

City of West Hollywood

Sprouts - 8550 Santa Monica Boulevard Project

Draft **Environmental Impact Report**

Volume II: Appendices



September 2014

Sprouts - 8550 Santa Monica Boulevard Project

Draft **Environmental Impact Report**

Volume II: Appendices

Prepared by:

City of West Hollywood
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West Hollywood, California 90069
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Prepared with the assistance of:

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Ventura, California 93003

September 2014

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Sprouts – 8550 Santa Monica Boulevard Project EIR

Draft Environmental Impact Report

Table of Contents

	Page
<i>Volume I</i>	
Executive Summary	ES-1
1.0 Introduction	
1.1 Environmental Impact Report Background	1-1
1.2 Purpose and Legal Authority	1-1
1.3 Scope and Content	1-2
1.4 Issue Areas Found Not to be Significant	1-2
1.5 Lead, Responsible, and Trustee Agencies	1-5
1.6 Environmental Review Process	1-5
2.0 Project Description	
2.1 Project Applicant	2-1
2.2 Lead Agency Contact Person	2-1
2.3 Project Location	2-1
2.4 Existing Site Characteristics	2-1
2.5 Project Characteristics	2-5
2.6 Grading and Construction	2-11
2.7 Project Objectives	2-11
2.8 Required Approvals	2-12
3.0 Environmental Setting	
3.1 Regional Setting	3-1
3.2 Project Site Setting	3-1
3.3 Cumulative Projects Setting	3-2
4.0 Environmental Impact Analysis	4-1
4.1 Noise	4.1-1
4.2 Transportation and Circulation	4.2-1
5.0 Other CEQA-Required Discussions	
5.1 Economic and Population Growth	5-1
5.2 Removal of Obstacles to Growth	5-2
5.3 Energy Growth	5-2



6.0 Alternatives

6.1 No Project Alternative.....	6-2
6.2 Alternative 2: Reduced Density	6-3
6.3 Alternative 3: Mixed-Use Housing.....	6-5
6.4 Alternative 4: Reduced Intensity with Additional Office Use.....	6-8
6.5 Environmentally Superior Alternative	6-11

7.0 References and Report Preparers

7.1 References	7-1
7.2 Report Preparers	7-1

List of Figures

Figure 2-1 Regional Location	2-2
Figure 2-2 Project Location.....	2-3
Figure 2-3 Photographs of Project Site.....	2-4
Figure 2-4 Proposed Site Plan	2-7
Figure 4.2-1 Study Area Intersections and Roadway Segments	4.2-3
Figure 4.2-2a Existing (2014) Peak Hour Intersection Volumes	4.2-4
Figure 4.2-2b Existing (2014) Peak Hour Intersection Volumes	4.2-5
Figure 4.2-3a Future (2016) Base Peak Hour Intersection Volumes	4.2-10
Figure 4.2-3b Future (2016) Base Peak Hour Intersection Volumes	4.2-11
Figure 4.2-4a Existing (2014) Plus Project Peak Hour Intersection Volumes	4.2-20
Figure 4.2-4b Existing (2014) Plus Project Peak Hour Intersection Volumes	4.2-21
Figure 4.2-5a Future (2016) Plus Project Peak Hour Intersection Volumes.....	4.2-23
Figure 4.2-5b Future (2016) Plus Project Peak Hour Intersection Volumes.....	4.2-24

List of Tables

Table ES-1 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts	ES-5
Table 1-1 NOP Comments Received	1-1
Table 2-1 Project Characteristics	2-9
Table 3-1 Cumulative Projects.....	3-2
Table 4.1-1 Representative Environmental Noise Levels	4.1-2
Table 4.1-2 Human Response to Different Levels of Groundborne Vibration	4.1-3
Table 4.1-3 Land Use Compatibility for Noise Environments.....	4.1-4
Table 4.1-4 Noise Monitoring Results	4.1-7
Table 4.1-5 Typical Noise Levels at Construction Sites	4.1-10
Table 4.1-6 Vibration Source Levels for Construction Equipment.....	4.1-10
Table 4.1-7 Operational Roadway Noise Exposure.....	4.1-13
Table 4.1-8 Parking Lot Noise Levels	4.1-15
Table 4.2-1 Level of Service Definition.....	4.2-6
Table 4.2-2 Existing (2014) Level of Service Summary	4.2-6
Table 4.2-3 Existing (2014) Traffic Volumes on Study Area Roadway Segments	4.2-7
Table 4.2-4 Future (2016) Intersection Level of Service Analysis	4.2-12
Table 4.2-5 Future (2016) Base Daily Traffic Volumes on Study Roadway Segments.....	4.2-12
Table 4.2-6 Trip Generation Rates.....	4.2-14

Table 4.2-7	Project Trip Generation	4.2-14
Table 4.2-8	Existing Plus Project Intersection Level Of Service Analysis.....	4.2-19
Table 4.2-9	Future (2016) Intersection Level of Service Analysis	4.2-25
Table 4.2-10	Existing (2014) Plus Project Weekday Roadway Segment Impact Analysis	4.2-27
Table 4.2-11	Existing (2014) CMP Intersection Level of Service Analysis.....	4.2-30
Table 4.2-12	Future (2016) CMP Intersection Level Of Service Analysis	4.2-30
Table 5-1	Employment Increase Resulting from Proposed Project.....	5-1
Table 6-1	Alternative 2 Characteristics.....	6-3
Table 6-2	Alternative 3 Characteristics.....	6-6
Table 6-3	Alternative 4 Characteristics.....	6-9
Table 6-4	Summary Comparison of Proposed Project Alternatives	6-11

Volume II

Appendices

Appendix A	Initial Study/Notice of Preparation and Responses to the NOP
Appendix B	Site Plans, Elevations, Landscaping Plan
Appendix C	Noise Measurement and Modeling Results
Appendix D	Traffic Impact Study

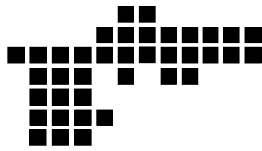


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Appendix A

Initial Study/Notice of Preparation and Responses to the NOP





City of West Hollywood
California 1984

PUBLIC NOTICE NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT

Pursuant to Public Resources Code Section 21165, the City of West Hollywood is the Lead Agency responsible for preparing an Environmental Impact Report (EIR) addressing potential impacts associated with the proposed project.

Purpose of Notice of Preparation: Under the requirements of the California Environmental Quality Act (CEQA) and its Guidelines, the City is the Lead Agency for environmental review and must evaluate the potentially significant environmental effects of the proposed project. The City has determined that an Environmental Impact Report (EIR) will be prepared to assess the proposed project's effects on the environment, to identify significant impacts, and to identify feasible mitigation measures to reduce or eliminate potentially significant environmental impacts. An analysis of alternatives to the proposed project will also be included in the Draft EIR, including the No Project Alternative.

This Notice of Preparation (NOP) is being circulated pursuant to California Resources Code Section 21153(a) and CEQA Guidelines Section 15082. Public agencies and the public are invited to comment on the proposed scope and content of the environmental information to be included in the Draft EIR. A 30-day comment period is provided to return written comments to the City. All comments should be directed to the City at the following address:

Laurie Yelton, Associate Planner
Community Development Department
City of West Hollywood
8300 Santa Monica Boulevard
West Hollywood, CA 90069-6216
Fax: (323) 848-6569
E-mail: lyelton@weho.org

Due to the time limits mandated by state law, your response to this NOP should be sent at the earliest possible date, but not later than 30 days after issuance of this notice. **The response deadline is Monday, June 23, 2014.**

Project Title: Sprouts - 8550 Santa Monica Boulevard Project

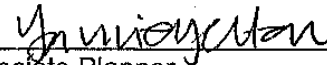
Project Applicant: 8550 SMB, LLC., 626 Wilshire Blvd., #550, Los Angeles, CA 90017. Contact: Todd Elliott (213) 629-5300

Project Location: The project site is located at 8550 Santa Monica Boulevard in the City of West Hollywood. The project site is a 0.6-acre undeveloped area (APNs # 4337-006-29, 4337-006-030, 4337-006-031).

Project Description: The proposed project involves construction of a three-story building with approximately 42,300 sf of commercial space on a 0.6-acre undeveloped project site. The proposed new commercial building would include a 20,000 square foot Sprouts Farmers Market, a 1,319 square foot corner café with an outdoor patio, 3,998 square feet of office space, an 8,000 square foot fitness center/gym, and a 4,000 square foot personal service space. The proposed project would include rooftop parking. The proposed project does not involve any demolition.

Potential Environmental Effects: Potentially significant environmental impacts have been identified regarding Transportation and Traffic. These impacts will be addressed in the EIR. No significant impacts related to other environmental issues are anticipated.

