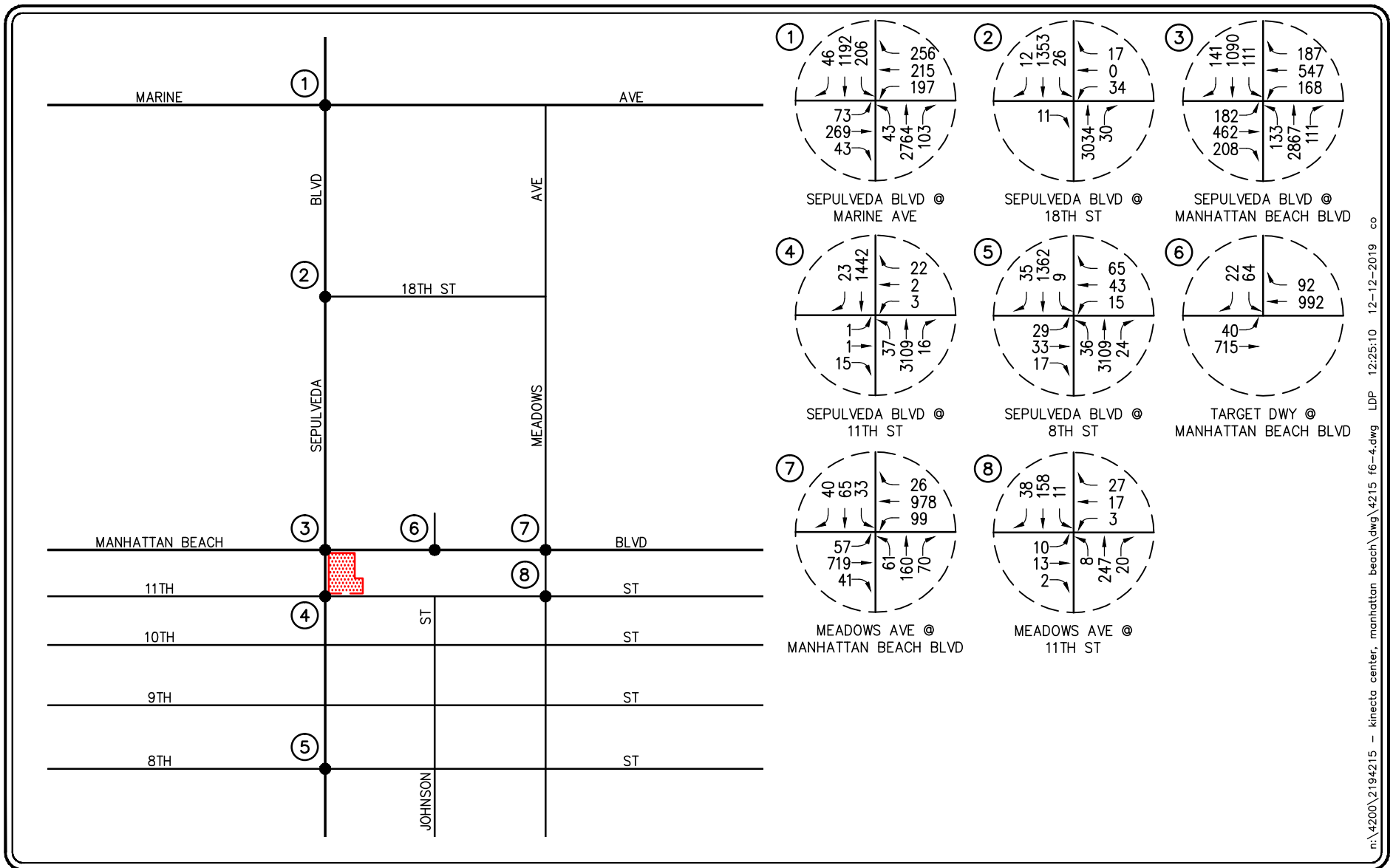
KEY

① = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-3

**PM PEAK HOUR CUMULATIVE
PROJECT TRAFFIC VOLUMES**
KINECTA CENTER, MANHATTAN BEACH



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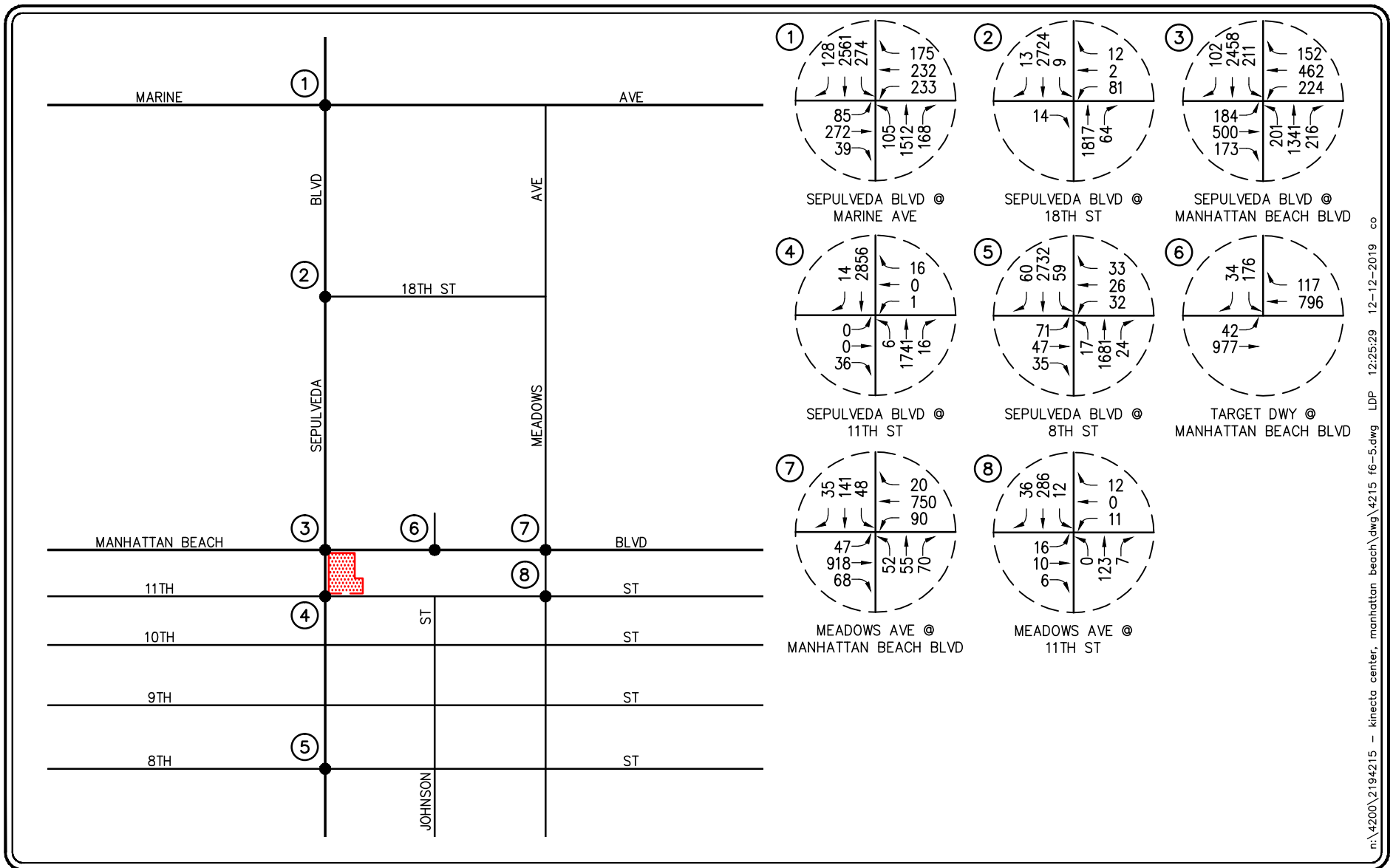
KEY

① = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-4

YEAR 2021 CUMULATIVE AM PEAK
HOUR TRAFFIC VOLUMES
KINECTA CENTER, MANHATTAN BEACH



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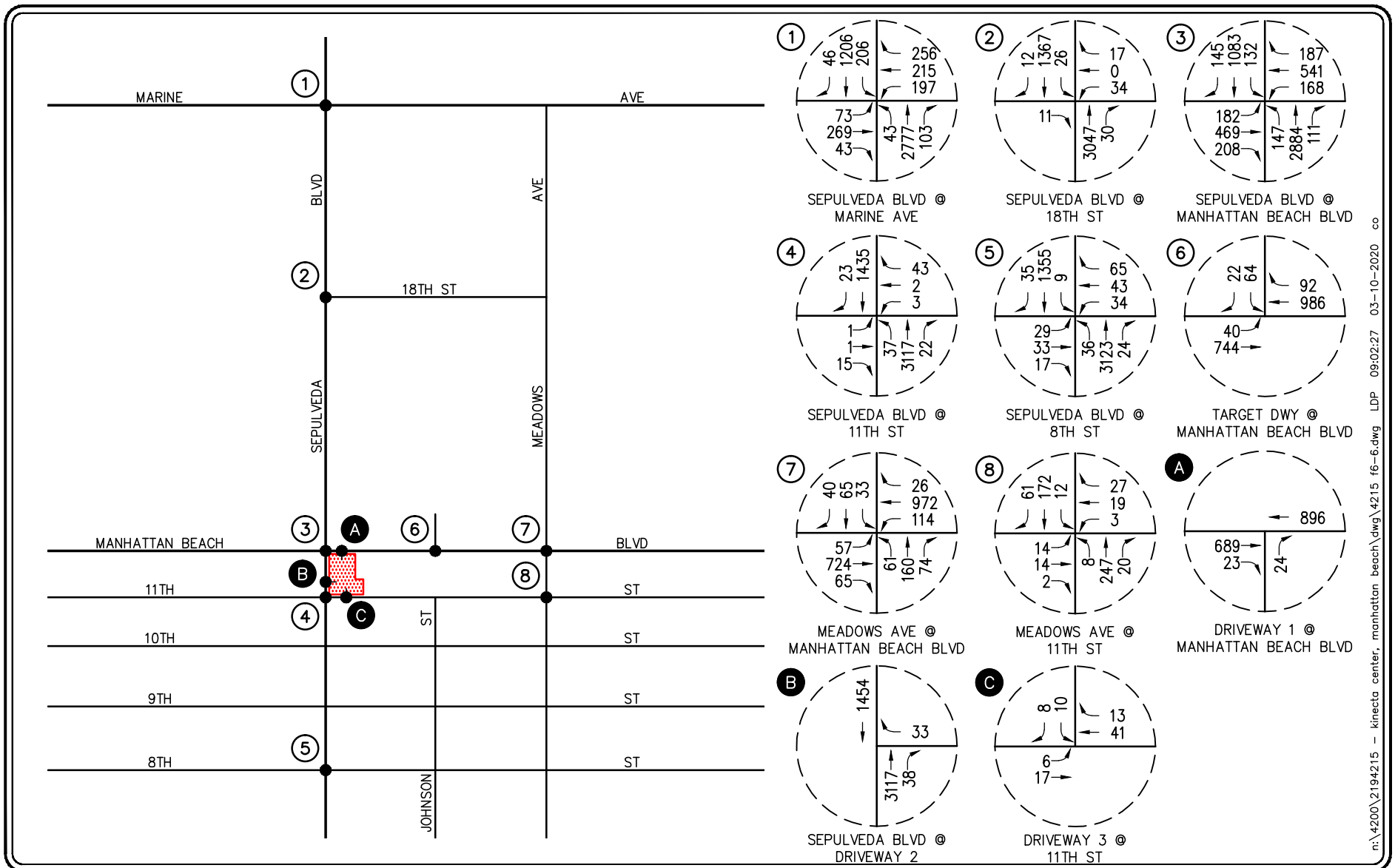
⊕ = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-5

**YEAR 2021 CUMULATIVE PM PEAK
HOUR TRAFFIC VOLUMES**

KINECTA CENTER, MANHATTAN BEACH



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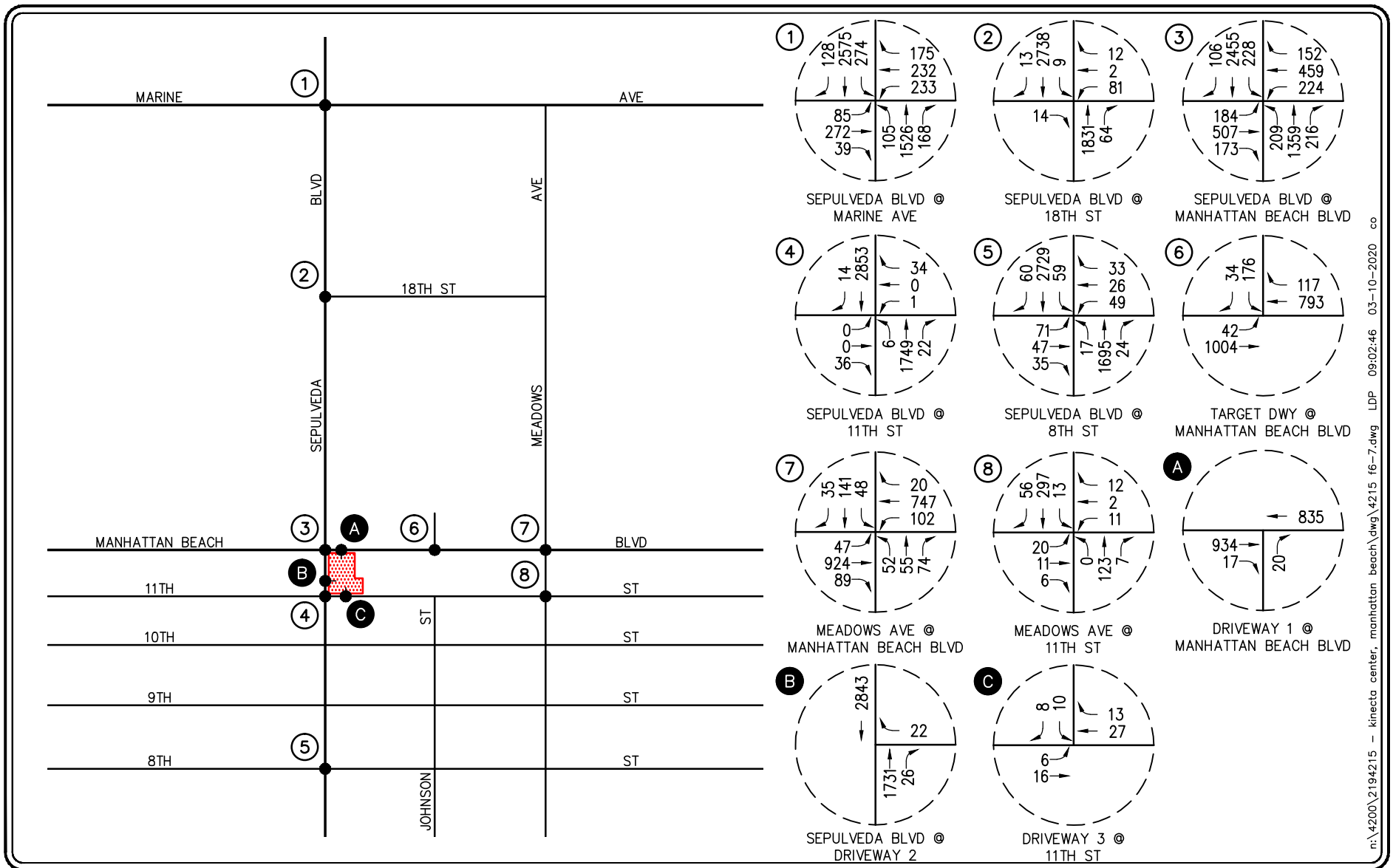
KEY

⊕ = STUDY INTERSECTION

▤ = PROJECT SITE

FIGURE 6-6

YEAR 2021 CUMULATIVE PLUS PROJECT
AM PEAK HOUR TRAFFIC VOLUMES
KINECTA CENTER, MANHATTAN BEACH



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KEY

= STUDY INTERSECTION

[Red hatched box] = PROJECT SITE

FIGURE 6-7

YEAR 2021 CUMULATIVE PLUS PROJECT
PM PEAK HOUR TRAFFIC VOLUMES

KINECTA CENTER, MANHATTAN BEACH

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

7.1 Impact Criteria and Thresholds

The potential impact of the added Project traffic volumes generated by the proposed Project during the weekday peak hours was evaluated based on analysis of future operating conditions at the eight (8) key study intersections, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the Project at each key intersection was then evaluated using the following traffic impact criteria.

7.1.1 City of Manhattan Beach

Pursuant to the City of Manhattan Beach Policy, the significance of the potential impacts of project generated traffic at each study intersection was identified using criteria consistent with the *2010 Congestion Management Program for Los Angeles County*, County of Los Angeles Metropolitan Transportation Authority, July 2010. A significant transportation impact is determined based on a change in the calculated V/C ratio of two percent (0.02) or more due to project-related traffic for an intersection operating at LOS F or worse ($V/C > 1.00$).

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed using the ICU/HCM methodologies:

- A. Existing Traffic Conditions;
- B. Existing Plus Project Traffic Conditions;
- C. Scenario (B) with Improvements, if necessary;
- D. Year 2021 Cumulative Traffic Conditions;
- E. Year 2021 Cumulative Plus Project Traffic Conditions; and
- F. Scenario (E) with Improvements, if necessary.

8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

8.1 Existing Plus Project Traffic Conditions

Table 8-1 summarizes the peak hour Level of Service results at the eight (8) key study intersections for Existing Plus Project traffic conditions. The first column (1) of ICU/LOS values in *Table 8-1* presents a summary of Existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) lists Existing Plus Project traffic conditions with current intersection geometry/lane configurations. The third column (3) shows the increase in ICU value due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with improvements, if any.

8.1.1 Existing Traffic Conditions

Review of column 1 of *Table 8-1*, and as previously presented in *Table 3-3*, indicates that three (3) of the eight key study intersections currently operate at LOS E or F during the AM and/or PM peak hours. The remaining key study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.915	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	0.997	E	0.969	E
4. Sepulveda Blvd at 11 th Street	-- ¹⁸	F	44.8 s/v	E

8.1.2 Existing Plus Project Traffic Conditions

Review of column 2 of *Table 8-1* indicates that the same three (3) key study intersections will continue to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.918	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	1.006	F	0.977	E
4. Sepulveda Blvd at 11 th Street	-- ¹⁸	F	44.6 s/v	E

Review of Column 3 indicates that the traffic associated with the proposed Project will not directly impact any of the eight (8) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Sepulveda

¹⁸ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

Boulevard/Manhattan Beach Boulevard and Sepulveda Boulevard/11th Street are forecast to operate at LOS F during the AM and/or PM peak hours, the proposed project adds less than 0.02 to the ICU value and hence the Project's impact is considered insignificant based on the City's LOS standards and significance criteria.

Appendix C presents the Existing Plus Project weekday ICU/LOS calculations for the eight (8) key study intersections.

TABLE 8-1
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project Traffic Conditions with Improvements	
		ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Sepulveda Boulevard at Marine Avenue	AM	0.915	E	0.918	E	0.003	No	--	--
	PM	0.851	D	0.854	D	0.003	No	--	--
2. Sepulveda Boulevard at 18 th Street	AM	0.758	C	0.761	C	0.003	No	--	--
	PM	0.692	B	0.695	B	0.003	No	--	--
3. Sepulveda Boulevard at Manhattan Beach Boulevard	AM	0.997	E	1.006	F	0.009	No	--	--
	PM	0.969	E	0.977	E	0.008	No	--	--
4. Sepulveda Boulevard at 11 th Street	AM	-- ¹⁹	F	-- ¹⁹	F	--	No ²⁰	--	--
	PM	44.8 s/v	E	44.6 s/v	E	0.0 s/v ²¹	No	--	--
5. Sepulveda Boulevard at 8 th Street	AM	0.783	C	0.794	C	0.011	No	--	--
	PM	0.732	C	0.742	C	0.010	No	--	--
6. Target Driveway at Manhattan Beach Boulevard	AM	0.489	A	0.487	A	0.000 ²¹	No	--	--
	PM	0.522	A	0.521	A	0.000 ²¹	No	--	--
7. Meadows Avenue at Manhattan Beach Boulevard	AM	0.621	B	0.621	B	0.000	No	--	--
	PM	0.604	B	0.620	B	0.016	No	--	--
8. Meadows Avenue at 11 th Street	AM	12.8 s/v	B	13.3 s/v	B	0.5 s/v	No	--	--
	PM	12.1 s/v	B	12.6 s/v	B	0.5 s/v	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- s/v = seconds per vehicle (delay)

¹⁹ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

²⁰ Since the intersection delay is not reported, it is assumed that the intersection is not considered significantly impacted based on the results of the PM peak hour, which indicates a negative increase in delay due to the project's pass-by trips.

²¹ A theoretical negative significant impact increase is due to the project's pass-by trips, which results in reduced traffic volumes for certain movements at the intersection.

8.2 Year 2021 Traffic Conditions

Table 8-2 summarizes the peak hour Level of Service results at the eight (8) key study intersections for the Year 2021 horizon year. The first column (1) of ICU/LOS values in *Table 8-2* presents a summary of Existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) lists future Year 2021 cumulative traffic conditions (existing plus ambient growth traffic plus cumulative projects traffic), without any traffic generated by the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in ICU value due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fifth column (5) indicates the anticipated level of service with improvements, if any.

8.2.1 Year 2021 Cumulative Traffic Conditions

Review of Column 2 of *Table 8-2* indicates that three (3) of the eight intersections are forecast to operate at LOS E or F during the AM and/or PM peak hours with the addition of ambient traffic growth and cumulative project traffic. The remaining key study intersections are forecast to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.949	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	1.044	F	1.055	F
4. Sepulveda Blvd at 11 th Street	-- ²²	F	55.9 s/v	F

8.2.2 Year 2021 Cumulative Plus Project Conditions

Review of column 3 of *Table 8-2* indicates that the same three (3) key study intersections will continue to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS E or F include the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
1. Sepulveda Blvd at Marine Ave	0.952	E	--	--
3. Sepulveda Blvd at Manhattan Beach Blvd	1.053	F	1.063	F
4. Sepulveda Blvd at 11 th Street	-- ²²	F	55.7 s/v	F

²² The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

Review of Column 4 indicates that the traffic associated with the proposed Project will not directly impact any of the eight (8) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Sepulveda Boulevard/Manhattan Beach Boulevard and Sepulveda Boulevard/11th Street are forecast to operate at LOS F during the AM and/or PM peak hours, the proposed project adds less than 0.02 to the ICU value and hence the Project's impact is considered insignificant based on the City's LOS standards and significance criteria.

Appendix C presents the Year 2021 Cumulative Plus Project weekday ICU/LOS calculations for the eight (8) key study intersections.

TABLE 8-2
YEAR 2021 CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2021 Cumulative Traffic Conditions		(3) Year 2021 Cumulative Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2021 Cumulative Plus Project Traffic Conditions with Improvements	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Sepulveda Boulevard at Marine Avenue	AM	0.915	E	0.949	E	0.952	E	0.003	No	--	--
	PM	0.851	D	0.897	D	0.900	D	0.003	No	--	--
2. Sepulveda Boulevard at 18 th Street	AM	0.758	C	0.786	C	0.789	C	0.003	No	--	--
	PM	0.692	B	0.730	C	0.733	C	0.003	No	--	--
3. Sepulveda Boulevard at Manhattan Beach Boulevard	AM	0.997	E	1.044	F	1.053	F	0.009	No	--	--
	PM	0.969	E	1.055	F	1.063	F	0.008	No	--	--
4. Sepulveda Boulevard at 11 th Street	AM	-- ²³	F	-- ²³	F	-- ²³	F	--	No ²⁴	--	--
	PM	44.8 s/v	E	55.9 s/v	F	55.7 s/v	F	0.0 s/v ²⁵	No	--	--
5. Sepulveda Boulevard at 8 th Street	AM	0.783	C	0.817	D	0.832	D	0.015	No	--	--
	PM	0.732	C	0.808	D	0.818	D	0.010	No	--	--
6. Target Driveway at Manhattan Beach Boulevard	AM	0.489	A	0.518	A	0.516	A	0.000 ²⁵	No	--	--
	PM	0.522	A	0.543	A	0.545	A	0.002	No	--	--
7. Meadows Avenue at Manhattan Beach Boulevard	AM	0.621	B	0.652	B	0.653	B	0.001	No	--	--
	PM	0.604	B	0.637	B	0.653	B	0.016	No	--	--
8. Meadows Avenue at 11 th Street	AM	12.8 s/v	B	12.9 s/v	B	13.4 s/v	B	0.5 s/v	No	--	--
	PM	12.1 s/v	B	12.2 s/v	B	12.7 s/v	B	0.5 s/v	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- s/v = seconds per vehicle (delay)

²³ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

²⁴ Since the intersection delay is not reported, it is assumed that the intersection is not considered significantly impacted based on the results of the PM peak hour, which indicates a negative increase in delay due to the project's pass-by trips.

²⁵ A theoretical negative significant impact increase is due to the project's pass-by trips, which results in reduced traffic volumes for certain movements at the intersection.

9.0 STATE OF CALIFORNIA (CALTRANS) ANALYSIS

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies*, dated December 2002, existing and projected peak hour operating conditions at the five (5) state-controlled study intersections within the study area have been evaluated using the *Highway Capacity Manual* operations method of analysis. These state-controlled locations include the following study intersections:

1. Sepulveda Boulevard at Marine Avenue
2. Sepulveda Boulevard at 18th Street
3. Sepulveda Boulevard at Manhattan Beach Boulevard
4. Sepulveda Boulevard at 11th Street
5. Sepulveda Boulevard at 8th Street

Caltrans “endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities”; it does not require that LOS “D” (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the state-controlled study intersections.

The Caltrans *Guide for the Preparation of Traffic Impact Studies*, dated December 2002 states that if an existing State-owned facility operates at less than the target LOS (i.e. LOS D); the existing service level should be maintained. Based on Caltrans Criteria, a Project’s impact is considered significant if the Project causes the LOS to change from an acceptable LOS (i.e., LOS D or better) to a deficient LOS (i.e. LOS E or F); Per Caltrans District 7 staff, if an existing Caltrans facility is operating at less than appropriate target LOS, the existing MOE should be maintained. For intersections, any increase in delay is considered an impact if the existing LOS is E or F.

9.1 Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)

Based on the HCM 6th Edition operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road.

In the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in **Table 9-1**.

TABLE 9-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM)²⁶

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays. This level is considered by many agencies (i.e. SANBAG) to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

²⁶ Source: *Highway Capacity Manual* (Signalized Intersections).

9.2 Existing Plus Project Traffic Conditions

Table 9-2 summarizes the peak hour Level of Service results at the five (5) state-controlled study intersections for existing plus project traffic conditions. The first column (1) of HCM/LOS values in **Table 9-2** presents a summary of existing AM and PM peak hour traffic. The second column (2) lists existing plus project traffic conditions with current intersection geometry/lane configurations. The third column (3) shows the increase in delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a significant impact based on the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with improvements, if any.

9.2.1 Existing Traffic Conditions

Review of Column 1 of **Table 9-2** indicates that one (1) of the five state-controlled study intersections currently operate at LOS E or F during the AM and/or PM peak hours. The remaining state-controlled study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersection operating at LOS E or F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ²⁷	F	44.8 s/v	E

9.2.2 Existing Plus Project Traffic Conditions

Review of column 2 of **Table 9-2** indicates that the same state-controlled study intersection will continue to operate at LOS E or F during the AM and/or PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersection operating at LOS E or F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ²⁷	F	44.6 s/v	E

Review of Column 3 indicates that the traffic associated with the proposed Project will not directly impact any of the five (5) state-controlled study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Sepulveda Boulevard/11th Street is forecast to operate at LOS F and LOS E during the AM and PM peak hours, respectively, the proposed project does not contribute to an increase delay at the intersection and hence the Project's impact is considered insignificant based on the Caltrans LOS standards and significance criteria. **Appendix D** presents the Existing Plus Project HCM/LOS calculations for the state-controlled study intersections.

²⁷ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

TABLE 9-2
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY – CALTRANS

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project Traffic Conditions with Improvements	
		HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Sepulveda Boulevard at Marine Avenue	AM	28.8 s/v	C	29.3 s/v	C	0.5 s/v	No	--	--
	PM	25.6 s/v	C	25.7 s/v	C	0.1 s/v	No	--	--
2. Sepulveda Boulevard at 18 th Street	AM	3.1 s/v	A	3.1 s/v	A	0.0 s/v	No	--	--
	PM	3.8 s/v	A	3.8 s/v	A	0.0 s/v	No	--	--
3. Sepulveda Boulevard at Manhattan Beach Boulevard	AM	40.9 s/v	D	41.6 s/v	D	0.7 s/v	No	--	--
	PM	39.4 s/v	D	40.1 s/v	D	0.7 s/v	No	--	--
4. Sepulveda Boulevard at 11 th Street	AM	-- ²⁸	F	-- ²⁸	F	--	No ²⁹	--	--
	PM	44.8 s/v	E	44.6 s/v	E	0.0 s/v ³⁰	No	--	--
5. Sepulveda Boulevard at 8 th Street	AM	5.9 s/v	A	6.4 s/v	A	0.5 s/v	No	--	--
	PM	6.1 s/v	A	6.7 s/v	A	0.6 s/v	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 9-1 and 3-2* for the LOS definitions
- s/v = seconds per vehicle (delay)

²⁸ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

²⁹ Since the intersection delay is not reported, it is assumed that the intersection is not considered significantly impacted based on the results of the PM peak hour, which indicates a negative increase in delay due to the project's pass-by trips.

³⁰ A theoretical negative significant impact increase is due to the project's pass-by trips, which results in reduced traffic volumes for certain movements at the intersection.

9.3 Year 2021 Traffic Conditions

Table 9-3 summarizes the peak hour Level of Service results at the at the five (5) state-controlled study intersections for the Year 2021 horizon year. The first column (1) of HCM/LOS values in **Table 9-3** presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists future Year 2021 cumulative traffic conditions (existing plus ambient growth traffic plus cumulative projects traffic), without any traffic generated by the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fifth column (5) indicates the anticipated level of service with improvements, if any.

9.3.1 Year 2021 Cumulative Traffic Conditions

Review of Column 2 of **Table 9-3** indicates that one (1) of the five state-controlled study intersections is forecast to operate at LOS F during the AM and PM peak hours with the addition of ambient traffic growth and cumulative project traffic. The remaining state-controlled study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The intersection operating at LOS F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ³¹	F	55.9 s/v	F

9.3.2 Year 2021 Cumulative Plus Project Traffic Conditions

Review of column 3 of **Table 9-3** indicates that one (1) state-controlled study intersection is forecast to operate at LOS F during the AM and PM peak hours with the addition of project generated traffic. The remaining key study intersections will continue to operate at LOS D or better during the weekday AM and PM peak hours. The intersections operating at LOS F is the following:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
4. Sepulveda Blvd at 11 th Street	-- ³¹	F	55.7 s/v	F

Review of Column 4 indicates that the traffic associated with the proposed Project will not directly impact any of the five (5) state-controlled study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Sepulveda Boulevard/11th Street is forecast to operate at LOS F during the AM and PM peak hours, respectively, the proposed project does not contribute to an increase delay at the intersection and hence the Project's impact is considered insignificant based on the Caltrans LOS standards and significance criteria. **Appendix D** presents the Year 2021 Plus Project HCM/LOS calculations for the state-controlled study intersections.

³¹ The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

TABLE 9-3
YEAR 2021 CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2021 Cumulative Traffic Conditions		(3) Year 2021 Cumulative Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2021 Cumulative Plus Project Traffic Conditions with Improvements	
		HCM	LOS	HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Sepulveda Boulevard at Marine Avenue	AM	29.2 s/v	C	30.0 s/v	C	30.1 s/v	C	0.1 s/v	No	--	--
	PM	25.6 s/v	C	28.5 s/v	C	29.8 s/v	C	1.3 s/v	No	--	--
2. Sepulveda Boulevard at 18 th Street	AM	3.1 s/v	A	3.2 s/v	A	3.2 s/v	A	0.0 s/v	No	--	--
	PM	3.8 s/v	A	4.0 s/v	A	4.0 s/v	A	0.0 s/v	No	--	--
3. Sepulveda Boulevard at Manhattan Beach Boulevard	AM	40.9 s/v	D	50.6 s/v	D	51.3 s/v	D	0.7 s/v	No	--	--
	PM	39.4 s/v	D	51.5 s/v	D	54.7 s/v	D	3.2 s/v	No	--	--
4. Sepulveda Boulevard at 11 th Street	AM	-- ³²	F	-- ³²	F	-- ³²	F	--	No ³³	--	--
	PM	44.8 s/v	E	55.9 s/v	F	55.7 s/v	F	0.0 s/v ³⁴	No	--	--
5. Sepulveda Boulevard at 8 th Street	AM	5.9 s/v	A	6.3 s/v	A	6.9 s/v	A	0.6 s/v	No	--	--
	PM	6.1 s/v	A	8.5 s/v	A	9.3 s/v	A	0.8 s/v	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 9-1 and 3-2* for the LOS definitions
- s/v = seconds per vehicle (delay)

³² The intersection delay calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

³³ Since the intersection delay is not reported, it is assumed that the intersection is not considered significantly impacted based on the results of the PM peak hour, which indicates a negative increase in delay due to the project's pass-by trips.

³⁴ A theoretical negative significant impact increase is due to the project's pass-by trips, which results in reduced traffic volumes for certain movements at the intersection.

10.0 AREA-WIDE TRAFFIC IMPROVEMENTS

10.1 Recommended Improvements

For those intersections where projected traffic volumes are expected to result in poor operating conditions, this report identifies roadway improvements that are expected to:

- Mitigate the impact of existing traffic, Project traffic and future non-project (ambient growth and cumulative project) traffic; and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

10.1.1 *Existing Plus Project Traffic Conditions*

The results of the intersection capacity analysis presented previously in *Table 8-1* shows that the proposed Project will not significantly impact any of the eight (8) key study intersections under the “Existing Plus Project” traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

10.1.2 *Year 2021 Cumulative Plus Project Traffic Conditions*

The results of the intersection capacity analysis presented previously in *Table 8-2* shows that the proposed Project will not significantly impact any of the eight (8) key study intersections under the “Year 2021 Cumulative Plus Project” traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

10.1.3 *Existing Plus Project Traffic Conditions - Caltrans*

The results of the intersection capacity analysis presented previously in *Table 9-2* shows that the proposed Project will not significantly impact any of the five (5) state-controlled study intersections under the “Existing Plus Project” traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

10.1.4 *Year 2021 Cumulative Plus Project Traffic Conditions - Caltrans*

The results of the intersection capacity analysis presented previously in *Table 9-3* shows that the proposed Project will not significantly impact any of the five (5) state-controlled study intersections under the “Year 2021 Cumulative Plus Project” traffic scenario. Given that there are no significant Project impacts, no improvements are required under this traffic scenario.

11.0 SITE ACCESS EVALUATION

11.1 Site Access

Vehicular access to the surface lot of the proposed Project will be provided via one (1) right-turn only driveway on Manhattan Beach Boulevard and one (1) right-turn only driveway on Sepulveda Boulevard. Vehicular access to the subterranean parking garage will be provided via one (1) full access unsignalized driveway on 11th Street.

11.1.1 Project Driveway Level of Service Analysis

Table 11-1 summarizes the intersection operations at the proposed driveways for Year 2021 Cumulative plus Project traffic conditions upon completion and full occupancy of the proposed Project. The operations analysis for the Project driveway are based on the *Highway Capacity Manual* (HCM 6th Edition) methodology. A review of **Table 11-1** indicates that the proposed driveways are forecast to operate at acceptable level of service except for Project Driveway 2 located along Sepulveda Boulevard, which is forecast to operate at LOS F during the AM peak hour.

However, this intersection does not satisfy the criteria for the installation of a traffic signal and it is not uncommon for unsignalized driveways, such as that of Project Driveway 2, to experience a longer delay due to the heavy volumes on the major streets, such as Sepulveda Boulevard. Furthermore, due to the intersection being in close proximity to the signalized intersection of Sepulveda Boulevard/Manhattan Beach Boulevard, it is expected that gaps in traffic would occur and actual vehicular delay experienced would be lower than what is being reported within the HCM methodology. As such, the project site access is considered adequate.

11.1.2 Project Driveway Queueing Analysis

A queueing evaluation was completed for the inbound and outbound movements at the three (3) project driveways to determine the need for turn pockets at the intersections. **Table 11-2** summarizes the AM and PM peak hour inbound and outbound queues at the project driveways for Year 2021 Cumulative Plus Project traffic conditions. The queues are based on HCM 6th Edition 95th Percentile methodology. Review of **Table 11-2** indicates that the anticipated inbound and outbound queues will be minimal. As such, turn pockets at the driveways are not required.

Appendix D presents the level of service/queueing and signal warrant calculation worksheets for the proposed Project driveways.

11.2 Sight Distance

At intersections and/or project driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. A sight distance evaluation has been performed for both project driveways.

The Sight Distance Evaluation prepared for the project driveways are based on the criteria and procedures set forth by the California Department of Transportation (Caltrans) in the State's *Highway Design Manual (HDM)*. Corner sight distance was utilized for the evaluation. Corner sight distance is defined in the Caltrans HDM to be the distance required by the driver of a vehicle, traveling at a given speed, to maneuver their vehicle and avoid an object without radically altering their speed. Line of sight for corner sight distance is to be determined from a 3½ foot height at the location of the driver of a vehicle on a minor road to a 4¼ foot object height in the center of the approaching lane of the major road.

Based on the criteria set forth in Table 405.1A of the Caltrans HDM and a posted speed limit of 35 mph on Manhattan Beach Boulevard and Sepulveda Boulevard, a corner sight distance of 334 feet is required for right-turning vehicles at Project Driveways 1 and 2. Based on the criteria set forth in Table 405.1A of the Caltrans HDM and a prima facie limit of 25 mph on 11th Street, a corner sight distance of 276 feet and 239 feet is required for left-turning and right-turning vehicles at Project Driveway 3, respectively.

Figure 11-1 presents the results of the sight distance evaluation for the Project driveways based on the application of the corner sight distance criteria. The figures illustrate the limited use areas. As shown, the sight lines at the proposed Project driveways are expected to be adequate as long as obstructions within the sight triangles are minimized.

11.3 Internal Circulation

The Project driveways on Manhattan Beach Boulevard, Sepulveda Boulevard and 11th Street will provide access to the subject property for various types of trucks and passenger vehicles. The bank/coffee shop component will have a designated loading zone for delivery drop-offs during business hours, which is located in the southeast corner of the parking lot.

On-site circulation was evaluated for trash trucks and SU-30 trucks and was performed using the *Turning Vehicle Templates*, developed by Jack E. Leisch & Associates and *AutoTURN for AutoCAD* computer software that simulates turning maneuvers for various types of vehicles. **Figures 11-2** and **11-3** illustrates the turning movements required of a trash truck and a small delivery truck (SU-30) as it accesses and circulates through the site, respectively. Review of **Figures 11-2** and **11-3** shows that access to and from the site via a trash truck and SU-30 is generally considered adequate.

TABLE 11-1
PROJECT DRIVEWAY PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Project Driveway	Time Period	Intersection Control	(1) Year 2021 Cumulative Plus Project Traffic Conditions	
			HCM	LOS
A. Project Driveway 1 at Manhattan Beach Boulevard	AM	One – Way	11.9 s/v	B
	PM	Stop	13.2 s/v	B
B. Sepulveda Boulevard at Project Driveway 2	AM	One – Way	73.0 s/v	F
	PM	Stop	20.8 s/v	C
C. Project Driveway 3 at 11 th Street	AM	One – Way	8.8 s/v	A
	PM	Stop	8.7 s/v	A

Notes:

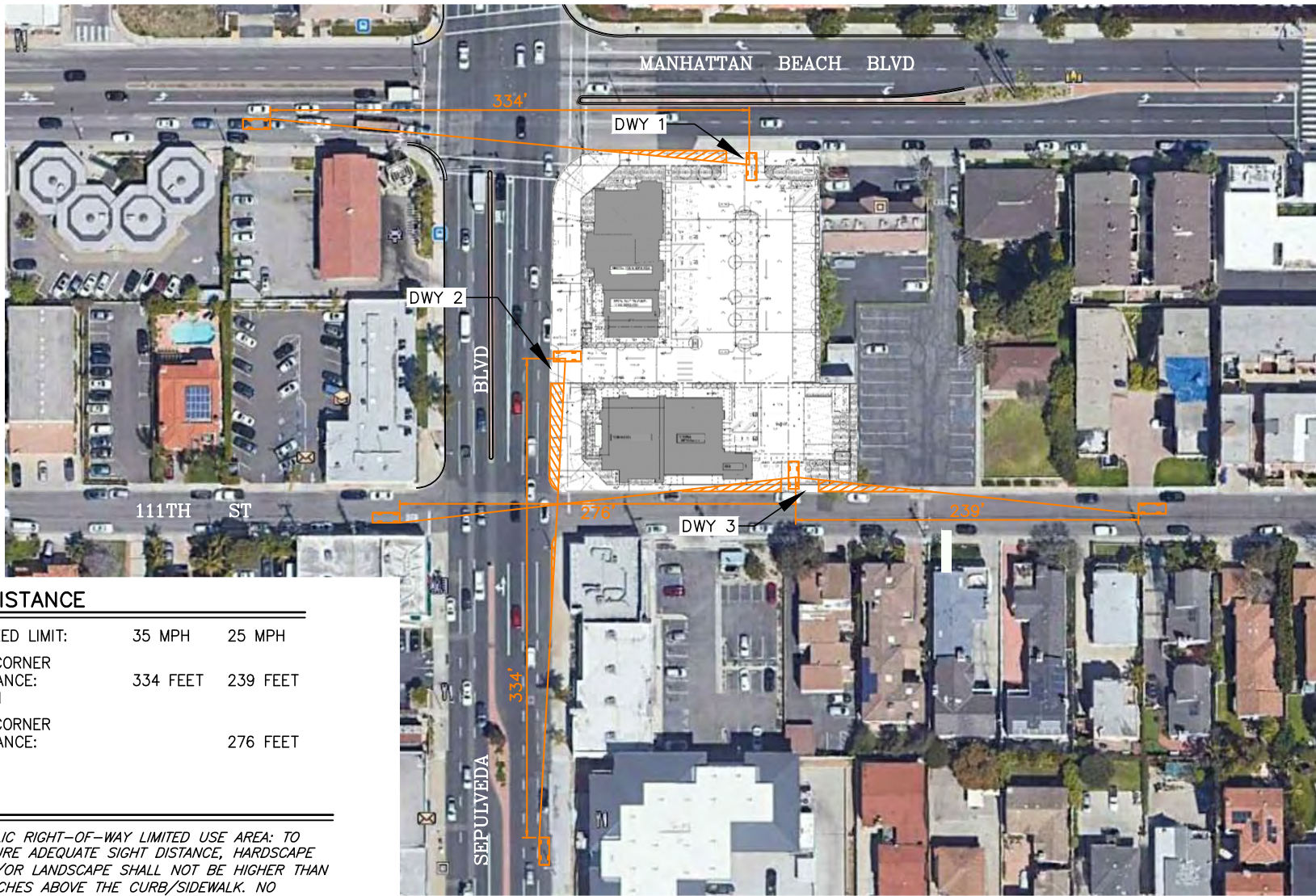
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Table 3-2* for the LOS definitions

TABLE 11-2
PROJECT DRIVEWAY PEAK HOUR INTERSECTION QUEUING ANALYSIS³⁵

Key Study Intersection	Storage Provided (feet)	(1) Year 2021 Cumulative Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
A. Project Driveway 1 at Manhattan Beach Boulevard					
<i>Northbound Right-Turn</i>	25'	25'	Yes	25'	Yes
<i>Eastbound Thru/Right-Turn</i>	120'	-- ³⁶	Yes	-- ³⁶	Yes
B. Sepulveda Boulevard at Project Driveway 2					
<i>Northbound Thru/Right-Turn</i>	65'	-- ³⁶	Yes	-- ³⁶	Yes
<i>Westbound Right-Turn</i>	90'	39'	Yes	25'	Yes
C. Project Driveway 3 at 11 th Street					
<i>Southbound Left/Right-Turn</i>	25'	25'	Yes	25'	Yes
<i>Eastbound Thru/Left-Turn</i>	150'	25'	Yes	25'	Yes
<i>Westbound Thru/Right-Turn</i>	420'	-- ³⁶	Yes	-- ³⁶	Yes

³⁵ Queues are based on HCM 95th percentile methodology.

³⁶ The inbound movement is a free flow movement that results in no queue being reported.