Date: May 23, 2014

Signature: 
Title: Associate Planner
Telephone: (323) 848-6890

City of West Hollywood

8550 Santa Monica Boulevard Project

Initial Study

August 2014



E n v i r o n m e n t a l S c i e n t i s t s P l a n n e r s E n g i n e e r s

8555 Santa Monica Boulevard Mixed-Use Project

Initial Study

Prepared by:

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August 2014

TABLE OF CONTENTS

	Page
Initial Study.....	1
Project Title.....	1
Lead Agency.....	1
Contact	1
Person.....	1
Project.....	1
Location.....	1
Project Sponsor's Name and address.....	1
General Plan Designations	1
Zoning:	1
Surrounding Land Uses and Setting.....	1
Project Description	1
Other Public Agencies Whose Approval is Required	4
Environmental Factors Potentially Affected.....	4
Determination:.....	6
Environmental Checklist.....	7
I. Aesthetics	7
II. Agriculture and Forest Resources	10
III. Air Quality	11
IV. Biological Resources	17
V. Cultural Resources.....	19
VI. Geology and Soils	19
VII. Greenhouse Gas Emissions	23
VIII. Hazards and Hazardous Materials	29
IX. Hydrology and Water Quality	32
X. Land Use and Planning.....	34
XI. Mineral Resources.....	35
XII. Noise.....	36
XIII. Population and Housing.....	40
XIV. Public Services.....	41
XV. Recreation	42
XVI. Transportation/Traffic.....	43
XVII. Utilities and Service Systems	44
XVIII. Mandatory Findings of Significance	48
References	50

List of Tables

Table 1 Project Characteristics.....	2
Table 2 Health Effects Associated with Criteria Pollutants	12
Table 3 SCAQMD Air Quality Significance Thresholds.....	13
Table 4 SCAQMD LSTs for Construction.....	13



Table 5 Estimated Construction Maximum Daily Air Pollutant Emissions	15
Table 6 Estimated Project Operational Emissions	16
Table 7 Estimated Construction Emissions of Greenhouse Gases	26
Table 8 Combined Annual Emissions of Greenhouse Gases	26
Table 9 Consistency with Applicable West Hollywood Climate Action Plan Reduction Measures	27
Table 10 Noise Measurement Results	38
Table 11 Typical Noise Levels at Construction Sites.....	39
Table 12 Estimated of Wastewater Generation.....	45
Table 13 Estimated Solid Waste Generation	47

Appendices

Appendix A Air Quality/GHG Modeling Results



INITIAL STUDY

PROJECT TITLE	Sprouts - 8550 Santa Monica Boulevard Project
LEAD AGENCY	City of West Hollywood 8300 Santa Monica Boulevard West Hollywood, CA 90069
CONTACT PERSON	Laurie Yelton Associate Planner (323) 848-6890
PROJECT LOCATION	The project site is located at 8550-8560 Santa Monica Boulevard in the City of West Hollywood, but is commonly referred to as “8550 Santa Monica Boulevard.” The site encompasses approximately 0.6 acres and undeveloped. The project site includes APNs 4337-006-29, 4337-006-030, and 4337-006-031.
PROJECT SPONSOR’S NAME AND ADDRESS	8550 SMB, LLC. 626 Wilshire Blvd., #550, Los Angeles, CA 90017 Contact: Todd Elliott (213) 629-5300
GENERAL PLAN DESIGNATIONS	Commercial, Community 1 (CC1); Commercial Subarea 2; Transit Overlay Zone
ZONING:	Commercial, Community 1 (CC1)

SURROUNDING LAND USES AND SETTING

The project site is located in a neighborhood characterized by a mix of residential and commercial uses. The site is bordered by Santa Monica Boulevard to the north, West Knoll Drive to the east, residential uses to the south, and existing commercial buildings to the west. Across Santa Monica Boulevard to the north is the Ramada Plaza Hotel, a four-story hotel building with ground-floor retail. Also across Santa Monica Boulevard to the north are two-story commercial buildings on a site that is planned for a mixed-use development. Across West Knoll Drive to the east is a vacant commercial building that was formerly a restaurant and a two-story residential building. To the south are one- to two-story multi-family residences. One block east of the site is the City’s main north-south arterial La Cienega Boulevard that connects to Sunset Boulevard to the north and Melrose Avenue to the south.

PROJECT DESCRIPTION

The proposed project involves construction of a three-story 67,640 square foot (sf) building with approximately 42,300 sf of commercial space on a 0.6-acre undeveloped site. The proposed



structure would have rooftop parking. Table 1 shows the characteristics for the proposed project.

Table 1
Project Characteristics

Parcels	4337-006-029 4337-006-030 4337-006-031
Proposed New Area for Development	26,254 sf (0.6 acres)
Proposed New Building Floor Area	Sprouts (grocery store): 20,000 sf Storage (for Sprouts): 5,000 sf Café: 1,319 sf Office: 3,998 sf Health/Fitness Club: 8,000 sf Personal Service: 4,000 sf Circulation (Stairs/Elevator): 2,020 sf Loading/Parking: 23,221 sf Total New Commercial Space: 42,317 sf Total New with Circulation and Parking: 67,460 sf
Proposed New Building Footprint	22,467 sf
Parking	206 total single and valet parking spaces, of which 87 will be located at 8550 Santa Monica Boulevard and 119 will be located at the existing garage located at 8612 Santa Monica Boulevard
Proposed New Bicycle Parking	Employee bicycle parking: 6 spaces Visitor bicycle parking: 24 spaces Total bicycle parking: 30 spaces
Proposed New Building Floor Area Ratio (FAR)	1.49
Proposed New Building Height	3 stories + rooftop parking Average height: 32.5 feet Height of roof: 39.83 feet Max height of architectural element: 57.83 feet
Proposed New Building Setbacks	Front: 0'-0" Rear: 10'-0" Side: 0'-0" Street Side: 0'-0" + 5'-0" dedication 1:2 vertical stepback from adjacent R3-A

The proposed new commercial building (8550 Santa Monica Boulevard, commonly referred to as the "Sprouts Building") would include a market, café, gym, personal service, office, and parking uses, and would be located just east of the existing commercial buildings at 8612 Santa Monica Boulevard. The ground floor of the proposed project would consist of a 20,000 sf Sprouts Farmers Market (a health, natural and organic grocery store) and a 1,319 sf corner café with an outdoor patio (1,070 sf of indoor space and a 249 sf patio). The second floor would consist of an enclosed parking garage with 97 parking spaces and two 1,999-sf office spaces. The third floor would include an 8,000 sf area for a fitness center/gym (e.g., spinning or yoga) and a 4,000 sf personal service (e.g., salon, boxing gym, dog grooming) space. The rooftop would consist entirely of parking and utilities, including 128 open air parking spaces. There would also be a 5,000 sf basement space at the proposed project used exclusively for storage for the Sprouts market.

Parking, Circulation, Loading and Site Access

Vehicular access would be provided by one existing driveway on Santa Monica Boulevard into the parking area for the 8612 Santa Monica Boulevard building. The driveway would serve both inbound and outbound traffic for the proposed project, which would utilize 199 parking spaces in the existing garage at 8612 Santa Monica Boulevard. The driveway is accessed by right turns in from Santa Monica Boulevard. Cars exiting the driveway must turn right onto Santa Monica Boulevard. The driveway would lead to the existing parking at the commercial building at 8612 Santa Monica Boulevard and the new parking constructed as part of the proposed project at 8550 Santa Monica Boulevard. The parking would be enclosed except for rooftop parking at 8550 Santa Monica Boulevard, which would be open air.

The building at 8612 Santa Monica Boulevard currently contains 329 parking spaces. The proposed new building at 8550 Santa Monica Boulevard would contain 87 spaces and up to 11 tandem/valet spaces. Of those spaces, 51 tandem/valet spaces would be located on the roof level and 32 spaces would be located on the second level. Forty-one percent of the spaces would be compact spaces.

A loading dock would be developed on the rear (south) side of 8550 Santa Monica Boulevard with access via the 8612 Santa Monica Boulevard driveway. The loading area would be sized to accommodate trucks accessing the site to deliver supplies to the commercial uses on the site.

Pedestrian access to the ground-floor Sprouts Market and café would be provided on Santa Monica Boulevard and West Knoll Drive. Pedestrian access to second and third floor commercial and parking uses would be provided by stairs and an elevator located on the east side of the new proposed building facing Santa Monica Boulevard.

Landscaping

The proposed project would include new landscaping. Existing trees on the project site would remain, be relocated, or removed. The setback area between the commercial buildings and adjacent residential uses to the south would be landscaped with a decomposed granite pathway and trees. The pathway would allow for service and utility access while providing a permeable surface area for groundwater infiltration.

The proposed project would also involve new trees to shade the sidewalk along West Knoll Drive. There would also be planters in the elevator lobby on Santa Monica Boulevard and in the café's outdoor dining area at the corner of West Knoll Drive and Santa Monica Boulevard.

The second story would include planters with succulent plants and grasses. Roof overhangs would also be planted with succulents and grasses to provide green roof space.

Drought tolerant and California climate appropriate plantings would be used.

Utilities

Electricity would be provided by Southern California Edison, solid waste and wastewater service would be provided by the City of West Hollywood, water service would be provided by the Los Angeles Department of Water and Power. The proposed project would connect to existing sewer and water lines in Santa Monica Boulevard and West Knoll Drive.

Green Building Features

The proposed project would achieve at least 60 points in the City's Green Points System in order to conform with the City's building program. As such, the proposed project would use energy and water efficient systems and incorporate environmentally-friendly materials. In addition, the proposed project would include Energy Star lighting and signage. In order to reduce water use, the proposed project would include low-flow showerheads, tankless water heaters and water efficient toilets and faucets. The proposed project would also use no-VOC paint (<5 g/L) on interior surfaces. As mentioned previously, the proposed project would include drought-tolerant landscaping.

Construction

Construction of the proposed project would occur over approximately 14 months. The proposed project would require the export of approximately 925 cubic yards of export. Assuming an average truck load of 20 cubic yards, approximately 47 round trip truckloads would be needed to export the material.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The proposed project would require the discretionary approval of the City of West Hollywood Planning Commission. If appealed, the City Council would make decisions related to approval prior to initiation of construction.

Specifically, the following approvals would be required:

- *Certification of the Final EIR*
- *Approval of Development Permits*
- *Approval of a Conditional Use Permit for a Gymnasium Use*
- *Approval of a Conditional Use Permit for the Sale and Service of Alcoholic Beverages*
- *Approval of an Administrative Permit for Outdoor Dining*
- *Approval of Variance for a 10' rear setback at adjacent 2-story residential (instead of 15')*
- *Approval of building design and materials, as well as landscaping*

Approval is not required from other public agencies.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

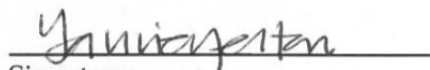
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is “Potentially Significant” or “Potentially Significant Unless Mitigation Incorporated” as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☐ Utilities/Service Systems	☒ Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

Date 9/10/14

Laurie Yelton
Printed Name

City of West Hollywood
For



ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
I. Aesthetics				
-- Would the Project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) The West Hollywood 2035 General Plan does not identify any designated scenic vistas. However, the Hollywood Hills lie just to the north of the City and are visible throughout the City. The Los Angeles Basin and buildings in downtown Los Angeles are also visible throughout the City.

The proposed project involves construction of a three-story commercial building with rooftop parking on an undeveloped lot. Public views of the Hollywood Hills and Los Angeles Basin around the project site are limited due to the topography of the area and existing trees and multi-story development. Views of the Los Angeles Basin and downtown Los Angeles from streets and sidewalks around the project site are blocked by existing development and trees. Therefore, the proposed project would not block views of the Los Angeles Basin. Limited public views of the Hollywood Hills are visible for pedestrians and motorists traveling north on West Knoll Drive adjacent to the project site. However, the proposed project would these views.

Private views of the Hollywood Hills are largely blocked by existing development. However, some windows on the second story of the two-story, multi-family residential buildings south of the project site may have views of the tops of the Hollywood Hills looking north through the project site. Approximately five residences may experience interference with their private views of the Hollywood Hills. However, the City does not have a private view protection ordinance. Therefore, **impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

b) The project site is currently undeveloped and contains some degrading pavement (approximately 0.1 acres), non-native vegetation and approximately 14 trees. However, these



trees are non-native ornamental trees and do not contain substantial scenic value. The proposed project does not include any historic resources (see Section III, *Cultural Resources*), scenic highways, or scenic resources that would be damaged by the proposed project. **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

c) The project site is located in the area known as Santa Monica Boulevard West. Santa Monica Boulevard is West Hollywood's main commercial corridor, running the length of the City. The areas to the north and south of Santa Monica Boulevard are occupied by commercial, office, multiple family residential, and single family residential uses. The Land Use and Urban Form Element of the City's 2035 General Plan intends the Santa Monica Boulevard West area to have a vibrant street environment with high pedestrian activity and to include neighborhood-serving uses. The visual character of the area is diverse; the surrounding buildings have varying architectural styles, massing, and heights. The project site is undeveloped and contains a paved area, grass, trees, and bushes.

The proposed project is an infill development involving a three-story structure on an undeveloped area. The proposed new structure would be three-stories in height, which would increase the massing and intensity of development on the project site. As such, the proposed project would represent a change in the visual character of the project site. However, the proposed new building would be similar in height to the adjacent three-story retail and parking building to the west. In addition, overall, the proposed project would convert an undeveloped area with low-visual quality with a contemporary commercial building with high visual quality. Further, the proposed project implement's the City's plan for the area to have a vibrant street environment and neighborhood-serving uses. The proposed project would introduce landscaping to improve the pedestrian environment on West Knoll Drive and Santa Monica Boulevard and would add neighborhood-serving café, market, fitness, and personal service uses. Therefore, **impacts would be less than significant and further analysis in the EIR is not warranted.**

d) The project site is in a highly urbanized area with high levels of existing lighting. The project site is undeveloped and does not contain sources of light and glare. The adjacent commercial, residential, and roadway uses generate light and glare along all sides of the project site. Primary sources of light adjacent to the project site include lighting associated with the existing commercial and residential buildings including building mounted lighting and headlights from vehicles in the parking areas. The primary source of glare adjacent to the project site is the sun's reflection from metallic and glass surfaces on vehicles parked in the rooftop parking lot on the existing adjacent commercial building to the west of the project site.

The windows proposed on the exterior elevations and vehicles parked in the rooftop parking area could increase the reflected sunlight during certain times of the day. However, the level of glare would be similar to those already experienced during the daily occupation of the surrounding residential dwellings and during normal operation of the surrounding commercial retail uses.

The proposed project would involve construction of a new three-story commercial building with rooftop parking. There would be a wall around the rooftop parking to prevent headlights from shining into adjacent properties. The proposed project would incorporate exterior lighting, in the form of parking lot lighting, pedestrian walkway lighting, building mounted lighting,

and other safety related lighting. These light sources would not have a significant impact on the night sky, as they would only incrementally add to the existing background light levels already present as a result of the surrounding urban development. Headlights of vehicles entering and exiting the parking areas from the driveway on Santa Monica Boulevard at night would not be expected to affect nearby light-sensitive receptors as no residential uses are located near the driveway.

Because of the existing, relatively high ambient lighting levels in the vicinity of the project site, project development would not substantially alter this condition. In addition, the proposed project would be required to comply with Section 19.20.100 of the Municipal Code, which limits the design, intensity and impacts of night lighting. Outdoor lighting must be designed to prevent glare and light trespass as much as possible and must be directed away from adjacent properties and public rights-of-way. The recommended light level in foot candles is 5 for active commercial building entrances, 1 for inactive commercial building entrances, and 0.2 to 0.9 for parking or pedestrian areas. Further, pursuant to Section 19.46.050 the Municipal Code, the Planning Commission or the Design Review Subcommittee has review and approval of authority over the architectural design, including the lighting plans for proposed development. This section of the code prescribes that specific design elements such as lighting “have been incorporated into the project to further ensure the compatibility of the structures with the character of surrounding development.”

Finally, the proposed project would be required to comply with WHMC Section 19.10.060 regarding the use of reflective materials. Section 19.10.060(D)(3) states that mirrored, reflective glass or tinted glass shall not be used except as a decorative accent.

As noted above, the project site is in an urban environment with numerous existing sources light of glare. The proposed project would not substantially alter this condition and would be required to adhere to WHMC requirements regarding lighting and the use of reflective materials. Therefore, **impacts related to project lighting and glare would be less than significant and further discussion of this issue in the EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
II. Agriculture and Forest Resources				
-- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the Project:				
a) Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒



a-e) The project site is within a highly urbanized area in the City of West Hollywood. The City does not contain any agricultural land, agriculturally zoned land, or land under Williamson Act contract (2035 General Plan; California Department of Conservation, 2010). The project would have no effect on forestland or the conversion of farmland to non-agricultural uses. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
III. Air Quality				
-- Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

The project site is within the South Coast Air Basin (the Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, the SCAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the Basin is classified as being in "attainment" or "nonattainment." The South Coast Air Basin (Basin), in which the project site is located, is a non-attainment area for the federal standards for ozone, PM_{2.5}, and lead and the state standards for ozone, PM₁₀, PM_{2.5}, NO₂ and lead. Thus, the Basin currently exceeds several state and federal ambient air quality standards and is required to implement strategies to reduce pollutant levels to recognized acceptable standards. This non-attainment status is a result of several factors, the primary ones being the naturally adverse meteorological conditions that limit the dispersion and diffusion of pollutants, the limited capacity of the local airshed to eliminate air pollutants, and the number, type, and density of emission sources within the Basin. The health effects associated with criteria pollutants are described in Table 2.