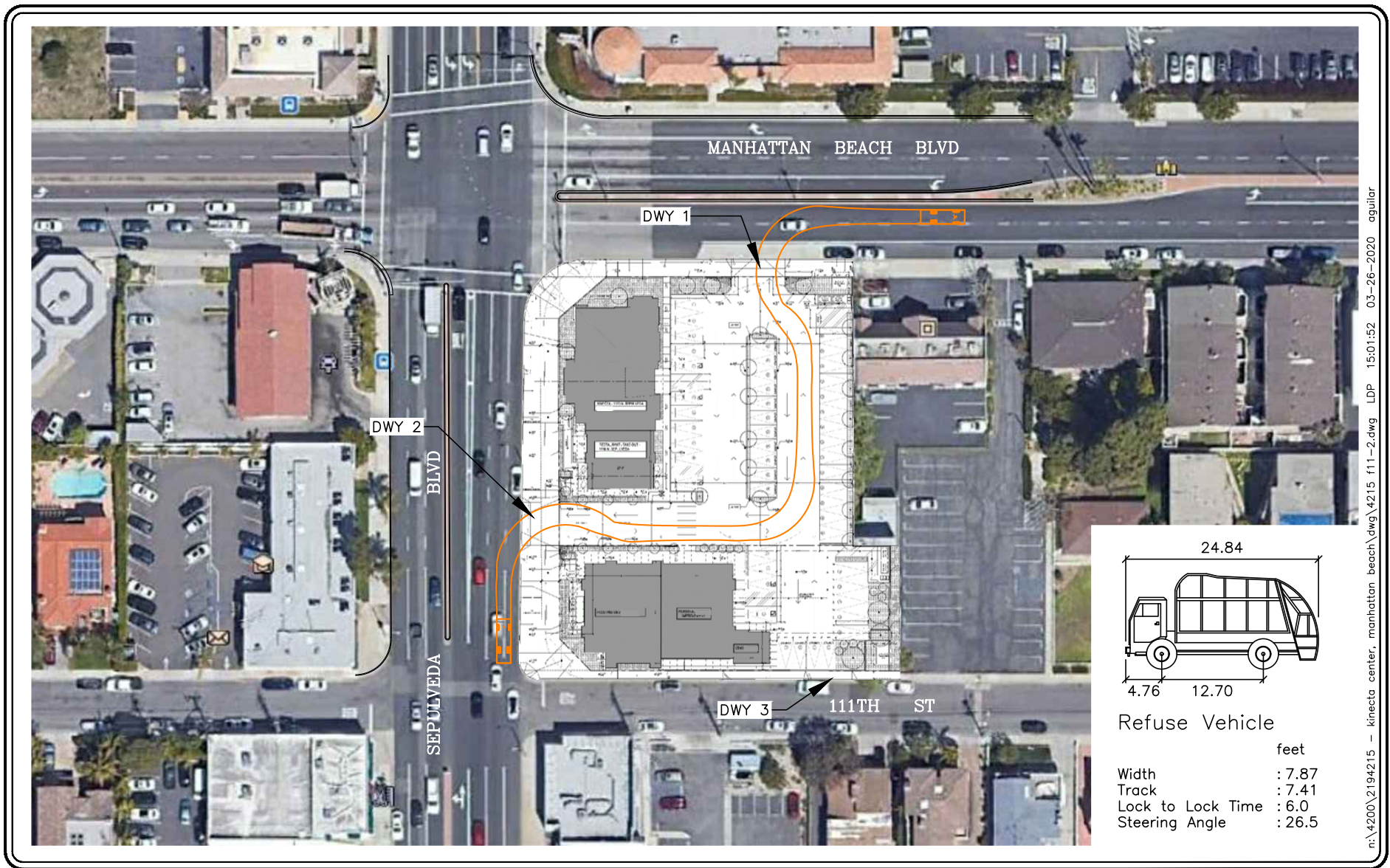
n:\4200\2194215 - kinecta center, manhattan beach\dwg\4215 f11-1.dwg LDP 15:00:50 03-26-2020 agular

SOURCE: TOMARO ARCHITECTURE

FIGURE 11-1

SIGHT DISTANCE ANALYSIS
KINECTA CENTER, MANHATTAN BEACH





SOURCE: TOMARO ARCHITECTURE

FIGURE 11-2

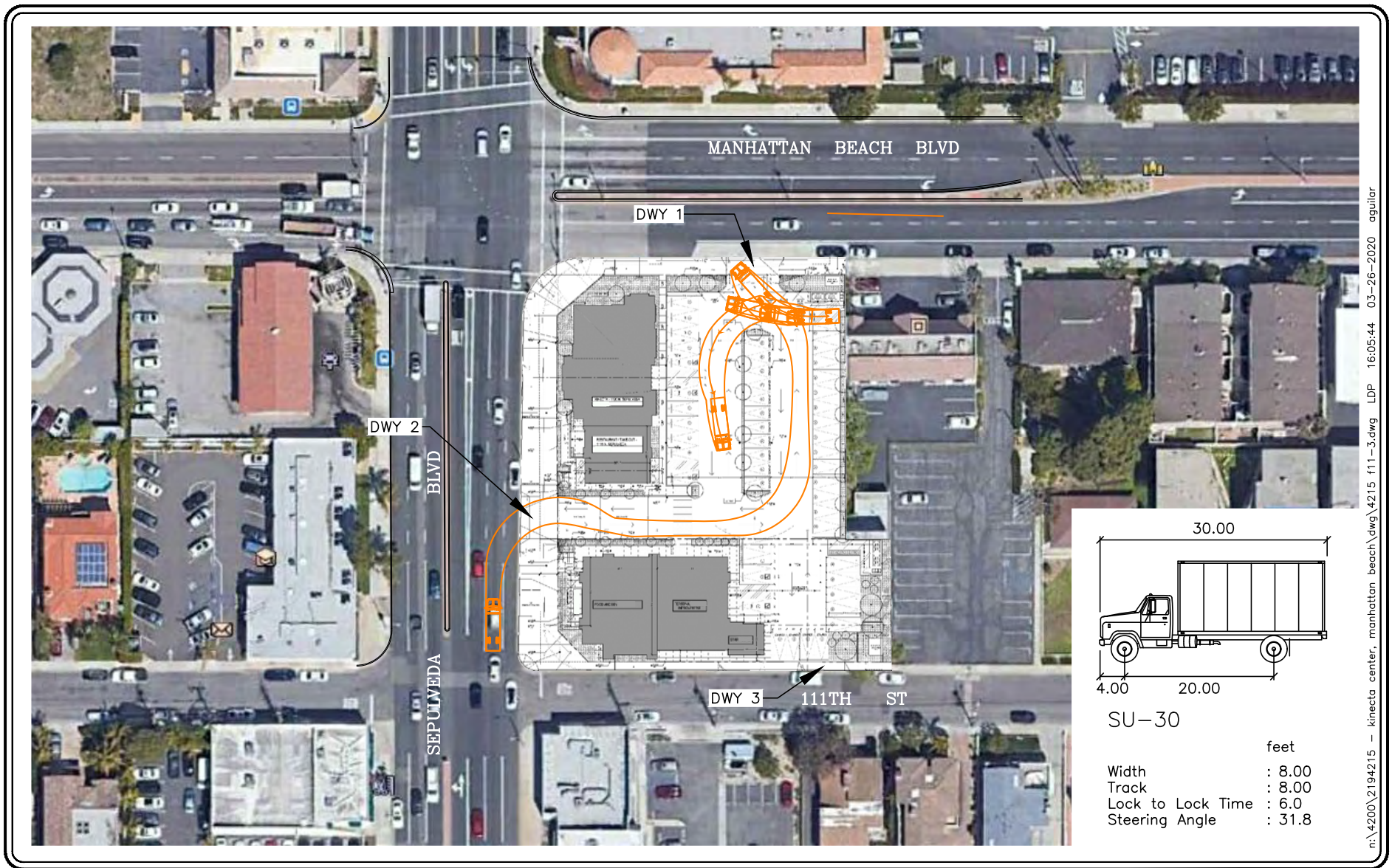
TRASH TRUCK TURNING ANALYSIS
KINECTA CENTER, MANHATTAN BEACH

LINSCOTT
LAW &
GREENSPAN

engineers



NO SCALE



12.0 PARKING ANALYSIS

A parking analysis has been completed to confirm the adequacy of the proposed Project's parking supply. Based on *The City of Manhattan Beach Municipal Code Section 10.64.030 Off-Street Parking and Loading Spaces Required*, the City's Code parking ratios for the Project components include the following:

- Health/Fitness Centers – 1 space per 200 SF activity area, plus 1 space per 250 SF for other areas
- Banks and Savings and Loans – 1 space per 300 SF
- Eating and Drinking Establishments (Take-Out Service) – 1 space per 75 SF of GFA Plus outdoor seating area

Table 12-1 presents the Code-based parking requirements for the Project. As shown, direct application of the City Code parking ratios results in a total code-based parking requirement of 78 spaces. With a proposed parking supply of 79 spaces, the proposed Project site satisfies the City's parking requirements and has a calculated code-surplus of 1 spaces.

Further yet, given the Project is a mixed-use development, shared parking can be expected given the proposed tenant mix / individual land use types (i.e., bank, eating establishments, fitness center) all experience peak demands at different times of the day. Hence, surpluses during the peak hour would likely be greater than what is reported above as a result of “shared parking” amongst the proposed tenant mix along with the ability for alternative modes of travel to/from the site.

TABLE 12-1
CITY CODE PARKING REQUIREMENTS³⁷

Project Description	Size	City of Manhattan Beach Code Parking Ratio	Spaces Required
<u>Kinecta Center</u>			
▪ Fitness Center	2,683 SF	1 space per 250 SF	11
▪ Restaurant/Take-Out Food Service	2,878 SF ³⁸	1 space per 75 SF	38
▪ Kinecta FCU	3,422 SF	1 space per 300 SF	11
▪ Coffee Shop/Café	1,372 SF ³⁹	1 space per 75 SF	18
Total Code Parking Requirement:			78
Proposed Parking Supply:			79
Parking Surplus/Deficiency (+/-):			+1

³⁷ Source: *City of Manhattan Beach Municipal Code*.

³⁸ The square footage includes 174 SF outdoor patio area.

³⁹ The square footage includes 145 SF outdoor patio area.

APPENDIX A

SCOPE OF WORK

MEMORANDUM

To:	Mr. Erik Zandvliet, City Traffic Engineer City of Manhattan Beach	Date:	March 5, 2020
From:	Richard E. Barretto, P.E., Principal LLG, Engineers	LLG Ref:	2.19.4215.1
Subject:	<i>Revised Traffic and Parking Study Scope of Work 1100 N. Sepulveda Blvd – Kinecta Center Manhattan Beach, California</i>		

Engineers & Planners
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As a follow-up to our coordination efforts, Law & Greenspan, Engineers (LLG) is pleased to submit this revised Traffic and Parking Study Scope of Work for the above-referenced project for review. The scope of work has been revised to reflect updates to the project description.

Traffic Study Scope of Work

The Traffic and Parking Study for the proposed Kinecta Center project (herein after referred to as Project) will satisfy the traffic impact requirements of the City of Manhattan Beach and be consistent with the City's work program as documented in an inter-department memorandum dated November 4, 2019. The traffic analysis will follow the procedures outlined in the current *Congestion Management Program (CMP) for Los Angeles County for CMP Traffic Impact Analysis*.

A. Project Location / Address: The Project site is comprised of two properties located east of Sepulveda Boulevard, south of Manhattan Beach Boulevard, north of 11th Street, City of Manhattan Beach, California - ***See attached vicinity map – Figure 1-1.***

B. Project Description: The Project site is a 0.88±-acre, square-shaped parcel of land, consisting of two lots, located at 1100 N. Sepulveda Boulevard, on the southeast corner of Sepulveda Boulevard and Manhattan Beach. The subject property is mostly vacant but is also currently developed with an 8,638± square-foot (SF) retail/commercial (existing development totals and current occupancy to be determined). ***See attached existing aerial map– Figure 2-1.***

The proposed Project includes the construction of a mixed-use development with up to 2,704 SF restaurant and up to 2,683 SF fitness center located in "Lot A" to the south, and a 3,422 SF bank/credit union and 1,227 SF coffee shop/café located in "Lot B" to the north.

Please note that "Lot A" includes a 356 SF stairwell adjacent to the building which will be used to access the subterranean parking garage. The stair well will not have direct access to interior of the buildings and therefore should not be included as part of the total building square footage. However, to be conservative the square footage

has been added to each of the two suites for “Lot A”. As such, the 356 SF was split proportionally between the restaurant and fitness center components, resulting in an additional 178 SF for each land use.

In addition, it should also be noted that an additional 200 SF has been added to each “Lot A” land uses to allow flexibility for any potential modifications to the project description in the future.

The proposed bank, with an anticipated staff of six (6) employees, will operate Monday through Friday from 9:00 AM to 6:00 PM and 9:00 AM to 2:00 PM on Saturday (closed Sunday).

Parking for the proposed project will be provided via a 50-space surface parking lot and a 30-space subterranean parking garage. The surface parking lot would be accessed via proposed driveways on Sepulveda Boulevard and Manhattan Beach Boulevard, both of which would be restricted to “right-turn only movements”. The subterranean parking garage will be accessed via a full access driveway on 11th Street. Employees will be directed to park in the subterranean parking garage and the surface lot will be reserved for customers.

See attached Table 2-1 for the project development summary and Figures 2-2 and 2-3 for overall layout as well as the proposed Project’s Basement Level respectively.

- C. Project Traffic Generation:** Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors and equations used in this analysis are based on information found in the 10th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington, D.C., 2017].

Based on the description of the proposed Project, the Project’s trip generation potential was estimated using ITE Land Use 492: Health Fitness Club, ITE Land Use 911: Walk-In Bank, ITE Land Use 932: High Turnover Sit Down Restaurant, and ITE Land 936: Coffee/Donut Shop Without Drive Through Window trip rates.

Table 5-1, located at the rear of this letter, summarizes the trip generation rates and forecast for the proposed Project. As shown in the lower half of this table, the proposed Project, after adjustment for pass-by trips, is forecast to generate 1,519 daily trips, with 90 trips (46 inbound, 44 outbound) generated during the AM

peak hour and 93 trips (46 inbound, 47 outbound) generated during the PM peak hour.

Please note that the overall project trip generation includes adjustments for pass-by as recommended by ITE. The pass-by reduction factors that are utilized for the Project are based on a review of available information published in the *Trip Generation Handbook, 3rd Edition*, published by ITE (2017) and are summarized in the footnotes of *Table 2*. For the proposed bank, pass-by reduction factors of 10% and 17.5% were utilized for daily and PM peak hour. Pass-by reduction factors of 10%, 10% and 43% were utilized for daily, AM peak hour, and PM peak hour for the proposed restaurant, respectively. Pass-by reduction factors of 25%, 50%, and 25% were utilized for daily, AM peak hour, and PM peak hour for the proposed coffee shop, respectively.

D. Project Trip Distribution Patterns: Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- a. location of site access points in relation to the surrounding street system,
- b. the site's proximity to major traffic carriers and regional access routes,
- c. physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns,
- d. presence of traffic congestion in the surrounding vicinity, and
- e. ingress/egress availability at the Project site, and
- f. in consideration of Per LA County Congestion Management Program Guidelines for CMP Traffic Impact Analysis (Appendix B) as modified by the City Traffic Engineer.

See attached project traffic distribution pattern – Table 5-2 and Figure 5-1.

E. Cumulative Traffic:

- Project Completion Year: 2021
- Ambient Growth Rate: 1% per year or as specified for the South Bay area in the LA County Congestion Management Program General Traffic Volume Growth Factors Chart (Appendix G) (Appendix B)
- Cumulative Projects: Approved projects in Manhattan Beach and Hermosa Beach within 2-mile radius that may contribute traffic to the following list of study intersections. *Table 6-1* summarizes the planned and/or approved projects within a 2-mile radius.

F. Traffic Study Intersections: The study intersections listed below, all of which are located within the City of Manhattan Beach, were identified by the City Traffic Engineer and in consideration of the “50 trip” threshold criteria:

1. Sepulveda Boulevard at Marine Avenue
2. Sepulveda Boulevard at 18th Street
3. Sepulveda Boulevard at Manhattan Beach Boulevard
4. Sepulveda Boulevard at 11th Street
5. Sepulveda Boulevard at 8th Street
6. Target Driveway at Manhattan Beach Boulevard
7. Meadows Avenue at Manhattan Beach Boulevard
8. Meadows Avenue at 11th Street

In addition, conduct, 24-hour daily traffic counts on 11th Street, east of Sepulveda Boulevard.

G. Analysis Scenarios: Prepare AM peak hour and PM peak hour Level of Service (LOS) calculations at up to eight (8) study intersections to determine the potential impacts of the proposed Project. The following traffic scenarios will be prepared.

1. Existing Traffic Conditions;
2. Existing With Project Traffic Conditions;
3. Scenario (2) with Mitigation, if necessary;
4. Future Near-Term (Year 2021) Traffic Conditions (Existing plus Ambient Growth plus Cumulative Projects);
5. Future Near-Term (Year 2021) Traffic Conditions with Project;
6. Scenario (5) with Mitigation, if necessary;

The LOS calculations will be based on ICU method for signalized intersections and Highway Capacity Manual method for unsignalized intersections. The project’s potential impact will be based on the significant impact criteria outlined in the current *Congestion Management Program (CMP) for Los Angeles County*.

In addition to the intersection analyses, which utilize the City of Manhattan Beach’s methodology, a supplemental analysis was prepared for those study intersections located along the Sepulveda Boulevard based on the latest edition of the Highway Capacity Manual operational analysis methodology pursuant to the California Department of Transportation’s (Caltrans) *Guide for the Preparation of Traffic Impact Studies, December 2002*.

H. Other Issues:

- Confirm adequacy of parking supply based on applicable City-code parking ratios.
- Evaluate Site Access and Internal Circulation for both vehicular access and truck access (i.e. trash trucks, delivery trucks, etc.). Determine internal circulation, turning radii and aisle widths for parking and loading/unloading areas. Evaluate inbound/outbound vehicle queuing lengths at each driveway, including need for turn lane/pocket(s). Identify pedestrian access routes between public sidewalk and all buildings.
- Mitigation Measures: Identify and describe any recommended project modifications or mitigation measures to reduce potential significant traffic impacts to a level of insignificance. Any significant impacts for existing or future conditions caused solely by the project shall be mitigated fully by the project, while any contributory significant impacts caused by the project in combination with other cumulative projects may be mitigated through a fair-share contribution in proportion to the percentage of project traffic is added to the study location(s).

* * * * *



We appreciate the opportunity to provide this scope of work. Should you have any questions, please call me at (949) 825-6175. Thank You.

Recommended by:

A handwritten signature in blue ink, appearing to read "R. B. Bantle", is written over a horizontal line.

3/5/2020

Consultant's Representative

Date

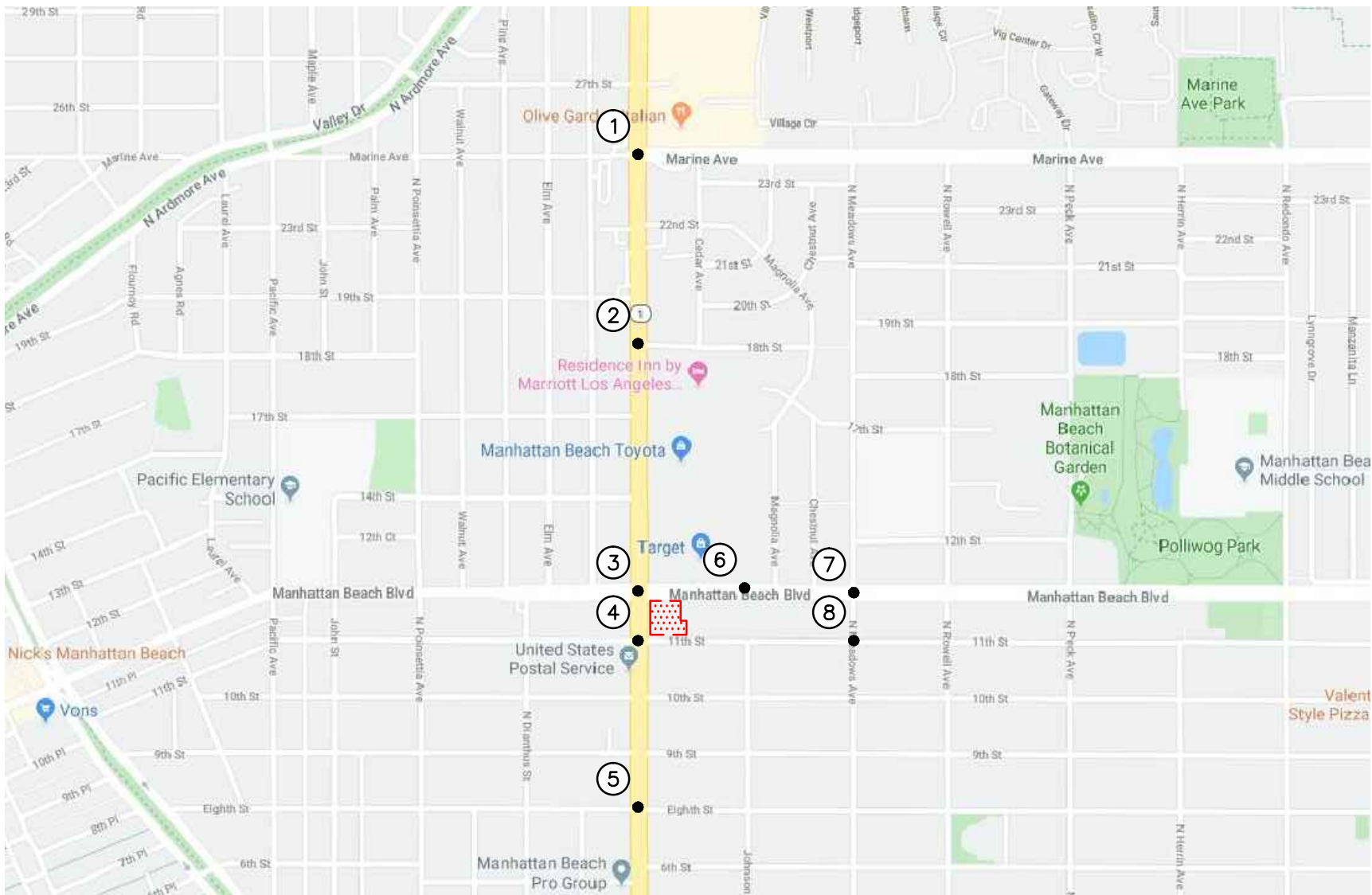
Approved by:

City of Manhattan Beach, Community Development
Department

Date

cc: File
 Shane Green, PE, LLG
 Matthew Boziwick, Tomaro
 Jessica Farinacci, Tomaro

Attachments



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GREENSPAN



NO SCALE

engineers

SOURCE: GOOGLE

KEY



= STUDY INTERSECTION

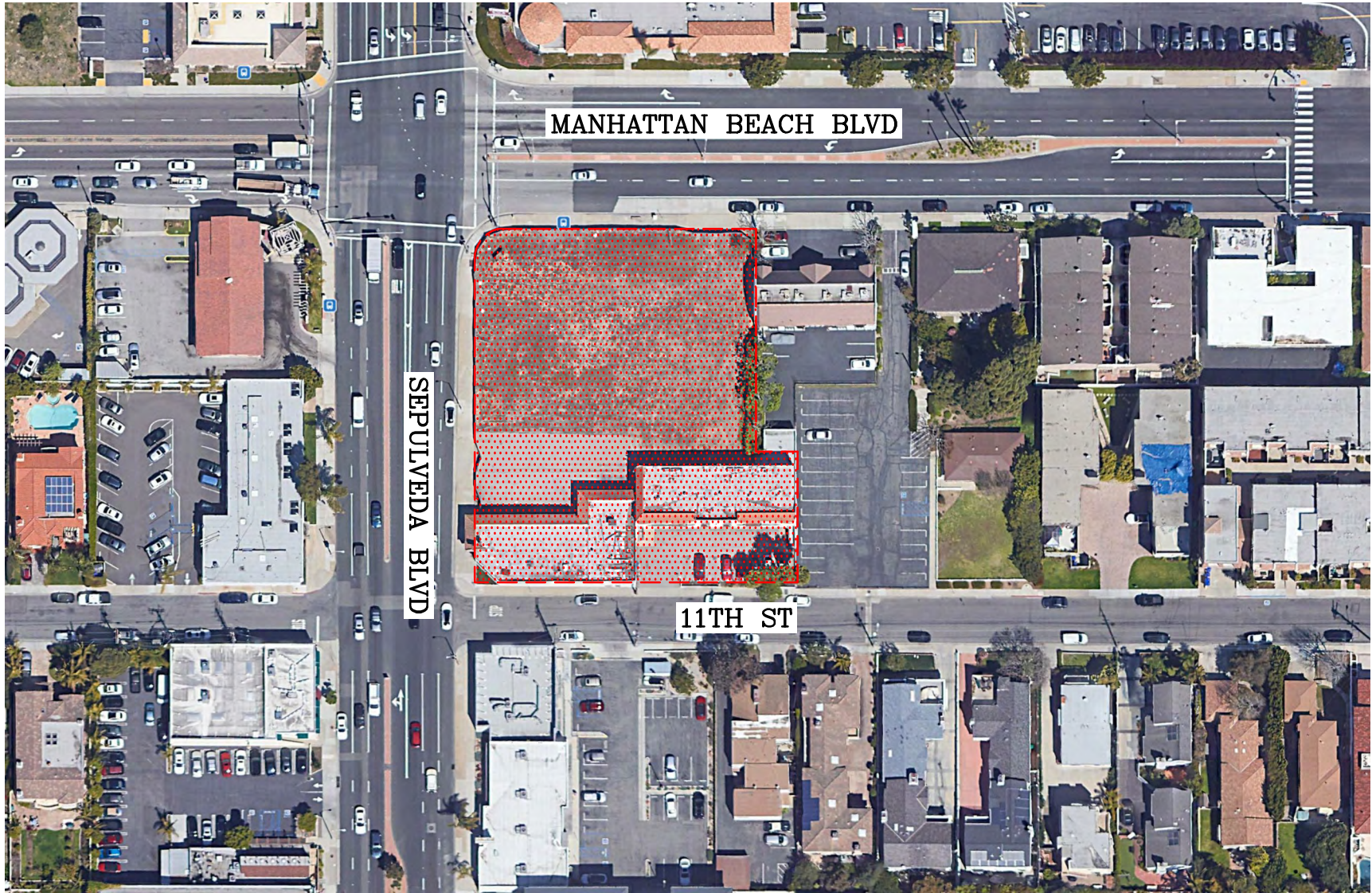


= PROJECT SITE

FIGURE 1-1

VICINITY MAP

KINECTA CENTER, MANHATTAN BEACH



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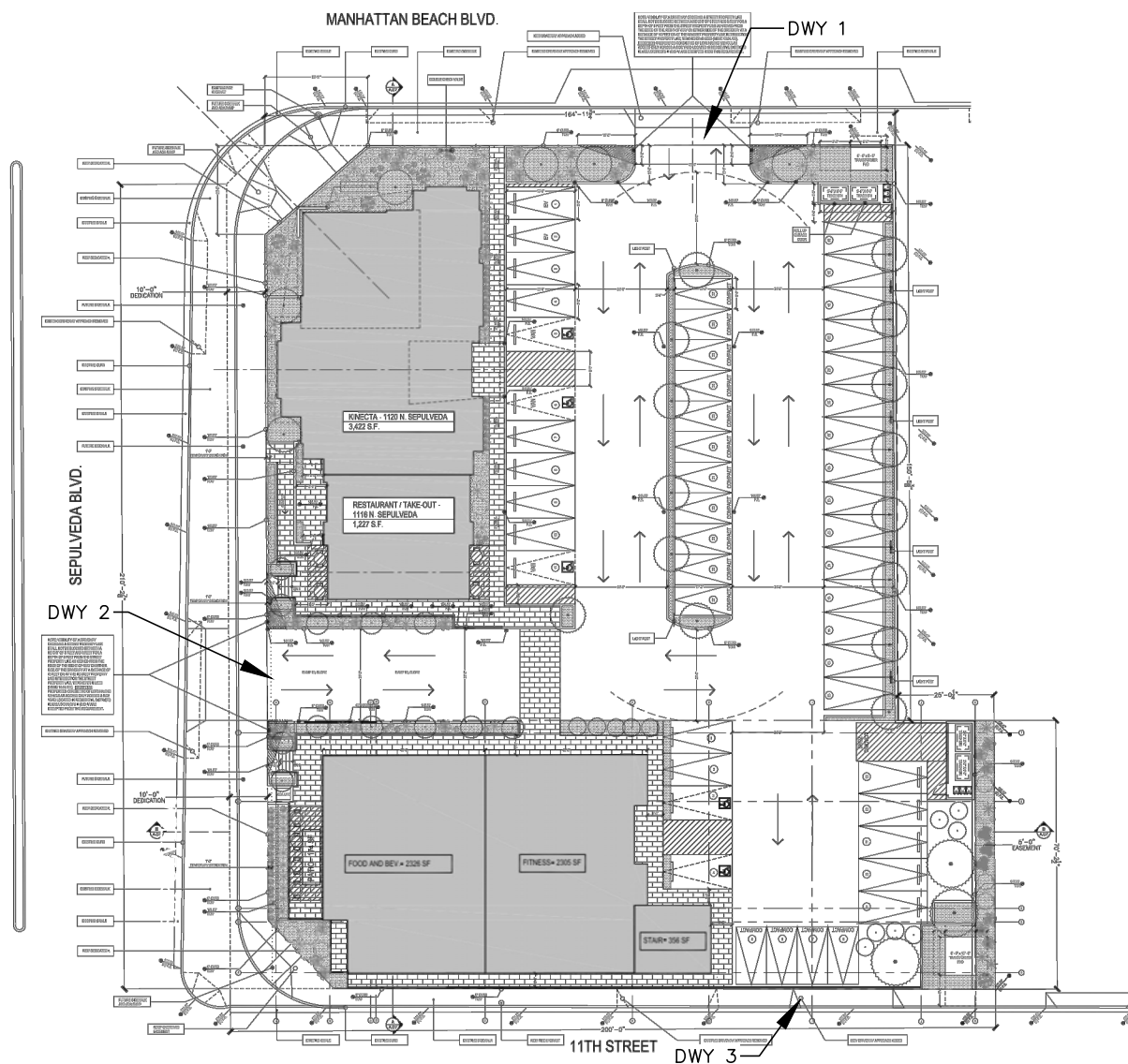
SOURCE: GOOGLE

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 = PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL
KINECTA CENTER, MANHATTAN BEACH



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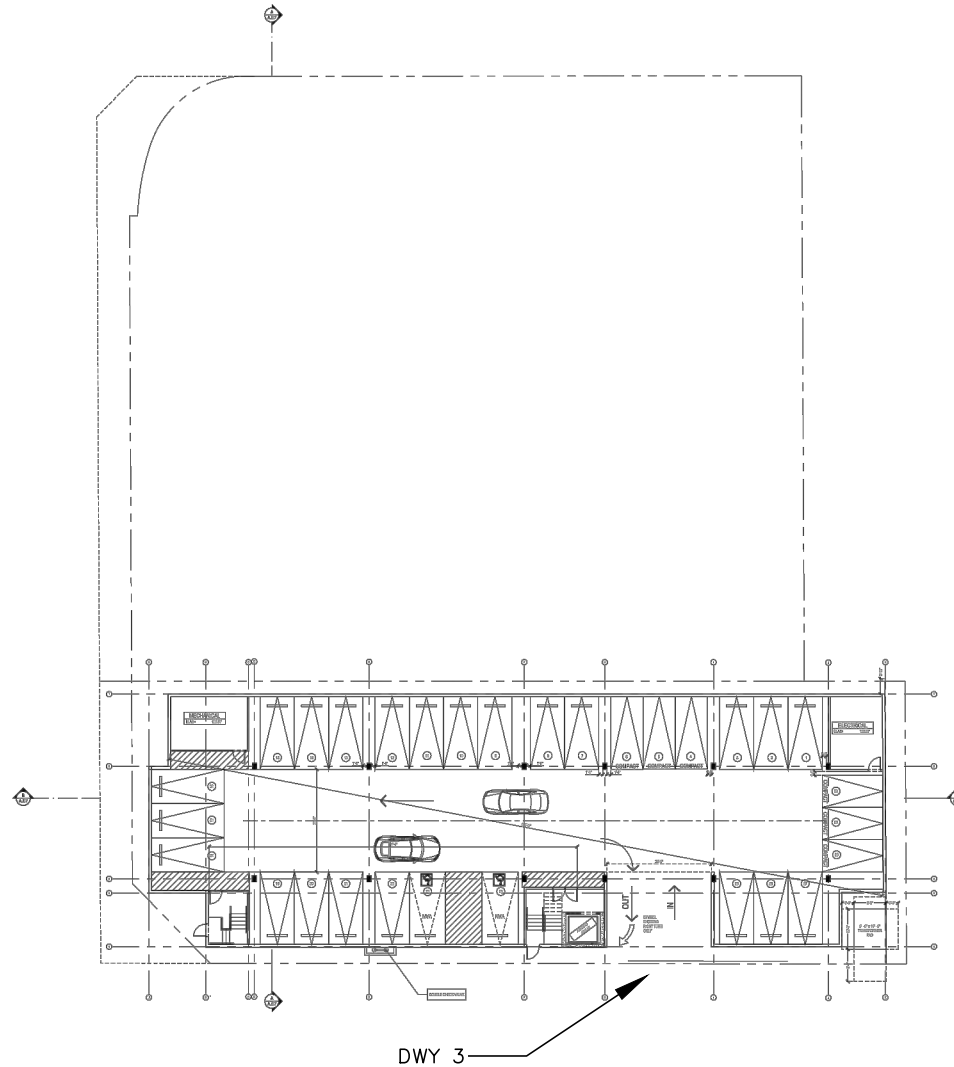
SOURCE: TOMARO ARCHITECTURE

FIGURE 2-2

PROPOSED PROJECT SITE PLAN
KINECTA CENTER, MANHATTAN BEACH

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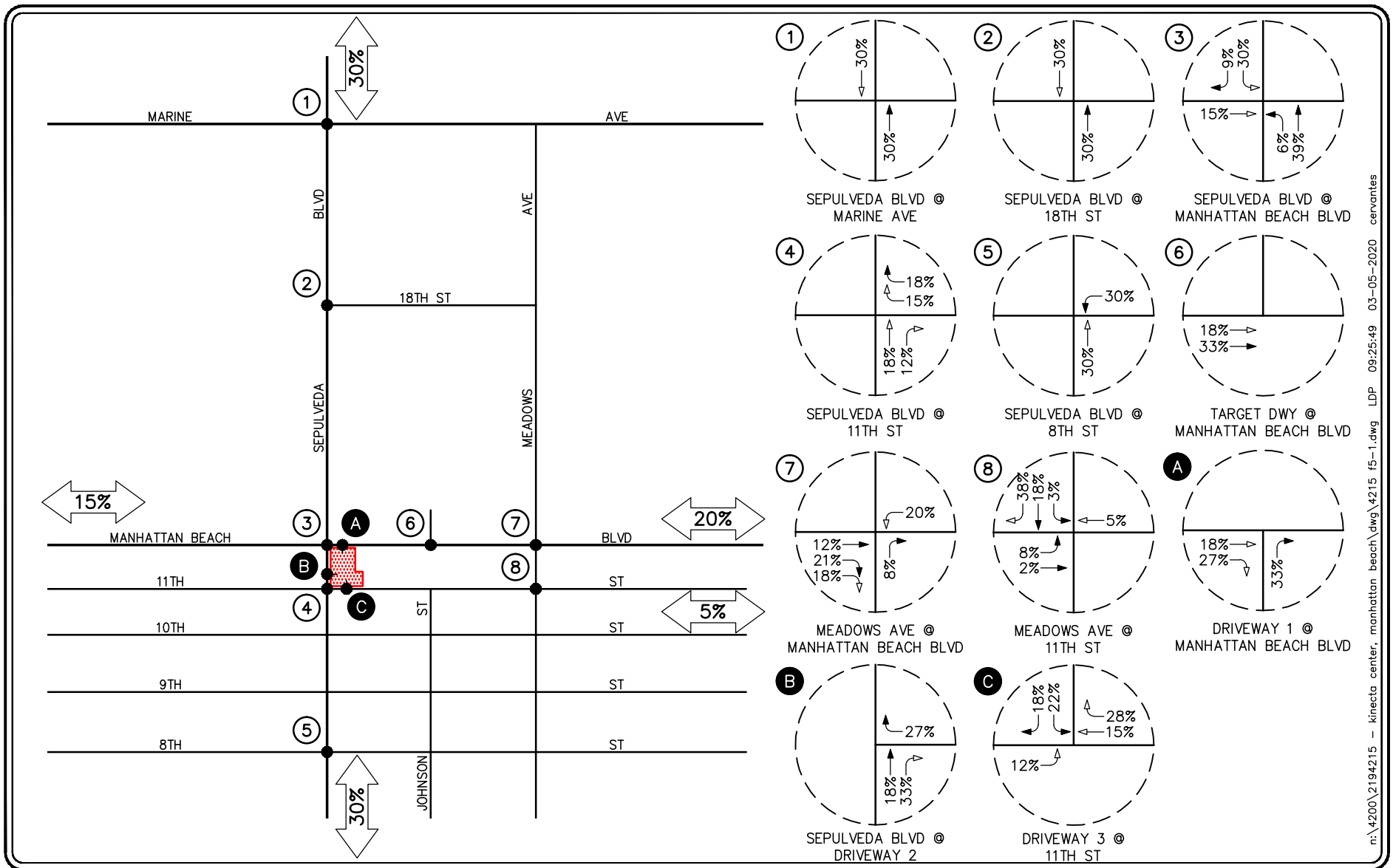


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SOURCE: TOMARO ARCHITECTURE

FIGURE 2-3

PROPOSED PROJECT BASEMENT LEVEL PLAN
KINECTA CENTER, MANHATTAN BEACH



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engineers



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NOTE:

THE PROJECT DISTRIBUTION TAKES INTO CONSIDERATION U-TURN RESTRICTIONS AT THE INTERSECTIONS OF MANHATTAN BEACH BLVD AT SEPULVEDA BLVD, TARGET DWY, AND MEADOWS AVE.

KEY

- # = STUDY INTERSECTION
- ← = INBOUND PERCENTAGE
- = OUTBOUND PERCENTAGE
- = PROJECT SITE

FIGURE 5-1

PROJECT TRIP DISTRIBUTION PATTERN KINECTA CENTER, MANHATTAN BEACH

TABLE 2-1
PROJECT DEVELOPMENT SUMMARY

Project Description	Development Totals
<u>Proposed Project - "Lot A" (South)</u>	
▪ High-Turnover Restaurant	2,326 SF + 178 SF (stairwell) + 200 SF ¹ = 2,704 SF
▪ Fitness Center	2,305 SF + 178 SF (stairwell) + 200 SF ¹ = 2,683 SF
<u>Proposed Project - "Lot B" (North)</u>	
▪ Kinecta FCU	3,422 SF
▪ Coffee Shop/Café	1,227 SF

¹ Since the project site plan details are still not finalized 200 SF has been added to the proposed development total to provide a conservative assessment.

**TABLE 5-1
PROJECT TRAFFIC GENERATION FORECAST²**

ITE Land Use / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<i>Generation Factors:</i>							
▪ 492: Health Fitness Club (TE/1,000 SF)	32.15 ³	51%	49%	1.31	57%	43%	3.45
▪ 911: Walk-In Bank (TE/1,000 SF)	98.31 ⁴	--	--	--	44%	56%	12.13
▪ 932: High Turnover Sit Down Restaurant (TE/1,000 SF)	112.18	55%	45%	9.94	62%	38%	9.77
▪ 936: Coffee/Donut Shop Without Drive Through Window (TE/1000 SF)	932.39 ⁵	51%	49%	101.14	50%	50%	36.31
<i>Generation Forecast:</i>							
▪ Fitness Center (2,683 SF)	86	2	2	4	5	4	9
▪ Restaurant (2,704 SF)	303	15	12	27	16	10	26
Pass-By Trips ⁶	<u>-30</u>	<u>-2</u>	<u>-1</u>	<u>-3</u>	<u>-7</u>	<u>-4</u>	<u>-11</u>
Restaurant Net Trip Generation	273	13	11	24	9	6	15
▪ Kinecta FCU (3,422 SF)	336	--	--	--	18	24	42
Pass-by Trips ⁶	<u>-34</u>	--	--	--	<u>-3</u>	<u>-4</u>	<u>-7</u>
Kinecta FCU Net Trip Generation	302	0	0	0	15	20	35
▪ Coffee Shop/Café (1,227 SF)	1,144	63	61	124	23	22	45
Pass-By Trips ⁶	<u>-286</u>	<u>-32</u>	<u>-31</u>	<u>-62</u>	<u>-6</u>	<u>-6</u>	<u>-11</u>
Coffee Shop/Café Net Trip Generation	858	31	30	62	17	16	34
<i>Project Trip Generation Potential</i>	1,869	80	75	155	62	60	122
<i>Less Pass-By Trips</i>	<u>-350</u>	<u>-34</u>	<u>-31</u>	<u>-65</u>	<u>-16</u>	<u>-13</u>	<u>-29</u>
<i>Net Project Trip Generation Potential</i>	1,519	46	44	90	46	47	93

² Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

³ Source: A daily trip generation rate is not provided per the *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017). A ratio of the total PM rate and daily trip generation rate from *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012) was used and applied.

⁴ The Daily trip rate for ITE Land Use 911: Walk-In Bank is not available in 10th Edition of *Trip Generation*. Hence, the Daily rate for this use was estimated using information in the 5th Edition of *Trip Generation* as a comparison and basis for development this rate.

⁵ The Daily trip rate for ITE Land Use 936: Coffee/Donut Shop Without Drive-Through Window is not available in 10th Edition of *Trip Generation*. Hence, the Daily trip rate for this use was estimated using information for ITE Land Use 937: Coffee/Donut Shop with Drive-Through Window.

⁶ Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Handbook*, 3rd Edition, ITE 2017):

- ITE 911 Walk-In Bank: Daily – Assume 10%; PM Peak Hour – assume approximately half that of ITE Land Use 912: Drive-In Bank (50% x 35% = 17.5%)
- ITE 932 High Turnover Sit Down Restaurant: Daily – Assume 10%; AM Peak Hour – Assume 10%; PM Peak Hour – 43%
- ITE 936 Coffee/Donut Shop Without Drive-Through Window does not include pass-by rates, so engineering judgment was utilized. Assume Daily: 25%, AM peak hour: 50%, PM peak hour: 25%

TABLE 5-2
PROJECT DIRECTIONAL DISTRIBUTION PATTERN

Project Distribution Percentage	Orientation
30%	To/from the north on Sepulveda Boulevard
30%	To/from the south on Sepulveda Boulevard
20%	To/from the east on Manhattan Beach Boulevard
15%	To/from the west on Manhattan Beach Boulevard
5%	To/from the east on 11 th street
100%	Total

**TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS⁷**

No.	Location/Address	Location/Address	Description
<u><i>City of Manhattan Beach</i></u>			
1.	Manhattan Village Shopping Center	3200-3600 N. Sepulveda Boulevard	55,000 SF net new shopping center
2.	1133 Artesia Boulevard	1133 Artesia Boulevard	12,000 SF grocery store
3.	865 Manhattan Beach Boulevard	865 Manhattan Beach Boulevard	15,000 SF general office and 700 SF deli
4.	1000 N. Sepulveda Boulevard	1000 N. Sepulveda Boulevard	23,050 SF medical office, 665 SF pharmacy, and 1,715 SF coffee shop to replace an existing 5,400 SF restaurant
5.	Gelson's Market Plaza	707 N. Sepulveda Boulevard	7,000 SF bank
6.	1800 Manhattan Beach Boulevard	1800 Manhattan Beach Boulevard	3,000 SF general office to replace existing 3 DU apartments
7.	2205 N. Sepulveda Boulevard	2205 N. Sepulveda Boulevard	4,700 SF general office to replace existing 1,040 SF hair salon
8.	1762 Manhattan Beach Boulevard	1762 Manhattan Beach Boulevard	1,800 SF medical office and 1 DU apartment to replace existing 1 DU single-family residence
9.	1129 N. Sepulveda Boulevard	1129 N. Sepulveda Boulevard	2,000 SF retail
10.	516 N. Sepulveda Boulevard	516 N. Sepulveda Boulevard	Convert existing 10,900 SF restaurant building into office use
11.	Sunrise Senior Facility	250-400 N. Sepulveda Boulevard	79,200 SF and 111 DU senior living facility
12.	1701 Artesia Boulevard	1701 Artesia Boulevard	7 DU condominiums and 3,000 SF medical office
13.	Chocolate Factory	326 13 th Street	2,000 SF manufacturing and 250 SF retail
14.	Sketchers Site 1	305 S. Sepulveda Boulevard	37,174 SF office to replace existing 8,422 SF office. 4,000 SF retail and 2,815 SF auto care center
15.	Sketchers Site 2	330 S. Sepulveda Boulevard	20,328 SF office to replace existing 2,525 SF automated car wash
<u><i>City of Hermosa Beach</i></u>			
16.	Clash Hotel	1429 Hermosa Avenue	30 room hotel
17.	2101 Pacific Coast Highway	2101 Pacific Coast Highway	10,124 SF office
18.	906 Hermosa Avenue	906 Hermosa Avenue	8,780 SF office

Notes:

- SF = Square-feet
- DU = Dwelling units

⁷ Source: *Cities of Manhattan Beach and Hermosa Beach Planning Departments.*

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS⁸

No.	Location/Address	Location/Address	Description
<i>City of Hermosa Beach (Continued)</i>			
19.	824 1 st Street	824 1 st Street	3,000 SF office
20.	Strand & Pier Hotel Mixed-Use	NE Corner of The Strand/Pier Avenue	100 room hotel, 5,406 SF retail, and 8,213 SF restaurant to replace existing 9,300 SF restaurant and 6,000 SF retail
21.	2420 Pacific Coast Highway	2420 Pacific Coast Highway	32191 SF net new church and 30,078 SF supermarket to replace existing 15,000 SF office and 29,653 SF recreation center
22.	OTO Development Hotel	Beach Drive/11 th Street	100 room hotel
23.	Sketchers Site 3	2851, 2901 3001 and 3125 Pacific Coast Highway	100,296 SF design center, 19209 SF executive office, and 998 SF executive office coffee shop

Notes:

- SF = Square-feet
- DU = Dwelling units

⁸ Source: *Cities of Manhattan Beach and Hermosa Beach Planning Departments.*

APPENDIX B

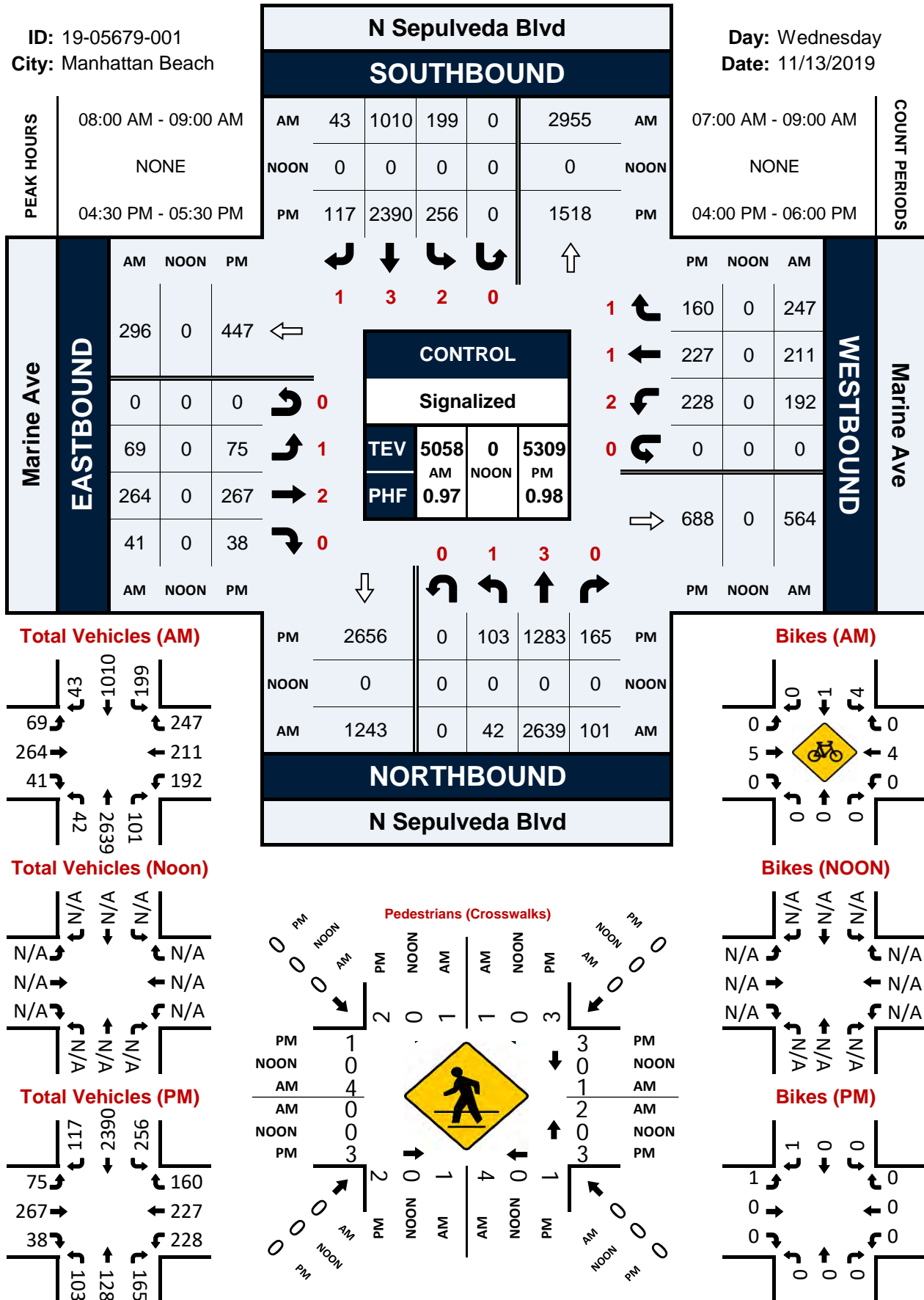
EXISTING TRAFFIC COUNT DATA

N Sepulveda Blvd & Marine Ave

Peak Hour Turning Movement Count

ID: 19-05679-001
City: Manhattan Beach

Day: Wednesday
Date: 11/13/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & Marine Ave
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-001
Date: 11/13/2019

Total																			
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				Marine Ave				Marine Ave					
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		1	3	0	0	2	3	1	0	1	2	0	0	2	1	1	0		
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	7:00 AM	5	614	26	0	26	156	4	0	9	19	9	0	39	28	67	0	1002	
	7:15 AM	4	673	29	0	28	194	7	0	13	27	7	0	26	39	39	0	1086	
	7:30 AM	6	657	34	0	31	255	10	0	15	39	12	0	43	45	53	0	1200	
	7:45 AM	20	718	26	0	37	252	10	0	12	26	3	0	47	33	49	0	1233	
	8:00 AM	14	685	24	0	28	228	12	0	18	44	14	0	47	50	50	0	1214	
	8:15 AM	9	729	28	0	34	245	11	0	14	60	6	0	37	41	59	0	1273	
	8:30 AM	13	622	27	0	65	234	12	0	20	93	8	0	49	62	66	0	1271	
	8:45 AM	6	603	22	0	72	303	8	0	17	67	13	0	59	58	72	0	1300	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :		77	5301	216	0	321	1867	74	0	118	375	72	0	347	356	455	0	9579	
PEAK HR :		1.38%	94.76%	3.86%	0.00%	14.19%	82.54%	3.27%	0.00%	20.88%	66.37%	12.74%	0.00%	29.97%	30.74%	39.29%	0.00%		
PEAK HR :		08:00 AM - 09:00 AM																TOTAL	
PEAK HR VOL :		42	2639	101	0	199	1010	43	0	69	264	41	0	192	211	247	0	5058	
PEAK HR FACTOR :		0.750	0.905	0.902	0.000	0.691	0.833	0.896	0.000	0.863	0.710	0.732	0.000	0.814	0.851	0.858	0.000	0.973	
		0.908				0.817				0.773				0.860					
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		1	3	0	0	2	3	1	0	1	2	0	0	2	1	1	0		
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:00 PM	20	322	48	0	57	596	22	0	17	45	11	0	64	47	39	0	1288	
	4:15 PM	25	303	33	0	66	596	33	0	14	85	12	0	43	60	36	0	1306	
	4:30 PM	26	351	37	0	49	647	24	0	20	52	8	0	50	45	50	0	1359	
	4:45 PM	32	285	38	0	71	551	29	0	10	90	14	0	57	73	37	0	1287	
	5:00 PM	29	337	53	0	50	612	32	0	22	54	7	0	70	49	35	0	1350	
	5:15 PM	16	310	37	0	86	580	32	0	23	71	9	0	51	60	38	0	1313	
	5:30 PM	10	316	45	0	50	666	20	0	21	31	9	0	60	41	29	0	1298	
	5:45 PM	24	282	41	0	82	564	25	0	16	61	13	0	68	67	46	0	1289	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :		182	2506	332	0	511	4812	217	0	143	489	83	0	463	442	310	0	10490	
PEAK HR :		6.03%	82.98%	10.99%	0.00%	9.22%	86.86%	3.92%	0.00%	20.00%	68.39%	11.61%	0.00%	38.11%	36.38%	25.51%	0.00%		
PEAK HR :		04:30 PM - 05:30 PM																TOTAL	
PEAK HR VOL :		103	1283	165	0	256	2390	117	0	75	267	38	0	228	227	160	0	5309	
PEAK HR FACTOR :		0.805	0.914	0.778	0.000	0.744	0.923	0.914	0.000	0.815	0.742	0.679	0.000	0.814	0.777	0.800	0.000	0.977	
		0.925				0.959				0.833				0.921					

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & Marine Ave
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-001
Date: 11/13/2019

Bikes																		
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				Marine Ave				Marine Ave				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1	3	0	0	2	3	1	0	1	2	0	0	2	1	1	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	0	0	0	0	0	1	0	0	0	0	1	0	2
7:15 AM		0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	4
7:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM		1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:15 AM		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM		0	0	0	0	3	0	0	0	0	3	0	0	0	2	0	0	8
8:45 AM		0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	3
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		1	0	0	0	5	1	1	0	0	9	1	0	0	4	1	0	23
PEAK HR :		08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :		0	0	0	0	4	1	0	0	0	5	0	0	0	4	0	0	14
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.333	0.250	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.500	0.000	0.000	0.438
						0.417				0.417				0.500				
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1	3	0	0	2	3	1	0	1	2	0	0	2	1	1	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	0	0	0	0	0	1	0	0	1	0	0	0	2
4:15 PM		0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:30 PM		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		0	0	0	0	0	0	1	0	1	3	0	0	1	1	0	0	7
PEAK HR :		04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :		0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
PEAK HR FACTOR :		0.00	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
						0.250				0.250								

National Data & Surveying Services

Intersection Turning Movement Count

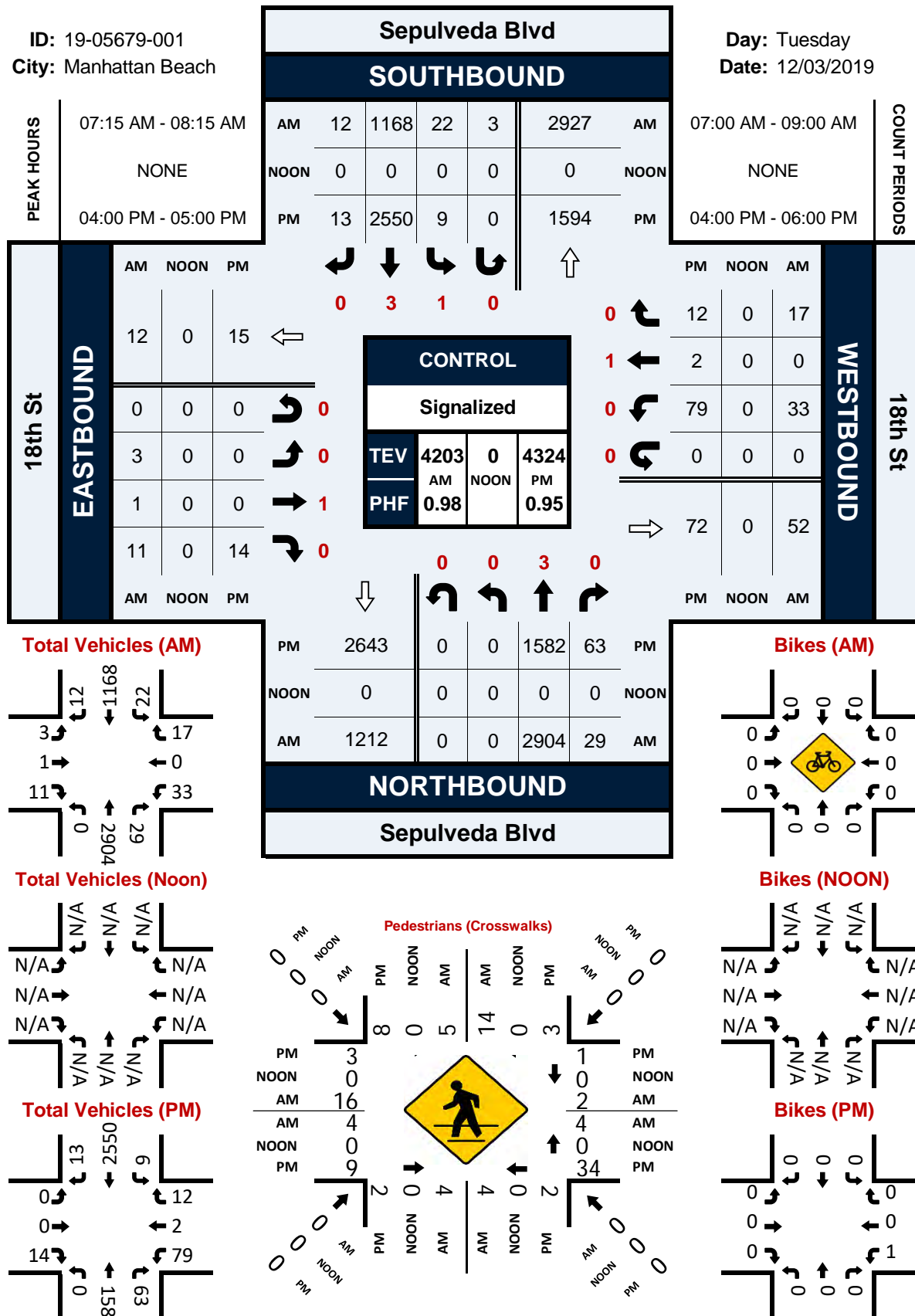
Location: N Sepulveda Blvd & Marine Ave
City: Manhattan Beach

Project ID: 19-05679-001
Date: 11/13/2019

Pedestrians (Crosswalks)

NS/EW Streets:	N Sepulveda Blvd		N Sepulveda Blvd		Marine Ave		Marine Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
	7:00 AM	0	1	0	0	2	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0
	7:30 AM	1	1	0	2	1	0	1	7
	7:45 AM	0	0	0	0	0	0	1	0
	8:00 AM	0	0	0	1	0	1	0	2
	8:15 AM	1	0	1	0	0	0	0	2
	8:30 AM	0	1	0	2	2	0	0	0
	8:45 AM	0	0	0	1	0	0	0	0
TOTAL VOLUMES :	EB 2	WB 3	EB 1	WB 6	NB 5	SB 1	NB 2	SB 5	TOTAL 25
APPROACH %'s :	40.00%	60.00%	14.29%	85.71%	83.33%	16.67%	28.57%	71.43%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	1	1	1	4	2	1	0	4	14
PEAK HR FACTOR :	0.250	0.250	0.250	0.500	0.250	0.250	0.500		0.700
	0.500		0.625		0.375		0.500		

Day: Tuesday
Date: 12/03/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Sepulveda Blvd & 18th St
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-001
Date: 12/3/2019

Total

NS/EW Streets:	Sepulveda Blvd				Sepulveda Blvd				18th St				18th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	685	5	0	2	194	0	1	0	0	1	0	1	0	2	0	891
7:15 AM	0	794	1	0	1	247	1	1	0	0	2	0	2	0	1	0	1050
7:30 AM	0	676	3	0	8	310	6	0	1	0	2	0	9	0	4	0	1019
7:45 AM	0	699	10	0	7	321	1	0	2	1	3	0	9	0	8	0	1061
8:00 AM	0	735	15	0	6	290	4	2	0	0	4	0	13	0	4	0	1073
8:15 AM	0	710	11	0	5	287	2	0	0	0	5	0	11	0	2	0	1033
8:30 AM	0	674	22	0	3	302	7	0	0	1	1	0	15	0	2	0	1027
8:45 AM	0	688	11	0	2	344	2	0	1	1	3	0	14	1	3	0	1070
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	5661	78	0	34	2295	23	4	4	3	21	0	74	1	26	0	8224
	0.00%	98.64%	1.36%	0.00%	1.44%	97.41%	0.98%	0.17%	14.29%	10.71%	75.00%	0.00%	73.27%	0.99%	25.74%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	2904	29	0	22	1168	12	3	3	1	11	0	33	0	17	0	4203
PEAK HR FACTOR :	0.000	0.914	0.483	0.000	0.688	0.910	0.500	0.375	0.375	0.250	0.688	0.000	0.635	0.000	0.531	0.000	0.979
		0.922				0.916				0.625				0.735			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	3	0	0	1	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	433	16	0	2	606	4	0	0	0	5	0	22	0	2	0	1090
4:15 PM	0	362	21	0	3	659	3	0	0	0	3	0	24	1	3	0	1079
4:30 PM	0	434	16	0	2	659	3	0	0	0	3	0	16	1	2	0	1136
4:45 PM	0	353	10	0	2	626	3	0	0	0	3	0	17	0	5	0	1019
5:00 PM	0	400	8	0	0	633	1	0	0	0	2	0	21	0	7	0	1072
5:15 PM	0	376	9	0	0	646	3	0	0	0	1	0	28	0	4	0	1067
5:30 PM	0	407	7	0	2	612	2	0	0	0	3	0	18	1	3	0	1055
5:45 PM	0	326	15	0	3	710	3	0	1	0	3	0	17	0	4	0	1082
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	3091	102	0	14	5151	22	0	1	0	23	0	163	3	30	0	8600
	0.00%	96.81%	3.19%	0.00%	0.27%	99.31%	0.42%	0.00%	4.17%	0.00%	95.83%	0.00%	83.16%	1.53%	15.31%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	1582	63	0	9	2550	13	0	0	0	14	0	79	2	12	0	4324
PEAK HR FACTOR :	0.000	0.911	0.750	0.000	0.750	0.967	0.813	0.000	0.000	0.000	0.700	0.000	0.823	0.500	0.600	0.000	0.952
		0.914				0.967				0.700				0.830			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Sepulveda Blvd & 18th St
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-001
Date: 12/3/2019

Bikes

NS/EW Streets:	Sepulveda Blvd				Sepulveda Blvd				18th St				18th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	3 NT	0 NR	0 NU	1 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.000	0.000	0

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	3 NT	0 NR	0 NU	1 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	0	0	0	100.00%	0.00%	0.00%	0.00%	1
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250

National Data & Surveying Services

Intersection Turning Movement Count

Location: Sepulveda Blvd & 18th St
City: Manhattan Beach

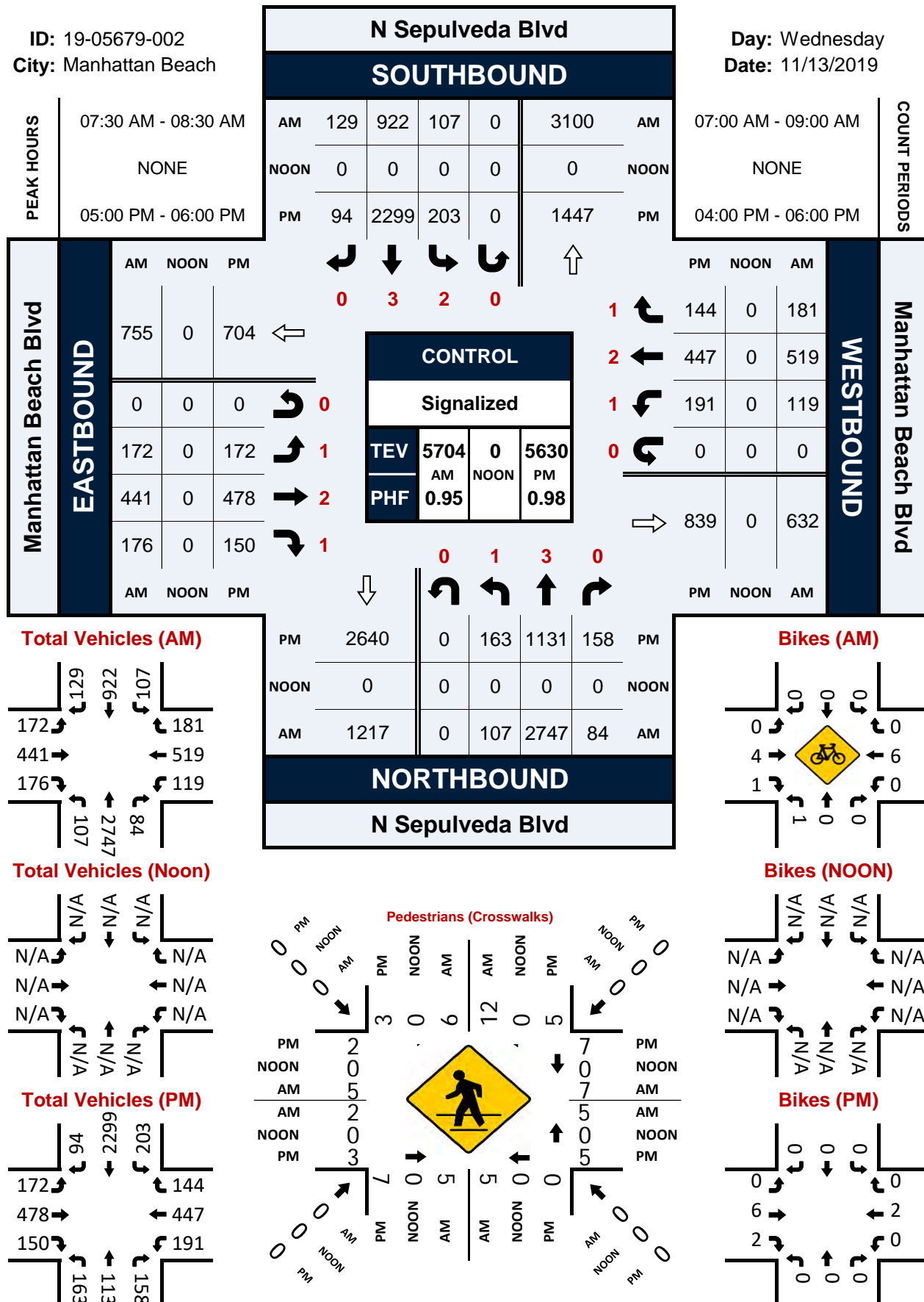
Project ID: 19-05679-001
Date: 12/3/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Sepulveda Blvd		Sepulveda Blvd		18th St		18th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	1	1	3	0	0	0	1	3	9
7:15 AM	2	2	1	0	2	0	1	3	11
7:30 AM	2	3	2	4	2	1	2	3	19
7:45 AM	1	4	0	0	0	0	0	2	7
8:00 AM	0	5	1	0	0	1	1	8	16
8:15 AM	1	5	1	0	2	0	0	3	12
8:30 AM	0	2	0	0	1	0	0	1	4
8:45 AM	2	3	0	2	1	0	1	5	14
TOTAL VOLUMES :	EB 9	WB 25	EB 8	WB 6	NB 8	SB 2	NB 6	SB 28	TOTAL 92
APPROACH %'s :	26.47%	73.53%	57.14%	42.86%	80.00%	20.00%	17.65%	82.35%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL 53
PEAK HR VOL :	5	14	4	4	4	2	4	16	
PEAK HR FACTOR :	0.625	0.700	0.500	0.250	0.500	0.500	0.500	0.500	0.697
	0.950		0.333		0.500		0.556		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	1	1	0	0	3	0	2	1	8
4:15 PM	0	0	0	0	21	0	0	0	21
4:30 PM	2	1	0	0	7	0	2	1	13
4:45 PM	5	1	2	2	3	1	5	1	20
5:00 PM	1	1	1	0	1	0	1	3	8
5:15 PM	0	0	0	0	2	0	2	0	4
5:30 PM	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	6	0	6
TOTAL VOLUMES :	EB 9	WB 4	EB 3	WB 2	NB 37	SB 2	NB 18	SB 6	TOTAL 81
APPROACH %'s :	69.23%	30.77%	60.00%	40.00%	94.87%	5.13%	75.00%	25.00%	
PEAK HR :	04:00 PM - 05:00 PM								TOTAL 62
PEAK HR VOL :	8	3	2	2	34	1	9	3	
PEAK HR FACTOR :	0.400	0.750	0.250	0.250	0.405	0.250	0.450	0.750	0.738
	0.458		0.250		0.417		0.500		

Day: Wednesday
Date: 11/13/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & Manhattan Beach Blvd
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-002
Date: 11/13/2019

Total																			
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				Manhattan Beach Blvd				Manhattan Beach Blvd					
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		1	3	0	0	2	3	0	0	1	2	1	0	1	2	1	0		
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	7:00 AM	21	655	15	0	17	152	21	0	22	42	20	0	17	83	42	0	1107	
	7:15 AM	25	584	15	0	24	150	28	0	26	82	19	0	32	141	44	0	1170	
	7:30 AM	19	743	20	0	25	277	35	0	31	76	50	0	22	106	36	0	1440	
	7:45 AM	35	577	23	0	29	218	30	0	49	115	52	0	29	157	45	0	1359	
	8:00 AM	27	763	21	0	19	240	37	0	44	107	42	0	30	118	46	0	1494	
	8:15 AM	26	664	20	0	34	187	27	0	48	143	32	0	38	138	54	0	1411	
	8:30 AM	29	711	17	0	43	245	39	0	35	111	20	0	32	101	53	0	1436	
	8:45 AM	34	478	31	0	37	229	54	0	36	144	27	0	40	159	64	0	1333	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :		216	5175	162	0	228	1698	271	0	291	820	262	0	240	1003	384	0	10750	
PEAK HR :		3.89%	93.19%	2.92%	0.00%	10.38%	77.29%	12.34%	0.00%	21.19%	59.72%	19.08%	0.00%	14.75%	61.65%	23.60%	0.00%		
PEAK HR :		07:30 AM - 08:30 AM																TOTAL	
PEAK HR VOL :		107	2747	84	0	107	922	129	0	172	441	176	0	119	519	181	0	5704	
PEAK HR FACTOR :		0.764	0.900	0.913	0.000	0.787	0.832	0.872	0.000	0.878	0.771	0.846	0.000	0.783	0.826	0.838	0.000	0.954	
		0.906				0.859				0.885				0.886					
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		1	3	0	0	2	3	0	0	1	2	1	0	1	2	1	0		
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:00 PM	46	269	54	0	55	481	32	0	57	154	38	0	39	105	33	0	1363	
	4:15 PM	36	287	52	0	53	597	37	0	46	121	36	0	30	110	29	0	1434	
	4:30 PM	54	289	30	0	48	483	15	0	52	137	34	0	53	154	47	0	1396	
	4:45 PM	39	317	36	0	36	608	19	0	42	103	35	0	37	99	26	0	1397	
	5:00 PM	41	270	36	0	47	504	32	0	42	140	39	0	48	135	36	0	1370	
	5:15 PM	43	303	35	0	41	635	16	0	46	106	30	0	31	95	38	0	1419	
	5:30 PM	40	263	38	0	67	537	16	0	54	132	46	0	62	108	35	0	1398	
	5:45 PM	39	295	49	0	48	623	30	0	30	100	35	0	50	109	35	0	1443	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :		338	2293	330	0	395	4468	197	0	369	993	293	0	350	915	279	0	11220	
PEAK HR :		11.42%	77.44%	11.14%	0.00%	7.81%	88.30%	3.89%	0.00%	22.30%	60.00%	17.70%	0.00%	22.67%	59.26%	18.07%	0.00%		
PEAK HR :		05:00 PM - 06:00 PM																TOTAL	
PEAK HR VOL :		163	1131	158	0	203	2299	94	0	172	478	150	0	191	447	144	0	5630	
PEAK HR FACTOR :		0.948	0.933	0.806	0.000	0.757	0.905	0.734	0.000	0.796	0.854	0.815	0.000	0.770	0.828	0.947	0.000	0.975	
		0.948				0.926				0.862				0.893					

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & Manhattan Beach Blvd
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-002
Date: 11/13/2019

Bikes																		
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				Manhattan Beach Blvd				Manhattan Beach Blvd				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	3 NT	0 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	1 WR	0 WU	TOTAL
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
	7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	7:45 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	4
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	0	5
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES :		NL 1	NT 0	NR 1	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 4	ER 1	EU 0	WL 0	WT 10	WR 0	WU 0	TOTAL 17
APPROACH %'s :		50.00%	0.00%	50.00%	0.00%					0.00%	80.00%	20.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :		07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :		1	0	0	0	0	0	0	0	0	4	1	0	0	6	0	0	12
PEAK HR FACTOR :		0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.500	0.000	0.000	0.600
		0.250								0.625				0.500				
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	3 NT	0 NR	0 NU	2 SL	3 ST	0 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	1 WR	0 WU	TOTAL
	4:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	4
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	5:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6
	5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
TOTAL VOLUMES :		NL 0	NT 0	NR 0	NU 0	SL 1	ST 0	SR 0	SU 0	EL 0	ET 10	ER 2	EU 0	WL 0	WT 5	WR 0	WU 0	TOTAL 18
APPROACH %'s :						100.00%	0.00%	0.00%	0.00%	0.00%	83.33%	16.67%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :		05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :		0	0	0	0	0	0	0	0	0	6	2	0	0	2	0	0	10
PEAK HR FACTOR :		0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.250	0.000	0.000	0.250	0.000	0.000	0.417
										0.500				0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & Manhattan Beach Blvd
City: Manhattan Beach

Project ID: 19-05679-002
Date: 11/13/2019

Pedestrians (Crosswalks)

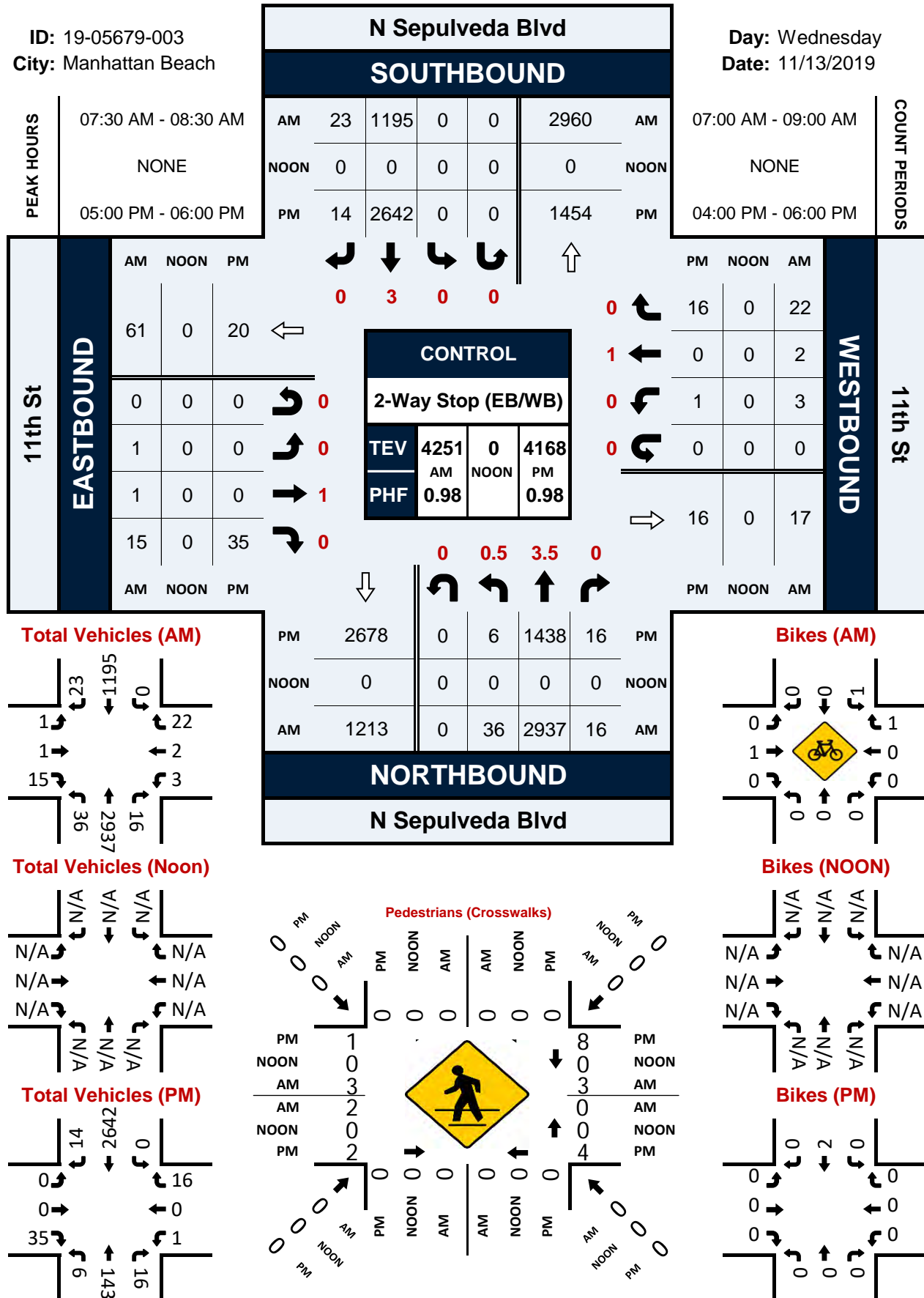
NS/EW Streets:	N Sepulveda Blvd		N Sepulveda Blvd		Manhattan Beach Blvd		Manhattan Beach Blvd	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	2	3	2	0	1	0	0	1
7:15 AM	2	1	3	2	4	1	0	0
7:30 AM	1	4	0	0	0	1	0	2
7:45 AM	3	6	1	1	1	1	1	1
8:00 AM	0	1	0	2	0	3	0	1
8:15 AM	2	1	4	2	4	2	1	1
8:30 AM	5	1	1	0	0	0	1	0
8:45 AM	2	7	2	3	0	1	1	1
TOTAL VOLUMES :	EB 17	WB 24	EB 13	WB 10	NB 10	SB 9	NB 4	SB 7
APPROACH %'s :	41.46%	58.54%	56.52%	43.48%	52.63%	47.37%	36.36%	63.64%
PEAK HR :	07:30 AM - 08:30 AM							
PEAK HR VOL :	6	12	5	5	5	7	2	5
PEAK HR FACTOR :	0.500	0.500	0.313	0.625	0.313	0.583	0.500	0.625
	0.500		0.417		0.500		0.875	

N Sepulveda Blvd & 11th St

Peak Hour Turning Movement Count

ID: 19-05679-003
City: Manhattan Beach

Day: Wednesday
Date: 11/13/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & 11th St
City: Manhattan Beach
Control: 2-Way Stop (EB/WB)

Project ID: 19-05679-003
Date: 11/13/2019

Total																	
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				11th St				11th St			
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	3.5 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	6	685	1	0	0	178	1	0	0	0	1	0	0	0	4	0	876
7:15 AM	7	643	5	0	0	205	2	0	0	0	2	0	1	0	2	0	867
7:30 AM	5	744	1	0	0	318	7	0	0	1	0	0	1	1	5	0	1083
7:45 AM	15	677	8	0	0	319	4	0	0	0	7	0	0	0	3	0	1033
8:00 AM	6	749	1	0	0	281	8	0	1	0	3	0	2	0	7	0	1058
8:15 AM	10	767	6	0	0	277	4	0	0	0	5	0	0	1	7	0	1077
8:30 AM	7	689	2	2	0	271	7	0	1	0	6	0	0	0	7	0	992
8:45 AM	6	595	6	0	0	308	8	0	1	0	8	0	2	0	8	0	942
TOTAL VOLUMES :	NL 62	NT 5549	NR 30	NU 2	SL 0	ST 2157	SR 41	SU 0	EL 3	ET 1	ER 32	EU 0	WL 6	WT 2	WR 43	WU 0	TOTAL 7928
APPROACH %'s :	1.10%	98.33%	0.53%	0.04%	0.00%	98.13%	1.87%	0.00%	8.33%	2.78%	88.89%	0.00%	11.76%	3.92%	84.31%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	36	2937	16	0	0	1195	23	0	1	1	15	0	3	2	22	0	4251
PEAK HR FACTOR :	0.600	0.957	0.500	0.000	0.000	0.937	0.719	0.000	0.250	0.250	0.536	0.000	0.375	0.500	0.786	0.000	0.981
	0.954				0.937				0.607				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	3.5 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	387	4	0	0	580	2	0	0	0	8	0	0	1	8	0	990
4:15 PM	1	355	4	0	0	609	4	0	0	0	9	0	0	0	5	0	987
4:30 PM	0	391	5	0	0	621	4	0	1	0	10	0	0	0	2	0	1034
4:45 PM	2	346	1	0	0	639	3	0	0	0	9	0	0	0	2	0	1002
5:00 PM	3	381	4	0	0	625	4	0	0	0	15	0	1	0	3	0	1036
5:15 PM	2	347	4	0	0	660	1	0	0	0	4	0	0	0	5	0	1023
5:30 PM	0	358	5	0	0	678	7	0	0	0	9	0	0	0	4	0	1061
5:45 PM	1	352	3	0	0	679	2	0	0	0	7	0	0	0	4	0	1048
TOTAL VOLUMES :	NL 9	NT 2917	NR 30	NU 0	SL 0	ST 5091	SR 27	SU 0	EL 1	ET 0	ER 71	EU 0	WL 1	WT 1	WR 33	WU 0	TOTAL 8181
APPROACH %'s :	0.30%	98.68%	1.01%	0.00%	0.00%	99.47%	0.53%	0.00%	1.39%	0.00%	98.61%	0.00%	2.86%	2.86%	94.29%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	6	1438	16	0	0	2642	14	0	0	0	35	0	1	0	16	0	4168
PEAK HR FACTOR :	0.500	0.944	0.800	0.000	0.000	0.973	0.500	0.000	0.000	0.000	0.583	0.000	0.250	0.000	0.800	0.000	0.982
	0.941				0.969				0.583				0.850				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & 11th St
City: Manhattan Beach
Control: 2-Way Stop (EB/WB)

Project ID: 19-05679-003
Date: 11/13/2019

Bikes																	
NS/EW Streets:	N Sepulveda Blvd				N Sepulveda Blvd				11th St				11th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	3.5 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL 0	NT 1	NR 0	NU 0	SL 1	ST 0	SR 0	SU 0	EL 0	ET 1	ER 0	EU 0	WL 0	WT 0	WR 1	WU 0	TOTAL 4
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.750
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	3.5 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 2	SR 0	SU 0	EL 0	ET 0	ER 0	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 2
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & 11th St
City: Manhattan Beach

Project ID: 19-05679-003
Date: 11/13/2019

Pedestrians (Crosswalks)

NS/EW Streets:	N Sepulveda Blvd		N Sepulveda Blvd		11th St		11th St	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	1	0	0	0
7:15 AM	0	0	0	0	1	1	1	1
7:30 AM	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	0	0	1	2	1
8:00 AM	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	1	0
8:45 AM	0	0	0	0	0	0	1	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	2	5	5	4
					28.57%	71.43%	55.56%	44.44%
PEAK HR :	07:30 AM - 08:30 AM							
PEAK HR VOL :	0	0	0	0	0	3	2	3
PEAK HR FACTOR :					0.750	0.750	0.250	0.750
					0.750		0.417	
								TOTAL
								8
								0.500

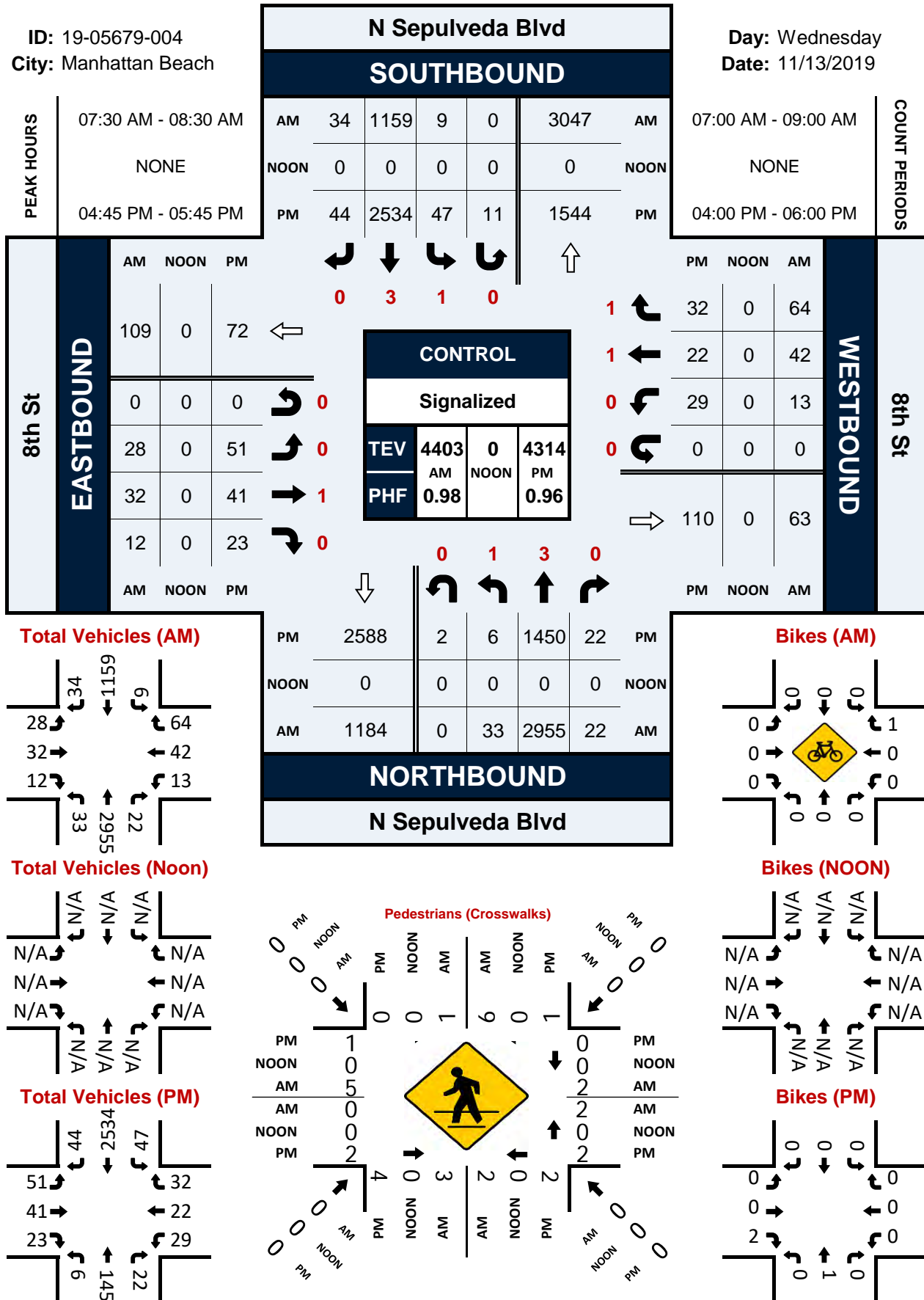
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	2	0	1	1
4:15 PM	0	0	0	0	2	0	2	0
4:30 PM	0	0	0	0	1	2	2	2
4:45 PM	0	0	0	0	1	0	0	0
5:00 PM	0	0	0	0	3	2	0	0
5:15 PM	0	0	0	0	1	1	0	1
5:30 PM	0	0	0	0	0	1	1	0
5:45 PM	0	0	0	0	0	4	1	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	10	10	7	4
					50.00%	50.00%	63.64%	36.36%
PEAK HR :	05:00 PM - 06:00 PM							
PEAK HR VOL :	0	0	0	0	4	8	2	1
PEAK HR FACTOR :					0.333	0.500	0.500	0.250
					0.600		0.750	
								TOTAL
								15
								0.750

N Sepulveda Blvd & 8th St

Peak Hour Turning Movement Count

ID: 19-05679-004
City: Manhattan Beach

Day: Wednesday
Date: 11/13/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & 8th St