Table 2
Health Effects Associated with Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	(1) Aggravation of angina pectoris and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO ₂)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO ₂)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM ₁₀)	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). ^a
Suspended particulate matter (PM _{2.5})	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma. ^a

Source: EPA 2008c.

^a More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: Office of Environmental Health Hazard Assessment, *Particulate Matter Health Effects and Standard Recommendations*, www.oehha.ca.gov/air/toxic_contaminants/PM10notice.html#may, May 9, 2002; and EPA, *Air Quality Criteria for Particulate Matter*, October 2004.

The SCAQMD has adopted an Air Quality Management Plan (AQMP) that provides a strategy for the attainment of state and federal air quality standards. The SCAQMD recommends the use of quantitative thresholds to determine the significance of temporary construction-related pollutant emissions and project operations. These thresholds are shown in Table 3.

The SCAQMD has also developed Localized Significance Thresholds (LSTs). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size, distance to the sensitive receptor, etc. However, LSTs only apply to emissions within a fixed stationary location, including idling emissions during both project construction and operation. LSTs have been developed for NO_x, CO, PM₁₀ and PM_{2.5}. LSTs are not applicable to mobile sources such as cars on a roadway (Final Localized Significance Threshold Methodology, SCAQMD, June 2003). As

such, LSTs for operational emissions do not apply to onsite development as the majority of emissions would be generated by cars on the roadways.

Table 3
SCAQMD Air Quality Significance Thresholds

Pollutant	Mass Daily Thresholds	
	Operation Thresholds	Construction Thresholds
NO _x	55 lbs/day	100 lbs/day
ROG ¹	55 lbs/day	75 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

¹ Reactive Organic Gases (ROG) are formed during combustion and evaporation of organic solvents. ROG are also referred to as Volatile Organic Compounds (VOC).
Source: SCAQMD, <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>, March 2011.

LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for project sites that measure one, two, or five acres. The Project involves 0.6 acres of on-site construction. SCAQMD's *Sample Construction Scenarios for Projects Less than 5 Acres in Size* contains methodology for determining the thresholds for projects that are not exactly 1, 2, or 5 acres in size. This methodology was implemented to determine the thresholds for the proposed project. The project site is located in Source Receptor Area 2 (SRA-2, Northwest Coastal LA County). LSTs for construction on a 0.6 acre site in SRA-2 are shown in Table 4. According to the SCAQMD's publication *Final Localized Significant (LST) Thresholds Methodology*, the use of LSTs is voluntary, to be implemented at the discretion of local agencies.

Table 4
SCAQMD LSTs for Construction

Pollutant	Allowable emissions as a function of receptor distance in feet from a 0.6-acre site (lbs/day) in SRA-2				
	82 Feet	164 Feet	328 Feet	656 Feet	1,640 Feet
Gradual conversion of NO _x to NO ₂	85	88	107	144	238
CO	456	681	1,048	2129	7,435
PM ₁₀	3	9	24	54	143
PM _{2.5}	3	4	7	17	75

Source: <http://www.aqmd.gov/CEQA/handbook/LST/appC.pdf>, October 2009.



a) Vehicle use, energy consumption, and associated air pollutant emissions are directly related to population growth. A project may be inconsistent with the AQMP if it would generate population exceeding the forecasts used in the development of the AQMP. The proposed project does not involve residential uses; therefore, it would not increase population in the City and would therefore be consistent with the population forecasts contained in the AQMP. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

b-d) Emissions generated by the proposed project would include temporary construction emissions and long-term operational emissions.

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles, in addition to reactive organic gases (ROG) that would be released during the drying phase upon application of architectural coatings. Construction would generally consist of demolition, grading, building construction, paving and architectural coating.

The grading phase would involve the greatest amount of heavy equipment and the greatest generation of fugitive dust. For the purposes of modeling, it was assumed that the proposed project would comply with SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located within the South Coast Air Basin. Therefore, the following conditions, which would be required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for the grading phase of construction.

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.
2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day.
3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.

4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).
5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

It was also assumed that the proposed project would comply with SCAQMD Rule 1113 regarding the use of low-volatile organic compound (VOC) architectural coatings. Construction was estimated to occur over approximately 14 months between January 2015 and February 2016 and involve the export of 925 cubic yards of earth material. As mentioned in the project description, the proposed project would use no-VOC (< 5 g/L) paint on interior surfaces.

Table 5 summarizes the estimated maximum daily emissions of pollutants during construction on the project site. Table 5 also shows the maximum daily on-site emissions (as mentioned previously, LSTs only apply to on-site emissions and not to mobile emissions or off-site emissions). As shown in Table 5, no SCAQMD or LST thresholds are estimated to be exceeded. Therefore, **impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

Table 5
Estimated Construction Maximum Daily Air Pollutant Emissions

	Maximum Daily Emissions (lbs/day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Maximum Daily Emissions ^a	14.79	15.77	11.77	1.43	1.10	0.02
SCAQMD Thresholds	75	100	550	150	55	150
Exceed SCAQMD Threshold?	No	No	No	No	No	No
Max Daily On-Site Emissions ^b	14.76	14.38	8.30	1.22	1.02	0.01
LSTs ^b	N/A	85	456	3	3	N/A
Exceed LST?	N/A	No	No	No	No	N/A

^a See Table 2.1 "Overall Construction-Mitigated" of winter emissions CalEEMod worksheets in Appendix A. Calculations were made in CalEEMod and assume adherence to the conditions listed previously that are required by SCAQMD Rule 403 to reduce fugitive dust. Winter emissions were used as a worst-case scenario.

^b LST's only include on-site emissions. LSTs for a 0.6-acre site in SRA-2, see Table 4
N/A = not applicable

Long-Term Emissions

Long-term emissions associated with operation of commercial uses at the proposed project site, as shown in Table 6, would include emissions from vehicle trips (mobile sources), natural gas and electricity use (energy sources), and landscape maintenance equipment, consumer products and architectural coating associated with onsite development (area sources).



Overall emissions would not exceed SCAQMD thresholds for any criteria pollutant. Consequently, **the impact of the project's operational emissions on regional air quality under thresholds b), c), and d), and on sensitive receptors, would be less than significant and further discussion in the EIR is not warranted.**

Table 6
Estimated Project Operational Emissions

Sources	Estimated Emissions (lbs/day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Area	1.51	<0.01	0.01	<0.01	<0.01	0
Energy	0.03	0.28	0.24	0.02	0.02	<0.01
Mobile	10.59	20.63	90.27	11.78	3.32	0.2
Total Emissions (lbs/day)	12.14	20.91	90.27	11.79	3.34	0.2
<i>SCAQMD Thresholds</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>	<i>55</i>	<i>150</i>
Threshold Exceeded?	No	No	No	No	No	No

Source: Calculations were made in CalEEMod. See Table 2.2 "Mitigated Operational" in CalEEMod winter emissions worksheets in Appendix A. Winter emissions were used as a worst-case scenario.

Note: numbers may not add up due to rounding.

e) The proposed commercial development includes market, café, office, and personal service uses. Restaurant uses have the potential to generate odors associated with cooking and preparing food. However, office, market, and restaurant uses are not listed on Figure 4-3 of the 1993 SCAQMD CEQA Air Quality Handbook as uses that require analysis of odor impacts. Further, office, restaurant, and market uses are not identified on Figure 5-5, Land Uses Associated with Odor Complaints, of the Handbook. Substantial objectionable odors are normally associated with such uses as agriculture, wastewater treatment, industrial facilities, or landfills. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people. **Impacts would be less than significant and further discussion in the EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IV. Biological Resources				
-- Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

a) The project site is located in a highly urbanized area of West Hollywood and does not contain native biological habitat. The project site is currently undeveloped. The proposed project would involve construction of a commercial building. The project site currently has limited vegetation, including approximately 14 trees, and no sensitive or special status species have been observed at the site (Rincon Consultants, Inc., site visit, 2014). Moreover, the project site lacks native

vegetation that might otherwise provide habitat for any sensitive or special status species identified in any regulations. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

b) The project site is currently undeveloped but was previously developed. Although approximately 14 non-native, landscape trees are on the site, there is no native biological habitat on-site. Therefore, the proposed project would not result in the removal of any riparian habitat or other sensitive natural community. In addition, no federal-or-state-listed endangered, threatened, rare, or otherwise sensitive flora or fauna were observed at the project site (Rincon Consultants, Inc., Site Visit, 2014). **No impact would occur and further analysis of this issue in an EIR is not warranted.**

c) The project site is not located on or in the vicinity of a federally protected wetland (FWS wetlands Mapper, 2014). **No impact would occur and further analysis of this issue in an EIR is not warranted.**

d) As described above, there is no native biological habitat on the project site. The City of West Hollywood is not recognized as an existing or proposed Significant Ecological Area that links migratory wildlife populations, as designated by the County of Los Angeles (2035 General Plan FEIR, 2010). However, the project site contains approximately 14 mature and non-mature, non-native trees that may be removed or relocated as part of the proposed project. These trees could contain bird nests and birds that are protected under the Migratory Bird Treaty Act (MBTA). Birds protected include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows and others, including their body parts (feathers, plumes etc.), nests, and eggs. In order to prevent impacts to protected birds in compliance with the MBTA, trees should not be removed during the nesting season (typically February to August). If trees are to be removed during the nesting season, a qualified biologist should survey the site for the presence of nesting birds. If present, a protective buffer must be established to ensure that nests are not disturbed. Compliance with the MBTA would ensure protected birds are not impacted. **No impact to biological resources would occur and further analysis of this issue in an EIR is not warranted.**

e) No local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, apply to the project site. Additionally, although approximately 14 non-native landscape trees on the project site may be removed or relocated, the proposed project would provide additional trees and landscaped areas. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

f) The project site is not located within an area that is subject to an adopted conservation plan (2035 General Plan FEIR, 2010). **No impact would occur and further analysis of this issue in an EIR is not warranted.**

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

V. Cultural Resources

-- Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

a) The project site currently is undeveloped and partially paved. There are no existing structures on the project site. The project site and adjacent properties do not contain any historic resources defined under the California Public Resources Code § 15064.5 (California State Parks, 2013; City of West Hollywood, 2011). **No impact would occur and further analysis of this issue in an EIR is not warranted.**

b-d) The project site is within a highly urbanized area. The project site is undeveloped, but is partially paved and contains evidence of prior disturbance. There is no evidence that archaeological or paleontological resources or human remains are present onsite. In the unlikely event that such resources are unearthed during excavation and grading, applicable regulatory requirements pertaining to the handling and treatment of such resources would be followed. If archaeological or paleontological resources are identified, as defined by Section 2103.2 of the Public Resources Code, the site would be required to be treated in accordance with the provisions of Section 21083.2 of the Public Resources Code as appropriate. If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

VI. Geology and Soils

-- Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault,	☐	☐	☐	☒



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VI. <u>Geology and Soils</u>				
-- Would the Project:				
as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?				
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

a.i) The project site is not located within an Alquist-Priolo earthquake fault zone as defined by the State Geologist (Beverly Hills Quadrangle, California Department of Conservation, 1986), nor is it located within a known fault. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

a.ii) As with any site in the southern California region, the project site is susceptible to strong seismic ground shaking in the event of a major earthquake. Nearby active faults include the Hollywood Fault, the Santa Monica Fault, the Newport-Inglewood Fault Zone, the Raymond Fault, the Verdugo Fault, and the San Fernando Fault. These faults are capable of producing strong seismic ground shaking at the project site.

Onsite structures would be required to be constructed to comply with the California Building Code (CBC). With adherence to the CBC, design and construction of the proposed mixed-use

development would be engineered to withstand the expected ground acceleration that may occur at the project site. The calculated design base ground motion for the site would take into consideration the soil type, potential for liquefaction, and the most current and applicable seismic attenuation methods that are available. In addition, project construction would be subject to review and approval by City building and safety officials. **Seismic hazard impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

a.iii) Liquefaction is a condition that occurs when unconsolidated, saturated soils change to a near-liquid state during groundshaking. The project site is within a potential liquefaction zone as identified on the State Hazards map (California Department of Conservation, Beverly Hills Quadrangle, 1999). Therefore, the project would be required to comply with applicable provisions of the most recently adopted version of the CBC and the City's building regulations. **Adherence to these regulations would ensure that liquefaction impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

a.iv) The geologic character of an area determines its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential for slope failure and landslide events. In order to fail, unstable slopes need to be disturbed; common triggering mechanisms of slope failure include undercutting slopes by erosion or grading, saturation of marginally stable slopes by rainfall or irrigation; and, shaking of marginally stable slopes during earthquakes.

The project site is located in a highly urbanized area and is generally flat. The site is not listed or shown as an area prone to slope instability or landslides in the City of West Hollywood 2035 General Plan Safety and Noise Element or the California Department of Conservation Seismic Hazards Map (1999). **Impacts related to landslides would be less than significant and further analysis of this issue in the EIR is not warranted.**

b) Temporary erosion could occur during project construction. However, construction activity would be required to comply with West Hollywood Municipal Code Section 15.56.090. This Section requires storm water runoff containing sediment, construction materials or other pollutants from a construction site to be reduced to the maximum extent practicable. The following requirements would apply to the site:

- *Sediment, construction wastes, trash and other pollutants from construction activities shall be reduced to the maximum extent practicable.*
- *Structural controls such as sediment barriers, plastic sheeting, detention ponds, filters, berms, and similar controls shall be utilized to the maximum extent practicable in order to minimize the escape of sediment and other pollutants from the site.*
- *Between October 1 and April 15, all excavated soil shall be located on the site in a manner that minimizes the amount of sediment running onto the street, drainage facilities or adjacent properties. Soil piles shall be bermed or covered with plastic or similar materials until the soil is either used or removed from the site.*
- *No washing of construction or other vehicles is permitted adjacent to a construction site. No water from the washing of construction vehicle or equipment on the construction site is permitted to run off the construction site and enter the municipal storm water system.*

- *Trash receptacles must be situated at convenient locations on construction sites and must be maintained in such a manner that trash and litter does not accumulate on the site nor migrate off site.*
- *Erosion from slopes and channels must be controlled through the effective combination of best management practices.*

The requirements listed above would reduce potential temporary erosion-related impacts to less than significant. Further analysis of this issue in an EIR is not warranted.

c) Subsidence is the sudden sinking or gradual downward settling of the earth's surface with little or no horizontal movement. Subsidence is caused by a variety of activities, which include, but are not limited to, withdrawal of groundwater, pumping of oil and gas from underground, the collapse of underground mines, liquefaction, and hydrocompaction. Lateral spreading is the horizontal movement or spreading of soil toward an open face. The potential for failure from subsidence and lateral spreading is highest in areas where the groundwater table is high and where relatively soft and recent alluvial deposits exist. Lateral spreading hazards may also be present in areas with liquefaction risks. The proposed project would be required to comply with CBC requirements related to these areas. **With compliance with CBC requirements, impacts associated with lateral spreading, subsidence, or collapse would be less than significant. Further analysis of this issue in an EIR is not warranted.**

d) Expansive soils are generally clays, which increase in volume when saturated and shrink when dried. According to the City's 2035 General Plan FEIR (2010), expansive soils exist in the City but are more prevalent in the southern part of the City, south of Santa Monica Boulevard. CBC Section 1808.6 requires special foundation design for buildings constructed on expansive soils. If the soil is not removed or stabilized, then foundations must be designed to prevent uplift of the supported structure or to resist forces exerted on the foundation due to soil volume changes or shall be isolated from the expansive soil. Compliance with CBC requirements would ensure protection of structures and occupants from expansive soils. **Impacts would be less than significant and further analysis of this issue in the EIR is not warranted.**

e) The proposed project would be connected to the local wastewater treatment system. Septic systems would not be used. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

VII. Greenhouse Gas Emissions

-- Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gases (GHGs). GHGs contribute to the "greenhouse effect," which is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it warms the planet by approximately 60° Fahrenheit. Emissions from human activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature.

GHGs occur naturally and from human activities. Human activities that produce GHGs are the burning of fossil fuels (coal, oil and natural gas for heating and electricity, gasoline and diesel for transportation); methane from landfill wastes and raising livestock, deforestation activities; and some agricultural practices. Greenhouse gases produced by human activities include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Since 1750, it is estimated that the concentrations of carbon dioxide, methane, and nitrous oxide in the atmosphere have increased over by 36%, 148%, and 18% respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition while changes to the land surface indirectly affect the atmosphere by changing the way in which the Earth absorbs gases from the atmosphere. Potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CEC, March 2009).

The City of West Hollywood adopted a Climate Action Plan (CAP) in September 2011. The CAP outlines a course of action to reduce municipal and community-wide GHG emissions that contribute to climate change. The plan includes seven emission reductions strategies: 1)



community leadership and engagement, 2) land use and community design, 3) transportation and mobility, 4) energy use and efficiency, 5) water use and efficiency, 6) waste reduction and recycling, and 7) green space. The land use and community design strategy and the transportation and mobility strategy encourage development in areas to promote transit use, walking and bicycling to improve health and decrease driving. According to the CAP, a project-specific GHG analysis “must identify the specific CAP measures applicable to the project and how the project incorporates the measures.” If the project is not consistent with the CAP measures or if the measures are not otherwise binding, they must be incorporated as mitigation measures applicable to the project.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The 2008 SCAQMD threshold, considers emissions of over 10,000 metric tons carbon dioxide equivalent (CO₂E) per year to be significant. However, the SCAQMD’s threshold applies only to stationary sources and is expressly intended to apply only when the SCAQMD is the CEQA lead agency. Although not yet adopted, the SCAQMD has a recommended tiered GHG significance threshold (SCAQMD, 2008). Under Tier 2, proposed projects would be less than significant if the project is consistent with an approved regional plan. Therefore, GHG emissions associated with the proposed project would be less than significant if it is consistent with the City of West Hollywood Climate Action Plan.