City: Manhattan Beach

Control: Signalized

Project ID: 19-05679-004

Date: 11/13/2019

Total																	
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				8th St				8th St			
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	5	690	1	0	0	167	9	0	3	1	1	0	5	4	9	0	895
7:15 AM	6	640	1	0	3	191	11	0	6	0	3	0	2	4	11	0	878
7:30 AM	2	758	3	0	3	303	6	0	5	6	1	0	2	5	12	0	1106
7:45 AM	12	684	6	0	2	301	13	0	4	13	3	0	4	20	19	0	1081
8:00 AM	15	765	10	0	1	277	8	0	10	5	5	0	4	11	15	0	1126
8:15 AM	4	748	3	0	3	278	7	0	9	8	3	0	3	6	18	0	1090
8:30 AM	8	707	4	0	1	266	4	0	4	6	5	0	4	5	10	0	1024
8:45 AM	7	579	1	0	5	312	10	0	4	10	9	0	10	30	15	0	992
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	59	5571	29	0	18	2095	68	0	45	49	30	0	34	85	109	0	8192
	1.04%	98.44%	0.51%	0.00%	0.83%	96.06%	3.12%	0.00%	36.29%	39.52%	24.19%	0.00%	14.91%	37.28%	47.81%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	33	2955	22	0	9	1159	34	0	28	32	12	0	13	42	64	0	4403
PEAK HR FACTOR :	0.550	0.966	0.550	0.000	0.750	0.956	0.654	0.000	0.700	0.615	0.600	0.000	0.813	0.525	0.842	0.000	0.978
	0.953				0.951				0.900				0.692				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	5	402	5	0	14	550	21	3	26	10	6	0	5	9	9	0	1065
4:15 PM	4	336	4	1	6	610	8	3	13	9	3	0	3	6	12	0	1018
4:30 PM	3	323	4	0	10	559	11	2	19	4	10	0	3	9	10	0	967
4:45 PM	2	360	4	0	13	650	13	1	13	8	8	0	4	7	7	0	1090
5:00 PM	1	384	8	0	10	570	11	2	15	9	5	0	10	8	8	0	1041
5:15 PM	0	353	5	0	13	684	14	3	10	18	6	0	4	6	8	0	1124
5:30 PM	3	353	5	2	11	630	6	5	13	6	4	0	11	1	9	0	1059
5:45 PM	2	324	8	0	11	633	10	3	14	3	11	0	6	3	10	0	1038
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	20	2835	43	3	88	4886	94	22	123	67	53	0	46	49	73	0	8402
	0.69%	97.72%	1.48%	0.10%	1.73%	95.99%	1.85%	0.43%	50.62%	27.57%	21.81%	0.00%	27.38%	29.17%	43.45%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	6	1450	22	2	47	2534	44	11	51	41	23	0	29	22	32	0	4314
PEAK HR FACTOR :	0.500	0.944	0.688	0.250	0.904	0.926	0.786	0.550	0.850	0.569	0.719	0.000	0.659	0.688	0.889	0.000	0.960
	0.941				0.923				0.846				0.798				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & 8th St

City: Manhattan Beach

Control: Signalized

Project ID: 19-05679-004

Date: 11/13/2019

Bikes																			
NS/EW Streets:		N Sepulveda Blvd				N Sepulveda Blvd				8th St				8th St					
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
		1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0		
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM 7:15 AM 7:30 AM 7:45 AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	3	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM 8:15 AM 8:30 AM 8:45 AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	3	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :		0	0	0	0	1	0	1	0	0	4	0	0	0	1	1	0	8	
		50.00%				0.00%				100.00%				0.00%					
PEAK HR :		07:30 AM - 08:30 AM																TOTAL	
PEAK HR VOL :		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
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	0.250	0.000	0.250	

PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
		1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0		
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM 4:15 PM 4:30 PM 4:45 PM	4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:00 PM 5:15 PM 5:30 PM 5:45 PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :		0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	
		0.00%				100.00%				0.00%				33.33%					
PEAK HR :		04:45 PM - 05:45 PM																TOTAL	
PEAK HR VOL :		0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	
PEAK HR FACTOR :		0.00	0.250	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	0.375	

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Sepulveda Blvd & 8th St
City: Manhattan Beach

Project ID: 19-05679-004
Date: 11/13/2019

Pedestrians (Crosswalks)

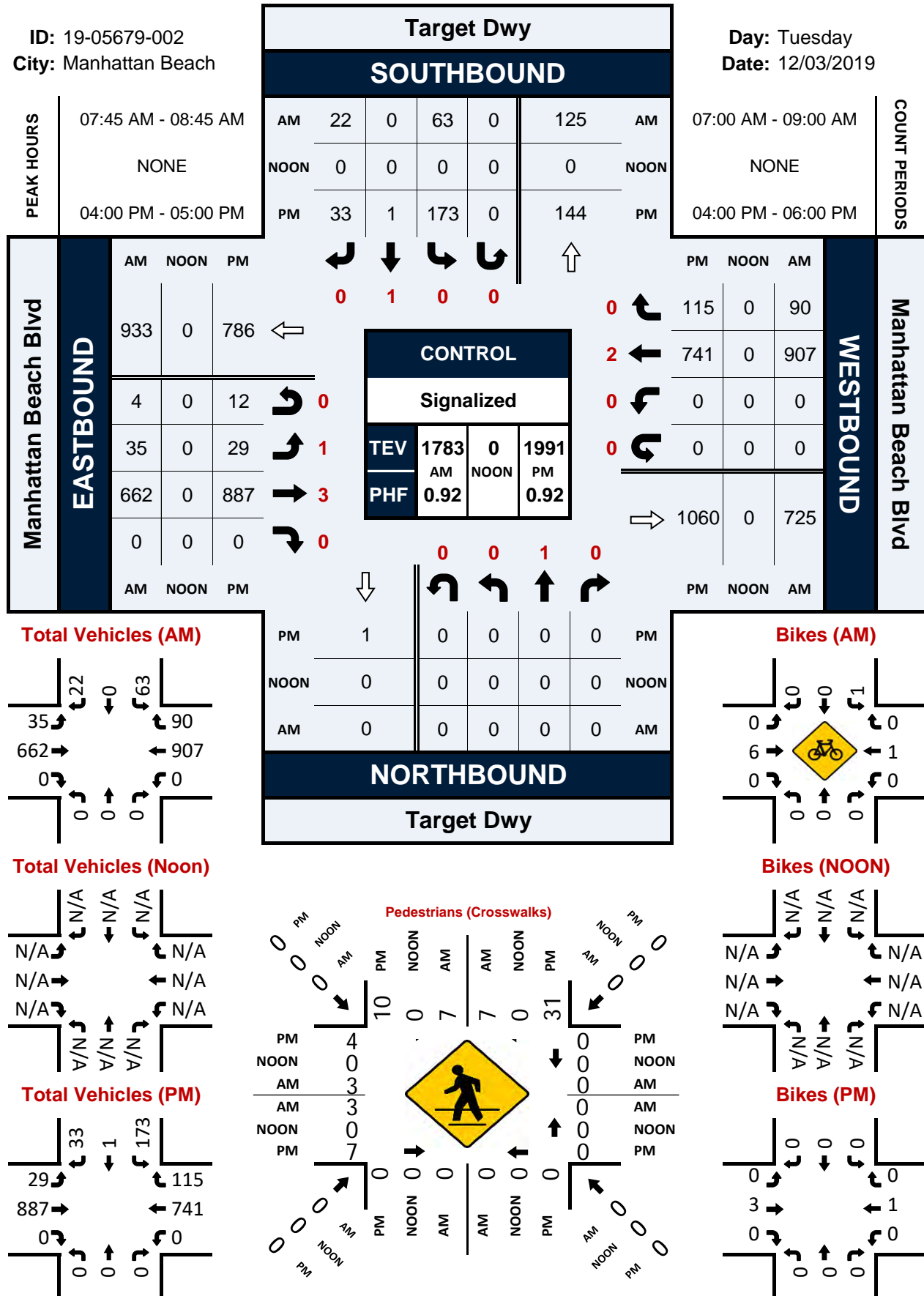
NS/EW Streets:	N Sepulveda Blvd		N Sepulveda Blvd		8th St		8th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	1	1	0	0	0	2	4
7:15 AM	1	1	1	0	1	1	1	3	9
7:30 AM	0	0	0	0	0	0	0	1	1
7:45 AM	0	1	3	1	0	1	0	2	8
8:00 AM	1	3	0	0	0	0	0	1	5
8:15 AM	0	2	0	1	2	1	0	1	7
8:30 AM	0	3	0	1	1	0	1	0	6
8:45 AM	0	0	2	2	0	0	0	0	4
TOTAL VOLUMES :	EB 2	WB 10	EB 7	WB 6	NB 4	SB 3	NB 2	SB 10	TOTAL 44
APPROACH %'s :	16.67%	83.33%	53.85%	46.15%	57.14%	42.86%	16.67%	83.33%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	1	6	3	2	2	2	0	5	21
PEAK HR FACTOR :	0.250	0.500	0.250	0.500	0.250	0.500	0.625		0.656
	0.438		0.313		0.333		0.625		

Target Dwy & Manhattan Beach Blvd

Peak Hour Turning Movement Count

ID: 19-05679-002
City: Manhattan Beach

Day: Tuesday
Date: 12/03/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Target Dwy & Manhattan Beach Blvd
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-002
Date: 12/3/2019

Total																		
NS/EW Streets:		Target Dwy				Target Dwy				Manhattan Beach Blvd				Manhattan Beach Blvd				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
	7:00 AM	0	0	0	0	20	0	4	0	9	90	0	0	0	149	23	0	295
	7:15 AM	0	0	0	0	5	0	1	0	1	80	0	1	0	205	7	0	300
	7:30 AM	0	0	0	0	13	0	0	0	2	153	0	1	0	181	7	0	357
	7:45 AM	0	0	0	0	17	0	2	0	4	180	0	3	0	234	22	0	462
	8:00 AM	0	0	0	0	14	0	3	0	8	182	0	1	0	253	21	0	482
	8:15 AM	0	0	0	0	16	0	10	0	12	154	0	0	0	201	19	0	412
	8:30 AM	0	0	0	0	16	0	7	0	11	146	0	0	0	219	28	0	427
	8:45 AM	0	0	0	0	19	0	5	0	5	145	0	0	0	229	24	0	427
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		0	0	0	0	120	0	32	0	52	1130	0	6	0	1671	151	0	3162
						78.95%	0.00%	21.05%	0.00%	4.38%	95.12%	0.00%	0.51%	0.00%	91.71%	8.29%	0.00%	
PEAK HR :		07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :		0	0	0	0	63	0	22	0	35	662	0	4	0	907	90	0	1783
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.926	0.000	0.550	0.000	0.729	0.909	0.000	0.333	0.000	0.896	0.804	0.000	0.925
						0.817				0.918				0.910				

PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
	4:00 PM	0	0	0	0	49	0	8	0	5	209	0	4	0	183	30	0	488
	4:15 PM	0	0	0	0	44	0	13	0	13	241	0	1	0	191	39	0	542
	4:30 PM	0	0	0	0	40	0	7	0	8	210	0	5	0	185	23	0	478
	4:45 PM	0	0	0	0	40	1	5	0	3	227	0	2	0	182	23	0	483
	5:00 PM	0	0	0	0	42	0	6	0	2	186	0	1	0	156	25	0	418
	5:15 PM	0	0	0	0	38	0	2	0	7	198	0	6	0	170	22	0	443
	5:30 PM	0	0	0	0	29	0	7	0	4	199	0	0	0	176	25	0	440
	5:45 PM	0	0	0	0	40	0	7	0	10	230	0	2	0	181	19	0	489
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		0	0	0	0	322	1	55	0	52	1700	0	21	0	1424	206	0	3781
						85.19%	0.26%	14.55%	0.00%	2.93%	95.88%	0.00%	1.18%	0.00%	87.36%	12.64%	0.00%	
PEAK HR :		04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :		0	0	0	0	173	1	33	0	29	887	0	12	0	741	115	0	1991
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.883	0.250	0.635	0.000	0.558	0.920	0.000	0.600	0.000	0.970	0.737	0.000	0.918
						0.908				0.910				0.930				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Target Dwy & Manhattan Beach Blvd
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-002
Date: 12/3/2019

NS/EW Streets:		Target Dwy				Target Dwy				Manhattan Beach Blvd				Manhattan Beach Blvd				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		0	1	0	0	0	1	0	0	1	3	0	0	0	2	0	0	TOTAL
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	
	8:00 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3	
	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3		
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		0	0	0	0	1	0	0	0	0	7	0	0	0	4	1	0	13
PEAK HR :	07:45 AM - 08:45 AM																	TOTAL
PEAK HR VOL :		0	0	0	0	1	0	0	0	0	6	0	0	0	1	0	0	8
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.000	0.000	0.667
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		0	1	0	0	0	1	0	0	1	3	0	0	0	2	0	0	TOTAL
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	4:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
	5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2		
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :		0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10
PEAK HR :	04:00 PM - 05:00 PM																	TOTAL
PEAK HR VOL :		0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
PEAK HR FACTOR :		0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.250	0.000	0.000	0.500

National Data & Surveying Services

Intersection Turning Movement Count

Location: Target Dwy & Manhattan Beach Blvd
City: Manhattan Beach

Project ID: 19-05679-002
Date: 12/3/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Target Dwy		Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd			
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
	7:00 AM	0	0	0	0	0	0	0	0	
	7:15 AM	0	1	0	0	0	0	0	1	
	7:30 AM	1	2	0	0	0	0	0	3	
	7:45 AM	2	1	0	0	0	0	2	5	
	8:00 AM	0	3	0	0	0	0	1	4	
	8:15 AM	3	3	0	0	0	0	0	3	9
	8:30 AM	2	0	0	0	0	0	0	0	2
	8:45 AM	1	1	0	0	0	0	0	0	2
TOTAL VOLUMES :	EB 9	WB 11	EB 0	WB 0	NB 0	SB 0	NB 3	SB 3	TOTAL 26	
APPROACH %'s :	45.00%	55.00%					50.00%	50.00%		
PEAK HR :	07:45 AM - 08:45 AM								TOTAL	
PEAK HR VOL :	7	7	0	0	0	0	3	3	20	
PEAK HR FACTOR :	0.583	0.583					0.375	0.250	0.556	
	0.583						0.500			

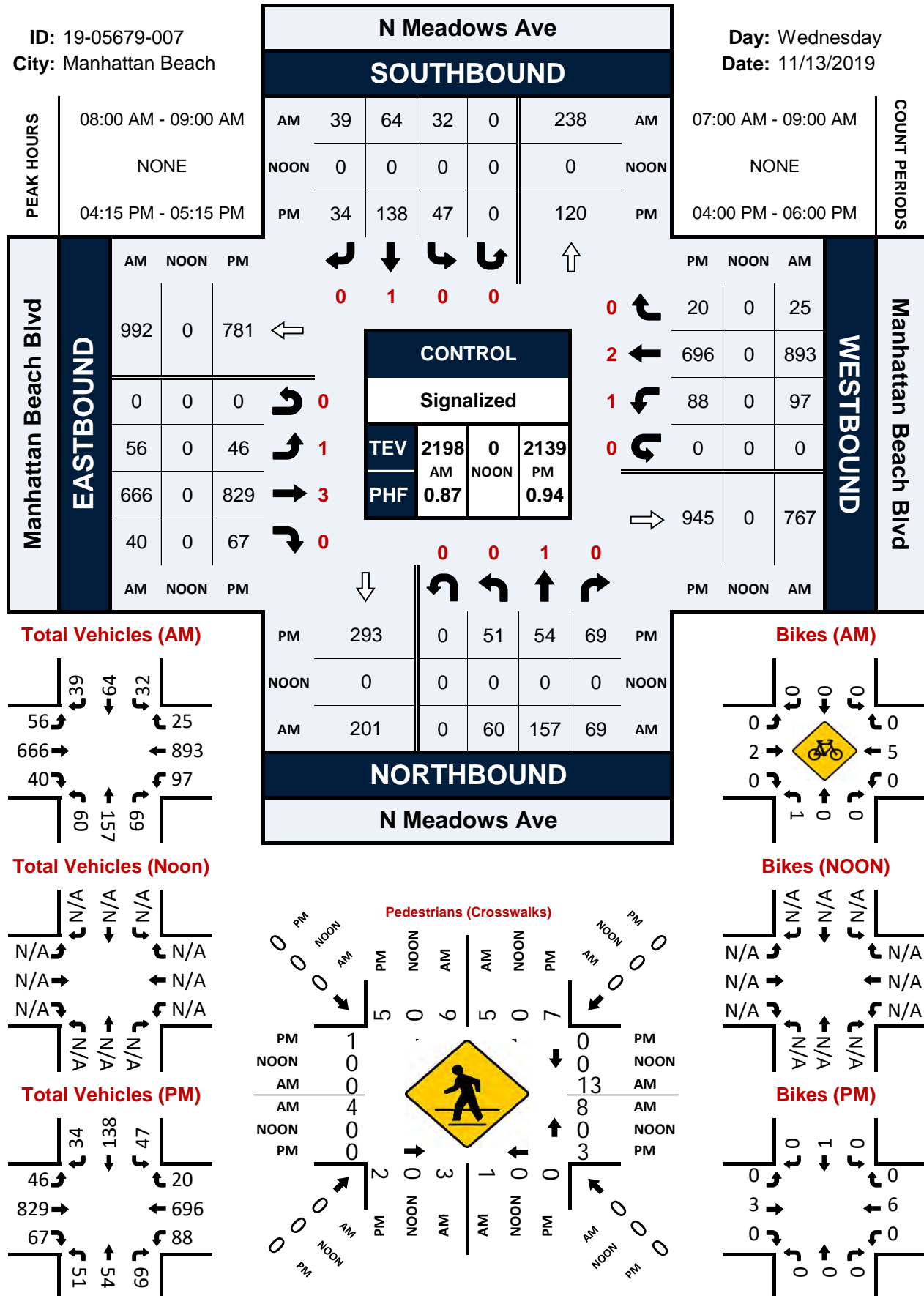
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	4	3	0	0	0	0	3	1	11
4:15 PM	6	24	0	0	0	0	0	1	31
4:30 PM	0	4	0	0	0	0	2	1	7
4:45 PM	0	0	0	0	0	0	2	1	3
5:00 PM	2	1	0	0	0	0	2	5	10
5:15 PM	1	1	0	0	0	0	0	1	3
5:30 PM	2	2	0	0	0	0	1	0	5
5:45 PM	1	0	0	0	0	0	2	0	3
TOTAL VOLUMES :	EB 16	WB 35	EB 0	WB 0	NB 0	SB 0	NB 12	SB 10	TOTAL 73
APPROACH %'s :	31.37%	68.63%					54.55%	45.45%	
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	10	31	0	0	0	0	7	4	52
PEAK HR FACTOR :	0.417	0.323					0.583	1.000	0.419
	0.342						0.688		

N Meadows Ave & Manhattan Beach Blvd

Peak Hour Turning Movement Count

ID: 19-05679-007
City: Manhattan Beach

Day: Wednesday
Date: 11/13/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Meadows Ave & Manhattan Beach Blvd
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-007
Date: 11/13/2019

Total																	
NS/EW Streets:	N Meadows Ave				N Meadows Ave				Manhattan Beach Blvd				Manhattan Beach Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	10	9	9	0	6	11	5	0	3	85	6	0	11	153	2	0	310
7:15 AM	8	7	12	0	1	8	0	0	5	94	4	0	10	204	4	0	357
7:30 AM	10	27	15	0	12	25	7	0	9	138	6	0	25	174	12	0	460
7:45 AM	28	36	14	0	5	29	13	0	14	128	11	0	19	211	18	0	526
8:00 AM	15	31	13	0	12	18	12	0	10	157	9	0	23	205	9	0	514
8:15 AM	7	43	10	0	8	18	11	0	17	147	10	0	22	208	4	0	505
8:30 AM	19	40	23	0	6	9	7	0	14	175	9	0	29	213	4	0	548
8:45 AM	19	43	23	0	6	19	9	0	15	187	12	0	23	267	8	0	631
TOTAL VOLUMES :	NL 116	NT 236	NR 119	NU 0	SL 56	ST 137	SR 64	SU 0	EL 87	ET 1111	ER 67	EU 0	WL 162	WT 1635	WR 61	WU 0	TOTAL 3851
APPROACH %'s :	24.63%	50.11%	25.27%	0.00%	21.79%	53.31%	24.90%	0.00%	6.88%	87.83%	5.30%	0.00%	8.72%	88.00%	3.28%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	60	157	69	0	32	64	39	0	56	666	40	0	97	893	25	0	2198
PEAK HR FACTOR :	0.789	0.913	0.750	0.000	0.667	0.842	0.813	0.000	0.824	0.890	0.833	0.000	0.836	0.836	0.694	0.000	0.871
	0.841				0.804				0.890				0.852				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:00 PM	7	10	25	0	7	14	1	0	14	236	17	0	17	148	5	0	501
4:15 PM	14	10	17	0	16	31	9	0	16	251	21	0	20	153	10	0	568
4:30 PM	19	13	18	0	12	31	3	0	10	178	16	0	17	196	4	0	517
4:45 PM	8	15	9	0	13	32	6	0	10	198	20	0	30	166	3	0	510
5:00 PM	10	16	25	0	6	44	16	0	10	202	10	0	21	181	3	0	544
5:15 PM	2	15	9	0	13	37	9	0	9	201	19	0	25	161	3	0	503
5:30 PM	6	17	15	0	6	51	10	0	8	204	23	0	17	161	2	0	520
5:45 PM	11	10	10	0	8	44	7	0	6	222	22	0	24	177	3	0	544
TOTAL VOLUMES :	NL 77	NT 106	NR 128	NU 0	SL 81	ST 284	SR 61	SU 0	EL 83	ET 1692	ER 148	EU 0	WL 171	WT 1343	WR 33	WU 0	TOTAL 4207
APPROACH %'s :	24.76%	34.08%	41.16%	0.00%	19.01%	66.67%	14.32%	0.00%	4.32%	87.99%	7.70%	0.00%	11.05%	86.81%	2.13%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	51	54	69	0	47	138	34	0	46	829	67	0	88	696	20	0	2139
PEAK HR FACTOR :	0.671	0.844	0.690	0.000	0.734	0.784	0.531	0.000	0.719	0.826	0.798	0.000	0.733	0.888	0.500	0.000	0.941
	0.853				0.830				0.818				0.926				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Meadows Ave & Manhattan Beach Blvd
City: Manhattan Beach
Control: Signalized

Project ID: 19-05679-007
Date: 11/13/2019

Bikes																	
NS/EW Streets:	N Meadows Ave				N Meadows Ave				Manhattan Beach Blvd				Manhattan Beach Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	7:00 AM	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	3
	7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	7:30 AM	0	0	0	0	0	1	0	0	2	0	0	0	1	0	0	4
	7:45 AM	0	0	0	0	0	1	0	0	1	1	0	0	1	0	0	4
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:15 AM	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	1	1	0	0	0	2	0	0	0	7	1	0	0	9	0	0	21
	50.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	87.50%	12.50%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	8
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.625	0.000	0.000	0.667
	0.250								0.500				0.625				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
	4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
	5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
	5:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	1	0	0	0	7	0	0	0	10	0	0	18
					0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	3	0	0	0	6	0	0	10
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375	0.000	0.000	0.625
	0.250								0.375				0.375				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Meadows Ave & Manhattan Beach Blvd
City: Manhattan Beach

Project ID: 19-05679-007
Date: 11/13/2019

Pedestrians (Crosswalks)

NS/EW Streets:	N Meadows Ave		N Meadows Ave		Manhattan Beach Blvd		Manhattan Beach Blvd			
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
	7:00 AM	2	3	0	1	0	0	0	0	6
	7:15 AM	2	3	1	0	0	0	0	0	6
	7:30 AM	0	0	1	2	2	0	0	1	6
	7:45 AM	6	2	1	2	21	2	0	0	34
	8:00 AM	0	2	0	0	5	11	1	0	19
	8:15 AM	0	1	0	0	1	1	1	0	4
	8:30 AM	4	1	2	0	1	1	0	0	9
	8:45 AM	2	1	1	1	1	0	2	0	8
TOTAL VOLUMES :	EB 16	WB 13	EB 6	WB 6	NB 31	SB 15	NB 4	SB 1	TOTAL 92	
APPROACH %'s :	55.17%	44.83%	50.00%	50.00%	67.39%	32.61%	80.00%	20.00%		
PEAK HR :	08:00 AM - 09:00 AM								TOTAL	
PEAK HR VOL :	6	5	3	1	8	13	4	0	40	
PEAK HR FACTOR :	0.375	0.625	0.375	0.250	0.400	0.295	0.500		0.526	
	0.550		0.500		0.328		0.500			

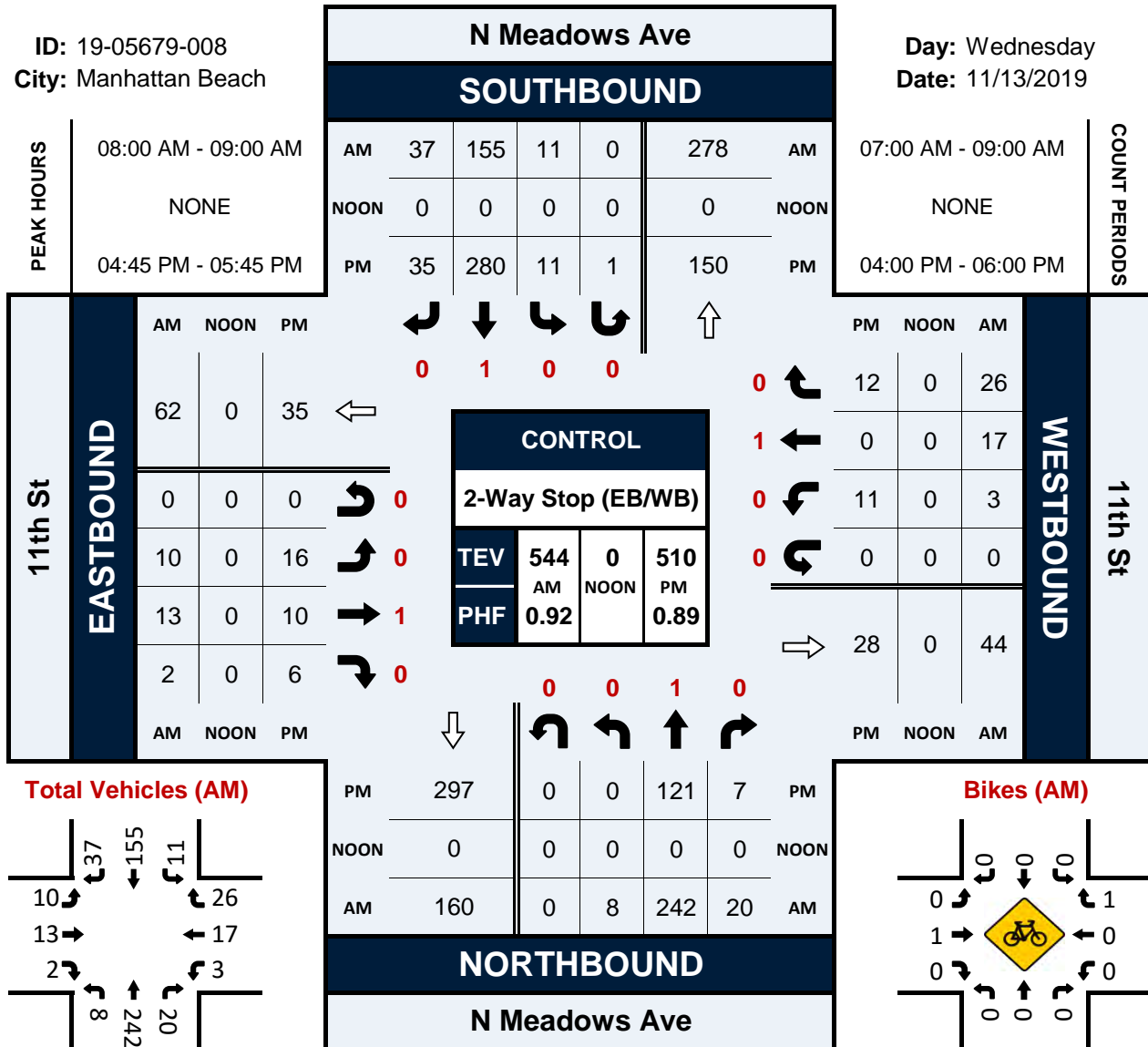
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	1	0	0	0	0	1	0	1	3
4:15 PM	2	4	0	0	0	0	0	1	7
4:30 PM	0	1	0	0	1	0	0	0	2
4:45 PM	3	0	1	0	1	0	0	0	5
5:00 PM	0	2	1	0	1	0	0	0	4
5:15 PM	2	0	1	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	1
TOTAL VOLUMES :	EB 8	WB 7	EB 4	WB 0	NB 3	SB 1	NB 0	SB 2	TOTAL 25
APPROACH %'s :	53.33%	46.67%	100.00%	0.00%	75.00%	25.00%	0.00%	100.00%	
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	5	7	2	0	3	0	0	1	18
PEAK HR FACTOR :	0.417	0.438	0.500		0.750		0	0.250	0.643
	0.500		0.500		0.750		0.250		

N Meadows Ave & 11th St

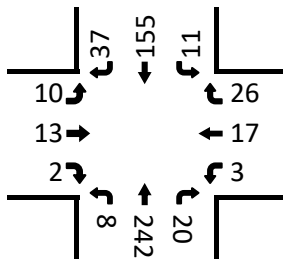
Peak Hour Turning Movement Count

ID: 19-05679-008
City: Manhattan Beach

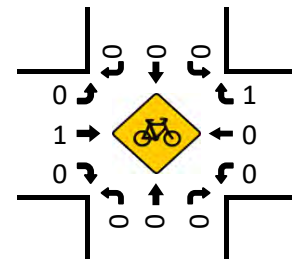
Day: Wednesday
Date: 11/13/2019



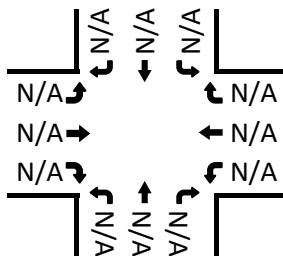
Total Vehicles (AM)



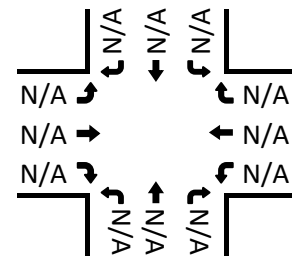
Bikes (AM)



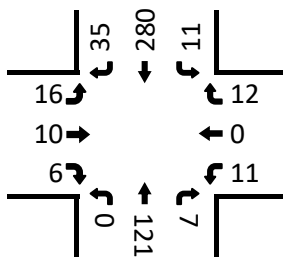
Total Vehicles (Noon)



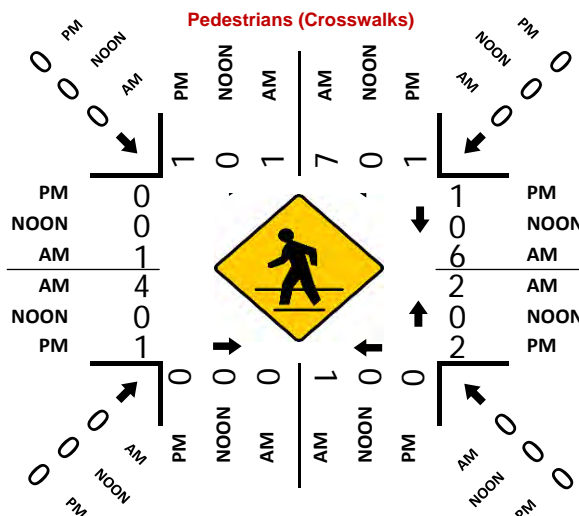
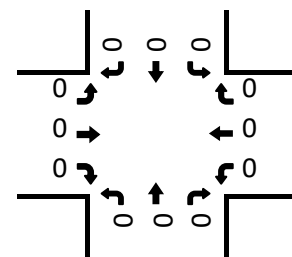
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Meadows Ave & 11th St
City: Manhattan Beach
Control: 2-Way Stop (EB/WB)

Project ID: 19-05679-008
Date: 11/13/2019

Total

NS/EW Streets:	N Meadows Ave				N Meadows Ave				11th St				11th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	23	1	0	2	20	3	0	1	1	1	0	1	1	1	0	55
7:15 AM	1	26	0	0	1	25	3	0	3	2	0	0	0	1	4	0	66
7:30 AM	2	44	0	0	3	52	7	0	2	1	1	0	1	2	9	0	124
7:45 AM	1	63	4	0	2	40	6	0	5	4	0	0	1	2	13	0	141
8:00 AM	6	43	3	0	1	41	12	0	3	2	1	0	1	5	1	0	119
8:15 AM	1	60	8	0	3	36	7	0	3	2	0	0	0	4	8	0	132
8:30 AM	1	72	4	0	4	37	9	0	2	3	0	0	1	3	9	0	145
8:45 AM	0	67	5	0	3	41	9	0	2	6	1	0	1	5	8	0	148
TOTAL VOLUMES :	NL 12	NT 398	NR 25	NU 0	SL 19	ST 292	SR 56	SU 0	EL 21	ET 21	ER 4	EU 0	WL 6	WT 23	WR 53	WU 0	TOTAL 930
APPROACH %'s :	2.76%	91.49%	5.75%	0.00%	5.18%	79.56%	15.26%	0.00%	45.65%	45.65%	8.70%	0.00%	7.32%	28.05%	64.63%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	8	242	20	0	11	155	37	0	10	13	2	0	3	17	26	0	544
PEAK HR FACTOR :	0.333	0.840	0.625	0.000	0.688	0.945	0.771	0.000	0.833	0.542	0.500	0.000	0.750	0.850	0.722	0.000	0.919
	0.877				0.940				0.694				0.821				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	2	35	2	0	6	38	7	0	3	2	0	0	0	2	4	0	101
4:15 PM	1	34	0	0	6	55	5	0	2	2	2	0	0	1	5	0	113
4:30 PM	2	35	1	0	4	60	7	0	9	2	2	0	2	1	3	0	128
4:45 PM	0	30	2	0	2	66	7	0	4	0	2	0	1	0	4	0	118
5:00 PM	0	37	3	0	0	64	6	0	5	4	1	0	3	0	3	0	126
5:15 PM	0	23	2	0	5	70	11	0	2	3	2	0	4	0	1	0	123
5:30 PM	0	31	0	0	4	80	11	1	5	3	1	0	3	0	4	0	143
5:45 PM	0	24	0	0	2	71	12	0	2	1	1	0	0	0	3	0	116
TOTAL VOLUMES :	NL 5	NT 249	NR 10	NU 0	SL 29	ST 504	SR 66	SU 1	EL 32	ET 17	ER 11	EU 0	WL 13	WT 4	WR 27	WU 0	TOTAL 968
APPROACH %'s :	1.89%	94.32%	3.79%	0.00%	4.83%	84.00%	11.00%	0.17%	53.33%	28.33%	18.33%	0.00%	29.55%	9.09%	61.36%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	121	7	0	11	280	35	1	16	10	6	0	11	0	12	0	510
PEAK HR FACTOR :	0.000	0.818	0.583	0.000	0.550	0.875	0.795	0.250	0.800	0.625	0.750	0.000	0.688	0.000	0.750	0.000	0.892
	0.800				0.852				0.800				0.821				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Meadows Ave & 11th St
City: Manhattan Beach
Control: 2-Way Stop (EB/WB)

Project ID: 19-05679-008
Date: 11/13/2019

Bikes																	
NS/EW Streets:		N Meadows Ave				N Meadows Ave				11th St				11th St			
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 2	ST 1	SR 0	SU 0	EL 0	ET 3	ER 0	EU 0	WL 0	WT 1	WR 2	WU 0	TOTAL 9
APPROACH %'s :					66.67%	33.33%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	33.33%	66.67%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250
0.250																	
0.250																	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 1	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 0	WL 0	WT 1	WR 0	WU 0	TOTAL 2
APPROACH %'s :					100.00%	0.00%	0.00%	0.00%					0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	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	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Meadows Ave & 11th St
City: Manhattan Beach

Project ID: 19-05679-008
Date: 11/13/2019

Pedestrians (Crosswalks)

NS/EW Streets:	N Meadows Ave		N Meadows Ave		11th St		11th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
	7:00 AM	01	01	10	00	00	00	00	
	7:15 AM	00	00	00	00	20	00	00	
	7:30 AM	20	00	00	00	01	00	20	
	7:45 AM	50	00	00	00	63	00	00	
	8:00 AM	10	50	00	00	13	00	10	
	8:15 AM	00	10	00	10	01	10	00	
	8:30 AM	00	10	00	00	11	20	00	
	8:45 AM	00	00	00	00	01	10	00	
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	8	8	0	2	10	10	4	3	45
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	1	7	0	1	2	6	4	1	22
PEAK HR FACTOR :	0.250	0.350	0.250		0.500	0.500	0.500	0.250	0.500
	0.333		0.250		0.500		0.625		

APPENDIX C

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX C-1





EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.915

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	42	2639	101	199	1010	43	69	264	41	192	211	247
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	42	2639	101	199	1010	43	69	264	41	192	211	247
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]	11	660	25	50	253	11	17	66	10	48	53	62
Total Analysis Volume [veh/h]	42	2639	101	199	1010	43	69	264	41	192	211	247
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.57	0.57	0.07	0.21	0.03	0.04	0.10	0.10	0.07	0.13	0.09
Intersection LOS	E											
Intersection V/C	0.915											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.758

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	2904	29	25	1168	12	0	0	0	33	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2904	29	25	1168	12	0	0	0	33	0	17
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]	0	726	7	6	292	3	0	0	0	8	0	4
Total Analysis Volume [veh/h]	0	2904	29	25	1168	12	0	0	0	33	0	17
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.61	0.61	0.02	0.25	0.25	0.00	0.00	0.00	0.02	0.00	0.03
Intersection LOS	C											
Intersection V/C	0.758											

Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.997

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	107	2747	84	107	922	129	172	441	176	119	519	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	107	2747	84	107	922	129	172	441	176	119	519	181
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]	27	687	21	27	231	32	43	110	44	30	130	45
Total Analysis Volume [veh/h]	107	2747	84	107	922	129	172	441	176	119	519	181
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.07	0.59	0.59	0.04	0.22	0.22	0.11	0.14	0.11	0.07	0.16	0.08
Intersection LOS	E											
Intersection V/C	0.997											

Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	36	2937	16	0	1195	23	1	1	15	3	2	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	36	2937	16	0	1195	23	1	1	15	3	2	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]	9	734	4	0	299	6	0	0	4	1	1	6
Total Analysis Volume [veh/h]	36	2937	16	0	1195	23	1	1	15	3	2	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.03	0.00	0.00	0.01	0.00	0.00	0.64	0.04	1.08	1.29	0.22
d_M, Delay for Movement [s/veh]	18.29	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	2380.04	3405.07	1125.19
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.39	0.10	0.00	0.00	0.00	0.00	3.80	3.80	3.80	4.38	4.38	4.38
95th-Percentile Queue Length [ft/ln]	9.86	2.46	0.00	0.00	0.00	0.00	95.05	95.05	95.05	109.52	109.52	109.52
d_A, Approach Delay [s/veh]	0.22			0.00			10000.00			1433.50		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	49.25											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.783

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	33	2955	22	9	1159	34	28	32	12	13	42	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2955	22	9	1159	34	28	32	12	13	42	64
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]	8	739	6	2	290	9	7	8	3	3	11	16
Total Analysis Volume [veh/h]	33	2955	22	9	1159	34	28	32	12	13	42	64
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	0.62	0.62	0.01	0.25	0.25	0.02	0.05	0.05	0.01	0.03	0.04
Intersection LOS	C											
Intersection V/C	0.783											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	63	22	39	662	907	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	63	22	39	662	907	90
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]	16	6	10	166	227	23
Total Analysis Volume [veh/h]	63	22	39	662	907	90
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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.02	0.21	0.31	0.31
Intersection LOS	A					
Intersection V/C	0.489					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	60	157	69	32	64	39	56	666	40	97	893	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	60	157	69	32	64	39	56	666	40	97	893	25
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]	15	39	17	8	16	10	14	167	10	24	223	6
Total Analysis Volume [veh/h]	60	157	69	32	64	39	56	666	40	97	893	25
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.02	0.08	0.08	0.04	0.22	0.22	0.06	0.29	0.29
Intersection LOS	B											
Intersection V/C	0.621											





Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.022

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	8	242	20	11	155	37	10	13	2	3	17	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	8	242	20	11	155	37	10	13	2	3	17	26
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]	2	61	5	3	39	9	3	3	1	1	4	7
Total Analysis Volume [veh/h]	8	242	20	11	155	37	10	13	2	3	17	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.02	0.03	0.00	0.01	0.04	0.03
d_M, Delay for Movement [s/veh]	7.62	0.00	0.00	7.79	0.00	0.00	13.27	12.88	9.54	12.89	13.04	10.05
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.03	0.03	0.03	0.16	0.16	0.16	0.24	0.24	0.24
95th-Percentile Queue Length [ft/ln]	0.44	0.44	0.44	0.64	0.64	0.64	4.03	4.03	4.03	6.06	6.06	6.06
d_A, Approach Delay [s/veh]	0.23			0.42			12.77			11.34		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.82											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.851

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	103	1283	165	256	2390	117	75	267	38	228	227	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	103	1283	165	256	2390	117	75	267	38	228	227	160
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]	26	321	41	64	598	29	19	67	10	57	57	40
Total Analysis Volume [veh/h]	103	1283	165	256	2390	117	75	267	38	228	227	160
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.30	0.30	0.09	0.50	0.07	0.05	0.10	0.10	0.08	0.14	0.01
Intersection LOS	D											
Intersection V/C	0.851											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.692

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1582	63	9	2550	13	0	0	0	79	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	1582	63	9	2550	13	0	0	0	79	2	12
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]	0	396	16	2	638	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1582	63	9	2550	13	0	0	0	79	2	12
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.34	0.34	0.01	0.53	0.53	0.00	0.00	0.00	0.05	0.06	0.06
Intersection LOS	B											
Intersection V/C	0.692											

Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	163	1131	158	203	2299	94	172	478	150	191	447	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	163	1131	158	203	2299	94	172	478	150	191	447	144
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]	41	283	40	51	575	24	43	120	38	48	112	36
Total Analysis Volume [veh/h]	163	1131	158	203	2299	94	172	478	150	191	447	144
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.27	0.27	0.07	0.50	0.50	0.11	0.15	0.09	0.12	0.14	0.02
Intersection LOS	E											
Intersection V/C	0.969											





Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 192.7
 Level Of Service: F
 Volume to Capacity (v/c): 0.051

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1438	16	0	2642	14	0	0	35	1	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1438	16	0	2642	14	0	0	35	1	0	16
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]	2	360	4	0	661	4	0	0	9	0	0	4
Total Analysis Volume [veh/h]	6	1438	16	0	2642	14	0	0	35	1	0	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.28	0.05	0.00	0.05
d_M, Delay for Movement [s/veh]	74.89	0.00	0.00	0.00	0.00	0.00	428.37	1776.99	44.76	192.75	1765.76	18.91
Movement LOS	F	A	A		A	A	F	F	E	F	F	C
95th-Percentile Queue Length [veh/ln]	0.33	0.08	0.00	0.00	0.00	0.00	1.07	1.07	1.07	0.34	0.34	0.34
95th-Percentile Queue Length [ft/ln]	8.32	2.08	0.00	0.00	0.00	0.00	26.71	26.71	26.71	8.40	8.40	8.40
d_A, Approach Delay [s/veh]	0.31			0.00			44.76			29.13		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	0.60											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.732

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	8	1450	22	58	2534	44	51	41	23	29	22	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	8	1450	22	58	2534	44	51	41	23	29	22	32
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]	2	363	6	15	634	11	13	10	6	7	6	8
Total Analysis Volume [veh/h]	8	1450	22	58	2534	44	51	41	23	29	22	32
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	0.01	0.31	0.31	0.04	0.54	0.54	0.03	0.07	0.07	0.02	0.03	0.02
Intersection LOS	C											
Intersection V/C	0.732											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

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	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	173	33	41	887	741	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	173	33	41	887	741	115
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]	43	8	10	222	185	29
Total Analysis Volume [veh/h]	173	33	41	887	741	115
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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.03	0.28	0.27	0.27
Intersection LOS	A					
Intersection V/C	0.522					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	51	54	69	47	138	34	46	829	67	88	696	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	51	54	69	47	138	34	46	829	67	88	696	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	14	17	12	35	9	12	207	17	22	174	5
Total Analysis Volume [veh/h]	51	54	69	47	138	34	46	829	67	88	696	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.11	0.11	0.03	0.14	0.14	0.03	0.28	0.28	0.06	0.22	0.22
Intersection LOS	B											
Intersection V/C	0.604											





Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	0	121	7	12	280	35	16	10	6	11	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	121	7	12	280	35	16	10	6	11	0	12
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]	0	30	2	3	70	9	4	3	2	3	0	3
Total Analysis Volume [veh/h]	0	121	7	12	280	35	16	10	6	11	0	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.02	0.01	0.02	0.00	0.01
d_M, Delay for Movement [s/veh]	7.89	0.00	0.00	7.49	0.00	0.00	12.52	12.63	10.28	12.39	12.53	9.08
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.19	0.19	0.19	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.62	0.62	0.62	4.74	4.74	4.74	2.71	2.71	2.71
d_A, Approach Delay [s/veh]	0.00			0.27			12.14			10.67		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.42											
Intersection LOS	B											

APPENDIX C-II





EXISTING PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.918

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	42	2652	101	199	1024	43	69	264	41	192	211	247
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	42	2652	101	199	1024	43	69	264	41	192	211	247
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]	11	663	25	50	256	11	17	66	10	48	53	62
Total Analysis Volume [veh/h]	42	2652	101	199	1024	43	69	264	41	192	211	247
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.57	0.57	0.07	0.21	0.03	0.04	0.10	0.10	0.07	0.13	0.09
Intersection LOS	E											
Intersection V/C	0.918											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.761

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	2917	29	25	1182	12	0	0	0	33	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2917	29	25	1182	12	0	0	0	33	0	17
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]	0	729	7	6	296	3	0	0	0	8	0	4
Total Analysis Volume [veh/h]	0	2917	29	25	1182	12	0	0	0	33	0	17
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.61	0.61	0.02	0.25	0.25	0.00	0.00	0.00	0.02	0.00	0.03
Intersection LOS	C											
Intersection V/C	0.761											

Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.006

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	121	2764	84	128	915	133	172	448	176	119	513	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	121	2764	84	128	915	133	172	448	176	119	513	181
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]	30	691	21	32	229	33	43	112	44	30	128	45
Total Analysis Volume [veh/h]	121	2764	84	128	915	133	172	448	176	119	513	181
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.08	0.59	0.59	0.04	0.22	0.22	0.11	0.14	0.11	0.07	0.16	0.07
Intersection LOS	F											
Intersection V/C	1.006											

Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	36	2945	22	0	1188	23	1	1	15	3	2	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	36	2945	22	0	1188	23	1	1	15	3	2	43
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]	9	736	6	0	297	6	0	0	4	1	1	11
Total Analysis Volume [veh/h]	36	2945	22	0	1188	23	1	1	15	3	2	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.03	0.00	0.00	0.01	0.00	0.00	0.65	0.04	1.10	1.30	0.44
d_M, Delay for Movement [s/veh]	18.17	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	2409.52	3416.50	1121.68
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.39	0.10	0.00	0.00	0.00	0.00	3.80	3.80	3.80	6.61	6.61	6.61
95th-Percentile Queue Length [ft/ln]	9.77	2.44	0.00	0.00	0.00	0.00	95.05	95.05	95.05	165.25	165.25	165.25
d_A, Approach Delay [s/veh]	0.22			0.00			10000.00			1297.79		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	54.44											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.794

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	33	2969	22	9	1152	34	28	32	12	32	42	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2969	22	9	1152	34	28	32	12	32	42	64
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]	8	742	6	2	288	9	7	8	3	8	11	16
Total Analysis Volume [veh/h]	33	2969	22	9	1152	34	28	32	12	32	42	64
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	0.62	0.62	0.01	0.25	0.25	0.02	0.05	0.05	0.02	0.05	0.04
Intersection LOS	C											
Intersection V/C	0.794											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	63	22	39	691	901	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	63	22	39	691	901	90
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]	16	6	10	173	225	23
Total Analysis Volume [veh/h]	63	22	39	691	901	90
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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.02	0.22	0.31	0.31
Intersection LOS	A					
Intersection V/C	0.487					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	60	157	73	32	64	39	56	671	64	112	887	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	60	157	73	32	64	39	56	671	64	112	887	25
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]	15	39	18	8	16	10	14	168	16	28	222	6
Total Analysis Volume [veh/h]	60	157	73	32	64	39	56	671	64	112	887	25
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.04	0.18	0.18	0.02	0.08	0.08	0.04	0.23	0.23	0.07	0.29	0.29
Intersection LOS	B											
Intersection V/C	0.621											

Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	8	242	20	12	169	60	14	14	2	3	19	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	8	242	20	12	169	60	14	14	2	3	19	26
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]	2	61	5	3	42	15	4	4	1	1	5	7
Total Analysis Volume [veh/h]	8	242	20	12	169	60	14	14	2	3	19	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.03	0.03	0.00	0.01	0.04	0.03
d_M, Delay for Movement [s/veh]	7.70	0.00	0.00	7.79	0.00	0.00	13.81	13.30	9.81	13.31	13.51	10.12
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.03	0.03	0.03	0.21	0.21	0.21	0.27	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.45	0.45	0.45	0.70	0.70	0.70	5.17	5.17	5.17	6.64	6.64	6.64
d_A, Approach Delay [s/veh]	0.23			0.39			13.30			11.66		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.89											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.854

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	103	1297	165	256	2404	117	75	267	38	228	227	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	103	1297	165	256	2404	117	75	267	38	228	227	160
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]	26	324	41	64	601	29	19	67	10	57	57	40
Total Analysis Volume [veh/h]	103	1297	165	256	2404	117	75	267	38	228	227	160
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.30	0.30	0.09	0.50	0.07	0.05	0.10	0.10	0.08	0.14	0.01
Intersection LOS	D											
Intersection V/C	0.854											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.695

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1596	63	9	2564	13	0	0	0	79	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	1596	63	9	2564	13	0	0	0	79	2	12
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]	0	399	16	2	641	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1596	63	9	2564	13	0	0	0	79	2	12
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.35	0.35	0.01	0.54	0.54	0.00	0.00	0.00	0.05	0.06	0.06
Intersection LOS	B											
Intersection V/C	0.695											

Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.977

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	171	1149	158	220	2296	98	172	485	150	191	444	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	171	1149	158	220	2296	98	172	485	150	191	444	144
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]	43	287	40	55	574	25	43	121	38	48	111	36
Total Analysis Volume [veh/h]	171	1149	158	220	2296	98	172	485	150	191	444	144
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.27	0.27	0.08	0.50	0.50	0.11	0.15	0.09	0.12	0.14	0.01
Intersection LOS	E											
Intersection V/C	0.977											





Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 196.0
 Level Of Service: F
 Volume to Capacity (v/c): 0.052

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1446	22	0	2639	14	0	0	35	1	0	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1446	22	0	2639	14	0	0	35	1	0	34
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]	2	362	6	0	660	4	0	0	9	0	0	9
Total Analysis Volume [veh/h]	6	1446	22	0	2639	14	0	0	35	1	0	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.28	0.05	0.00	0.11
d_M, Delay for Movement [s/veh]	74.61	0.00	0.00	0.00	0.00	0.00	455.64	1808.70	44.63	196.04	1789.70	19.75
Movement LOS	F	A	A		A	A	F	F	E	F	F	C
95th-Percentile Queue Length [veh/ln]	0.33	0.08	0.00	0.00	0.00	0.00	1.07	1.07	1.07	0.56	0.56	0.56
95th-Percentile Queue Length [ft/ln]	8.29	2.07	0.00	0.00	0.00	0.00	26.64	26.64	26.64	14.09	14.09	14.09
d_A, Approach Delay [s/veh]	0.30			0.00			44.63			24.78		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	0.69											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.742

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	8	1464	22	58	2531	44	51	41	23	46	22	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	8	1464	22	58	2531	44	51	41	23	46	22	32
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]	2	366	6	15	633	11	13	10	6	12	6	8
Total Analysis Volume [veh/h]	8	1464	22	58	2531	44	51	41	23	46	22	32
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	0.01	0.31	0.31	0.04	0.54	0.54	0.03	0.07	0.07	0.03	0.04	0.02
Intersection LOS	C											
Intersection V/C	0.742											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

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	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	173	33	41	914	738	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	173	33	41	914	738	115
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]	43	8	10	229	185	29
Total Analysis Volume [veh/h]	173	33	41	914	738	115
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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-



Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.03	0.29	0.27	0.27
Intersection LOS	A					
Intersection V/C	0.521					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.620

Intersection Setup

Name	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	51	54	73	47	138	34	46	835	88	100	693	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	51	54	73	47	138	34	46	835	88	100	693	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	14	18	12	35	9	12	209	22	25	173	5
Total Analysis Volume [veh/h]	51	54	73	47	138	34	46	835	88	100	693	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.11	0.11	0.03	0.14	0.14	0.03	0.29	0.29	0.06	0.22	0.22
Intersection LOS	B											
Intersection V/C	0.620											





Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.023

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	0	121	7	13	291	55	20	11	6	11	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	121	7	13	291	55	20	11	6	11	2	12
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]	0	30	2	3	73	14	5	3	2	3	1	3
Total Analysis Volume [veh/h]	0	121	7	13	291	55	20	11	6	11	2	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.04	0.02	0.01	0.02	0.00	0.01
d_M, Delay for Movement [s/veh]	7.97	0.00	0.00	7.49	0.00	0.00	12.94	12.97	10.53	12.72	12.91	9.13
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.03	0.03	0.23	0.23	0.23	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.67	0.67	0.67	5.80	5.80	5.80	3.13	3.13	3.13
d_A, Approach Delay [s/veh]	0.00			0.27			12.56			11.01		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.53											
Intersection LOS	B											

APPENDIX C-III





YEAR 2021 CUMULATIVE TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	43	2764	103	206	1192	46	73	269	43	197	215	256
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2764	103	206	1192	46	73	269	43	197	215	256
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]	11	691	26	52	298	12	18	67	11	49	54	64
Total Analysis Volume [veh/h]	43	2764	103	206	1192	46	73	269	43	197	215	256
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.60	0.60	0.07	0.25	0.03	0.05	0.10	0.10	0.07	0.13	0.09
Intersection LOS	E											
Intersection V/C	0.949											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.786

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	3034	30	26	1353	12	0	0	0	34	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	3034	30	26	1353	12	0	0	0	34	0	17
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]	0	759	8	7	338	3	0	0	0	9	0	4
Total Analysis Volume [veh/h]	0	3034	30	26	1353	12	0	0	0	34	0	17
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.00	0.64	0.64	0.02	0.28	0.28	0.00	0.00	0.00	0.02	0.00	0.03
Intersection LOS	C											
Intersection V/C	0.786											

Intersection Level Of Service Report

Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.044

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	133	2867	111	111	1090	141	182	462	208	168	547	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	133	2867	111	111	1090	141	182	462	208	168	547	187
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]	33	717	28	28	273	35	46	116	52	42	137	47
Total Analysis Volume [veh/h]	133	2867	111	111	1090	141	182	462	208	168	547	187
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.08	0.62	0.62	0.04	0.26	0.26	0.11	0.14	0.13	0.11	0.17	0.08
Intersection LOS	F											
Intersection V/C	1.044											

Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.821

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	37	3109	16	0	1442	23	1	1	15	3	2	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	37	3109	16	0	1442	23	1	1	15	3	2	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]	9	777	4	0	361	6	0	0	4	1	1	6
Total Analysis Volume [veh/h]	37	3109	16	0	1442	23	1	1	15	3	2	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.03	0.00	0.00	0.01	0.00	0.00	1.40	0.05	0.00	2.82	0.26
d_M, Delay for Movement [s/veh]	23.45	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.56	0.14	0.00	0.00	0.00	0.00	3.80	3.80	3.80	5.29	5.29	5.29
95th-Percentile Queue Length [ft/ln]	13.92	3.48	0.00	0.00	0.00	0.00	95.05	95.05	95.05	132.23	132.23	132.23
d_A, Approach Delay [s/veh]	0.27			0.00			10000.00			10000.00		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	94.38											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.817

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	36	3109	24	9	1362	35	29	33	17	15	43	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	36	3109	24	9	1362	35	29	33	17	15	43	65
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]	9	777	6	2	341	9	7	8	4	4	11	16
Total Analysis Volume [veh/h]	36	3109	24	9	1362	35	29	33	17	15	43	65
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	0.65	0.65	0.01	0.29	0.29	0.02	0.05	0.05	0.01	0.04	0.04
Intersection LOS	D											
Intersection V/C	0.817											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	64	22	40	715	992	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	64	22	40	715	992	92
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]	16	6	10	179	248	23
Total Analysis Volume [veh/h]	64	22	40	715	992	92
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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.03	0.22	0.34	0.34
Intersection LOS	A					
Intersection V/C	0.518					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

Intersection Setup

Name	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	61	160	70	33	65	40	57	719	41	99	978	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	61	160	70	33	65	40	57	719	41	99	978	26
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]	15	40	18	8	16	10	14	180	10	25	245	7
Total Analysis Volume [veh/h]	61	160	70	33	65	40	57	719	41	99	978	26
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.02	0.09	0.09	0.04	0.24	0.24	0.06	0.31	0.31
Intersection LOS	B											
Intersection V/C	0.652											



Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.022

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	8	247	20	11	158	38	10	13	2	3	17	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	8	247	20	11	158	38	10	13	2	3	17	27
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]	2	62	5	3	40	10	3	3	1	1	4	7
Total Analysis Volume [veh/h]	8	247	20	11	158	38	10	13	2	3	17	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.02	0.03	0.00	0.01	0.04	0.03
d_M, Delay for Movement [s/veh]	7.63	0.00	0.00	7.80	0.00	0.00	13.40	12.97	9.56	13.01	13.14	10.10
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.03	0.03	0.03	0.16	0.16	0.16	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.44	0.44	0.44	0.64	0.64	0.64	4.09	4.09	4.09	6.23	6.23	6.23
d_A, Approach Delay [s/veh]	0.22			0.41			12.87			11.38		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.81											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	105	1512	168	274	2561	128	85	272	39	233	232	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	105	1512	168	274	2561	128	85	272	39	233	232	175
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]	26	378	42	69	640	32	21	68	10	58	58	44
Total Analysis Volume [veh/h]	105	1512	168	274	2561	128	85	272	39	233	232	175
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.35	0.35	0.10	0.53	0.08	0.05	0.10	0.10	0.08	0.15	0.01
Intersection LOS	D											
Intersection V/C	0.897											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.730

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1817	64	9	2724	13	0	0	0	81	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	1817	64	9	2724	13	0	0	0	81	2	12
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]	0	454	16	2	681	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1817	64	9	2724	13	0	0	0	81	2	12
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.00	0.39	0.39	0.01	0.57	0.57	0.00	0.00	0.00	0.05	0.06	0.06
Intersection LOS	C											
Intersection V/C	0.730											

Intersection Level Of Service Report

Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.055

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	201	1341	216	211	2458	102	184	500	173	224	462	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	201	1341	216	211	2458	102	184	500	173	224	462	152
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]	50	335	54	53	615	26	46	125	43	56	116	38
Total Analysis Volume [veh/h]	201	1341	216	211	2458	102	184	500	173	224	462	152
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.13	0.32	0.32	0.07	0.53	0.53	0.12	0.16	0.11	0.14	0.14	0.02
Intersection LOS	F											
Intersection V/C	1.055											

Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	388.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.104

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1741	16	0	2856	14	0	0	36	1	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1741	16	0	2856	14	0	0	36	1	0	16
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]	2	435	4	0	714	4	0	0	9	0	0	4
Total Analysis Volume [veh/h]	6	1741	16	0	2856	14	0	0	36	1	0	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.34	0.10	0.00	0.06
d_M, Delay for Movement [s/veh]	98.53	0.00	0.00	0.00	0.00	0.00	749.53	4280.79	55.90	388.05	4264.29	26.51
Movement LOS	F	A	A		A	A	F	F	F	F	F	D
95th-Percentile Queue Length [veh/ln]	0.43	0.11	0.00	0.00	0.00	0.00	1.35	1.35	1.35	0.58	0.58	0.58
95th-Percentile Queue Length [ft/ln]	10.77	2.69	0.00	0.00	0.00	0.00	33.66	33.66	33.66	14.40	14.40	14.40
d_A, Approach Delay [s/veh]	0.34			0.00			55.90			47.77		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.808

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	17	1681	24	59	2732	60	71	47	35	32	26	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	17	1681	24	59	2732	60	71	47	35	32	26	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]	4	420	6	15	683	15	18	12	9	8	7	8
Total Analysis Volume [veh/h]	17	1681	24	59	2732	60	71	47	35	32	26	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	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	0.01	0.36	0.36	0.04	0.58	0.58	0.04	0.10	0.10	0.02	0.04	0.02
Intersection LOS	D											
Intersection V/C	0.808											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	176	34	42	977	796	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	176	34	42	977	796	117
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]	44	9	11	244	199	29
Total Analysis Volume [veh/h]	176	34	42	977	796	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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.03	0.31	0.29	0.29
Intersection LOS	A					
Intersection V/C	0.543					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	52	55	70	48	141	35	47	918	68	90	750	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	52	55	70	48	141	35	47	918	68	90	750	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	14	18	12	35	9	12	230	17	23	188	5
Total Analysis Volume [veh/h]	52	55	70	48	141	35	47	918	68	90	750	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.11	0.11	0.03	0.14	0.14	0.03	0.31	0.31	0.06	0.24	0.24
Intersection LOS	B											
Intersection V/C	0.637											



Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	0	123	7	12	286	36	16	10	6	11	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	123	7	12	286	36	16	10	6	11	0	12
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]	0	31	2	3	72	9	4	3	2	3	0	3
Total Analysis Volume [veh/h]	0	123	7	12	286	36	16	10	6	11	0	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.02	0.01	0.02	0.00	0.01
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	7.49	0.00	0.00	12.63	12.72	10.33	12.49	12.62	9.10
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.19	0.19	0.19	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.62	0.62	0.62	4.80	4.80	4.80	2.74	2.74	2.74
d_A, Approach Delay [s/veh]	0.00			0.27			12.22			10.72		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.40											
Intersection LOS	B											

APPENDIX C-IV





YEAR 2021 CUMULATIVE PLUS PROJECT TRAFFIC
CONDITIONS

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.952

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	43	2777	103	206	1206	46	73	269	43	197	215	256
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2777	103	206	1206	46	73	269	43	197	215	256
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]	11	694	26	52	302	12	18	67	11	49	54	64
Total Analysis Volume [veh/h]	43	2777	103	206	1206	46	73	269	43	197	215	256
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.60	0.60	0.07	0.25	0.03	0.05	0.10	0.10	0.07	0.13	0.09
Intersection LOS	E											
Intersection V/C	0.952											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.789

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	3047	30	26	1367	12	0	0	0	34	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	3047	30	26	1367	12	0	0	0	34	0	17
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]	0	762	8	7	342	3	0	0	0	9	0	4
Total Analysis Volume [veh/h]	0	3047	30	26	1367	12	0	0	0	34	0	17
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.64	0.64	0.02	0.29	0.29	0.00	0.00	0.00	0.02	0.00	0.03
Intersection LOS	C											
Intersection V/C	0.789											





Intersection Level Of Service Report

Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: F
 Volume to Capacity (v/c): 1.053

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	147	2884	111	132	1083	145	182	469	208	168	541	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	147	2884	111	132	1083	145	182	469	208	168	541	187
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]	37	721	28	33	271	36	46	117	52	42	135	47
Total Analysis Volume [veh/h]	147	2884	111	132	1083	145	182	469	208	168	541	187
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.09	0.62	0.62	0.05	0.26	0.26	0.11	0.15	0.13	0.11	0.17	0.07
Intersection LOS	F											
Intersection V/C	1.053											

Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.841

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	37	3117	22	0	1435	23	1	1	15	3	2	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	37	3117	22	0	1435	23	1	1	15	3	2	43
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]	9	779	6	0	359	6	0	0	4	1	1	11
Total Analysis Volume [veh/h]	37	3117	22	0	1435	23	1	1	15	3	2	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.03	0.00	0.00	0.01	0.00	0.00	1.42	0.05	0.00	2.84	0.50
d_M, Delay for Movement [s/veh]	23.27	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.55	0.14	0.00	0.00	0.00	0.00	3.80	3.80	3.80	8.20	8.20	8.20
95th-Percentile Queue Length [ft/ln]	13.79	3.45	0.00	0.00	0.00	0.00	95.05	95.05	95.05	204.90	204.90	204.90
d_A, Approach Delay [s/veh]	0.27			0.00			10000.00			10000.00		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	138.51											
Intersection LOS	F											





Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.832

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	36	3123	24	9	1355	35	29	33	17	34	43	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	36	3123	24	9	1355	35	29	33	17	34	43	65
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]	9	781	6	2	339	9	7	8	4	9	11	16
Total Analysis Volume [veh/h]	36	3123	24	9	1355	35	29	33	17	34	43	65
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	0.66	0.66	0.01	0.29	0.29	0.02	0.05	0.05	0.02	0.05	0.04
Intersection LOS	D											
Intersection V/C	0.832											

Intersection Level Of Service Report

Intersection 6: Target Dwy at Manhattan Beach Blvd

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	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	64	22	40	744	986	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	64	22	40	744	986	92
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]	16	6	10	186	247	23
Total Analysis Volume [veh/h]	64	22	40	744	986	92
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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.03	0.23	0.34	0.34
Intersection LOS	A					
Intersection V/C	0.516					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	61	160	74	33	65	40	57	724	65	114	972	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	61	160	74	33	65	40	57	724	65	114	972	26
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]	15	40	19	8	16	10	14	181	16	29	243	7
Total Analysis Volume [veh/h]	61	160	74	33	65	40	57	724	65	114	972	26
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.04	0.18	0.18	0.02	0.09	0.09	0.04	0.25	0.25	0.07	0.31	0.31
Intersection LOS	B											
Intersection V/C	0.653											

Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	8	247	20	12	172	61	14	14	2	3	19	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	8	247	20	12	172	61	14	14	2	3	19	27
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]	2	62	5	3	43	15	4	4	1	1	5	7
Total Analysis Volume [veh/h]	8	247	20	12	172	61	14	14	2	3	19	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.03	0.03	0.00	0.01	0.04	0.03
d_M, Delay for Movement [s/veh]	7.71	0.00	0.00	7.80	0.00	0.00	13.95	13.40	9.85	13.43	13.62	10.17
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.03	0.03	0.03	0.21	0.21	0.21	0.27	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.45	0.45	0.45	0.70	0.70	0.70	5.24	5.24	5.24	6.82	6.82	6.82
d_A, Approach Delay [s/veh]	0.22			0.38			13.42			11.71		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.89											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 1: Sepulveda Blvd at Marine Ave

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

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	105	1526	168	274	2575	128	85	272	39	233	232	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	105	1526	168	274	2575	128	85	272	39	233	232	175
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]	26	382	42	69	644	32	21	68	10	58	58	44
Total Analysis Volume [veh/h]	105	1526	168	274	2575	128	85	272	39	233	232	175
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.35	0.35	0.10	0.54	0.08	0.05	0.10	0.10	0.08	0.15	0.01
Intersection LOS	E											
Intersection V/C	0.900											




Intersection Level Of Service Report

Intersection 2: Sepulveda Blvd at 18th St

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.733

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1831	64	9	2738	13	0	0	0	81	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	1831	64	9	2738	13	0	0	0	81	2	12
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]	0	458	16	2	685	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1831	64	9	2738	13	0	0	0	81	2	12
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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.00	0.39	0.39	0.01	0.57	0.57	0.00	0.00	0.00	0.05	0.06	0.06
Intersection LOS	C											
Intersection V/C	0.733											

Intersection Level Of Service Report

Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.063

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	209	1359	216	228	2455	106	184	507	173	224	459	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	209	1359	216	228	2455	106	184	507	173	224	459	152
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]	52	340	54	57	614	27	46	127	43	56	115	38
Total Analysis Volume [veh/h]	209	1359	216	228	2455	106	184	507	173	224	459	152
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.33	0.33	0.08	0.53	0.53	0.12	0.16	0.11	0.14	0.14	0.02
Intersection LOS	F											
Intersection V/C	1.063											





Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 394.1
 Level Of Service: F
 Volume to Capacity (v/c): 0.106

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1749	22	0	2853	14	0	0	36	1	0	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1749	22	0	2853	14	0	0	36	1	0	34
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]	2	437	6	0	713	4	0	0	9	0	0	9
Total Analysis Volume [veh/h]	6	1749	22	0	2853	14	0	0	36	1	0	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.13	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.34	0.11	0.00	0.14
d_M, Delay for Movement [s/veh]	98.14	0.00	0.00	0.00	0.00	0.00	812.13	4359.77	55.73	394.12	4323.17	27.44
Movement LOS	F	A	A		A	A	F	F	F	F	F	D
95th-Percentile Queue Length [veh/ln]	0.43	0.11	0.00	0.00	0.00	0.00	1.34	1.34	1.34	0.91	0.91	0.91
95th-Percentile Queue Length [ft/ln]	10.73	2.68	0.00	0.00	0.00	0.00	33.57	33.57	33.57	22.63	22.63	22.63
d_A, Approach Delay [s/veh]	0.33			0.00			55.73			37.92		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	0.83											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	17	1695	24	59	2729	60	71	47	35	49	26	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	17	1695	24	59	2729	60	71	47	35	49	26	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]	4	424	6	15	682	15	18	12	9	12	7	8
Total Analysis Volume [veh/h]	17	1695	24	59	2729	60	71	47	35	49	26	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	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	0.01	0.36	0.36	0.04	0.58	0.58	0.04	0.10	0.10	0.03	0.05	0.02
Intersection LOS	D											
Intersection V/C	0.818											

Intersection Level Of Service Report
Intersection 6: Target Dwy at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

Intersection Setup

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
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 Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Target Dwy		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	176	34	42	1004	793	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	176	34	42	1004	793	117
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]	44	9	11	251	198	29
Total Analysis Volume [veh/h]	176	34	42	1004	793	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	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.03	0.31	0.28	0.28
Intersection LOS	A					
Intersection V/C	0.545					

Intersection Level Of Service Report
Intersection 7: Meadows Ave at Manhattan Beach Blvd

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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	Meadows Ave			Meadows Ave			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	52	55	74	48	141	35	47	924	89	102	747	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	52	55	74	48	141	35	47	924	89	102	747	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	14	19	12	35	9	12	231	22	26	187	5
Total Analysis Volume [veh/h]	52	55	74	48	141	35	47	924	89	102	747	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.11	0.11	0.03	0.14	0.14	0.03	0.32	0.32	0.06	0.24	0.24
Intersection LOS	B											
Intersection V/C	0.653											





Intersection Level Of Service Report

Intersection 8: Meadows Ave at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.023

Intersection Setup

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Meadows Ave			Meadows Ave			11th St			11th St		
Base Volume Input [veh/h]	0	123	7	13	297	56	20	11	6	11	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	123	7	13	297	56	20	11	6	11	2	12
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]	0	31	2	3	74	14	5	3	2	3	1	3
Total Analysis Volume [veh/h]	0	123	7	13	297	56	20	11	6	11	2	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.04	0.02	0.01	0.02	0.00	0.01
d_M, Delay for Movement [s/veh]	7.99	0.00	0.00	7.50	0.00	0.00	13.05	13.07	10.58	12.83	13.00	9.14
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.03	0.03	0.24	0.24	0.24	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.68	0.68	0.68	5.88	5.88	5.88	3.16	3.16	3.16
d_A, Approach Delay [s/veh]	0.00			0.27			12.66			11.07		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.51											
Intersection LOS	B											

APPENDIX D

CALTRANS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX D-1

EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.867

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	42	2639	101	199	1010	43	69	264	41	192	211	247
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	2639	101	199	1010	43	69	264	41	192	211	247
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]	11	660	25	50	253	11	17	66	10	48	53	62
Total Analysis Volume [veh/h]	42	2639	101	199	1010	43	69	264	41	192	211	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	10	52	0	12	54	0	10	43	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	4	74	74	8	78	78	6	14	14	9	16	28
g / C, Green / Cycle	0.03	0.61	0.61	0.07	0.65	0.65	0.05	0.11	0.11	0.07	0.14	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.51	0.51	0.06	0.20	0.03	0.04	0.08	0.08	0.06	0.11	0.16
s, saturation flow rate [veh/h]	1781	3560	1835	3459	5094	1589	1781	1870	1784	3459	1870	1589
c, Capacity [veh/h]	57	2182	1125	233	3300	1030	89	214	205	249	255	377
d1, Uniform Delay [s]	57.58	18.19	18.48	55.41	9.29	7.65	56.34	51.30	51.38	54.74	50.47	41.37
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.18	3.70	7.47	8.65	0.24	0.08	13.05	4.54	5.04	5.04	6.72	1.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.82	0.84	0.85	0.31	0.04	0.77	0.72	0.73	0.77	0.83	0.66
d, Delay for Lane Group [s/veh]	73.76	21.89	25.95	64.06	9.53	7.73	69.39	55.83	56.42	59.78	57.18	43.31
Lane Group LOS	E	C	C	E	A	A	E	E	E	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.52	19.29	21.66	3.26	3.78	0.41	2.39	4.77	4.66	3.03	6.64	6.80
50th-Percentile Queue Length [ft/ln]	38.07	482.27	541.49	81.49	94.49	10.30	59.78	119.13	116.45	75.68	165.99	170.09
95th-Percentile Queue Length [veh/ln]	2.74	26.49	29.29	5.87	6.80	0.74	4.30	8.34	8.20	5.45	10.87	11.08
95th-Percentile Queue Length [ft/ln]	68.53	662.34	732.30	146.68	170.08	18.53	107.60	208.62	204.93	136.22	271.64	277.03

Movement, Approach, & Intersection Results

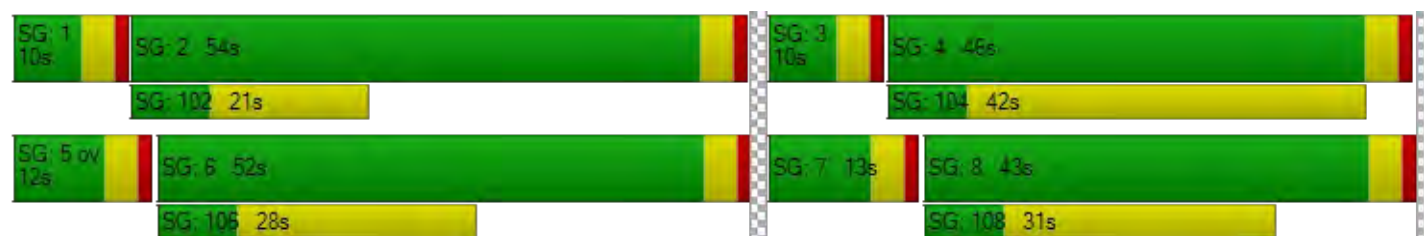
d_M, Delay for Movement [s/veh]	73.76	23.18	25.95	64.06	9.53	7.73	69.39	56.08	56.42	59.78	57.18	43.31
Movement LOS	E	C	C	E	A	A	E	E	E	E	E	D
d_A, Approach Delay [s/veh]	24.05			18.13			58.57			52.68		
Approach LOS	C			B			E			D		
d_I, Intersection Delay [s/veh]	28.81											
Intersection LOS	C											
Intersection V/C	0.867											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.168			3.319			2.308			2.664		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	800			833			650			700		
d_b, Bicycle Delay [s]	21.60			20.42			27.34			25.35		
I_b,int, Bicycle LOS Score for Intersection	3.090			2.248			1.868			2.632		
Bicycle LOS	C			B			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	3.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	2904	29	25	1168	12	0	0	0	33	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2904	29	25	1168	12	0	0	0	33	0	17
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]	0	726	7	6	292	3	0	0	0	8	0	4
Total Analysis Volume [veh/h]	0	2904	29	25	1168	12	0	0	0	33	0	17
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	65	0	0	65	0	0	0	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	78	78	78	78	78		4
g / C, Green / Cycle	0.87	0.87	0.87	0.87	0.87		0.04
(v / s)_i Volume / Saturation Flow Rate	0.55	0.53	0.29	0.22	0.22		0.03
s, saturation flow rate [veh/h]	3560	1860	85	3560	1860		1711
c, Capacity [veh/h]	3099	1619	137	3099	1619		70
d1, Uniform Delay [s]	1.68	1.59	6.80	0.97	0.97		42.62
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	0.99	1.68	2.90	0.19	0.37		12.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.63	0.60	0.18	0.25	0.25		0.72
d, Delay for Lane Group [s/veh]	2.66	3.27	9.69	1.16	1.34		55.54
Lane Group LOS	A	A	A	A	A		E
Critical Lane Group	Yes	No	No	No	No		Yes
50th-Percentile Queue Length [veh/ln]	1.17	1.46	0.30	0.25	0.34		1.34
50th-Percentile Queue Length [ft/ln]	29.13	36.46	7.42	6.31	8.58		33.42
95th-Percentile Queue Length [veh/ln]	2.10	2.63	0.53	0.45	0.62		2.41
95th-Percentile Queue Length [ft/ln]	52.44	65.64	13.36	11.36	15.45		60.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.86	3.27	9.69	1.22	1.34	0.00	0.00	0.00	55.54	55.54	55.54
Movement LOS		A	A	A	A	A				E	E	E
d_A, Approach Delay [s/veh]	2.87			1.40			0.00			55.54		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	3.07											
Intersection LOS	A											
Intersection V/C	0.635											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.124			3.168			1.435			1.801		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1356			1356			0			467		
d_b, Bicycle Delay [s]	4.67			4.67			45.00			26.45		
I_b,int, Bicycle LOS Score for Intersection	3.173			2.222			4.132			1.642		
Bicycle LOS	C			B			D			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	40.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	107	2747	84	107	922	129	172	441	176	119	519	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	2747	84	107	922	129	172	441	176	119	519	181
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]	27	687	21	27	231	32	43	110	44	30	130	45
Total Analysis Volume [veh/h]	107	2747	84	107	922	129	172	441	176	119	519	181
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	51	0	9	32	0	16	25	0	30	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	62	62	5	58	58	12	22	22	10	20	29
g / C, Green / Cycle	0.08	0.54	0.54	0.04	0.51	0.51	0.10	0.19	0.19	0.08	0.17	0.25
(v / s)_i Volume / Saturation Flow Rate	0.06	0.52	0.53	0.03	0.20	0.20	0.10	0.12	0.11	0.07	0.15	0.11
s, saturation flow rate [veh/h]	1781	3560	1842	3459	3560	1755	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	135	1919	993	153	1806	890	187	691	309	149	615	400
d1, Uniform Delay [s]	52.26	25.56	25.99	54.23	17.42	17.43	51.03	42.64	42.01	51.79	46.08	36.34
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.78	14.16	24.56	5.64	0.63	1.29	16.54	0.98	1.66	9.46	3.25	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.97	0.98	0.70	0.39	0.39	0.92	0.64	0.57	0.80	0.84	0.45
d, Delay for Lane Group [s/veh]	62.05	39.71	50.54	59.88	18.05	18.72	67.57	43.63	43.67	61.24	49.33	37.14
Lane Group LOS	E	D	D	E	B	B	E	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.40	26.70	31.26	1.65	5.79	5.89	5.76	5.85	4.67	3.76	7.43	4.39
50th-Percentile Queue Length [ft/ln]	85.05	667.43	781.44	41.19	144.68	147.14	143.91	146.25	116.71	93.97	185.82	109.66
95th-Percentile Queue Length [veh/ln]	6.12	35.17	40.43	2.97	9.73	9.86	9.69	9.82	8.21	6.77	11.90	7.82
95th-Percentile Queue Length [ft/ln]	153.10	879.27	1010.67	74.14	243.31	246.60	242.28	245.42	205.29	169.15	297.60	195.53

Movement, Approach, & Intersection Results

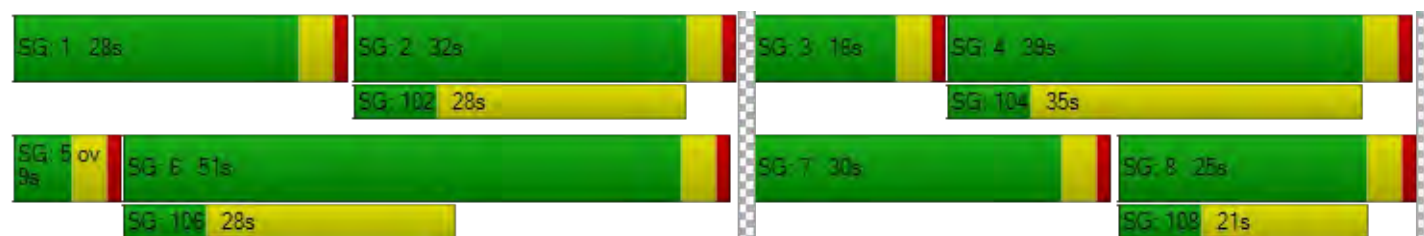
d_M, Delay for Movement [s/veh]	62.05	43.22	50.54	59.88	18.21	18.72	67.57	43.63	43.67	61.24	49.33	37.14
Movement LOS	E	D	D	E	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	44.12			22.12			48.86			48.37		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.92											
Intersection LOS	D											
Intersection V/C	0.932											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersection	3.184			3.256			2.715			2.700		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	817			487			365			609		
d_b, Bicycle Delay [s]	20.10			32.91			38.42			27.83		
I_b,int, Bicycle LOS Score for Intersection	3.176			2.197			2.211			2.235		
Bicycle LOS	C			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	36	2937	16	0	1195	23	1	1	15	3	2	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	36	2937	16	0	1195	23	1	1	15	3	2	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]	9	734	4	0	299	6	0	0	4	1	1	6
Total Analysis Volume [veh/h]	36	2937	16	0	1195	23	1	1	15	3	2	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.03	0.00	0.00	0.01	0.00	0.00	0.64	0.04	1.08	1.29	0.22
d_M, Delay for Movement [s/veh]	18.29	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	2380.04	3405.07	1125.19
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.39	0.10	0.00	0.00	0.00	0.00	3.80	3.80	3.80	4.38	4.38	4.38
95th-Percentile Queue Length [ft/ln]	9.86	2.46	0.00	0.00	0.00	0.00	95.05	95.05	95.05	109.52	109.52	109.52
d_A, Approach Delay [s/veh]	0.22			0.00			10000.00			1433.50		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	49.25											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	5.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	33	2955	22	9	1159	34	28	32	12	13	42	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	2955	22	9	1159	34	28	32	12	13	42	64
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]	8	739	6	2	290	9	7	8	3	3	11	16
Total Analysis Volume [veh/h]	33	2955	22	9	1159	34	28	32	12	13	42	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	93	0	0	93	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	102	102	102	102	102	102	10	10	10
g / C, Green / Cycle	0.85	0.85	0.85	0.85	0.85	0.85	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.07	0.55	0.55	0.11	0.22	0.22	0.07	0.03	0.04
s, saturation flow rate [veh/h]	469	3560	1863	81	3560	1843	1066	1774	1589
c, Capacity [veh/h]	434	3039	1590	114	3039	1573	127	178	127
d1, Uniform Delay [s]	2.67	2.84	2.85	7.62	1.65	1.65	54.75	52.32	52.92
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	1.06	2.03	1.35	0.21	0.40	3.97	0.97	3.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.64	0.64	0.08	0.26	0.26	0.57	0.31	0.51
d, Delay for Lane Group [s/veh]	3.01	3.90	4.88	8.97	1.85	2.05	58.72	53.29	56.02
Lane Group LOS	A	A	A	A	A	A	E	D	E
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.18	4.78	5.47	0.13	1.10	1.22	2.30	1.62	1.96
50th-Percentile Queue Length [ft/ln]	4.50	119.44	136.67	3.18	27.46	30.55	57.49	40.54	49.02
95th-Percentile Queue Length [veh/ln]	0.32	8.36	9.30	0.23	1.98	2.20	4.14	2.92	3.53
95th-Percentile Queue Length [ft/ln]	8.09	209.06	232.54	5.72	49.43	54.98	103.48	72.97	88.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.01	4.23	4.88	8.97	1.92	2.05	58.72	58.72	58.72	53.29	53.29	56.02
Movement LOS	A	A	A	A	A	A	E	E	E	D	D	E
d_A, Approach Delay [s/veh]	4.22			1.97			58.72			54.76		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	5.86											
Intersection LOS	A											
Intersection V/C	0.662											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.210			3.239			1.864			2.026		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1483			1483			383			383		
d_b, Bicycle Delay [s]	4.00			4.00			39.20			39.20		
I_b,int, Bicycle LOS Score for Intersection	3.215			2.221			1.678			1.756		
Bicycle LOS	C			B			A			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.822

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	103	1283	165	256	2390	117	75	267	38	228	227	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	1283	165	256	2390	117	75	267	38	228	227	160
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]	26	321	41	64	598	29	19	67	10	57	57	40
Total Analysis Volume [veh/h]	103	1283	165	256	2390	117	75	267	38	228	227	160
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	11	32	0	13	34	0	9	42	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	7	55	55	9	57	57	5	11	11	9	15	28
g / C, Green / Cycle	0.07	0.55	0.55	0.09	0.57	0.57	0.05	0.11	0.11	0.09	0.15	0.28
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.07	0.47	0.07	0.04	0.08	0.08	0.07	0.12	0.10
s, saturation flow rate [veh/h]	1781	3560	1763	3459	5094	1589	1781	1870	1790	3459	1870	1589
c, Capacity [veh/h]	126	1961	971	314	2907	907	91	211	202	297	277	443
d1, Uniform Delay [s]	45.89	13.88	13.88	44.71	17.39	9.97	47.09	42.94	43.00	44.81	41.38	28.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.01	0.89	1.80	5.18	2.77	0.29	16.88	4.81	5.31	4.19	5.99	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.49	0.49	0.82	0.82	0.13	0.83	0.73	0.74	0.77	0.82	0.36
d, Delay for Lane Group [s/veh]	57.89	14.78	15.68	49.89	20.16	10.26	63.97	47.75	48.31	49.00	47.37	29.47
Lane Group LOS	E	B	B	D	C	B	E	D	D	D	D	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.93	6.61	6.79	3.32	14.28	1.21	2.27	3.95	3.87	2.92	5.84	3.12
50th-Percentile Queue Length [ft/ln]	73.26	165.28	169.81	83.06	357.08	30.33	56.65	98.84	96.87	73.10	145.94	77.98
95th-Percentile Queue Length [veh/ln]	5.27	10.83	11.07	5.98	20.48	2.18	4.08	7.12	6.97	5.26	9.80	5.61
95th-Percentile Queue Length [ft/ln]	131.86	270.69	276.67	149.50	512.04	54.59	101.97	177.91	174.36	131.57	244.99	140.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.89	15.00	15.68	49.89	20.16	10.26	63.97	47.99	48.31	49.00	47.37	29.47
Movement LOS	E	B	B	D	C	B	E	D	D	D	D	C
d_A, Approach Delay [s/veh]	17.92			22.50			51.17			43.32		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	25.62											
Intersection LOS	C											
Intersection V/C	0.822											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.185			3.318			2.337			2.669		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	560			600			760			840		
d_b, Bicycle Delay [s]	25.92			24.50			19.22			16.82		
I_b,int, Bicycle LOS Score for Intersection	2.413			3.079			1.873			2.574		
Bicycle LOS	B			C			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1582	63	9	2550	13	0	0	0	79	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1582	63	9	2550	13	0	0	0	79	2	12
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]	0	396	16	2	638	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1582	63	9	2550	13	0	0	0	79	2	12
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	18	0	0	18	0	0	0	0	0	72	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	76	76	76	76	76		6
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84		0.07
(v / s)_i Volume / Saturation Flow Rate	0.31	0.30	0.03	0.47	0.47		0.05
s, saturation flow rate [veh/h]	3560	1833	304	3560	1865		1755
c, Capacity [veh/h]	2996	1542	305	2996	1570		122
d1, Uniform Delay [s]	1.63	1.61	3.17	2.14	2.14		41.10
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	0.35	0.64	0.18	0.76	1.46		9.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.37	0.36	0.03	0.56	0.56		0.76
d, Delay for Lane Group [s/veh]	1.98	2.25	3.35	2.90	3.60		50.50
Lane Group LOS	A	A	A	A	A		D
Critical Lane Group	No	No	No	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	0.99	1.11	0.05	2.02	2.43		2.32
50th-Percentile Queue Length [ft/ln]	24.79	27.80	1.22	50.53	60.65		57.98
95th-Percentile Queue Length [veh/ln]	1.78	2.00	0.09	3.64	4.37		4.17
95th-Percentile Queue Length [ft/ln]	44.62	50.04	2.20	90.96	109.16		104.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.06	2.25	3.35	3.14	3.60	0.00	0.00	0.00	50.50	50.50	50.50
Movement LOS		A	A	A	A	A				D	D	D
d_A, Approach Delay [s/veh]	2.07			3.14			0.00			50.50		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	3.76											
Intersection LOS	A											
Intersection V/C	0.577											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.147			3.174			1.438			1.808		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	311			311			0			1511		
d_b, Bicycle Delay [s]	32.09			32.09			45.00			2.69		
I_b,int, Bicycle LOS Score for Intersection	2.464			2.974			4.132			1.713		
Bicycle LOS	B			C			D			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	39.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.913