SCAQMD recommended Tier 3 thresholds are screening level quantitative thresholds. If the proposed project does meet the Tier 2 criteria, emissions would be less than significant if they are under the screening level threshold. SCAQMD has a recommended screening level quantitative threshold for all land use types of 3,000 metric tons CO₂E /year (SCAQMD, “Proposed Tier 3 Quantitative Thresholds – Option 1”, September 2010).

This analysis is based on the methodologies recommended by the California Air Pollution Control Officers Association [CAPCOA] (January 2008) *CEQA and Climate Change* white paper. The analysis focuses on CO₂, N₂O, and CH₄ as these are the GHG emissions that onsite development would generate in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF₆, were also considered for the analysis. However, because the development potential would only involve commercial development, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Calculations were based on the methodologies discussed in the CAPCOA white paper (January 2008) and included the use of the California Climate Action Registry General Reporting Protocol (January 2009). Emissions analyzed are for net new commercial uses associated with the new commercial building.

Emissions associated with the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. Complete CalEEMod results and assumptions can be viewed in Appendix A.

Construction Emissions

Future construction on the proposed project would generate temporary GHG emissions primarily due to the operation of construction equipment and truck trips. For this analysis, it was assumed that construction would be completed in approximately 14 months. Emissions estimates calculated in CalEEMod are based on the projected maximum amount of equipment



that would be used onsite at one time. For the purpose of comparing construction emissions with annual emissions from operation of the proposed project, total construction emissions are amortized over a 30-year period (the assumed life of the project) consistent with recommendations of the SCAQMD.

Operational Emissions

Operational emissions from energy use include emissions from electricity and natural gas use. The emissions factors for natural gas combustion are based on EPA's AP-42, (Compilation of Air Pollutant Emissions Factors) and CCAR. Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CalEEMod User Guide, 2013). The default electricity consumption values on which CalEEMod are based include the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, EPA's AP-42, and district supplied emission factor values (CalEEMod User Guide, 2013).

Emissions from waste generation are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User Guide, 2013). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity is from the CEC's 2006 *Refining Estimates of Water-Related Energy Use in California* using the average values for Northern and Southern California.

Emissions of CO₂ and CH₄ from transportation sources for the project were quantified in CalEEMod. Because CalEEMod does not calculate N₂O emissions from mobile sources, N₂O emissions were quantified using the California Climate Action Registry General Reporting Protocol (January 2009) direct emissions factors for mobile combustion (see Appendix A for calculations). Emission rates for N₂O emissions were based on the vehicle mix output generated by CalEEMod and the emission factors found in the California Climate Action Registry General Reporting Protocol.

a-b) GHG emissions associated with construction emissions and operational emissions from the proposed project are discussed below:

Construction Emissions

As shown in Table 7, emissions of carbon dioxide equivalent (CO₂E) units generated by construction of the proposed project are estimated at 216 metric tons. When amortized over a 30-year period (the assumed life of the project), CO₂E construction emissions would be approximately 7 metric tons CO₂E per year.

Table 7
Estimated Construction Emissions of Greenhouse Gases

	Annual Emissions (Carbon Dioxide Equivalent (CO₂E))
Total	216 metric tons
Amortized over 30 years	7 metric tons per year

See Appendix A for CalEEMod Results.

Operational Indirect and Stationary Direct Emissions

Operational Emissions include area sources (consumer products, landscape maintenance equipment, and painting), energy use (electricity and natural gas), solid waste, electricity to deliver water, and transportation emissions and are shown in Table 8. Operational emissions were calculated using CalEEMod. Full results are shown in Appendix A. In accordance with AB 939, it was assumed that the project would achieve at least a 50% diversion rate. Mobile source GHG emissions and total annual VMT were estimated in CalEEMod. As noted above, CalEEMod does not calculate N₂O emissions related to mobile sources. As such, N₂O emissions were calculated based on the project's VMT using calculation methods provided by the California Climate Action Registry General Reporting Protocol (January 2009).

Table 8
Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO₂e)
Project Construction	7 metric tons
Project Operational	
Area	<0.01 metric tons
Energy	466 metric tons
Solid Waste	48 metric tons
Water	25 metric tons
Project Mobile	
CO ₂ and CH ₄	1,780 metric tons
N ₂ O	88 metric tons
Project Subtotal	2,414 metric tons

Sources: See Appendix A for calculations and for GHG emission factor assumptions.

As shown in Table 8, total operational emissions associated with construction of the new commercial building are estimated to equal 2,414 metric tons per year.

The City of West Hollywood adopted a Climate Action Plan (CAP) in September 2011. The CAP outlines a course of action to reduce municipal and communitywide GHG emissions that contribute to climate change. It includes seven emission reductions strategies: 1) community leadership and engagement, 2) land use and community design, 3) transportation and mobility, 4) energy use and efficiency, 5) water use and efficiency, 6) waste reduction and recycling, and 7) green space. The proposed project would be consistent with the City's CAP if it includes



provisions to implement the applicable CAP GHG reduction measures. Table 9 shows the proposed project's consistency with applicable CAP measures. As shown, the proposed project would be consistent with the CAP.

Table 9
Consistency with Applicable West Hollywood
Climate Action Plan Reduction Measures

Measure	Project Consistency
<i>Land Use and Community Design</i>	
LU-1.1: Facilitate the establishment of mixed-use, pedestrian- and transit-oriented development along the commercial corridors and in Transit Overlay Zones.	Consistent The project site is a commercial, pedestrian-friendly development located along a commercial corridor and within the General Plan's Transit Overlay Zone.
<i>Transportation and Mobility</i>	
T-1.1: Increase the pedestrian mode share in West Hollywood with convenient and attractive pedestrian infrastructure and facilities.	Consistent The project site is located within walking distance of retail facilities, restaurants, and public transportation.
T-2.1: Increase the bicycle mode share by providing accessible, convenient, and attractive bicycle infrastructure.	Consistent The project site is located next to a bike lane along Santa Monica Boulevard and includes bicycle parking for employees and customers visiting the commercial uses.
T-2.2: Install bike racks and bike parking in the City where bike parking infrastructure currently does not exist.	Consistent The proposed project includes bicycle parking for employees and customers as well as lockers and showers for employees.
<i>Energy Use and Efficiency</i>	
E-2.2: Require all new construction to achieve California Building Code Tier II Energy Efficiency Standards (Section 503.1.2).	Consistent The proposed project would exceed Title 24 California Building Code Energy Efficiency standards.
E-3.2: Require the use of recycled materials for 20% of construction materials in all new construction.	Consistent The proposed project includes recycled-content materials in the foundation, insulation, and landscaping.
<i>Water Use and Efficiency</i>	
W-1.1: Reduce per capita water consumption by 30% by 2035.	Consistent To reduce water use, the proposed project would include low-flow plumbing fixtures consistent with CalGreen building standards.
W-1.2: Encourage all automated irrigation systems installed in the City to include a weather-based control system.	Consistent The proposed project would include drought-tolerant, climate appropriate landscaping to reduce the amount of irrigation needed.
<i>Waste Reduction and Recycling</i>	

Table 9
Consistency with Applicable West Hollywood
Climate Action Plan Reduction Measures

Measure	Project Consistency
SW-1.1: Establish a waste reduction target not to exceed 4.0 pounds per person per day.	Consistent The City of West Hollywood's Public Works Department is responsible for complying with AB 939. The City has enacted numerous programs to achieve the mandated diversion rates. In 2007 and 2008, the per capita disposal rate per day in West Hollywood was 5.6 pounds per resident. This exceeds CalRecycle's target of 5.8 pounds per capita per day (2035 General Plan FEIR, 2010). The proposed project would include space for the collection and storage of recyclables. In addition, at least 80% of construction and demolition waste would be diverted in accordance with WHMC Section 19.20.060. The proposed project would also be subject to all applicable State and City requirements for solid waste reduction as they change in the future.
<i>Urban Forest</i>	
G-1.1: Increase and enhance the City's urban forest to capture and store carbon and reduce building energy consumption.	Consistent The proposed project includes landscaping along West Knoll Drive and in the setback area on the south side of the project site. The proposed project would also include planters on the existing and proposed buildings to increase the amount of landscaping on site from existing conditions.