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	163	1131	158	203	2299	94	172	478	150	191	447	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	1131	158	203	2299	94	172	478	150	191	447	144
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]	41	283	40	51	575	24	43	120	38	48	112	36
Total Analysis Volume [veh/h]	163	1131	158	203	2299	94	172	478	150	191	447	144
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	15	43	0	12	40	0	16	38	0	17	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	11	55	55	8	52	52	12	18	18	13	19	31
g / C, Green / Cycle	0.10	0.50	0.50	0.07	0.47	0.47	0.11	0.16	0.16	0.12	0.17	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.24	0.24	0.06	0.44	0.45	0.10	0.13	0.09	0.11	0.13	0.09
s, saturation flow rate [veh/h]	1781	3560	1755	3459	3560	1833	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	179	1784	879	254	1687	868	195	575	257	211	608	446
d1, Uniform Delay [s]	49.02	18.10	18.10	50.21	27.31	27.57	48.31	44.70	42.73	47.90	43.30	31.34
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.79	0.94	1.91	5.73	10.87	19.63	12.04	3.18	2.10	13.23	1.76	0.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.48	0.48	0.80	0.93	0.94	0.88	0.83	0.58	0.90	0.74	0.32
d, Delay for Lane Group [s/veh]	64.81	19.04	20.00	55.94	38.17	47.20	60.34	47.88	44.83	61.13	45.06	31.76
Lane Group LOS	E	B	C	E	D	D	E	D	D	E	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.20	7.27	7.40	2.95	21.12	24.28	5.29	6.54	3.92	5.93	5.89	3.08
50th-Percentile Queue Length [ft/ln]	130.07	181.76	185.06	73.66	528.00	606.98	132.18	163.39	97.96	148.13	147.32	77.02
95th-Percentile Queue Length [veh/ln]	8.94	11.69	11.86	5.30	28.66	32.36	9.06	10.73	7.05	9.92	9.87	5.55
95th-Percentile Queue Length [ft/ln]	223.59	292.31	296.61	132.60	716.42	809.00	226.46	268.21	176.33	247.93	246.85	138.63

Movement, Approach, & Intersection Results

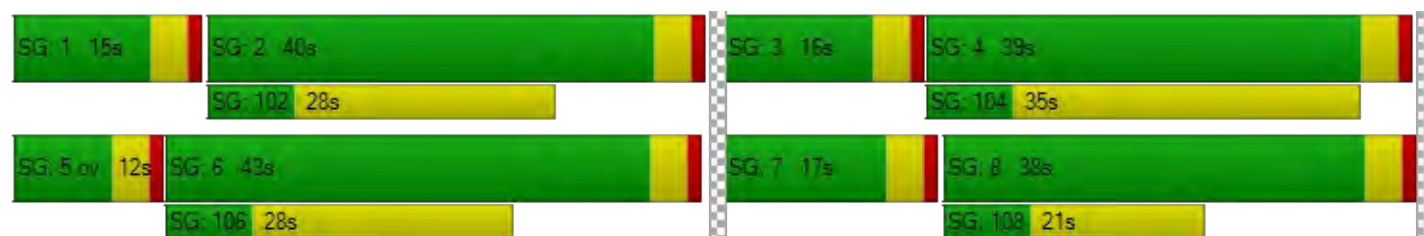
d_M, Delay for Movement [s/veh]	64.81	19.27	20.00	55.94	41.02	47.20	60.34	47.88	44.83	61.13	45.06	31.76
Movement LOS	E	B	C	E	D	D	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	24.46			42.41			49.99			46.53		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	39.43											
Intersection LOS	D											
Intersection V/C	0.913											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.173			3.228			2.707			2.726		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	709			655			618			636		
d_b, Bicycle Delay [s]	22.91			24.89			26.25			25.57		
I_b,int, Bicycle LOS Score for Intersection	2.358			2.987			2.220			2.205		
Bicycle LOS	B			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 192.7
 Level Of Service: F
 Volume to Capacity (v/c): 0.051

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1438	16	0	2642	14	0	0	35	1	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1438	16	0	2642	14	0	0	35	1	0	16
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]	2	360	4	0	661	4	0	0	9	0	0	4
Total Analysis Volume [veh/h]	6	1438	16	0	2642	14	0	0	35	1	0	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.28	0.05	0.00	0.05
d_M, Delay for Movement [s/veh]	74.89	0.00	0.00	0.00	0.00	0.00	428.37	1776.99	44.76	192.75	1765.76	18.91
Movement LOS	F	A	A		A	A	F	F	E	F	F	C
95th-Percentile Queue Length [veh/ln]	0.33	0.08	0.00	0.00	0.00	0.00	1.07	1.07	1.07	0.34	0.34	0.34
95th-Percentile Queue Length [ft/ln]	8.32	2.08	0.00	0.00	0.00	0.00	26.71	26.71	26.71	8.40	8.40	8.40
d_A, Approach Delay [s/veh]	0.31			0.00			44.76			29.13		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	0.60											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	6.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.624

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	8	1450	22	58	2534	44	51	41	23	29	22	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	1450	22	58	2534	44	51	41	23	29	22	32
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]	2	363	6	15	634	11	13	10	6	7	6	8
Total Analysis Volume [veh/h]	8	1450	22	58	2534	44	51	41	23	29	22	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	22	0	0	78	0	0	78	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	80	80	80	80	80	80	12	12	12
g / C, Green / Cycle	0.80	0.80	0.80	0.80	0.80	0.80	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.16	0.48	0.48	0.10	0.04	0.02
s, saturation flow rate [veh/h]	121	3560	1856	359	3560	1854	1193	1352	1589
c, Capacity [veh/h]	146	2855	1488	327	2855	1487	193	216	188
d1, Uniform Delay [s]	8.28	2.69	2.69	5.01	3.73	3.75	43.73	40.05	39.67
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.72	0.32	0.62	1.18	0.91	1.77	2.94	0.56	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.34	0.34	0.18	0.59	0.60	0.60	0.24	0.17
d, Delay for Lane Group [s/veh]	8.99	3.01	3.31	6.19	4.65	5.52	46.67	40.60	40.10
Lane Group LOS	A	A	A	A	A	A	D	D	D
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.10	1.87	2.07	0.46	4.58	5.17	2.94	1.17	0.73
50th-Percentile Queue Length [ft/ln]	2.45	46.66	51.70	11.62	114.50	129.26	73.40	29.27	18.20
95th-Percentile Queue Length [veh/ln]	0.18	3.36	3.72	0.84	8.09	8.90	5.28	2.11	1.31
95th-Percentile Queue Length [ft/ln]	4.40	83.99	93.05	20.92	202.24	222.49	132.12	52.69	32.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.99	3.11	3.31	6.19	4.94	5.52	46.67	46.67	46.67	40.60	40.60	40.10
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	3.15			4.97			46.67			40.41		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	6.14											
Intersection LOS	A											
Intersection V/C	0.624											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.206			3.252			1.823			2.094		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	360			360			1480			1480		
d_b, Bicycle Delay [s]	33.62			33.62			3.38			3.38		
I_b,int, Bicycle LOS Score for Intersection	2.374			3.009			1.749			1.697		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







APPENDIX D-II

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	42	2652	101	199	1024	43	69	264	41	192	211	247
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	2652	101	199	1024	43	69	264	41	192	211	247
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]	11	663	25	50	256	11	17	66	10	48	53	62
Total Analysis Volume [veh/h]	42	2652	101	199	1024	43	69	264	41	192	211	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	10	51	0	13	54	0	10	43	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	4	73	73	9	78	78	6	14	14	9	16	29
g / C, Green / Cycle	0.03	0.61	0.61	0.08	0.65	0.65	0.05	0.11	0.11	0.07	0.14	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.51	0.52	0.06	0.20	0.03	0.04	0.08	0.08	0.06	0.11	0.16
s, saturation flow rate [veh/h]	1781	3560	1835	3459	5094	1589	1781	1870	1784	3459	1870	1589
c, Capacity [veh/h]	57	2152	1109	262	3300	1030	89	214	205	249	255	390
d1, Uniform Delay [s]	57.58	19.07	19.38	54.42	9.32	7.65	56.34	51.30	51.38	54.74	50.47	40.48
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.18	4.14	8.34	4.53	0.25	0.08	13.05	4.54	5.04	5.04	6.72	1.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.84	0.85	0.76	0.31	0.04	0.77	0.72	0.73	0.77	0.83	0.63
d, Delay for Lane Group [s/veh]	73.76	23.21	27.73	58.96	9.56	7.73	69.39	55.83	56.42	59.78	57.18	42.18
Lane Group LOS	E	C	C	E	A	A	E	E	E	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.52	20.09	22.64	3.12	3.85	0.41	2.39	4.77	4.66	3.03	6.64	6.70
50th-Percentile Queue Length [ft/ln]	38.07	502.16	565.90	77.88	96.14	10.30	59.78	119.13	116.45	75.68	165.99	167.60
95th-Percentile Queue Length [veh/ln]	2.74	27.44	30.44	5.61	6.92	0.74	4.30	8.34	8.20	5.45	10.87	10.95
95th-Percentile Queue Length [ft/ln]	68.53	685.91	760.97	140.18	173.04	18.53	107.60	208.62	204.93	136.22	271.64	273.76

Movement, Approach, & Intersection Results

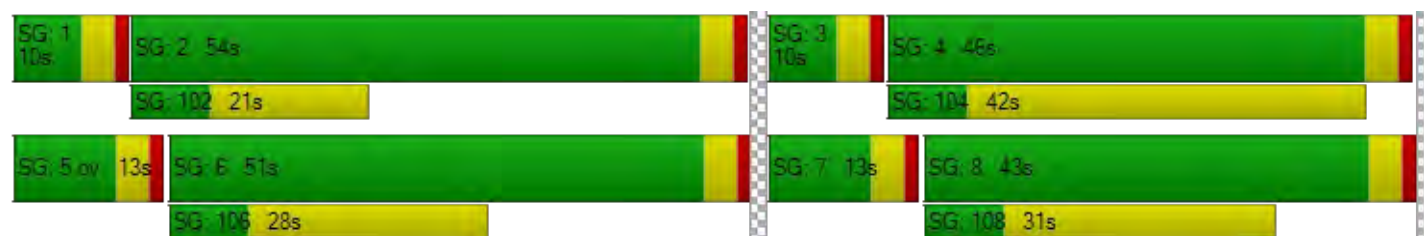
d_M, Delay for Movement [s/veh]	73.76	24.65	27.73	58.96	9.56	7.73	69.39	56.08	56.42	59.78	57.18	42.18
Movement LOS	E	C	C	E	A	A	E	E	E	E	E	D
d_A, Approach Delay [s/veh]	25.50			17.26			58.57			52.25		
Approach LOS	C			B			E			D		
d_I, Intersection Delay [s/veh]	29.30											
Intersection LOS	C											
Intersection V/C	0.869											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.172			3.322			2.308			2.664		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	783			833			650			700		
d_b, Bicycle Delay [s]	22.20			20.42			27.34			25.35		
I_b,int, Bicycle LOS Score for Intersection	3.097			2.256			1.868			2.632		
Bicycle LOS	C			B			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	3.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	2917	29	25	1182	12	0	0	0	33	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2917	29	25	1182	12	0	0	0	33	0	17
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]	0	729	7	6	296	3	0	0	0	8	0	4
Total Analysis Volume [veh/h]	0	2917	29	25	1182	12	0	0	0	33	0	17
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	65	0	0	65	0	0	0	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	78	78	78	78	78		4
g / C, Green / Cycle	0.87	0.87	0.87	0.87	0.87		0.04
(v / s)_i Volume / Saturation Flow Rate	0.55	0.53	0.30	0.22	0.22		0.03
s, saturation flow rate [veh/h]	3560	1860	84	3560	1860		1711
c, Capacity [veh/h]	3099	1619	136	3099	1619		70
d1, Uniform Delay [s]	1.69	1.60	6.90	0.97	0.97		42.62
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.00	1.70	2.94	0.20	0.38		12.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.63	0.61	0.18	0.25	0.25		0.72
d, Delay for Lane Group [s/veh]	2.68	3.30	9.84	1.17	1.35		55.54
Lane Group LOS	A	A	A	A	A		E
Critical Lane Group	Yes	No	No	No	No		Yes
50th-Percentile Queue Length [veh/ln]	1.18	1.47	0.30	0.26	0.35		1.34
50th-Percentile Queue Length [ft/ln]	29.44	36.84	7.51	6.41	8.72		33.42
95th-Percentile Queue Length [veh/ln]	2.12	2.65	0.54	0.46	0.63		2.41
95th-Percentile Queue Length [ft/ln]	53.00	66.31	13.51	11.53	15.69		60.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.89	3.30	9.84	1.23	1.35	0.00	0.00	0.00	55.54	55.54	55.54
Movement LOS		A	A	A	A	A				E	E	E
d_A, Approach Delay [s/veh]	2.89			1.40			0.00			55.54		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											
Intersection V/C	0.638											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.129			3.172			1.435			1.801		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1356			1356			0			467		
d_b, Bicycle Delay [s]	4.67			4.67			45.00			26.45		
I_b,int, Bicycle LOS Score for Intersection	3.180			2.230			4.132			1.642		
Bicycle LOS	C			B			D			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	121	2764	84	128	915	133	172	448	176	119	513	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	2764	84	128	915	133	172	448	176	119	513	181
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]	30	691	21	32	229	33	43	112	44	30	128	45
Total Analysis Volume [veh/h]	121	2764	84	128	915	133	172	448	176	119	513	181
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	24	47	0	9	32	0	15	28	0	26	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	59	59	5	55	55	11	21	21	9	19	28
g / C, Green / Cycle	0.08	0.54	0.54	0.05	0.50	0.50	0.10	0.19	0.19	0.08	0.17	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.52	0.53	0.04	0.20	0.20	0.10	0.13	0.11	0.07	0.14	0.11
s, saturation flow rate [veh/h]	1781	3560	1842	3459	3560	1751	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	151	1906	986	160	1768	870	179	674	301	149	614	406
d1, Uniform Delay [s]	49.45	25.01	25.43	52.00	17.38	17.39	49.29	41.40	40.69	49.51	44.04	34.46
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.28	16.37	27.41	8.81	0.67	1.36	22.96	1.14	1.81	9.24	3.07	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.98	0.99	0.80	0.40	0.40	0.96	0.66	0.59	0.80	0.83	0.45
d, Delay for Lane Group [s/veh]	58.73	41.38	52.84	60.81	18.05	18.75	72.25	42.53	42.50	58.75	47.11	35.23
Lane Group LOS	E	D	D	E	B	B	E	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.65	26.51	31.20	1.94	5.62	5.71	5.83	5.72	4.49	3.59	6.98	4.15
50th-Percentile Queue Length [ft/ln]	91.21	662.79	779.97	48.57	140.50	142.80	145.74	142.99	112.16	89.71	174.51	103.81
95th-Percentile Queue Length [veh/ln]	6.57	34.96	40.36	3.50	9.51	9.63	9.79	9.64	7.96	6.46	11.31	7.47
95th-Percentile Queue Length [ft/ln]	164.19	873.90	1008.98	87.43	237.70	240.79	244.73	241.04	199.00	161.48	282.84	186.86

Movement, Approach, & Intersection Results

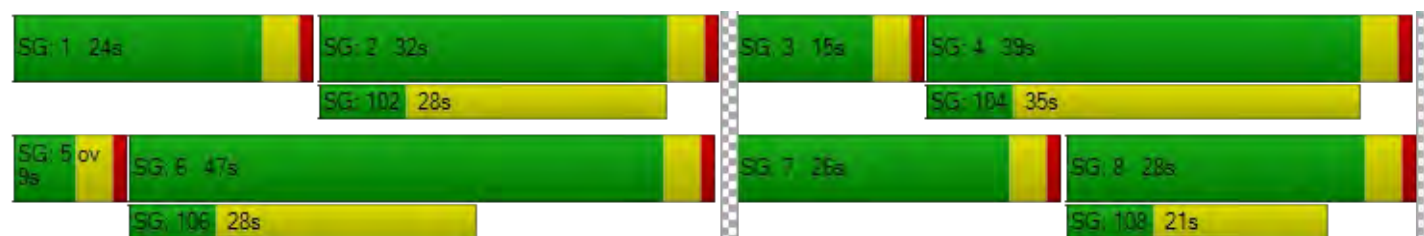
d_M, Delay for Movement [s/veh]	58.73	45.10	52.84	60.81	18.21	18.75	72.25	42.53	42.50	58.75	47.11	35.23
Movement LOS	E	D	D	E	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	45.87			22.91			48.95			46.17		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	41.65											
Intersection LOS	D											
Intersection V/C	0.948											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.186			3.258			2.716			2.702		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	782			509			436			636		
d_b, Bicycle Delay [s]	20.40			30.56			33.62			25.57		
I_b,int, Bicycle LOS Score for Intersection	3.193			2.206			2.216			2.230		
Bicycle LOS	C			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	36	2945	22	0	1188	23	1	1	15	3	2	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	36	2945	22	0	1188	23	1	1	15	3	2	43
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]	9	736	6	0	297	6	0	0	4	1	1	11
Total Analysis Volume [veh/h]	36	2945	22	0	1188	23	1	1	15	3	2	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.03	0.00	0.00	0.01	0.00	0.00	0.65	0.04	1.10	1.30	0.44
d_M, Delay for Movement [s/veh]	18.17	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	2409.52	3416.50	1121.68
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.39	0.10	0.00	0.00	0.00	0.00	3.80	3.80	3.80	6.61	6.61	6.61
95th-Percentile Queue Length [ft/ln]	9.77	2.44	0.00	0.00	0.00	0.00	95.05	95.05	95.05	165.25	165.25	165.25
d_A, Approach Delay [s/veh]	0.22			0.00			10000.00			1297.79		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	54.44											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.676

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	33	2969	22	9	1152	34	28	32	12	32	42	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	2969	22	9	1152	34	28	32	12	32	42	64
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]	8	742	6	2	288	9	7	8	3	8	11	16
Total Analysis Volume [veh/h]	33	2969	22	9	1152	34	28	32	12	32	42	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	95	0	0	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	101	101	101	101	101	101	11	11	11
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84	0.84	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.07	0.55	0.55	0.11	0.22	0.22	0.08	0.05	0.04
s, saturation flow rate [veh/h]	472	3560	1863	80	3560	1843	920	1517	1589
c, Capacity [veh/h]	432	3005	1572	112	3005	1555	124	179	142
d1, Uniform Delay [s]	2.93	3.25	3.27	8.56	1.87	1.87	53.80	51.93	51.82
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	1.12	2.15	1.41	0.21	0.41	4.25	1.53	2.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.65	0.66	0.08	0.26	0.26	0.58	0.41	0.45
d, Delay for Lane Group [s/veh]	3.28	4.37	5.41	9.97	2.08	2.28	58.06	53.46	54.04
Lane Group LOS	A	A	A	A	A	A	E	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.19	5.58	6.34	0.14	1.26	1.39	2.31	2.20	1.92
50th-Percentile Queue Length [ft/ln]	4.80	139.55	158.38	3.38	31.52	34.77	57.76	55.04	47.93
95th-Percentile Queue Length [veh/ln]	0.35	9.46	10.46	0.24	2.27	2.50	4.16	3.96	3.45
95th-Percentile Queue Length [ft/ln]	8.64	236.41	261.57	6.08	56.74	62.58	103.96	99.08	86.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.28	4.73	5.41	9.97	2.15	2.28	58.06	58.06	58.06	53.46	53.46	54.04
Movement LOS	A	A	A	A	A	A	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	4.71			2.21			58.06			53.73		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	6.43											
Intersection LOS	A											
Intersection V/C	0.676											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.241			3.240			1.864			2.032		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1517			1517			350			350		
d_b, Bicycle Delay [s]	3.50			3.50			40.84			40.84		
I_b,int, Bicycle LOS Score for Intersection	3.223			2.217			1.678			1.787		
Bicycle LOS	C			B			A			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	103	1297	165	256	2404	117	75	267	38	228	227	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	1297	165	256	2404	117	75	267	38	228	227	160
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]	26	324	41	64	601	29	19	67	10	57	57	40
Total Analysis Volume [veh/h]	103	1297	165	256	2404	117	75	267	38	228	227	160
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	11	32	0	13	34	0	9	42	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	7	55	55	9	57	57	5	11	11	9	15	28
g / C, Green / Cycle	0.07	0.55	0.55	0.09	0.57	0.57	0.05	0.11	0.11	0.09	0.15	0.28
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.07	0.47	0.07	0.04	0.08	0.08	0.07	0.12	0.10
s, saturation flow rate [veh/h]	1781	3560	1764	3459	5094	1589	1781	1870	1790	3459	1870	1589
c, Capacity [veh/h]	126	1961	971	314	2907	907	91	211	202	297	277	443
d1, Uniform Delay [s]	45.89	13.93	13.93	44.71	17.48	9.97	47.09	42.94	43.00	44.81	41.38	28.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.01	0.91	1.83	5.18	2.86	0.29	16.88	4.81	5.31	4.19	5.99	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.50	0.50	0.82	0.83	0.13	0.83	0.73	0.74	0.77	0.82	0.36
d, Delay for Lane Group [s/veh]	57.89	14.84	15.76	49.89	20.34	10.26	63.97	47.75	48.31	49.00	47.37	29.47
Lane Group LOS	E	B	B	D	C	B	E	D	D	D	D	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.93	6.70	6.89	3.32	14.46	1.21	2.27	3.95	3.87	2.92	5.84	3.12
50th-Percentile Queue Length [ft/ln]	73.26	167.46	172.20	83.06	361.43	30.33	56.65	98.84	96.87	73.10	145.94	77.98
95th-Percentile Queue Length [veh/ln]	5.27	10.94	11.19	5.98	20.69	2.18	4.08	7.12	6.97	5.26	9.80	5.61
95th-Percentile Queue Length [ft/ln]	131.86	273.58	279.81	149.50	517.32	54.59	101.97	177.91	174.36	131.57	244.99	140.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.89	15.07	15.76	49.89	20.34	10.26	63.97	47.99	48.31	49.00	47.37	29.47
Movement LOS	E	B	B	D	C	B	E	D	D	D	D	C
d_A, Approach Delay [s/veh]	17.96			22.64			51.17			43.32		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	25.68											
Intersection LOS	C											
Intersection V/C	0.825											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.189			3.321			2.337			2.669		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	560			600			760			840		
d_b, Bicycle Delay [s]	25.92			24.50			19.22			16.82		
I_b,int, Bicycle LOS Score for Intersection	2.420			3.087			1.873			2.574		
Bicycle LOS	B			C			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1596	63	9	2564	13	0	0	0	79	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1596	63	9	2564	13	0	0	0	79	2	12
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]	0	399	16	2	641	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1596	63	9	2564	13	0	0	0	79	2	12
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	18	0	0	18	0	0	0	0	0	72	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	76	76	76	76	76		6
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84		0.07
(v / s)_i Volume / Saturation Flow Rate	0.31	0.30	0.03	0.47	0.48		0.05
s, saturation flow rate [veh/h]	3560	1833	300	3560	1865		1755
c, Capacity [veh/h]	2996	1543	301	2996	1570		122
d1, Uniform Delay [s]	1.64	1.62	3.19	2.15	2.15		41.10
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	0.35	0.65	0.18	0.77	1.48		9.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.37	0.36	0.03	0.56	0.56		0.76
d, Delay for Lane Group [s/veh]	1.99	2.27	3.37	2.92	3.63		50.50
Lane Group LOS	A	A	A	A	A		D
Critical Lane Group	No	No	No	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	1.00	1.13	0.05	2.04	2.45		2.32
50th-Percentile Queue Length [ft/ln]	25.10	28.14	1.23	51.07	61.31		57.98
95th-Percentile Queue Length [veh/ln]	1.81	2.03	0.09	3.68	4.41		4.17
95th-Percentile Queue Length [ft/ln]	45.18	50.65	2.22	91.93	110.36		104.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.07	2.27	3.37	3.16	3.63	0.00	0.00	0.00	50.50	50.50	50.50
Movement LOS		A	A	A	A	A				D	D	D
d_A, Approach Delay [s/veh]	2.08			3.17			0.00			50.50		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	3.77											
Intersection LOS	A											
Intersection V/C	0.580											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.151			3.178			1.438			1.808		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	311			311			0			1511		
d_b, Bicycle Delay [s]	32.09			32.09			45.00			2.69		
I_b,int, Bicycle LOS Score for Intersection	2.472			2.982			4.132			1.713		
Bicycle LOS	B			C			D			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd**

Control Type:	Signalized	Delay (sec / veh):	40.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.921

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	171	1149	158	220	2296	98	172	485	150	191	444	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	171	1149	158	220	2296	98	172	485	150	191	444	144
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]	43	287	40	55	574	25	43	121	38	48	111	36
Total Analysis Volume [veh/h]	171	1149	158	220	2296	98	172	485	150	191	444	144
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	15	41	0	13	39	0	17	39	0	17	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	11	54	54	9	52	52	12	18	18	13	19	32
g / C, Green / Cycle	0.10	0.49	0.49	0.08	0.47	0.47	0.11	0.16	0.16	0.12	0.17	0.29
(v / s)_i Volume / Saturation Flow Rate	0.10	0.25	0.25	0.06	0.44	0.45	0.10	0.14	0.09	0.11	0.12	0.09
s, saturation flow rate [veh/h]	1781	3560	1757	3459	3560	1831	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	179	1744	860	285	1679	864	202	583	260	211	602	458
d1, Uniform Delay [s]	49.26	19.00	19.00	49.49	27.54	27.83	47.91	44.57	42.51	47.90	43.42	30.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.99	1.04	2.09	4.41	11.40	20.56	9.69	3.17	2.01	13.23	1.79	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.95	0.50	0.50	0.77	0.94	0.95	0.85	0.83	0.58	0.90	0.74	0.31
d, Delay for Lane Group [s/veh]	71.25	20.04	21.09	53.90	38.94	48.39	57.60	47.74	44.52	61.13	45.21	31.09
Lane Group LOS	E	C	C	D	D	D	E	D	D	E	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.75	7.61	7.76	3.13	21.34	24.60	5.16	6.63	3.90	5.93	5.86	3.04
50th-Percentile Queue Length [ft/ln]	143.78	190.34	194.11	78.30	533.44	615.11	128.92	165.65	97.58	148.13	146.54	76.05
95th-Percentile Queue Length [veh/ln]	9.68	12.14	12.33	5.64	28.91	32.74	8.88	10.85	7.03	9.92	9.83	5.48
95th-Percentile Queue Length [ft/ln]	242.11	303.48	308.36	140.93	722.82	818.48	222.02	271.19	175.64	247.93	245.81	136.90

Movement, Approach, & Intersection Results

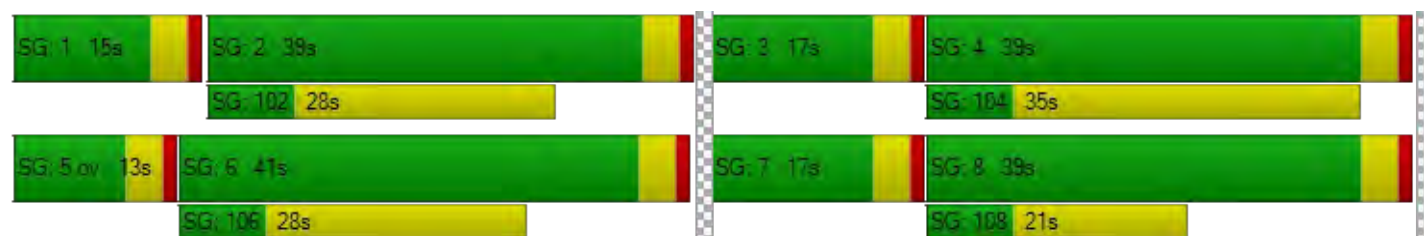
d_M, Delay for Movement [s/veh]	71.25	20.29	21.09	53.90	41.91	48.39	57.60	47.74	44.52	61.13	45.21	31.09
Movement LOS	E	C	C	D	D	D	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	26.27			43.16			49.24			46.50		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	40.09											
Intersection LOS	D											
Intersection V/C	0.921											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.177			3.232			2.709			2.729		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	673			636			636			636		
d_b, Bicycle Delay [s]	24.22			25.57			25.57			25.57		
I_b,int, Bicycle LOS Score for Intersection	2.373			2.997			2.225			2.202		
Bicycle LOS	B			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 196.0
 Level Of Service: F
 Volume to Capacity (v/c): 0.052

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1446	22	0	2639	14	0	0	35	1	0	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1446	22	0	2639	14	0	0	35	1	0	34
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]	2	362	6	0	660	4	0	0	9	0	0	9
Total Analysis Volume [veh/h]	6	1446	22	0	2639	14	0	0	35	1	0	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.28	0.05	0.00	0.11
d_M, Delay for Movement [s/veh]	74.61	0.00	0.00	0.00	0.00	0.00	455.64	1808.70	44.63	196.04	1789.70	19.75
Movement LOS	F	A	A		A	A	F	F	E	F	F	C
95th-Percentile Queue Length [veh/ln]	0.33	0.08	0.00	0.00	0.00	0.00	1.07	1.07	1.07	0.56	0.56	0.56
95th-Percentile Queue Length [ft/ln]	8.29	2.07	0.00	0.00	0.00	0.00	26.64	26.64	26.64	14.09	14.09	14.09
d_A, Approach Delay [s/veh]	0.30			0.00			44.63			24.78		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	0.69											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	8	1464	22	58	2531	44	51	41	23	46	22	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	1464	22	58	2531	44	51	41	23	46	22	32
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]	2	366	6	15	633	11	13	10	6	12	6	8
Total Analysis Volume [veh/h]	8	1464	22	58	2531	44	51	41	23	46	22	32
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	75	0	0	75	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	79	79	79	79	79	79	13	13	13
g / C, Green / Cycle	0.79	0.79	0.79	0.79	0.79	0.79	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.16	0.47	0.48	0.11	0.06	0.02
s, saturation flow rate [veh/h]	122	3560	1856	355	3560	1854	1054	1199	1589
c, Capacity [veh/h]	143	2811	1465	319	2811	1464	189	217	207
d1, Uniform Delay [s]	9.13	3.05	3.05	5.54	4.21	4.23	43.19	39.71	38.58
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.74	0.34	0.65	1.25	0.96	1.86	3.12	0.82	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.35	0.35	0.18	0.60	0.60	0.61	0.31	0.15
d, Delay for Lane Group [s/veh]	9.87	3.39	3.70	6.79	5.17	6.10	46.31	40.53	38.92
Lane Group LOS	A	A	A	A	A	A	D	D	D
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.10	2.13	2.35	0.50	5.15	5.78	2.95	1.57	0.71
50th-Percentile Queue Length [ft/ln]	2.58	53.23	58.66	12.44	128.64	144.45	73.76	39.36	17.85
95th-Percentile Queue Length [veh/ln]	0.19	3.83	4.22	0.90	8.87	9.72	5.31	2.83	1.29
95th-Percentile Queue Length [ft/ln]	4.64	95.81	105.59	22.40	221.64	243.00	132.76	70.84	32.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.87	3.49	3.70	6.79	5.48	6.10	46.31	46.31	46.31	40.53	40.53	38.92
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	3.53			5.52			46.31			40.01		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	6.71											
Intersection LOS	A											
Intersection V/C	0.638											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.234			3.254			1.823			2.099		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1420			1420			420			420		
d_b, Bicycle Delay [s]	4.21			4.21			31.21			31.21		
I_b,int, Bicycle LOS Score for Intersection	2.381			3.008			1.749			1.725		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







APPENDIX D-III

YEAR 2021 CUMULATIVE TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	43	2764	103	206	1192	46	73	269	43	197	215	256
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	2764	103	206	1192	46	73	269	43	197	215	256
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]	11	691	26	52	298	12	18	67	11	49	54	64
Total Analysis Volume [veh/h]	43	2764	103	206	1192	46	73	269	43	197	215	256
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	10	52	0	12	54	0	10	43	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	4	73	73	8	77	77	6	14	14	9	17	29
g / C, Green / Cycle	0.03	0.61	0.61	0.07	0.65	0.65	0.05	0.12	0.12	0.07	0.14	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.53	0.54	0.06	0.23	0.03	0.04	0.08	0.09	0.06	0.11	0.16
s, saturation flow rate [veh/h]	1781	3560	1836	3459	5094	1589	1781	1870	1782	3459	1870	1589
c, Capacity [veh/h]	58	2171	1120	233	3284	1025	90	217	207	254	259	381
d1, Uniform Delay [s]	57.57	19.36	19.76	55.52	9.90	7.81	56.40	51.23	51.31	54.67	50.31	41.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.70	4.94	10.06	10.61	0.31	0.08	15.34	4.64	5.16	5.09	6.67	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.87	0.88	0.88	0.36	0.04	0.81	0.73	0.74	0.78	0.83	0.67
d, Delay for Lane Group [s/veh]	74.27	24.30	29.82	66.13	10.21	7.89	71.75	55.87	56.48	59.76	56.98	43.47
Lane Group LOS	E	C	C	E	B	A	E	E	E	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.56	21.59	24.68	3.43	4.73	0.45	2.58	4.88	4.77	3.11	6.76	7.08
50th-Percentile Queue Length [ft/ln]	39.11	539.81	616.95	85.86	118.22	11.17	64.40	122.05	119.16	77.66	168.94	177.06
95th-Percentile Queue Length [veh/ln]	2.82	29.21	32.83	6.18	8.30	0.80	4.64	8.51	8.35	5.59	11.02	11.45
95th-Percentile Queue Length [ft/ln]	70.39	730.33	820.63	154.55	207.38	20.10	115.91	212.64	208.68	139.78	275.51	286.17

Movement, Approach, & Intersection Results

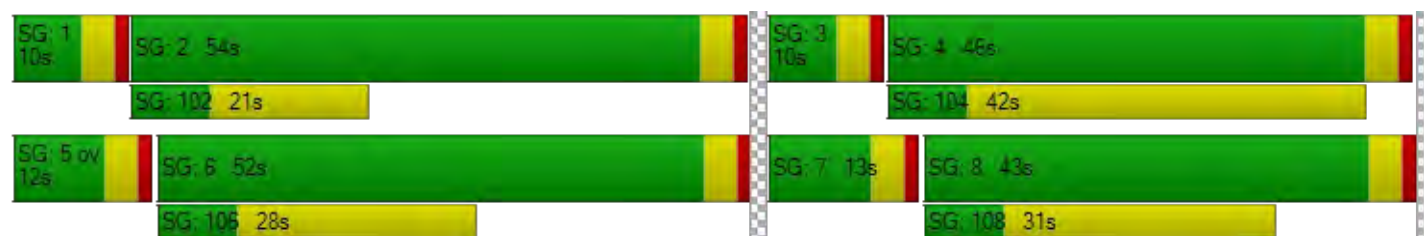
d_M, Delay for Movement [s/veh]	74.27	26.06	29.82	66.13	10.21	7.89	71.75	56.12	56.48	59.76	56.98	43.47
Movement LOS	E	C	C	E	B	A	E	E	E	E	E	D
d_A, Approach Delay [s/veh]	26.91			18.11			59.12			52.62		
Approach LOS	C			B			E			D		
d_I, Intersection Delay [s/veh]	30.03											
Intersection LOS	C											
Intersection V/C	0.907											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.212			3.355			2.313			2.669		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	800			833			650			700		
d_b, Bicycle Delay [s]	21.60			20.42			27.34			25.35		
I_b,int, Bicycle LOS Score for Intersection	3.160			2.354			1.877			2.662		
Bicycle LOS	C			B			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	3.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	3034	30	26	1353	12	0	0	0	34	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3034	30	26	1353	12	0	0	0	34	0	17
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]	0	759	8	7	338	3	0	0	0	9	0	4
Total Analysis Volume [veh/h]	0	3034	30	26	1353	12	0	0	0	34	0	17
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	65	0	0	65	0	0	0	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	78	78	78	78	78		4
g / C, Green / Cycle	0.87	0.87	0.87	0.87	0.87		0.04
(v / s)_i Volume / Saturation Flow Rate	0.57	0.55	0.35	0.25	0.25		0.03
s, saturation flow rate [veh/h]	3560	1860	74	3560	1862		1712
c, Capacity [veh/h]	3097	1618	129	3097	1619		70
d1, Uniform Delay [s]	1.78	1.69	8.23	1.02	1.02		42.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.12	1.88	3.50	0.24	0.45		13.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.66	0.63	0.20	0.29	0.29		0.73
d, Delay for Lane Group [s/veh]	2.90	3.57	11.74	1.25	1.47		55.79
Lane Group LOS	A	A	B	A	A		E
Critical Lane Group	Yes	No	No	No	No		Yes
50th-Percentile Queue Length [veh/ln]	1.32	1.64	0.35	0.31	0.42		1.37
50th-Percentile Queue Length [ft/ln]	33.05	41.03	8.85	7.80	10.58		34.15
95th-Percentile Queue Length [veh/ln]	2.38	2.95	0.64	0.56	0.76		2.46
95th-Percentile Queue Length [ft/ln]	59.50	73.85	15.93	14.04	19.05		61.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.12	3.57	11.74	1.33	1.47	0.00	0.00	0.00	55.79	55.79	55.79
Movement LOS		A	A	B	A	A				E	E	E
d_A, Approach Delay [s/veh]	3.12			1.52			0.00			55.79		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	3.22											
Intersection LOS	A											
Intersection V/C	0.662											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.176			3.212			1.435			1.804		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1356			1356			0			467		
d_b, Bicycle Delay [s]	4.67			4.67			45.00			26.45		
I_b,int, Bicycle LOS Score for Intersection	3.245			2.325			4.132			1.644		
Bicycle LOS	C			B			D			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd**

Control Type:	Signalized	Delay (sec / veh):	50.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	133	2867	111	111	1090	141	182	462	208	168	547	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	2867	111	111	1090	141	182	462	208	168	547	187
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]	33	717	28	28	273	35	46	116	52	42	137	47
Total Analysis Volume [veh/h]	133	2867	111	111	1090	141	182	462	208	168	547	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	15	51	0	9	45	0	16	38	0	17	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	10	61	61	5	56	56	12	20	20	13	21	30
g / C, Green / Cycle	0.09	0.53	0.53	0.04	0.49	0.49	0.10	0.18	0.18	0.11	0.18	0.26
(v / s)_i Volume / Saturation Flow Rate	0.07	0.55	0.56	0.03	0.23	0.23	0.10	0.13	0.13	0.09	0.15	0.12
s, saturation flow rate [veh/h]	1781	3560	1835	3459	3560	1762	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	161	1890	974	153	1726	854	187	625	279	196	645	413
d1, Uniform Delay [s]	51.46	27.00	27.00	54.30	19.88	19.88	51.35	44.93	44.99	50.29	45.59	35.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.20	29.83	43.84	6.35	0.95	1.91	24.99	1.73	3.93	10.12	3.23	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	1.03	1.05	0.72	0.48	0.48	0.97	0.74	0.75	0.86	0.85	0.45
d, Delay for Lane Group [s/veh]	61.66	56.83	70.84	60.65	20.82	21.79	76.34	46.67	48.92	60.41	48.82	36.47
Lane Group LOS	E	F	F	E	C	C	E	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.22	32.16	36.94	1.72	7.49	7.64	6.51	6.38	5.92	5.29	7.82	4.49
50th-Percentile Queue Length [ft/ln]	105.53	804.06	923.52	43.04	187.21	191.12	162.80	159.47	148.01	132.33	195.38	112.31
95th-Percentile Queue Length [veh/ln]	7.59	42.60	48.95	3.10	11.98	12.18	10.70	10.52	9.91	9.07	12.40	7.97
95th-Percentile Queue Length [ft/ln]	189.76	1064.98	1223.69	77.48	299.40	304.48	267.43	263.02	247.77	226.65	310.00	199.21

Movement, Approach, & Intersection Results

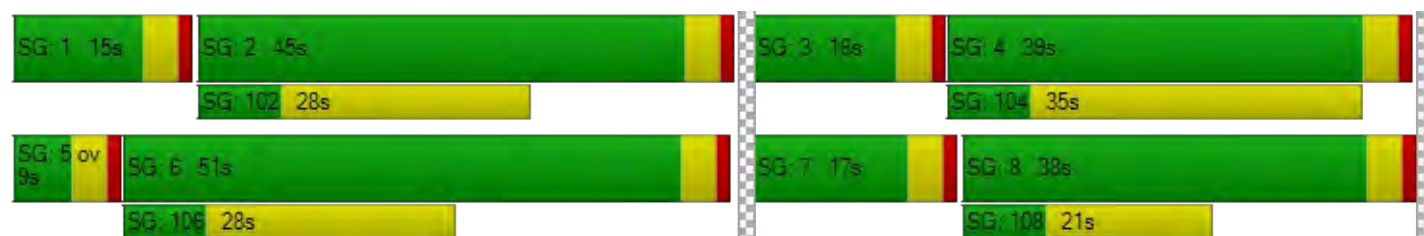
d_M, Delay for Movement [s/veh]	61.66	61.30	70.84	60.65	21.06	21.79	76.34	46.67	48.92	60.41	48.82	36.47
Movement LOS	E	F	E	E	C	C	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	61.66			24.41			53.56			48.42		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	50.57											
Intersection LOS	D											
Intersection V/C	0.984											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersection	3.243			3.295			2.736			2.722		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	817			713			591			609		
d_b, Bicycle Delay [s]	20.10			23.81			28.53			27.83		
I_b,int, Bicycle LOS Score for Intersection	3.271			2.298			2.263			2.304		
Bicycle LOS	C			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.821

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	37	3109	16	0	1442	23	1	1	15	3	2	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	37	3109	16	0	1442	23	1	1	15	3	2	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]	9	777	4	0	361	6	0	0	4	1	1	6
Total Analysis Volume [veh/h]	37	3109	16	0	1442	23	1	1	15	3	2	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.16	0.03	0.00	0.00	0.01	0.00	0.00	1.40	0.05	0.00	2.82	0.26
d_M, Delay for Movement [s/veh]	23.45	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.56	0.14	0.00	0.00	0.00	0.00	3.80	3.80	3.80	5.29	5.29	5.29
95th-Percentile Queue Length [ft/ln]	13.92	3.48	0.00	0.00	0.00	0.00	95.05	95.05	95.05	132.23	132.23	132.23
d_A, Approach Delay [s/veh]	0.27			0.00			10000.00			10000.00		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	94.38											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	6.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.697

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	36	3109	24	9	1362	35	29	33	17	15	43	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	3109	24	9	1362	35	29	33	17	15	43	65
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]	9	777	6	2	341	9	7	8	4	4	11	16
Total Analysis Volume [veh/h]	36	3109	24	9	1362	35	29	33	17	15	43	65
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	95	0	0	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	102	102	102	102	102	102	10	10	10
g / C, Green / Cycle	0.85	0.85	0.85	0.85	0.85	0.85	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.09	0.58	0.58	0.13	0.26	0.26	0.07	0.03	0.04
s, saturation flow rate [veh/h]	386	3560	1863	69	3560	1846	1109	1738	1589
c, Capacity [veh/h]	361	3019	1579	104	3019	1565	136	186	136
d1, Uniform Delay [s]	3.21	3.28	3.30	9.48	1.87	1.87	54.29	51.74	52.28
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	1.26	2.42	1.65	0.26	0.50	3.90	0.94	2.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.68	0.68	0.09	0.30	0.30	0.58	0.31	0.48
d, Delay for Lane Group [s/veh]	3.76	4.54	5.72	11.13	2.13	2.38	58.19	52.68	54.87
Lane Group LOS	A	A	A	B	A	A	E	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.23	5.85	6.68	0.15	1.47	1.63	2.51	1.70	1.97
50th-Percentile Queue Length [ft/ln]	5.80	146.17	166.93	3.64	36.71	40.70	62.79	42.49	49.18
95th-Percentile Queue Length [veh/ln]	0.42	9.81	10.92	0.26	2.64	2.93	4.52	3.06	3.54
95th-Percentile Queue Length [ft/ln]	10.45	245.31	272.88	6.54	66.08	73.26	113.02	76.48	88.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.76	4.94	5.72	11.13	2.21	2.38	58.19	58.19	58.19	52.68	52.68	54.87
Movement LOS	A	A	A	B	A	A	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	4.93			2.27			58.19			53.84		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	6.29											
Intersection LOS	A											
Intersection V/C	0.697											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.265			3.291			1.874			2.028		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1517			1517			350			350		
d_b, Bicycle Delay [s]	3.50			3.50			40.84			40.84		
I_b,int, Bicycle LOS Score for Intersection	3.303			2.333			1.690			1.763		
Bicycle LOS	C			B			A			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.858

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	105	1512	168	274	2561	128	85	272	39	233	232	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	1512	168	274	2561	128	85	272	39	233	232	175
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]	26	378	42	69	640	32	21	68	10	58	58	44
Total Analysis Volume [veh/h]	105	1512	168	274	2561	128	85	272	39	233	232	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	39	0	15	42	0	10	43	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	61	61	11	64	64	6	13	13	9	16	31
g / C, Green / Cycle	0.07	0.55	0.55	0.10	0.58	0.58	0.05	0.12	0.12	0.08	0.15	0.28
(v / s)_i Volume / Saturation Flow Rate	0.06	0.31	0.32	0.08	0.50	0.08	0.05	0.08	0.09	0.07	0.12	0.11
s, saturation flow rate [veh/h]	1781	3560	1776	3459	5094	1589	1781	1870	1790	3459	1870	1589
c, Capacity [veh/h]	131	1960	978	348	2942	918	99	227	217	285	277	453
d1, Uniform Delay [s]	50.22	16.23	16.25	48.37	19.76	10.68	51.59	46.43	46.50	49.69	45.59	31.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.79	1.22	2.44	3.98	3.86	0.32	18.93	3.82	4.19	5.68	6.58	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.57	0.57	0.79	0.87	0.14	0.86	0.70	0.71	0.82	0.84	0.39
d, Delay for Lane Group [s/veh]	61.01	17.45	18.69	52.35	23.61	11.00	70.52	50.26	50.69	55.37	52.17	32.14
Lane Group LOS	E	B	B	D	C	B	E	D	D	E	D	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.23	9.18	9.52	3.86	18.22	1.47	2.84	4.37	4.27	3.37	6.64	3.80
50th-Percentile Queue Length [ft/ln]	80.80	229.50	238.05	96.39	455.47	36.83	70.99	109.34	106.85	84.25	166.03	95.02
95th-Percentile Queue Length [veh/ln]	5.82	14.15	14.58	6.94	25.22	2.65	5.11	7.80	7.66	6.07	10.87	6.84
95th-Percentile Queue Length [ft/ln]	145.44	353.72	364.57	173.50	630.47	66.29	127.78	195.08	191.61	151.64	271.69	171.04

Movement, Approach, & Intersection Results

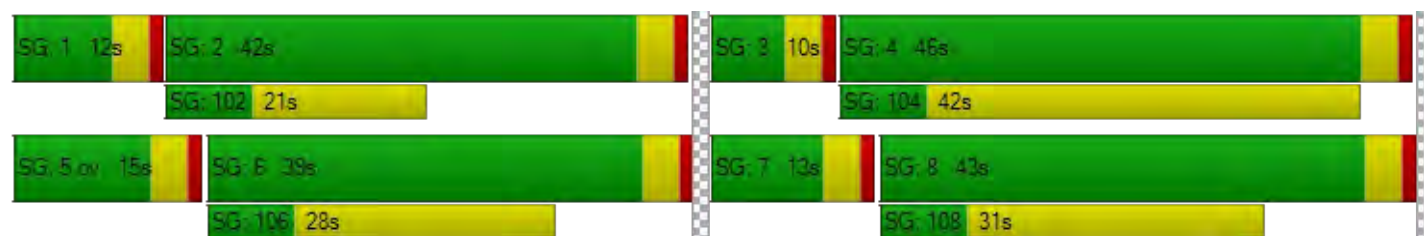
d_M, Delay for Movement [s/veh]	61.01	17.77	18.69	52.35	23.61	11.00	70.52	50.44	50.69	55.37	52.17	32.14
Movement LOS	E	B	B	D	C	B	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	20.40			25.73			54.77			47.86		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	28.52											
Intersection LOS	C											
Intersection V/C	0.858											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.247			3.372			2.351			2.682		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	636			691			709			764		
d_b, Bicycle Delay [s]	25.57			23.56			22.91			21.02		
I_b,int, Bicycle LOS Score for Intersection	2.541			3.189			1.886			2.616		
Bicycle LOS	B			C			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	4.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.614

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1817	64	9	2724	13	0	0	0	81	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1817	64	9	2724	13	0	0	0	81	2	12
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]	0	454	16	2	681	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1817	64	9	2724	13	0	0	0	81	2	12
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	18	0	0	18	0	0	0	0	0	72	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	76	76	76	76	76		6
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84		0.07
(v / s)_i Volume / Saturation Flow Rate	0.35	0.34	0.04	0.50	0.51		0.05
s, saturation flow rate [veh/h]	3560	1837	242	3560	1865		1756
c, Capacity [veh/h]	2991	1543	254	2991	1567		124
d1, Uniform Delay [s]	1.77	1.74	3.64	2.32	2.32		41.03
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	0.43	0.80	0.26	0.90	1.71		9.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.42	0.41	0.04	0.60	0.60		0.76
d, Delay for Lane Group [s/veh]	2.21	2.54	3.90	3.21	4.04		50.30
Lane Group LOS	A	A	A	A	A		D
Critical Lane Group	No	No	No	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	1.25	1.39	0.06	2.37	2.85		2.36
50th-Percentile Queue Length [ft/ln]	31.22	34.81	1.41	59.29	71.21		59.07
95th-Percentile Queue Length [veh/ln]	2.25	2.51	0.10	4.27	5.13		4.25
95th-Percentile Queue Length [ft/ln]	56.20	62.65	2.54	106.71	128.18		106.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.31	2.54	3.90	3.49	4.04	0.00	0.00	0.00	50.30	50.30	50.30
Movement LOS		A	A	A	A	A				D	D	D
d_A, Approach Delay [s/veh]	2.32			3.50			0.00			50.30		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	3.97											
Intersection LOS	A											
Intersection V/C	0.614											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.214			3.231			1.438			1.809		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	311			311			0			1511		
d_b, Bicycle Delay [s]	32.09			32.09			45.00			2.69		
I_b,int, Bicycle LOS Score for Intersection	2.594			3.070			4.132			1.716		
Bicycle LOS	B			C			D			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd**

Control Type:	Signalized	Delay (sec / veh):	51.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.005

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	201	1341	216	211	2458	102	184	500	173	224	462	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	201	1341	216	211	2458	102	184	500	173	224	462	152
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]	50	335	54	53	615	26	46	125	43	56	116	38
Total Analysis Volume [veh/h]	201	1341	216	211	2458	102	184	500	173	224	462	152
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	16	42	0	12	38	0	17	39	0	17	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	12	54	54	8	50	50	13	19	19	13	19	31
g / C, Green / Cycle	0.11	0.49	0.49	0.07	0.46	0.46	0.12	0.17	0.17	0.12	0.17	0.28
(v / s)_i Volume / Saturation Flow Rate	0.11	0.29	0.29	0.06	0.47	0.48	0.10	0.14	0.11	0.13	0.13	0.10
s, saturation flow rate [veh/h]	1781	3560	1740	3459	3560	1832	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	195	1759	860	254	1630	839	211	600	268	211	600	443
d1, Uniform Delay [s]	49.02	19.95	19.98	50.33	29.85	29.85	47.69	44.27	42.70	48.52	43.72	31.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.73	1.49	3.04	6.89	30.74	44.47	10.49	3.10	2.60	46.00	2.12	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	0.59	0.60	0.83	1.03	1.05	0.87	0.83	0.65	1.06	0.77	0.34
d, Delay for Lane Group [s/veh]	86.75	21.44	23.01	57.22	60.59	74.32	58.18	47.37	45.30	94.52	45.84	32.16
Lane Group LOS	F	C	C	E	F	F	E	D	D	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.38	9.65	9.84	3.10	27.50	31.51	5.55	6.81	4.57	8.47	6.16	3.28
50th-Percentile Queue Length [ft/ln]	184.60	241.26	246.06	77.57	687.56	787.72	138.85	170.34	114.22	211.80	153.99	82.06
95th-Percentile Queue Length [veh/ln]	11.98	14.75	14.99	5.58	36.97	42.23	9.42	11.09	8.07	13.56	10.23	5.91
95th-Percentile Queue Length [ft/ln]	299.46	368.63	374.69	139.62	924.33	1055.69	235.47	277.36	201.86	339.12	255.74	147.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	86.75	21.79	23.01	57.22	64.93	74.32	58.18	47.37	45.30	94.52	45.84	32.16
Movement LOS	F	C	C	E	E	E	E	D	D	F	D	C
d_A, Approach Delay [s/veh]	29.36			64.69			49.27			56.37		
Approach LOS	C			E			D			E		
d_I, Intersection Delay [s/veh]	51.47											
Intersection LOS	D											
Intersection V/C	1.005											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.246			3.277			2.726			2.749		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	691			618			636			636		
d_b, Bicycle Delay [s]	23.56			26.25			25.57			25.57		
I_b,int, Bicycle LOS Score for Intersection	2.527			3.084			2.267			2.251		
Bicycle LOS	B			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	388.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.104

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1741	16	0	2856	14	0	0	36	1	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1741	16	0	2856	14	0	0	36	1	0	16
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]	2	435	4	0	714	4	0	0	9	0	0	4
Total Analysis Volume [veh/h]	6	1741	16	0	2856	14	0	0	36	1	0	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.34	0.10	0.00	0.06
d_M, Delay for Movement [s/veh]	98.53	0.00	0.00	0.00	0.00	0.00	749.53	4280.79	55.90	388.05	4264.29	26.51
Movement LOS	F	A	A		A	A	F	F	F	F	F	D
95th-Percentile Queue Length [veh/ln]	0.43	0.11	0.00	0.00	0.00	0.00	1.35	1.35	1.35	0.58	0.58	0.58
95th-Percentile Queue Length [ft/ln]	10.77	2.69	0.00	0.00	0.00	0.00	33.66	33.66	33.66	14.40	14.40	14.40
d_A, Approach Delay [s/veh]	0.34			0.00			55.90			47.77		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	17	1681	24	59	2732	60	71	47	35	32	26	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	1681	24	59	2732	60	71	47	35	32	26	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]	4	420	6	15	683	15	18	12	9	8	7	8
Total Analysis Volume [veh/h]	17	1681	24	59	2732	60	71	47	35	32	26	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	72	0	0	72	0	0	38	0	0	38	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	85	85	85	85	85	85	17	17	17
g / C, Green / Cycle	0.78	0.78	0.78	0.78	0.78	0.78	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.17	0.31	0.31	0.21	0.51	0.52	0.13	0.05	0.02
s, saturation flow rate [veh/h]	98	3560	1857	287	3560	1850	1198	1276	1589
c, Capacity [veh/h]	117	2764	1441	255	2764	1436	229	243	240
d1, Uniform Delay [s]	14.83	4.01	4.01	7.94	5.66	5.72	46.72	41.04	40.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.59	0.44	0.85	2.11	1.27	2.49	3.36	0.50	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.41	0.41	0.23	0.66	0.67	0.67	0.24	0.14
d, Delay for Lane Group [s/veh]	17.42	4.46	4.86	10.04	6.93	8.22	50.08	41.54	40.72
Lane Group LOS	B	A	A	B	A	A	D	D	D
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.32	3.40	3.70	0.70	7.92	8.88	4.31	1.42	0.79
50th-Percentile Queue Length [ft/ln]	8.04	84.88	92.61	17.58	198.08	222.04	107.63	35.58	19.85
95th-Percentile Queue Length [veh/ln]	0.58	6.11	6.67	1.27	12.54	13.77	7.71	2.56	1.43
95th-Percentile Queue Length [ft/ln]	14.47	152.79	166.70	31.64	313.49	344.23	192.70	64.04	35.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.42	4.59	4.86	10.04	7.35	8.22	50.08	50.08	50.08	41.54	41.54	40.72
Movement LOS	B	A	A	B	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	4.72			7.43			50.08			41.24		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	8.45											
Intersection LOS	A											
Intersection V/C	0.698											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.279			3.350			1.873			2.106		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1236			1236			618			618		
d_b, Bicycle Delay [s]	8.02			8.02			26.25			26.25		
I_b,int, Bicycle LOS Score for Intersection	2.507			3.128			1.812			1.710		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







APPENDIX D-IV

YEAR 2021 CUMULATIVE PLUS PROJECT TRAFFIC
CONDITIONS

Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.909

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	43	2777	103	206	1206	46	73	269	43	197	215	256
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	2777	103	206	1206	46	73	269	43	197	215	256
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]	11	694	26	52	302	12	18	67	11	49	54	64
Total Analysis Volume [veh/h]	43	2777	103	206	1206	46	73	269	43	197	215	256
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	38	52	0	12	26	0	10	43	0	13	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	4	73	73	8	77	77	6	14	14	9	17	29
g / C, Green / Cycle	0.03	0.61	0.61	0.07	0.65	0.65	0.05	0.12	0.12	0.07	0.14	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.53	0.54	0.06	0.24	0.03	0.04	0.08	0.09	0.06	0.11	0.16
s, saturation flow rate [veh/h]	1781	3560	1836	3459	5094	1589	1781	1870	1782	3459	1870	1589
c, Capacity [veh/h]	58	2171	1120	233	3284	1025	90	217	207	254	259	381
d1, Uniform Delay [s]	57.57	19.45	19.86	55.52	9.93	7.81	56.40	51.23	51.31	54.67	50.31	41.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.70	5.09	10.35	10.61	0.32	0.08	15.34	4.64	5.16	5.09	6.67	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.87	0.89	0.88	0.37	0.04	0.81	0.73	0.74	0.78	0.83	0.67
d, Delay for Lane Group [s/veh]	74.27	24.54	30.22	66.13	10.25	7.89	71.75	55.87	56.48	59.76	56.98	43.47
Lane Group LOS	E	C	C	E	B	A	E	E	E	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.56	21.83	24.99	3.43	4.80	0.45	2.58	4.88	4.77	3.11	6.76	7.08
50th-Percentile Queue Length [ft/ln]	39.11	545.68	624.68	85.86	120.05	11.17	64.40	122.05	119.16	77.66	168.94	177.06
95th-Percentile Queue Length [veh/ln]	2.82	29.49	33.19	6.18	8.40	0.80	4.64	8.51	8.35	5.59	11.02	11.45
95th-Percentile Queue Length [ft/ln]	70.39	737.23	829.63	154.55	209.89	20.10	115.91	212.64	208.68	139.78	275.51	286.17

Movement, Approach, & Intersection Results

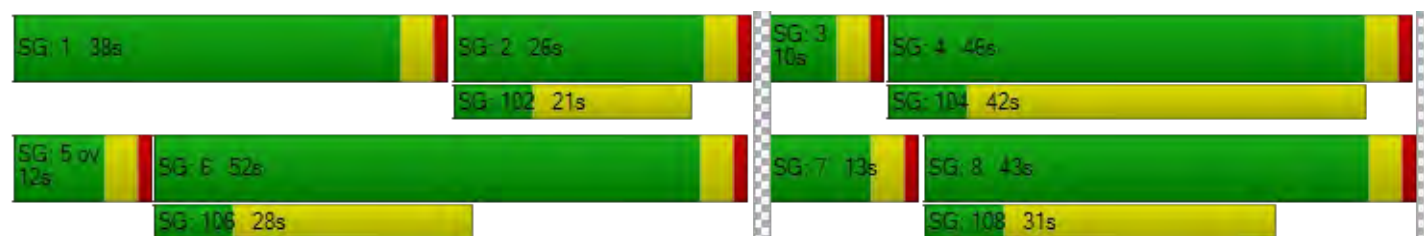
d_M, Delay for Movement [s/veh]	74.27	26.36	30.22	66.13	10.25	7.89	71.75	56.12	56.48	59.76	56.98	43.47
Movement LOS	E	C	C	E	B	A	E	E	E	E	E	D
d_A, Approach Delay [s/veh]	27.20			18.07			59.12			52.62		
Approach LOS	C			B			E			D		
d_I, Intersection Delay [s/veh]	30.14											
Intersection LOS	C											
Intersection V/C	0.909											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.216			3.357			2.313			2.669		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	800			367			650			700		
d_b, Bicycle Delay [s]	21.60			40.02			27.34			25.35		
I_b,int, Bicycle LOS Score for Intersection	3.167			2.362			1.877			2.662		
Bicycle LOS	C			B			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	3.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	3047	30	26	1367	12	0	0	0	34	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3047	30	26	1367	12	0	0	0	34	0	17
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]	0	762	8	7	342	3	0	0	0	9	0	4
Total Analysis Volume [veh/h]	0	3047	30	26	1367	12	0	0	0	34	0	17
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	65	0	0	65	0	0	0	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	78	78	78	78	78		4
g / C, Green / Cycle	0.87	0.87	0.87	0.87	0.87		0.04
(v / s)_i Volume / Saturation Flow Rate	0.58	0.55	0.35	0.25	0.25		0.03
s, saturation flow rate [veh/h]	3560	1860	73	3560	1862		1712
c, Capacity [veh/h]	3097	1618	128	3097	1620		70
d1, Uniform Delay [s]	1.79	1.69	8.38	1.02	1.02		42.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.13	1.90	3.55	0.24	0.46		13.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.66	0.63	0.20	0.29	0.29		0.73
d, Delay for Lane Group [s/veh]	2.93	3.60	11.93	1.26	1.48		55.79
Lane Group LOS	A	A	B	A	A		E
Critical Lane Group	Yes	No	No	No	No		Yes
50th-Percentile Queue Length [veh/ln]	1.34	1.66	0.36	0.32	0.43		1.37
50th-Percentile Queue Length [ft/ln]	33.41	41.45	8.96	7.91	10.73		34.15
95th-Percentile Queue Length [veh/ln]	2.41	2.98	0.65	0.57	0.77		2.46
95th-Percentile Queue Length [ft/ln]	60.14	74.62	16.13	14.24	19.32		61.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.14	3.60	11.93	1.33	1.48	0.00	0.00	0.00	55.79	55.79	55.79
Movement LOS		A	A	B	A	A				E	E	E
d_A, Approach Delay [s/veh]	3.15			1.53			0.00			55.79		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	3.24											
Intersection LOS	A											
Intersection V/C	0.665											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.180			3.216			1.435			1.804		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1356			1356			0			467		
d_b, Bicycle Delay [s]	4.67			4.67			45.00			26.45		
I_b,int, Bicycle LOS Score for Intersection	3.252			2.332			4.132			1.644		
Bicycle LOS	C			B			D			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd**

Control Type:	Signalized	Delay (sec / veh):	51.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.992

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	147	2884	111	132	1083	145	182	469	208	168	541	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	2884	111	132	1083	145	182	469	208	168	541	187
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]	37	721	28	33	271	36	46	117	52	42	135	47
Total Analysis Volume [veh/h]	147	2884	111	132	1083	145	182	469	208	168	541	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	16	51	0	9	44	0	16	38	0	17	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	11	61	61	5	55	55	12	20	20	13	21	30
g / C, Green / Cycle	0.10	0.53	0.53	0.04	0.48	0.48	0.10	0.17	0.17	0.11	0.18	0.26
(v / s)_i Volume / Saturation Flow Rate	0.08	0.55	0.56	0.04	0.23	0.23	0.10	0.13	0.13	0.09	0.15	0.12
s, saturation flow rate [veh/h]	1781	3560	1835	3459	3560	1759	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	175	1896	977	153	1703	841	187	619	276	196	639	411
d1, Uniform Delay [s]	50.98	26.90	26.90	54.64	20.36	20.36	51.35	45.22	45.18	50.29	45.70	35.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.11	30.59	44.59	13.06	0.98	1.98	24.99	1.93	4.12	10.12	3.23	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	1.04	1.06	0.86	0.48	0.48	0.97	0.76	0.75	0.86	0.85	0.46
d, Delay for Lane Group [s/veh]	61.09	57.49	71.50	67.71	21.34	22.34	76.34	47.15	49.30	60.41	48.92	36.66
Lane Group LOS	E	F	F	E	C	C	E	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.65	32.44	37.25	2.18	7.59	7.73	6.51	6.52	5.95	5.29	7.73	4.51
50th-Percentile Queue Length [ft/ln]	116.20	811.12	931.17	54.42	189.64	193.29	162.80	162.94	148.63	132.33	193.32	112.63
95th-Percentile Queue Length [veh/ln]	8.18	43.02	49.40	3.92	12.10	12.29	10.70	10.70	9.94	9.07	12.29	7.99
95th-Percentile Queue Length [ft/ln]	204.59	1075.44	1235.10	97.95	302.57	307.30	267.43	267.61	248.59	226.65	307.34	199.65

Movement, Approach, & Intersection Results

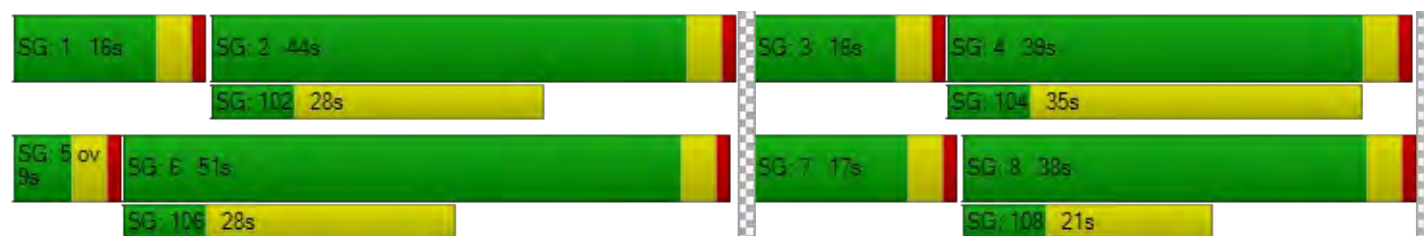
d_M, Delay for Movement [s/veh]	61.09	61.96	71.50	67.71	21.58	22.34	76.34	47.15	49.30	60.41	48.92	36.66
Movement LOS	E	F	E	E	C	C	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	62.26			26.14			53.86			48.52		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	51.29											
Intersection LOS	D											
Intersection V/C	0.992											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersection	3.246			3.299			2.740			2.726		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	817			696			591			609		
d_b, Bicycle Delay [s]	20.10			24.46			28.53			27.83		
I_b,int, Bicycle LOS Score for Intersection	3.288			2.308			2.268			2.299		
Bicycle LOS	C			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.841

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	37	3117	22	0	1435	23	1	1	15	3	2	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	37	3117	22	0	1435	23	1	1	15	3	2	43
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]	9	779	6	0	359	6	0	0	4	1	1	11
Total Analysis Volume [veh/h]	37	3117	22	0	1435	23	1	1	15	3	2	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.03	0.00	0.00	0.01	0.00	0.00	1.42	0.05	0.00	2.84	0.50
d_M, Delay for Movement [s/veh]	23.27	0.00	0.00	0.00	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	C	A	A		A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.55	0.14	0.00	0.00	0.00	0.00	3.80	3.80	3.80	8.20	8.20	8.20
95th-Percentile Queue Length [ft/ln]	13.79	3.45	0.00	0.00	0.00	0.00	95.05	95.05	95.05	204.90	204.90	204.90
d_A, Approach Delay [s/veh]	0.27			0.00			10000.00			10000.00		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	138.51											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	36	3123	24	9	1355	35	29	33	17	34	43	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	3123	24	9	1355	35	29	33	17	34	43	65
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]	9	781	6	2	339	9	7	8	4	9	11	16
Total Analysis Volume [veh/h]	36	3123	24	9	1355	35	29	33	17	34	43	65
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	95	0	0	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	100	100	100	100	100	100	12	12	12
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84	0.84	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.09	0.58	0.58	0.13	0.26	0.26	0.08	0.05	0.04
s, saturation flow rate [veh/h]	389	3560	1863	68	3560	1846	961	1464	1589
c, Capacity [veh/h]	359	2980	1559	101	2980	1545	134	184	153
d1, Uniform Delay [s]	3.55	3.79	3.81	10.74	2.14	2.14	53.28	51.28	51.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	1.35	2.58	1.72	0.27	0.52	4.12	1.51	1.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.69	0.70	0.09	0.31	0.31	0.59	0.42	0.42
d, Delay for Lane Group [s/veh]	4.11	5.13	6.39	12.47	2.41	2.66	57.40	52.78	52.93
Lane Group LOS	A	A	A	B	A	A	E	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.25	6.84	7.76	0.15	1.69	1.86	2.52	2.28	1.92
50th-Percentile Queue Length [ft/ln]	6.20	171.06	193.91	3.87	42.23	46.45	63.03	56.95	48.10
95th-Percentile Queue Length [veh/ln]	0.45	11.13	12.32	0.28	3.04	3.34	4.54	4.10	3.46
95th-Percentile Queue Length [ft/ln]	11.16	278.31	308.10	6.97	76.01	83.61	113.45	102.52	86.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.11	5.56	6.39	12.47	2.49	2.66	57.40	57.40	57.40	52.78	52.78	52.93
Movement LOS	A	A	A	B	A	A	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	5.55			2.56			57.40			52.85		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	6.93											
Intersection LOS	A											
Intersection V/C	0.711											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.295			3.292			1.874			2.034		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1517			1517			350			350		
d_b, Bicycle Delay [s]	3.50			3.50			40.84			40.84		
I_b,int, Bicycle LOS Score for Intersection	3.310			2.329			1.690			1.794		
Bicycle LOS	C			B			A			A		

Sequence





Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Sepulveda Blvd at Marine Ave

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.850

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Marine Ave			Marine Ave		
Base Volume Input [veh/h]	105	1526	168	274	2575	128	85	272	39	233	232	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	1526	168	274	2575	128	85	272	39	233	232	175
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]	26	382	42	69	644	32	21	68	10	58	58	44
Total Analysis Volume [veh/h]	105	1526	168	274	2575	128	85	272	39	233	232	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	13	48	0	15	50	0	11	35	0	22	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	14	0	0	24	0	0	35	35
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	68	68	11	71	71	7	14	14	10	18	33
g / C, Green / Cycle	0.07	0.57	0.57	0.09	0.59	0.59	0.06	0.12	0.12	0.09	0.15	0.27
(v / s)_i Volume / Saturation Flow Rate	0.06	0.32	0.32	0.08	0.51	0.08	0.05	0.08	0.09	0.07	0.12	0.11
s, saturation flow rate [veh/h]	1781	3560	1777	3459	5094	1589	1781	1870	1790	3459	1870	1589
c, Capacity [veh/h]	130	2027	1012	319	2998	935	105	222	212	299	273	432
d1, Uniform Delay [s]	54.80	16.30	16.32	53.72	20.56	11.06	55.81	50.92	51.00	53.72	49.97	35.79
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.02	1.11	2.23	6.71	3.47	0.30	13.48	4.17	4.58	4.39	7.25	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.56	0.56	0.86	0.86	0.14	0.81	0.71	0.72	0.78	0.85	0.41
d, Delay for Lane Group [s/veh]	65.82	17.41	18.55	60.44	24.03	11.36	69.30	55.10	55.58	58.11	57.22	36.40
Lane Group LOS	E	B	B	E	C	B	E	E	E	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.53	9.78	10.11	4.37	19.73	1.58	2.94	4.82	4.71	3.63	7.33	4.28
50th-Percentile Queue Length [ft/ln]	88.16	244.41	252.71	109.32	493.21	39.60	73.45	120.60	117.85	90.70	183.21	107.12
95th-Percentile Queue Length [veh/ln]	6.35	14.90	15.32	7.80	27.01	2.85	5.29	8.43	8.27	6.53	11.77	7.68
95th-Percentile Queue Length [ft/ln]	158.68	372.61	383.07	195.06	675.32	71.29	132.20	210.65	206.87	163.26	294.20	191.99

Movement, Approach, & Intersection Results

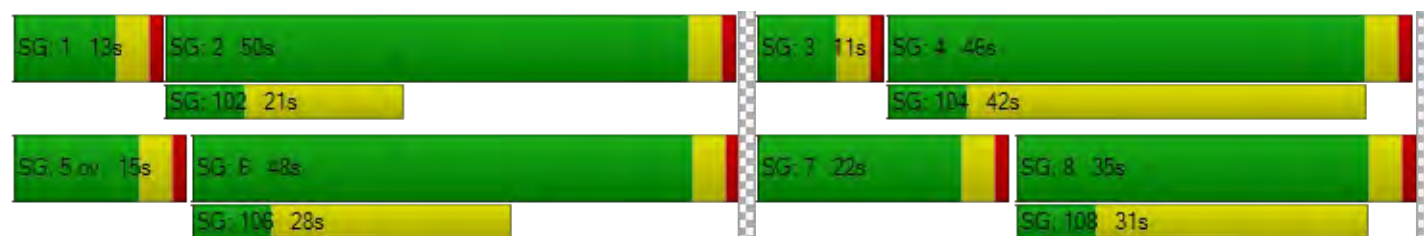
d_M, Delay for Movement [s/veh]	65.82	17.71	18.55	60.44	24.03	11.36	69.30	55.30	55.58	58.11	57.22	36.40
Movement LOS	E	B	B	E	C	B	E	E	E	E	E	D
d_A, Approach Delay [s/veh]	20.60			26.84			58.33			51.85		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	29.81											
Intersection LOS	C											
Intersection V/C	0.850											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			49.50		
I_p,int, Pedestrian LOS Score for Intersection	3.255			3.379			2.355			2.687		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			767			517			700		
d_b, Bicycle Delay [s]	24.07			22.82			33.00			25.35		
I_b,int, Bicycle LOS Score for Intersection	2.549			3.197			1.886			2.616		
Bicycle LOS	B			C			A			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Sepulveda Blvd at 18th St

Control Type:	Signalized	Delay (sec / veh):	4.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			18th St			18th St		
Base Volume Input [veh/h]	0	1831	64	9	2738	13	0	0	0	81	2	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1831	64	9	2738	13	0	0	0	81	2	12
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]	0	458	16	2	685	3	0	0	0	20	1	3
Total Analysis Volume [veh/h]	0	1831	64	9	2738	13	0	0	0	81	2	12
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	18	0	0	18	0	0	0	0	0	72	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	0	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C		C
C, Cycle Length [s]	90	90	90	90	90		90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	76	76	76	76	76		6
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84		0.07
(v / s)_i Volume / Saturation Flow Rate	0.35	0.34	0.04	0.51	0.51		0.05
s, saturation flow rate [veh/h]	3560	1837	239	3560	1865		1756
c, Capacity [veh/h]	2991	1543	252	2991	1567		124
d1, Uniform Delay [s]	1.78	1.75	3.67	2.33	2.33		41.03
k, delay calibration	0.50	0.50	0.50	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	0.44	0.81	0.26	0.91	1.74		9.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.42	0.41	0.04	0.60	0.60		0.76
d, Delay for Lane Group [s/veh]	2.22	2.56	3.94	3.24	4.07		50.30
Lane Group LOS	A	A	A	A	A		D
Critical Lane Group	No	No	No	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	1.26	1.41	0.06	2.40	2.88		2.36
50th-Percentile Queue Length [ft/ln]	31.59	35.21	1.43	59.92	72.00		59.07
95th-Percentile Queue Length [veh/ln]	2.27	2.53	0.10	4.31	5.18		4.25
95th-Percentile Queue Length [ft/ln]	56.86	63.37	2.57	107.86	129.59		106.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.32	2.56	3.94	3.52	4.07	0.00	0.00	0.00	50.30	50.30	50.30
Movement LOS		A	A	A	A	A				D	D	D
d_A, Approach Delay [s/veh]	2.33			3.53			0.00			50.30		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	3.99											
Intersection LOS	A											
Intersection V/C	0.617											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	34.67			34.67			34.67			34.67		
I_p,int, Pedestrian LOS Score for Intersection	3.218			3.235			1.438			1.809		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	311			311			0			1511		
d_b, Bicycle Delay [s]	32.09			32.09			45.00			2.69		
I_b,int, Bicycle LOS Score for Intersection	2.602			3.078			4.132			1.716		
Bicycle LOS	B			C			D			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Sepulveda Blvd at Manhattan Beach Blvd

Control Type:	Signalized	Delay (sec / veh):	54.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.022

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
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 Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			Manhattan Beach Blvd			Manhattan Beach Blvd		
Base Volume Input [veh/h]	209	1359	216	228	2455	106	184	507	173	224	459	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	1359	216	228	2455	106	184	507	173	224	459	152
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]	52	340	54	57	614	27	46	127	43	56	115	38
Total Analysis Volume [veh/h]	209	1359	216	228	2455	106	184	507	173	224	459	152
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	16	37	0	12	33	0	17	40	0	16	39	39
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	28	28
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	12	51	51	8	47	47	13	18	18	12	17	29
g / C, Green / Cycle	0.11	0.48	0.48	0.08	0.45	0.45	0.12	0.17	0.17	0.11	0.17	0.28
(v / s)_i Volume / Saturation Flow Rate	0.12	0.30	0.30	0.07	0.47	0.48	0.10	0.14	0.11	0.13	0.13	0.10
s, saturation flow rate [veh/h]	1781	3560	1742	3459	3560	1831	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	204	1722	843	266	1587	816	215	613	274	204	592	447
d1, Uniform Delay [s]	46.53	19.92	19.95	47.95	29.13	29.13	45.31	41.99	40.41	46.53	41.94	30.02
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	34.95	1.64	3.35	7.81	40.07	54.56	9.34	2.91	2.40	58.86	2.22	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.61	0.62	0.86	1.06	1.08	0.86	0.83	0.63	1.10	0.78	0.34
d, Delay for Lane Group [s/veh]	81.47	21.56	23.30	55.76	69.19	83.68	54.65	44.90	42.81	105.38	44.15	30.47
Lane Group LOS	F	C	C	E	F	F	D	D	D	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.29	9.52	9.76	3.23	27.83	31.92	5.23	6.54	4.31	8.65	5.83	3.10
50th-Percentile Queue Length [ft/ln]	182.21	238.07	244.04	80.64	695.86	797.88	130.84	163.46	107.84	216.16	145.85	77.47
95th-Percentile Queue Length [veh/ln]	11.82	14.58	14.89	5.81	38.09	43.56	8.99	10.73	7.72	13.97	9.80	5.58
95th-Percentile Queue Length [ft/ln]	295.50	364.59	372.14	145.16	952.32	1088.96	224.63	268.29	193.00	349.13	244.88	139.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.47	21.95	23.30	55.76	73.76	83.68	54.65	44.90	42.81	105.38	44.15	30.47
Movement LOS	F	C	C	E	F	F	D	D	D	F	D	C
d_A, Approach Delay [s/veh]	29.08			72.67			46.56			58.09		
Approach LOS	C			E			D			E		
d_I, Intersection Delay [s/veh]	54.73											
Intersection LOS	D											
Intersection V/C	1.022											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersection	3.247			3.279			2.726			2.750		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	629			552			686			667		
d_b, Bicycle Delay [s]	24.69			27.50			22.67			23.33		
I_b,int, Bicycle LOS Score for Intersection	2.541			3.094			2.272			2.248		
Bicycle LOS	B			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report

Intersection 4: Sepulveda Blvd at 11th St

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 394.1
 Level Of Service: F
 Volume to Capacity (v/c): 0.106

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			11th St			11th St		
Base Volume Input [veh/h]	6	1749	22	0	2853	14	0	0	36	1	0	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	6	1749	22	0	2853	14	0	0	36	1	0	34
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]	2	437	6	0	713	4	0	0	9	0	0	9
Total Analysis Volume [veh/h]	6	1749	22	0	2853	14	0	0	36	1	0	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.34	0.11	0.00	0.14
d_M, Delay for Movement [s/veh]	98.14	0.00	0.00	0.00	0.00	0.00	812.13	4359.77	55.73	394.12	4323.17	27.44
Movement LOS	F	A	A		A	A	F	F	F	F	F	D
95th-Percentile Queue Length [veh/ln]	0.43	0.11	0.00	0.00	0.00	0.00	1.34	1.34	1.34	0.91	0.91	0.91
95th-Percentile Queue Length [ft/ln]	10.73	2.68	0.00	0.00	0.00	0.00	33.57	33.57	33.57	22.63	22.63	22.63
d_A, Approach Delay [s/veh]	0.33			0.00			55.73			37.92		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	0.83											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 5: Sepulveda Blvd at 8th St

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry 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
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sepulveda Blvd			Sepulveda Blvd			8th St			8th St		
Base Volume Input [veh/h]	17	1695	24	59	2729	60	71	47	35	49	26	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 Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	1695	24	59	2729	60	71	47	35	49	26	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]	4	424	6	15	682	15	18	12	9	12	7	8
Total Analysis Volume [veh/h]	17	1695	24	59	2729	60	71	47	35	49	26	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

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	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	84	0	0	84	0	0	26	0	0	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	11	0	0	7	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	84	84	84	84	84	84	18	18	18
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.76	0.76	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.17	0.32	0.32	0.21	0.51	0.52	0.14	0.06	0.02
s, saturation flow rate [veh/h]	98	3560	1857	283	3560	1850	1085	1158	1589
c, Capacity [veh/h]	114	2714	1415	246	2714	1410	227	245	262
d1, Uniform Delay [s]	16.95	4.55	4.55	9.13	6.39	6.46	46.36	40.55	39.15
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.74	0.47	0.90	2.29	1.36	2.67	3.47	0.70	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.42	0.42	0.24	0.67	0.68	0.67	0.31	0.13
d, Delay for Lane Group [s/veh]	19.69	5.02	5.45	11.42	7.75	9.13	49.82	41.25	39.37
Lane Group LOS	B	A	A	B	A	A	D	D	D
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.34	3.79	4.12	0.77	8.72	9.75	4.32	1.85	0.78
50th-Percentile Queue Length [ft/ln]	8.61	94.74	103.09	19.15	218.07	243.85	107.96	46.30	19.46
95th-Percentile Queue Length [veh/ln]	0.62	6.82	7.42	1.38	13.57	14.88	7.73	3.33	1.40
95th-Percentile Queue Length [ft/ln]	15.50	170.53	185.56	34.48	339.16	371.90	193.17	83.34	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.69	5.17	5.45	11.42	8.20	9.13	49.82	49.82	49.82	41.25	41.25	39.37
Movement LOS	B	A	A	B	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	5.31			8.29			49.82			40.68		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	9.26											
Intersection LOS	A											
Intersection V/C	0.712											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersection	3.307			3.352			1.873			2.111		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1455			1455			400			400		
d_b, Bicycle Delay [s]	4.09			4.09			35.20			35.20		
I_b,int, Bicycle LOS Score for Intersection	2.514			3.126			1.812			1.738		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-






APPENDIX E

PROJECT DRIVEWAY INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Intersection Level Of Service Report
Intersection 9: Project Dwy 1 at Manhattan Beach Blvd

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Project Dwy 1		Manhattan Beach Blvd		Manhattan Beach Blvd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Dwy 1		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	0	24	689	23	0	896
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	24	689	23	0	896
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]	0	6	172	6	0	224
Total Analysis Volume [veh/h]	0	24	689	23	0	896
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	0.04	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	11.89	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.44	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.89		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: Sepulveda Blvd at Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	73.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

Intersection Setup

Name	Sepulveda Blvd		Sepulveda Blvd		Project Dwy 2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Sepulveda Blvd		Sepulveda Blvd		Project Dwy 2	
Base Volume Input [veh/h]	3117	38	0	1454	0	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	3117	38	0	1454	0	33
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]	779	10	0	364	0	8
Total Analysis Volume [veh/h]	3117	38	0	1454	0	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.03	0.00	0.00	0.01	0.00	0.39
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	73.04
Movement LOS	A	A		A		F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	1.56
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	38.91
d_A, Approach Delay [s/veh]	0.00		0.00		73.04	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	F					

Intersection Level Of Service Report

Intersection 11: Project Dwy 3 at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Project Dwy 3		11th St		11th 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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Dwy 3		11th St		11th St	
Base Volume Input [veh/h]	10	8	6	17	41	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	8	6	17	41	13
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]	3	2	2	4	10	3
Total Analysis Volume [veh/h]	10	8	6	17	41	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.97	8.60	7.33	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.43	1.43	0.29	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.80		1.91		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.13					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project Dwy 1 at Manhattan Beach Blvd

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Project Dwy 1		Manhattan Beach Blvd		Manhattan Beach Blvd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Dwy 1		Manhattan Beach Blvd		Manhattan Beach Blvd	
Base Volume Input [veh/h]	0	20	934	17	0	835
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	20	934	17	0	835
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]	0	5	234	4	0	209
Total Analysis Volume [veh/h]	0	20	934	17	0	835
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	0.04	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	13.22	0.00	0.00	0.00	0.00
Movement LOS		B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.41	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.22		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: Sepulveda Blvd at Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

Intersection Setup

Name	Sepulveda Blvd		Sepulveda Blvd		Project Dwy 2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Sepulveda Blvd		Sepulveda Blvd		Project Dwy 2	
Base Volume Input [veh/h]	1731	26	0	2843	0	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	1731	26	0	2843	0	22
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]	433	7	0	711	0	6
Total Analysis Volume [veh/h]	1731	26	0	2843	0	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.02	0.00	0.00	0.03	0.00	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	20.80
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	7.17
d_A, Approach Delay [s/veh]	0.00		0.00		20.80	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 11: Project Dwy 3 at 11th St

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Project Dwy 3		11th St		11th 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 Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Dwy 3		11th St		11th St	
Base Volume Input [veh/h]	10	8	6	16	27	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	8	6	16	27	13
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]	3	2	2	4	7	3
Total Analysis Volume [veh/h]	10	8	6	16	27	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.89	8.53	7.30	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.40	1.40	0.29	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.73		1.99		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.51					
Intersection LOS	A					

Signal Warrants Report For Intersection 10: Sepulveda Blvd at Project Dwy 2

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	3155	1454	33
2	3029	1396	32
3	2966	1367	31
4	2524	1163	26
5	2398	1105	25
6	2145	989	22
7	1988	916	21
8	1893	872	20
9	1514	698	16
10	1420	654	15
11	1420	654	15
12	1357	625	14
13	1230	567	13
14	1136	523	12
15	1136	523	12
16	1104	509	12
17	631	291	7
18	347	160	4
19	316	145	3
20	126	58	1
21	95	44	1
22	95	44	1
23	63	29	1
24	63	29	1

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	7	4609	1	33	No	No	No	No	No	No	No	No	No	No
2	7	4425	1	32	No	No	No	No	No	No	No	No	No	No
3	7	4333	1	31	No	No	No	No	No	No	No	No	No	No
4	7	3687	1	26	No	No	No	No	No	No	No	No	No	No
5	7	3503	1	25	No	No	No	No	No	No	No	No	No	No
6	7	3134	1	22	No	No	No	No	No	No	No	No	No	No
7	7	2904	1	21	No	No	No	No	No	No	No	No	No	No
8	7	2765	1	20	No	No	No	No	No	No	No	No	No	No
9	7	2212	1	16	No	No	No	No	No	No	No	No	No	No
10	7	2074	1	15	No	No	No	No	No	No	No	No	No	No
11	7	2074	1	15	No	No	No	No	No	No	No	No	No	No
12	7	1982	1	14	No	No	No	No	No	No	No	No	No	No
13	7	1797	1	13	No	No	No	No	No	No	No	No	No	No
14	7	1659	1	12	No	No	No	No	No	No	No	No	No	No
15	7	1659	1	12	No	No	No	No	No	No	No	No	No	No
16	7	1613	1	12	No	No	No	No	No	No	No	No	No	No
17	7	922	1	7	No	No	No	No	No	No	No	No	No	No
18	7	507	1	4	No	No	No	No	No	No	No	No	No	No
19	7	461	1	3	No	No	No	No	No	No	No	No	No	No
20	7	184	1	1	No	No	No	No	No	No	No	No	No	No
21	7	139	1	1	No	No	No	No	No	No	No	No	No	No
22	7	139	1	1	No	No	No	No	No	No	No	No	No	No
23	7	92	1	1	No	No	No	No	No	No	No	No	No	No
24	7	92	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	73
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]:[mm])	0:40
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	33
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	4642
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Signal Warrants Report For Intersection 10: Sepulveda Blvd at Project Dwy 2

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	1757	2843	22
2	1687	2729	21
3	1652	2672	21
4	1406	2274	18
5	1335	2161	17
6	1195	1933	15
7	1107	1791	14
8	1054	1706	13
9	843	1365	11
10	791	1279	10
11	791	1279	10
12	756	1222	9
13	685	1109	9
14	633	1023	8
15	633	1023	8
16	615	995	8
17	351	569	4
18	193	313	2
19	176	284	2
20	70	114	1
21	53	85	1
22	53	85	1
23	35	57	0
24	35	57	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	7	4600	1	22	No	No	No	No	No	No	No	No	No	No
2	7	4416	1	21	No	No	No	No	No	No	No	No	No	No
3	7	4324	1	21	No	No	No	No	No	No	No	No	No	No
4	7	3680	1	18	No	No	No	No	No	No	No	No	No	No
5	7	3496	1	17	No	No	No	No	No	No	No	No	No	No
6	7	3128	1	15	No	No	No	No	No	No	No	No	No	No
7	7	2898	1	14	No	No	No	No	No	No	No	No	No	No
8	7	2760	1	13	No	No	No	No	No	No	No	No	No	No
9	7	2208	1	11	No	No	No	No	No	No	No	No	No	No
10	7	2070	1	10	No	No	No	No	No	No	No	No	No	No
11	7	2070	1	10	No	No	No	No	No	No	No	No	No	No
12	7	1978	1	9	No	No	No	No	No	No	No	No	No	No
13	7	1794	1	9	No	No	No	No	No	No	No	No	No	No
14	7	1656	1	8	No	No	No	No	No	No	No	No	No	No
15	7	1656	1	8	No	No	No	No	No	No	No	No	No	No
16	7	1610	1	8	No	No	No	No	No	No	No	No	No	No
17	7	920	1	4	No	No	No	No	No	No	No	No	No	No
18	7	506	1	2	No	No	No	No	No	No	No	No	No	No
19	7	460	1	2	No	No	No	No	No	No	No	No	No	No
20	7	184	1	1	No	No	No	No	No	No	No	No	No	No
21	7	138	1	1	No	No	No	No	No	No	No	No	No	No
22	7	138	1	1	No	No	No	No	No	No	No	No	No	No
23	7	92	1	0	No	No	No	No	No	No	No	No	No	No
24	7	92	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	22
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	4622
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