Senate Bill 375, signed in August 2008, requires the inclusion of sustainable communities' strategies (SCS) in regional transportation plans (RTPs) for the purpose of reducing GHG emissions. In April 2012, the South Coast Association of Government (SCAG) adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). SCAG's RTP/SCS includes a commitment to reduce emissions from transportation sources by promoting compact and infill development to comply with SB 375. A goal of the SCS is to "promote the development of better places to live and work through measures that encourage more compact development, varied housing options, bike and pedestrian improvements, and efficient transportation infrastructure." The proposed project would be infill development that would also be located within walking distance of commercial and recreational activities as well as public transportation (approximately 450 feet to the Metro Line 4 bus stops at Santa Monica Boulevard and Westbourne Drive and approximately 400 feet to the Metro Lines 105 and 705 bus stops on La Cienega Boulevard and Santa Monica Boulevard), thereby reducing vehicle trips. Therefore, it would be consistent with this goal. Another goal of the SCS is to "create more compact neighborhoods and plac[e] everyday destinations closer to homes and closer to one another." The proposed project would place commercial development directly adjacent to residences, thereby meeting this SCS goal.

Executive Order (EO) S-3-05 was issued by the Governor in June 2005. EO S-3-05 sets a GHG emission reduction target of 1990 levels by 2020. Assembly Bill 32, the "California Global Warming Solutions Act of 2006," was signed into law in the fall of 2006. This bill also requires achievement of a statewide GHG emissions limit equivalent to 1990 emissions by 2020 (essentially a 25% reduction below 2005 emission levels) and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions



reductions. In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006, published the *Climate Action Team Report* (CAT Report) (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. The strategies include the reduction of passenger and light duty truck emissions, reduction of energy and water use and increased recycling. In addition, in 2008 the California Attorney General published *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level* (Office of the California Attorney General, Global Warming Measures Updated May 21, 2008). This document provides information that may be helpful to local agencies in carrying out their duties under CEQA as they relate to global warming. Included in this document are various measures that may reduce the global warming related impacts of a project such as reducing construction and demolition waste, reducing water use, and encouraging smart land use. At least 80% of construction and demolition waste generated by the project would be diverted from landfills in accordance with West Hollywood requirements. The proposed project would also include drought-tolerant landscaping and water-efficient faucets and toilets. In addition, the proposed project is a commercial project in close proximity to residential uses within walking distance to retail, restaurants, jobs, and alternative transportation. The proposed project would be consistent with applicable CAT strategies and 2008 Attorney General Greenhouse Gas Reduction Measures.

According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. However, the project site is approximately nine miles from the coastline and is not at risk for inundation from sea level rise (California Energy Commission, Cal-Adapt website, 2014).

As mentioned, according to SCAQMD Tier 2 GHG significance thresholds, a proposed project's GHG emissions would be less than significant if the proposed project is consistent with an adopted regional GHG reduction plan (such as a CAP). The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and would be consistent with the West Hollywood Climate Action Plan and objectives of the RTP/SCS, AB 32, SB 97 and SB 375. Therefore, **impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

VIII. Hazards and Hazardous Materials

-- Would the Project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or

☐	☐	☒	☐
☐	☐	☒	☐



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials				
-- Would the Project:				
the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

a, b) The proposed project would involve construction of a new commercial building. The proposed uses would not involve the routine transport, use or disposal of hazardous substances, other than minor amounts typically used for maintenance. In the unlikely scenario that licensed vendors or tenants bring hazardous materials to and from the project site, they would be required to provide all appropriate documentation for all hazardous material that is

transported in connection with project-site activities (as required by the City's Municipal Code). This would achieve compliance with the existing hazardous materials regulations. In addition, any hazardous wastes produced onsite would be subject to requirements associated with accumulation time limits, proper storage locations and containers, and proper labeling. As part of any removal of any hazardous waste from the site, hazardous waste generators are required to use a certified hazardous waste transportation company, which must ship hazardous waste to a permitted facility for treatment, storage, recycling, or disposal. Compliance with these applicable regulations would ensure that impacts associated with the use, transport, storage, and sale of hazardous materials would not be significant. **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

c) The school closest to the project site is the Pacific Hills School, which is approximately 0.20 miles northwest of the project site. As mentioned above, operation of the proposed project would not involve the use or transport of hazardous materials. **Therefore, impacts related to hazardous emissions or materials affecting school sites would be less than significant and further analysis of this issue in an EIR is not warranted.**

d) The project site does not appear on any hazardous material site list compiled pursuant to Government Code Section 65962.5. The following databases were checked (April 16, 2014) for known hazardous materials contamination at the project site:

- *GeoTracker (California State Water Resources Control Board): list of leaking underground storage tank sites*
- *EnviroStor (California Department of Toxic Substances Control): list of hazardous waste and substances sites*
- *Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database*
- *Cortese list of Hazardous Waste and Substances Sites*
- *EnviroMapper (U.S. Environmental Protection Agency)*

The closest listings were two leaking underground storage tank (LUST) cleanup sites located at 1107 La Cienega Boulevard and 958 Hancock Avenue. These properties are both located approximately 1,000 feet from the project site. However, the status for both listings is "completed-case closed," indicating that no hazards remain. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

e, f) The project site is not located in the vicinity of a public or private airstrips. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

g) The proposed proposed project involves infill development in a highly urbanized area of West Hollywood. Project implementation would not interfere with emergency response or evacuation. The project would be required to comply with applicable California Fire Code requirements. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

h) The project site is in an urbanized area and is not within a wildland fire hazard area as defined by the City of West Hollywood 2035 General Plan Safety and Noise Element. **No impact would occur and further analysis of this issue in an EIR is not warranted.**



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IX. Hydrology and Water Quality				
-- Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

IX. Hydrology and Water Quality

-- Would the Project:

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a, c -f) The proposed project would not involve alteration of a stream or river and would not substantially alter drainage patterns in the area. During construction of the proposed project, the drainage pattern could be temporarily altered and erosion could occur. However, as discussed under Section VI, *Geology and Soils*, Item b, construction activity would be required to comply with West Hollywood Municipal Code Section 15.56.090. This Section requires storm water runoff containing sediment, construction materials or other pollutants from a construction site to be reduced to the maximum extent practicable. This requirement would reduce temporary erosion-related effects.

The proposed project involves development of a commercial building on an undeveloped lot. Therefore, existing permeable surfaces would be replaced with impermeable surfaces. However, areas on the side (621 sf) and rear (3,541 sf) of the proposed new building would include permeable pavement surfaces that are 50% permeable. In addition, a small portion on the front of the building (159 sf) would include 55% permeable surfaces. The proposed project also involves a green roof that would filter and store runoff. Further, the proposed project would be required to comply with the NPDES Multiple Separate Storm Sewer System (MS4) Permit issued by the Los Angeles Regional Water Quality Control Board, which would require implementation of Best Management Practices (BMPs). BMPs would be required to reduce polluted runoff from the project site by retaining, treating, or infiltrating polluted runoff onsite. **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

b) The proposed project involves the construction of a commercial development on a vacant lot and would incrementally increase water consumption. Water would be provided by the Los Angeles Department of Water and Power, which receives approximately 15% of its water from groundwater sources. However, the water demand associated with the proposed project would not substantially deplete groundwater supply. (Refer to Section XVI, *Utilities and Service Systems*, for further discussion of this impact.) The proposed development would not intrude into the groundwater table. **Impacts would be less than significant and further discussion of this issue in the EIR is not warranted.**



g-j) The project site is in Flood Zone X shaded, meaning it is either outside the 100-year flood hazard area or protected by levees from 100-year floods (FEMA FIRM Map No. 06037C1585F, 2008). The proposed project would not involve construction of a structure that would impede flood flows. The project site is not located within a potential inundation area (City of West Hollywood, 2035 General Plan Safety and Noise Element). The project site is approximately nine miles from the Pacific Ocean and is not located within a seiche or landslide/mudslide hazard zone (California Department of Conservation, 1999). **No impact would occur and further analysis of these issues in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
X. Land Use and Planning				
-- Would the Project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with an applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a) The proposed project involves development of a new commercial building on a vacant, infill site in a highly urbanized area. This development would not divide an established community, but rather would be expected to blend into the fabric of the community. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

b) The project site is zoned and has a General Plan land use designation of Commercial, Community 1. The project site is also within a General Plan Transit Overlay Zone and Commercial Subarea 2 (Santa Monica Boulevard West).

The CC1 designation provides for commercial uses along major corridors (e.g. Santa Monica Boulevard) and allows a variety of commercial uses including retail, offices, and restaurants. Conditional Use Permits (CUP) would be required for the market and fitness center uses. Assuming approval of the CUPs, the proposed project would be consistent with the uses allowed in the CC1 designation.

The CC1 designation allows a floor area ratio (FAR) of 1.5 and a height of 35 feet. The proposed project would have a FAR of 1.49. The height of the roof would be 39.83 feet and the height of



architectural element would be 57.83 feet. Using the City's height averaging method (WHMC Section 19.20.080) the average height of the building would be 32.5 feet and would be consistent with the CC1 allowed height of 35 feet.