KINECTA - 1120 N. SEPULVEDA BOULEVARD

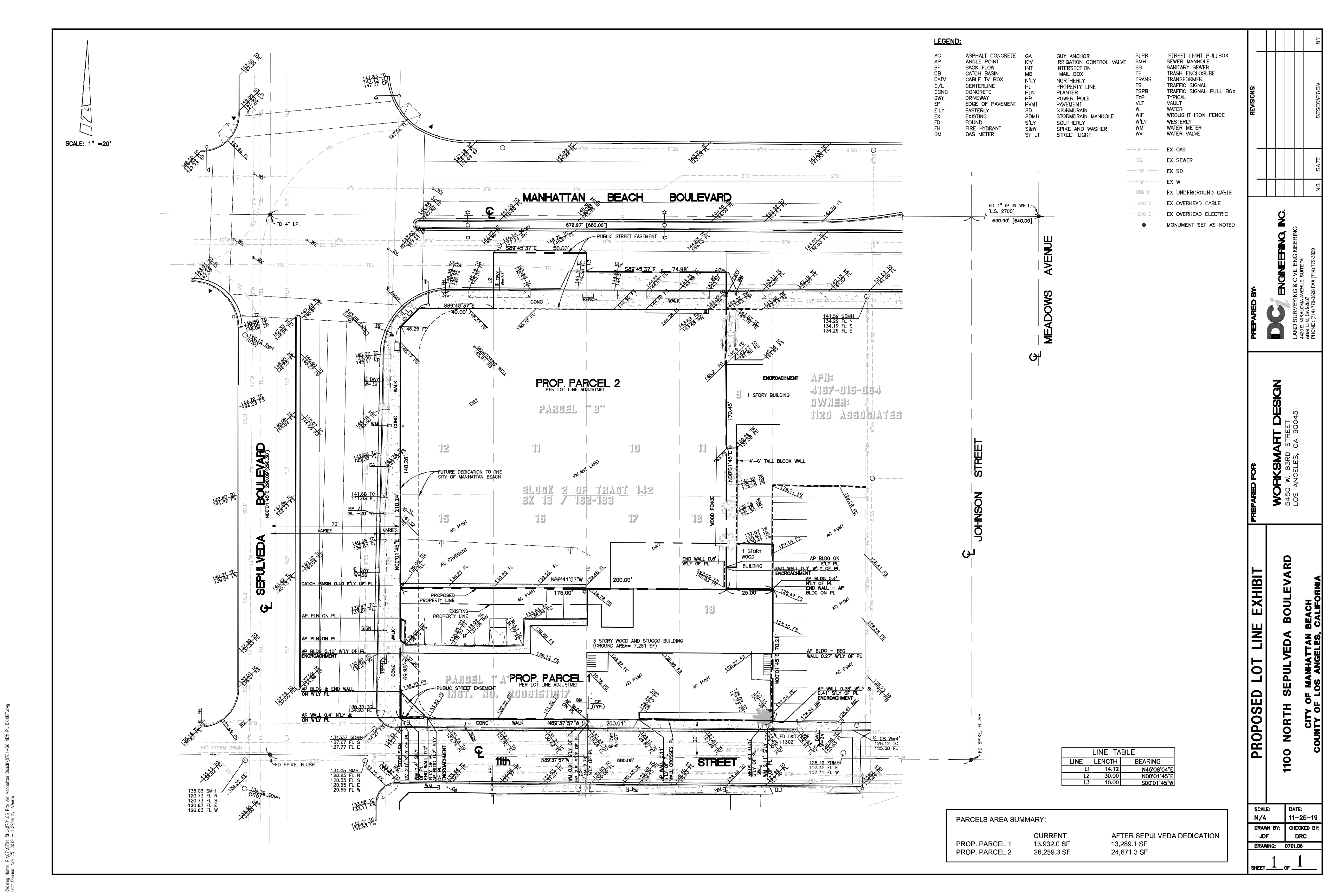
RESTAURANT / TAKE-OUT - 1116 N. SEPULVEDA BOULEVARD

RESTAURANT/TAKE-OUT - 1100 N. SEPULVEDA BOULEVARD

PERSONAL IMPROVEMENT SERVICE - 1108 N. SEPULVEDA BOULEVARD

Attachment H

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PROJECT

A NEW COMM. DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD

RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD

PERSONAL IMPROVEMENT SERVICE
1108 N SEPULVEDA BLVD

MANHATTAN BEACH
CALIFORNIA 90266

STAMP

PROJECT NUMBER
18032

PRINT DATE
4.22.20

REVISIONS

NUMBER	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	

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SURVEY

SCALE: 1"=20'-0"

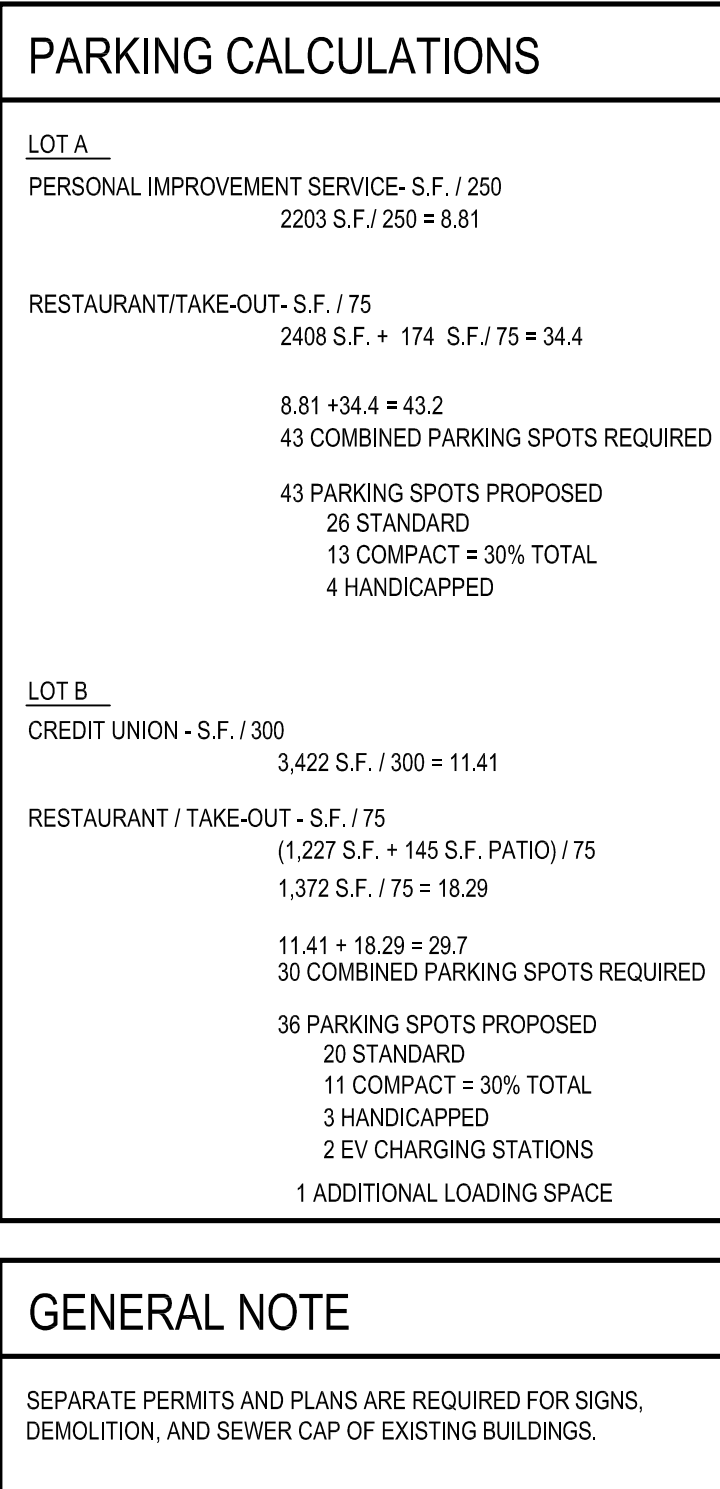
STAMP

SURVEY

SHEET NUMBER

C.01

NOTE: VISIBILITY OF A DRIVEWAY CROSSING A STREET PROPERTY LINE SHALL NOT BE BLOCKED BETWEEN A HEIGHT OF 3 FEET AND 9 FEET FOR A DEPTH OF 5 FEET FROM THE STREET PROPERTY LINE AS VIEWED FROM THE EDGE OF THE RIGHT-OF-WAY ON EITHER SIDE OF THE DRIVEWAY AT A DISTANCE OF 15 FEET OR AT THE NEAREST PROPERTY LINE INTERSECTION TO THE STREET PROPERTY LINE, WHICHEVER IS LESS (M/MC 10.64.15).
EXCEPTIONS: PROPERTIES CONSISTING OF LOTS HAVING VEHICULAR ACCESS ONLY ACROSS A SIDE YARD LOCATED IN RESIDENTIAL DISTRICTS IN AREA DISTRICTS II AND IV ARE EXEMPTED FROM THIS REQUIREMENT.



LOT B

LOT A
RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD

MANHATTAN BEACH
CALIFORNIA 90266

STAMP

PROJECT NUMBER
18032

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DRAWING

SITE PLAN

SHEET NUMBER

A.01

PROJECT
**A NEW COMM.
DEVELOPMENT**

LOT B
KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD
LOT A
RESTAURANT/TAKE-OUT
1100 N. SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N. SEPULVEDA BLVD
MANHATTAN BEACH
CALIFORNIA 90266

STAMP

PROJECT NUMBER
18032

PRINT DATE
4.22.20

REVISIONS
NUMBER 1 REVISION SCHEDULE SUBMITTAL DATE

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DRAWING

**SITE PLAN
OPTION A**

SHEET NUMBER

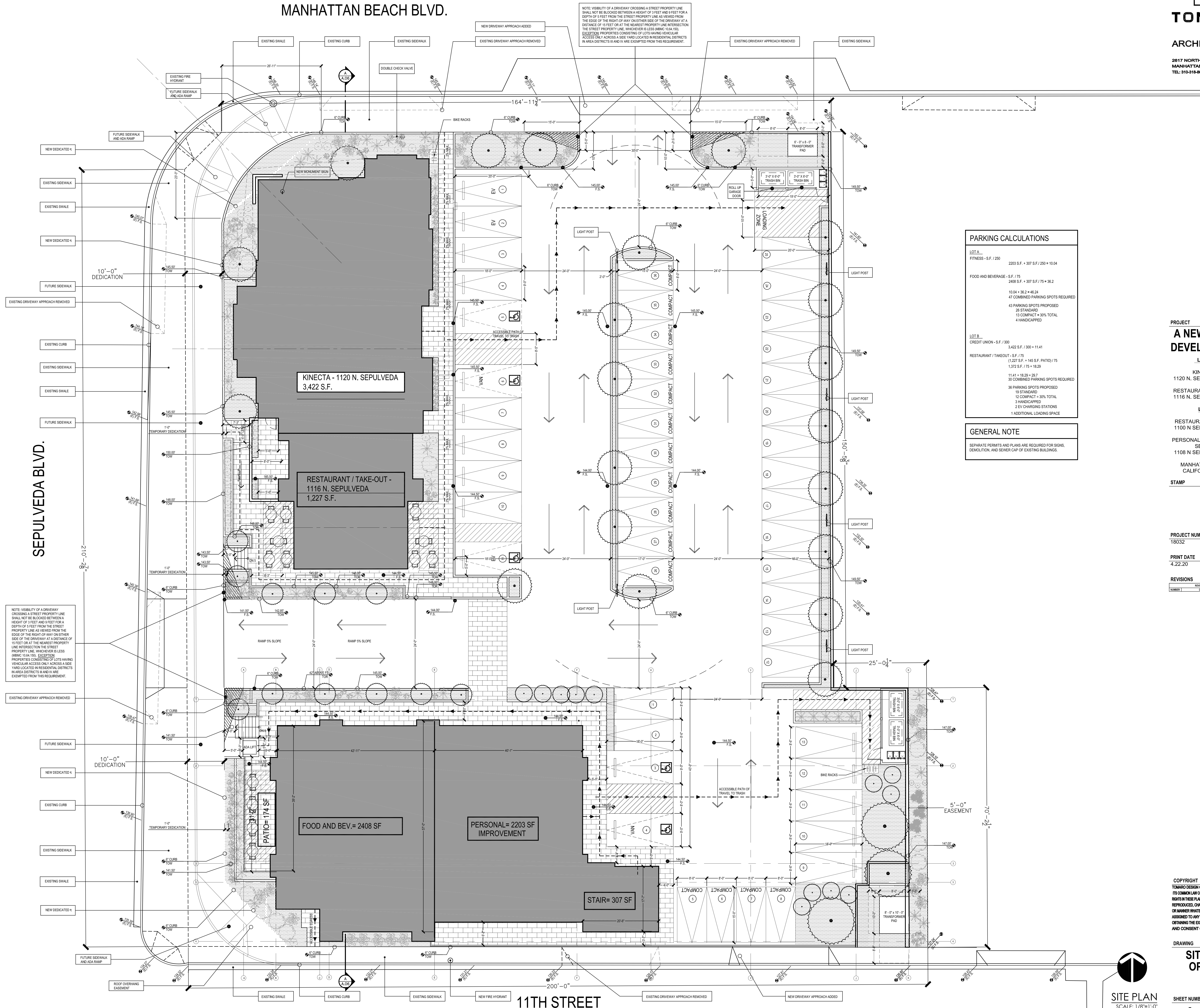
A.01.A

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MANHATTAN BEACH BLVD.

SEPULVEDA BLVD.

11TH STREET



PARKING CALCULATIONS	
LOT A	
FITNESS - S.F. / 250	2203 S.F. + 307 S.F. / 250 = 10.04
FOOD AND BEVERAGE - S.F. / 75	2408 S.F. + 307 S.F. / 75 = 36.2
47 COMBINED PARKING SPOTS REQUIRED	
10.04 + 36.2 = 46.24	
43 PARKING SPOTS PROPOSED	
26 STANDARD	
13 COMPACT + 30% TOTAL	
4 HANDICAPPED	
LOT B	
CREDIT UNION - S.F. / 300	3,422 S.F. / 300 = 11.41
RESTAURANT / TAKE-OUT - S.F. / 75	(1,227 S.F. + 145 S.F. PATIO) / 75
1,372 S.F. / 75 = 18.29	
11.41 + 18.29 = 29.7	
30 COMBINED PARKING SPOTS REQUIRED	
36 PARKING SPOTS PROPOSED	
19 STANDARD	
12 COMPACT + 30% TOTAL	
3 HANDICAPPED	
2 EV CHARGING STATIONS	
1 ADDITIONAL LOADING SPACE	

GENERAL NOTE

SEPARATE PERMITS AND PLANS ARE REQUIRED FOR SIGNS,
DEMOLITION, AND SEWER CAP OF EXISTING BUILDINGS.

PROJECT

A NEW COMM.
DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
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SERVICE
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LOTS

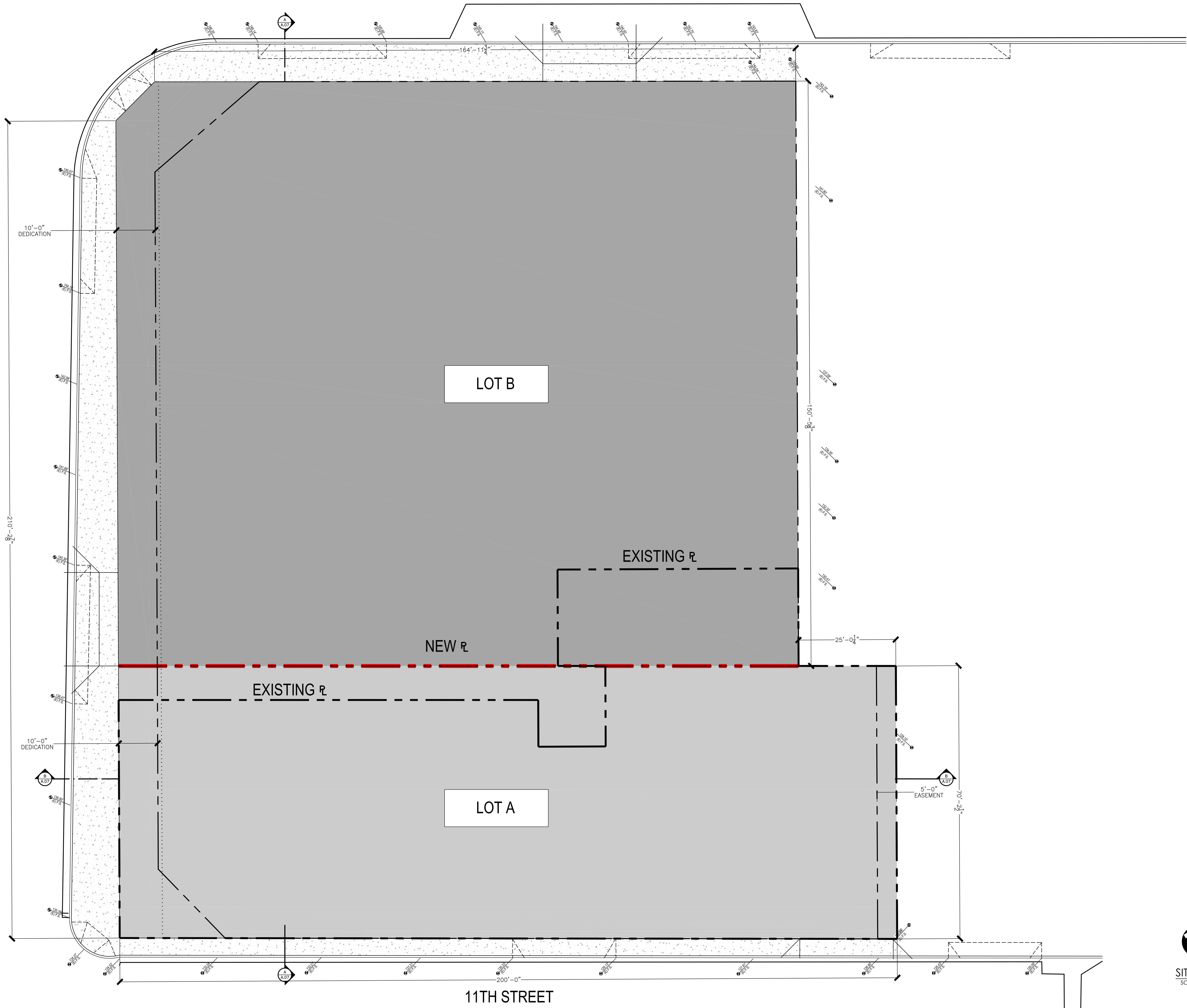
SHEET NUMBER

A.01.1

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MANHATTAN BEACH BLVD.

SEPULVEDA BLVD.



SITE PLAN
SCALE: 1/8"=1'-0"

SEPULVEDA BLVD.

MANHATTAN BEACH BLVD.



LANDSCAPE PLAN LEGEND	
	LANDSCAPE COUNTED TOWARDS SITE CALCULATION
	LANDSCAPE COUNTED TOWARDS SITE CALCULATION/ LANDSCAPE COUNTED TOWARDS PARKING LANDSCAPE CALCULATION
	AREA COUNTED TOWARDS PARKING LANDSCAPE CALCULATION

LANDSCAPE CALCULATIONS	
LOT A	
LOT SIZE POST DEDICATION: 13,167.89 SF	
LANDSCAPE REQUIRED: 13,167.89 X 8% = 1,053.5 SF	
PARKING LANDSCAPE REQUIRED: 4,059 X 8% = 324.7 SF	
PARKING LANDSCAPE PROVIDED: 1,101 = 27%	
TOTAL LANDSCAPE PROVIDED: 1,755 SF = 13.2%	
LOT B	
LOT SIZE POST DEDICATION: 24,493.8 SF	
LANDSCAPE REQUIRED: 24,493.8 X 8% = 1,959.5 SF	
PARKING LANDSCAPE REQUIRED: 15,528.34 X 8% = 1,242.2 SF	
PARKING LANDSCAPE PROVIDED: 1,123 SF = 7.22%	
TOTAL LANDSCAPE PROVIDED: 2,188 SF = 8.87%	

PROJECT

A NEW COMM.
DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
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DRAWING
LANDSCAPE
CALCULATION
PLAN
SHEET NUMBER

A.01.2

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PC MTD 04-29-20

LANDSCAPE CALCULATION PLAN
SCALE: 1/8"=1'-0"

PROJECT

A NEW COMM.
DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD

RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD

PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD

MANHATTAN BEACH
CALIFORNIA 90266

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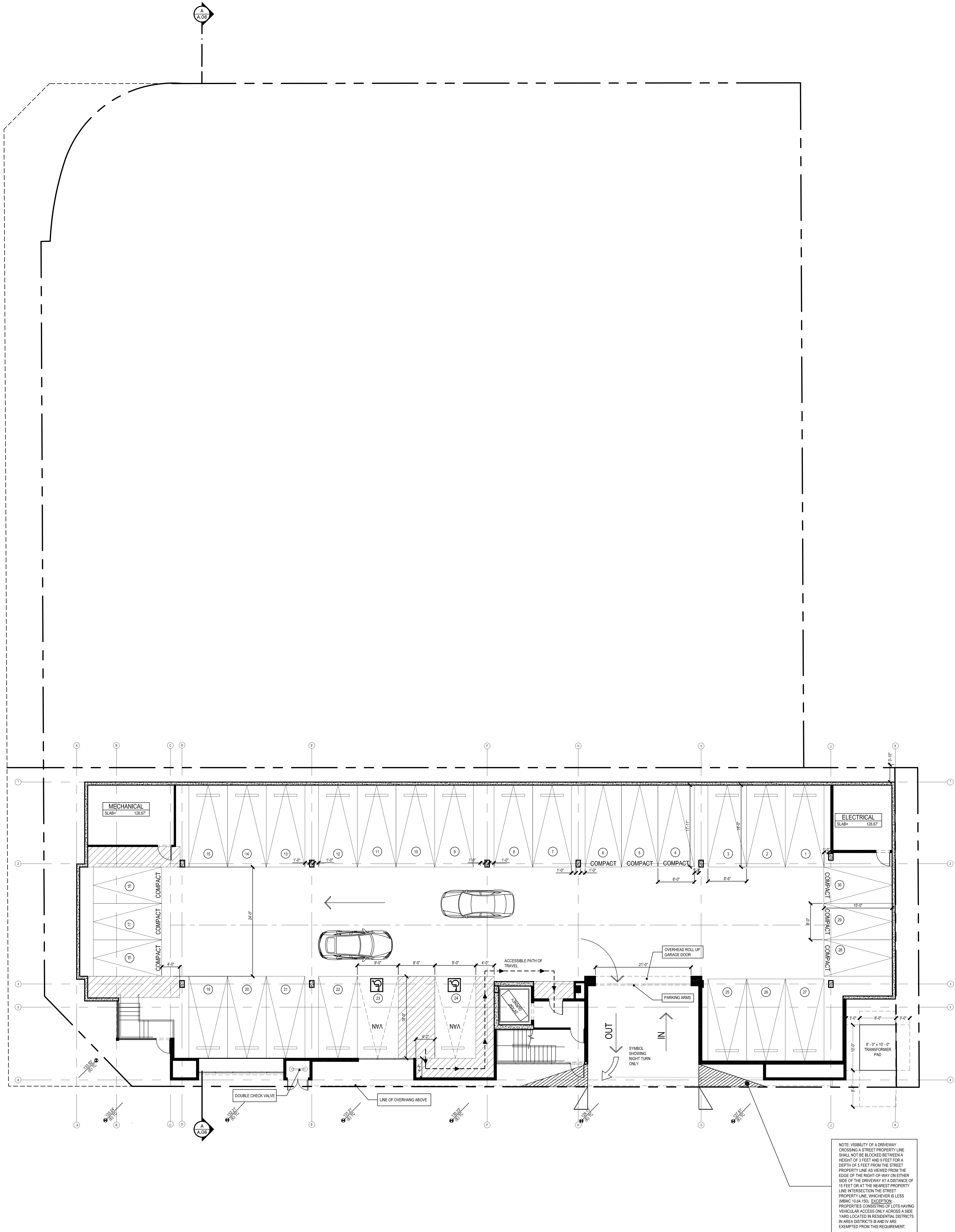
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PARKING CALCULATIONS

LOT A
BASEMENT PARKING 30 TOTAL SPOTS PROVIDED
19 STANDARD
2 HANDICAPPED
9 COMPACT

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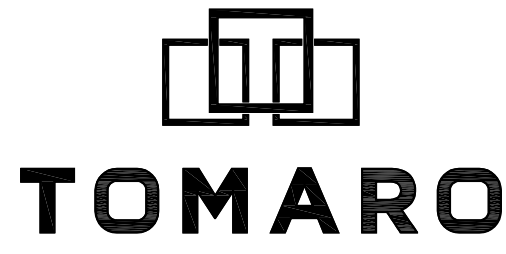
BASEMENT
PARKING
PLAN

SHEET NUMBER

A.02

BASEMENT PARKING PLAN
SCALE: 1/8"=1'-0"

MANHATTAN BEACH BLVD.



ARCHITECTURE

2617 NORTH SEPULVEDA BLVD.
MANHATTAN BEACH, CA 90266
TEL: 310-318-8089 WWW.TOMARO.COM

PROJECT

**A NEW COMM.
DEVELOPMENT**

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD
MANHATTAN BEACH
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DRAWING

**FIRST
FLOOR
PLAN**

SHEET NUMBER

A.03



FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

11TH STREET

SEPULVEDA BLVD.

10'-0" DEDICATION

210'-28"

10'-0" DEDICATION

200'-0"

164'-11 1/2"

8'-0" 1/2"

25'-0 1/4"

5'-0" EASEMENT

70'-2 1/2"

200'-0"

PROJECT

A NEW COMM.
DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD
MANHATTAN BEACH
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1	DESCRIPTION	

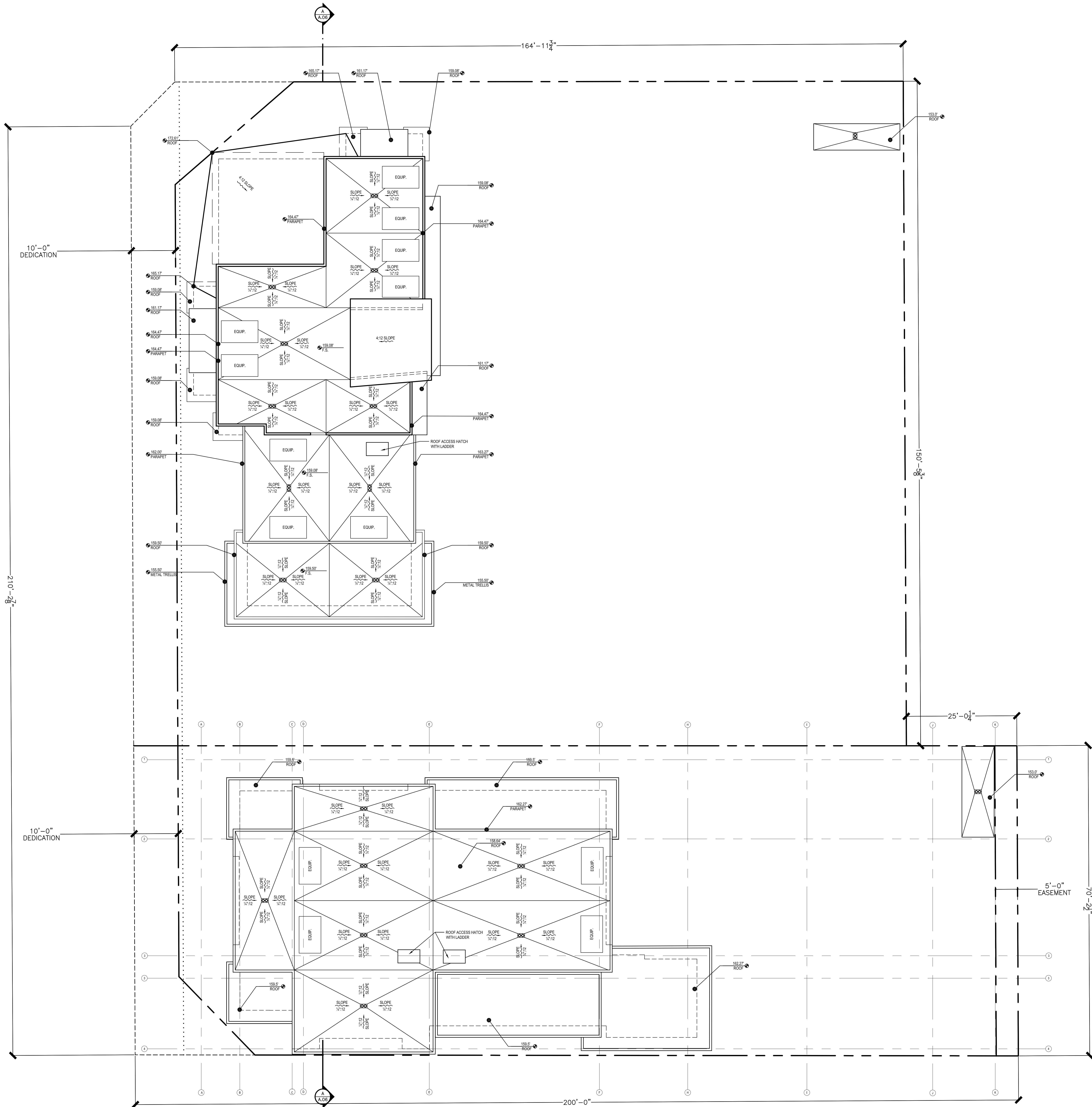
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ROOF PLAN

SHEET NUMBER

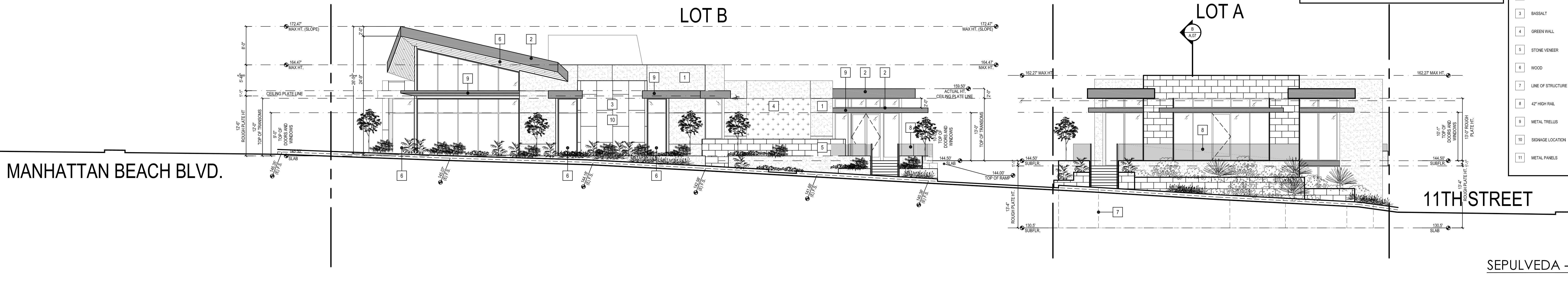
A.04



SITE PLAN KEY NOTES	
1	STUCCO
2	BRICK/METAL
3	BASALT
4	GREEN WALL
5	STONE VENEER
6	WOOD
7	LINE OF STRUCTURE BEYOND
8	42" HIGH RAIL
9	METAL TRELLIS
10	SIGNAGE LOCATION
11	METAL PANELS

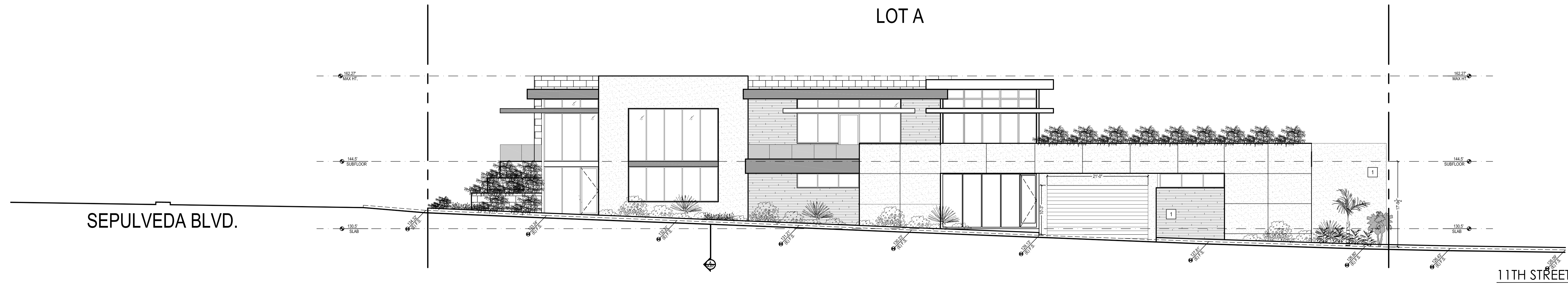
MAXIMUM HEIGHT NOTE

PARAPETS, SATELLITE ANTENNA RAILS, SKYLIGHTS, AND ROOF EQUIPMENT,
MUST BE WITH THE MAXIMUM HEIGHT LIMIT.



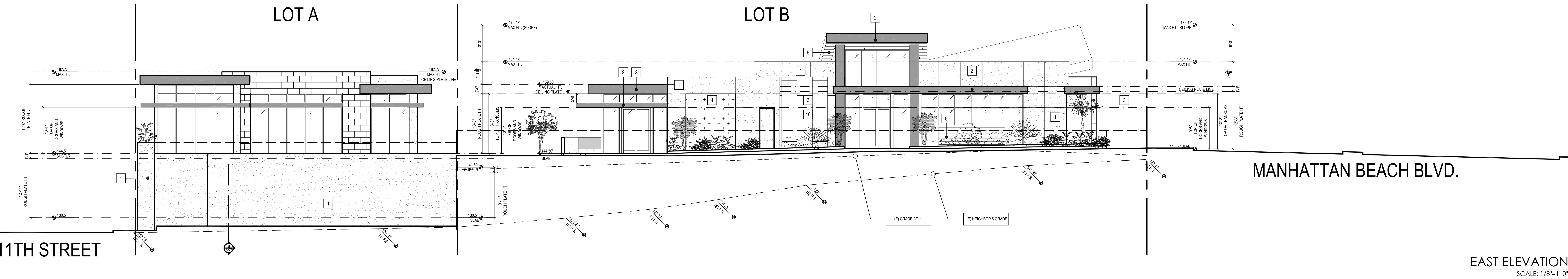
SEPULVEDA - ELEVATION

SCALE: 1/8"=1'-0"



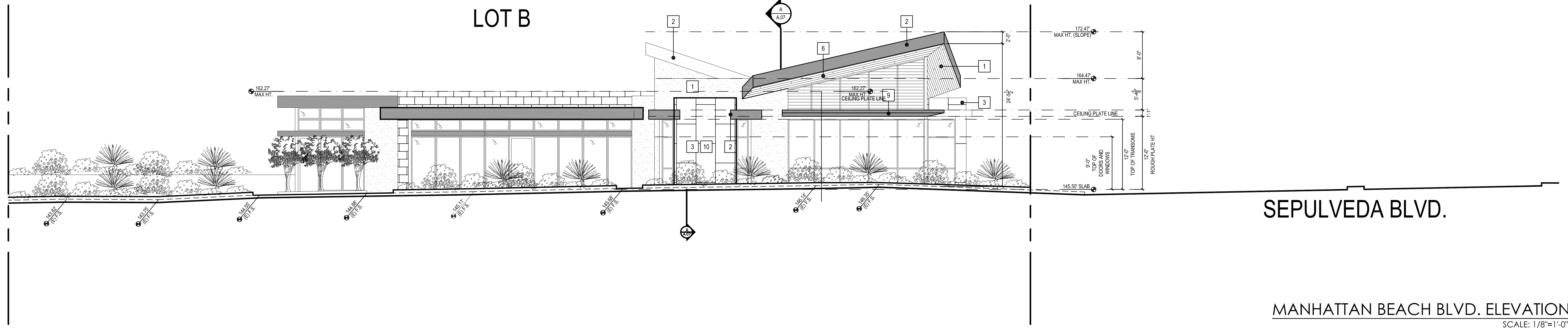
11TH STREET ELEVATION

SCALE: 1/8"=1'-0"



EAST ELEVATION

SCALE: 1/8"=1'-0"



MANHATTAN BEACH BLVD. ELEVATION

SCALE: 1/8"=1'-0"

PROJECT

A NEW COMM.
DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD
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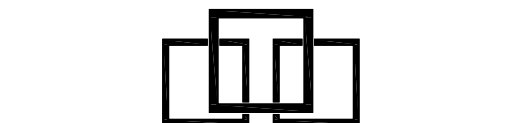
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ELEVATIONS

SHEET NUMBER

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TOMARO

ARCHITECTURE

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TEL: 310-318-8089 WWW.TOMARO.COM

MAXIMUM HEIGHT NOTE

PROPERTY, SATELLITE, ANTENNAE, SIGNS, LIGHTS, AND ROOF EQUIPMENT,
MUST BE WITH THE MAXIMUM HEIGHT LIMIT.

SECTION A

SCALE: 1/8"=1'-0"

PROJECT

A NEW COMM. DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD
MANHATTAN BEACH
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SECTIONS

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A.06

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11th STREET VIEW



SEPULVEDA VIEW

PROJECT
A NEW COMM. DEVELOPMENT
LOT B
KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD
LOT A
RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
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3D IMAGES

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A.07
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11th STREET VIEW



TENANT SPACE

PROJECT

A NEW COMM. DEVELOPMENT

LOT B

KINECTA -
1120 N. SEPULVEDA BLVD
RESTAURANT / TAKE-OUT
1116 N. SEPULVEDA BLVD

LOT A

RESTAURANT/TAKE-OUT
1100 N SEPULVEDA BLVD
PERSONAL IMPROVEMENT
SERVICE
1108 N SEPULVEDA BLVD
MANHATTAN BEACH
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DRAWING

3D IMAGES



CERCIDIUM DESERT MUSEUM



ARBUTUS MARINA



GEIJERA PARVIFLORA



LOPHOSTEMON CONFERTUS



OLEA EUROPAEA 'WILSONII'



AGAVE ATTENUATA 'VARIEGATA'



AGAVE DESMETTIANA 'VARIEGATA'



DASYLIRION LONGISSIMUM 'VARIEGATA'



PHOTINIA



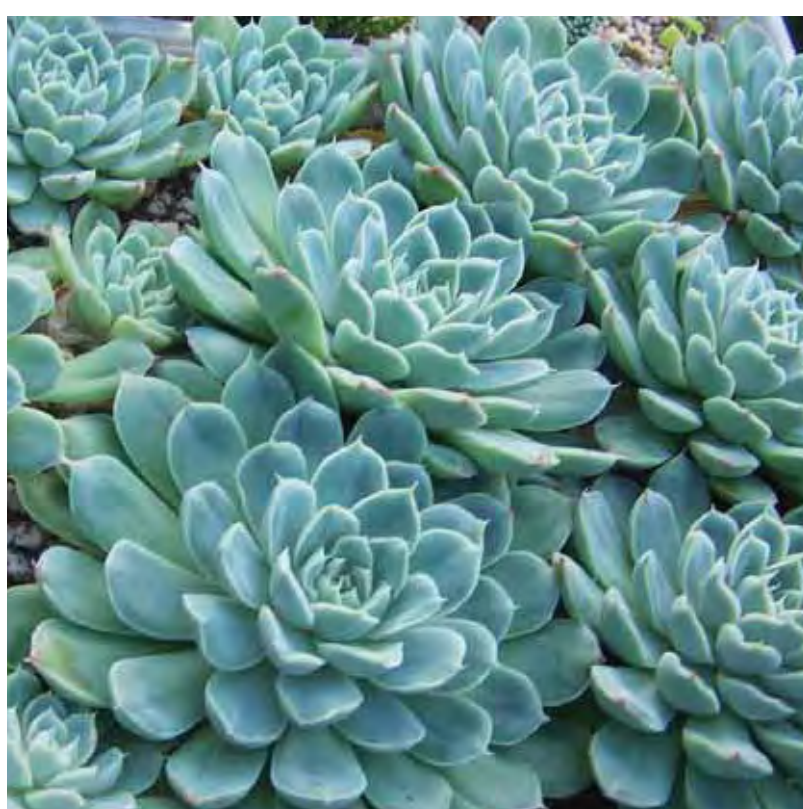
PRUNUS CAROLINIANA



SENECIO MANDRALISCAE



SEDUM NUSSBAUMERIANUM



ECHEVERIA



LOMANDRA LONGIFOLIA

TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	DESCRIPTION	QTY.	WUCOLS
T1	CERCIDIUM FLORIDUM 'DESERT MUSEUM'	DESERT MUSEUM PALO VERDES	48" BOX	MULTI-TRUNK FORM	1	VERY LOW
T2	ARBUTUS 'MARINA'	MARINA STRAWBERRY TREE	24" BOX	STANDARD FORM	3	LOW
T3	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	24" BOX	STANDARD FORM	9	LOW
T4	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24" BOX	STANDARD FORM	8	MODERATE
T5	OLEA EUROPAEA 'WILSONII'	FRUITLESS OLIVE	36" BOX	MULTI-TRUNK FORM	14	LOW

SHRUB, GROUNDCOVER, GRASSES & TURF LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS	QTY.	WUCOLS
S1	AGAVE ATTENUATA 'VARIEGATA'	VARIEGATED FOXTAIL AGAVE	15 GAL	PER PLAN		30	LOW
S2	AGAVE DESMETTIANA 'VARIEGATA'	VARIEGATED SMOOTH AGAVE	15 GAL	PER PLAN		44	LOW
S3	DASYLIRION LONGISSIMUM	MEXICAN GRASS TREE	15 GAL	PER PLAN		40	VERY LOW
S4	PHOTINIA X FRASERI	FRASER PHOTINIA	15 GAL	36" O.C.		26	MODERATE
S5	PRUNUS CAROLINIANA	CAROLINA CHERRY LAUREL	15 GAL	24" O.C.		35	MODERATE

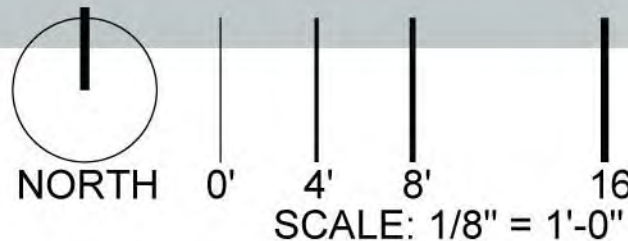
GROUNDCOVER

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS	QTY.	WUCOLS
GC1	SENECIO MANDRALISCAE	SENECIO	1 GAL	18" O.C.		1216	LOW
GC2	SEDUM NUSSBAUMERIANUM	COPPERSTONE STONECROP	1 GAL	12" O.C.		98	LOW
GC3	ECHEVERIA		1 GAL	12" O.C.		308	LOW
GC4	LOMANDRA LONGIFOLIA 'BREEZE'	DWARF MAT RUSH	1 GAL	24" O.C.		243	LOW

MANHATTAN BEACH BLVD.

SEPULVEDA BLVD.

11TH STREET



TOMARO
DESIGN GROUP

ARCHITECTURE

2617 N. SEPULVEDA
MANHATTAN BEACH
CALIFORNIA 90266

TEL: 310-318-8089
FAX: 310-318-9400
WWW.TOMARO.COM

PROJECT

KINECTA

1100 N. SEPULVEDA
MANHATTAN BEACH
CALIFORNIA 90266

Bennitt
Design
Landscape Architecture



PROJECT NO.

18032

PRINT DATE

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LANDSCAPE
PLANTING PLAN

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