The Transit Overlay District identifies sites close to major transit nodes for which modifications to the General Plan's permitted density, height, parking requirements or other development standards may be considered when projects provide Transportation Demand Management programs. The vision for Santa Monica Boulevard West is to support neighborhood serving uses that encourage pedestrian activity. General Plan Goal LU-12 aims to "Enhance Santa Monica Boulevard West as a destination for nightlife and entertainment, a focus of the LGBT community, and a center for neighborhood-serving retail and restaurants." Policies in the General Plan encourage ground floor retail uses and residential uses and outdoor dining (LU-12.3 and LU-12.4). The proposed project would implement these General Plan goals and policies by providing neighborhood-serving retail and restaurants and outdoor dining activities within walking distance of residential, retail, and other commercial uses.

Impacts related to conflicts with land use plans would be less than significant and further analysis of this issue in an EIR is not warranted.

c) The project site is in a highly urbanized area of West Hollywood. There are no adopted habitat conservation plans or natural community conservation plans within the City of West Hollywood (2035 General Plan FEIR, 2010). **No impact would occur and further analysis of this issue in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XI. <u>Mineral Resources</u>				
-- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

a, b) The project site is in a highly urbanized area of West Hollywood that is not used for mineral resource extraction. No state-designated or locally designated mineral resource zones exist in the City (2035 General Plan FEIR, 2010). The proposed project would not affect mineral resources. **No impact would occur and further analysis of this issue in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XII. Noise				
-- Would the Project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c) A substantial permanent increase in ambient noise levels above levels existing without the Project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise?	☐	☐	☐	☒

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Because of the logarithmic scale of the decibel unit, sound levels cannot be added or subtracted arithmetically. If a sound's physical intensity is doubled, the sound level increases by 3 dBA, regardless of the initial sound level. For example, 60 dBA plus 60 dBA equals 63 dBA. Where ambient noise levels are high in comparison to a new noise source, the change in noise level would be less than 3 dB. For example, 70 dBA ambient noise levels are combined with a 60 dBA noise source the resulting noise level equals 70.4 dBA.

Noise that is experienced at any receptor can be attenuated by distance or the presence of noise barriers or intervening terrain. Sound from a single source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. For acoustically absorptive, or soft, sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dBA of noise reduction.

The City of West Hollywood adopted the 2035 General Plan Safety and Noise Element in September 2011. The Noise Element provides a description of existing noise levels and sources and incorporates comprehensive goals, policies, and implementing actions. The Noise Element includes several policies on noise and acceptable noise levels. These policies address unnecessary, excessive, and annoying noise levels and sources such as vehicles, construction, special sources (e.g., radios, musical instrument, animals, etc.), and stationary sources (e.g., heating and cooling systems, mechanical rooms, etc.). The Noise Element also establishes land use compatibility categories for community noise exposure. The maximum “normally acceptable” noise level for the exterior of residential areas is 60 dBA CNEL or Ldn.¹ The maximum “normally acceptable” noise level for commercial and professional uses is 65 dBA CNEL or Ldn.

To implement the City’s noise policies, the City adopted a Noise Ordinance. The Noise Ordinance is part of the West Hollywood Municipal Code (WHMC). The City of West Hollywood Noise Ordinance has no numerical standards, but restricts unnecessary or excessive noise within the City limits. The operation of any motor may not be audible at more than 50 feet from the source (Section 9.08.050[c]); loading and unloading activities are generally prohibited from 10:00 PM to 8:00 AM (Section 9.08.050[e]); and commercial activities may not be plainly audible at any residence between 10:00 PM and 8:00 AM (Section 9.08.050[k]).

The City has not adopted any thresholds or regulations addressing vibration. Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the U.S.

¹ The Day-Night average level (Ldn) and the Community Noise Equivalent Level (CNEL) are two commonly used noise metrics. The Ldn is a 24-hour average noise level that adds 10 dBA to actual nighttime (10:00 PM to 7:00 AM) noise levels to account for the greater sensitivity to noise during that time period. The CNEL is identical to the Ldn, except it also adds a 5 dBA penalty for noise occurring during the evening (7:00 PM to 10:00 PM).

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. The vibration thresholds established by the Federal Transit Administration (FTA) are 65 VdB for buildings where low ambient vibration is essential for interior operations (such as hospitals and recording studios), 72 VdB for residences and buildings where people normally sleep, including hotels, and 75 VdB for institutional land uses with primary daytime use (such as churches and schools). The threshold for the proposed project is 72 VdB for residences and hotels during hours when people normally sleep, as these are the only sensitive receptors in the vicinity of the site. In terms of ground-borne vibration impacts on structures, the FTA states that ground-borne vibration levels in excess of 100 VdB would damage fragile buildings and levels in excess of 95 VdB would damage extremely fragile historic buildings.

The most common sources of noise in the project site vicinity are transportation-related, such as automobiles, trucks, buses and motorcycles. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level, and because of its proximity to areas sensitive to noise exposure. On March 4, 2014, Rincon Consultants, Inc. performed 20-minute weekday noise measurements using an ANSI Type II integrating sound level meter. The noise monitoring results are summarized on Table 10.

Table 10
Noise Measurement Results

Measurement Number	Measurement Location	Primary Noise Source	Leq (dBA) ¹
1	Santa Monica Boulevard - Northern Boundary of Project Site	Traffic and Pedestrians	64.9
2	West Knoll Drive – Eastern Boundary of Project Site	Cars and Pedestrians	58.9

Source: Rincon Consultants, Inc. Recorded during field visit using ANSI Type II Integrating sound level meter.

¹ *The equivalent noise level (Leq) is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). For this measurement the Leq was over a 20-minute period.*

Noise levels in the vicinity of the project site ranged from 58.9 to 64.9 dBA Leq. The primary sources of roadway noise near the project site are automobiles traveling on Santa Monica Boulevard immediately north of the project site as well as automobile traffic on West Knoll Drive immediately east of the project site.

a, c, d) The project could generate temporary noise increases during construction and long-term increases associated with operation of the proposed uses.

Construction Noise

Noise levels from construction of the project would result from grading and trenching for the proposed structure, construction of the structure, and traffic noise from construction vehicles. Nearby noise-sensitive land uses, including the single-family and multi-family residences

immediately south of the project site, would be exposed to temporary construction noise during development of the proposed project. Noise impacts are a function of the type of activity being undertaken and the distance to the receptor location. Construction activity is expected to occur over a period of approximately 14 months. Table 11 shows the typical noise levels at construction sites.

Table 11
Typical Noise Levels at Construction Sites

Equipment Onsite	Typical Level (dBA) 25 Feet from the Source	Typical Level (dBA) 50 Feet from the Source	Typical Level (dBA) 100 Feet from the Source
Air Compressor	87	81	75
Backhoe	86	80	74
Concrete Mixer	91	85	79
Crane, mobile	89	83	77
Dozer	91	85	79
Jack Hammer	94	88	82
Paver	95	89	83
Saw	82	76	70
Truck	94	88	82

*Noise levels assume a noise attenuation rate of 6dBA per doubling of distance.
Source: Federal Transit Administration (FTA), May 2006*

Temporary noise levels shown in Table 11 could affect sensitive receptors near the project site, particularly the multi-family residential uses located immediately south of the project site.

Construction noise impacts would be potentially significant and will be analyzed further in an EIR.

Operational Noise

Existing uses near the project site may periodically be subject to noises associated with operation of the proposed project, including noise that is typical of commercial development such as conversations, music, delivery trucks, and noise associated with rooftop ventilation and heating systems. The closest sensitive receptors are the residences located approximately 25 feet south of the project site. Noise associated with operation of the proposed project could be audible at adjacent properties.

Increased traffic on the roadway system would also increase local traffic noise levels. Such increases could be audible at nearby receivers.

Impacts related to operational noise increases would be potentially significant and will be further analyzed in the EIR.

b) Operation of the proposed project would not perceptibly increase groundborne vibration or groundborne noise on the project site above existing conditions, due to the proposed commercial nature of the project.

The proposed project would involve construction activities which may result in some vibration that affect nearby residential sensitive receptors. Due to the presence of sensitive noise receptors approximately 25 feet from the project site (the residences south of the project site), groundborne vibration could affect these sensitive receptors. **Impacts would be potentially significant and will be further analyzed in an EIR.**

e, f) The project site is not in the vicinity of any public or private airport. The closest airport is the Santa Monica Airport, located approximately 8 miles southwest of the project site.

Therefore, no impact related to aircraft noise would occur and further analysis of this issue in an EIR is not warranted.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

XIII. Population and Housing

-- Would the Project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) The proposed development would not involve new residential units and, therefore, would not directly generate population growth. The proposed project would involve commercial uses, which would result in the generation of additional employment opportunities. However, the jobs created would likely be filled by existing residents and would not result in the need for new housing units. The proposed project would be located in an urban area and would utilize existing infrastructure. Therefore, the proposed project would not directly or indirectly induce population growth. **Therefore, a less than significant impact would occur and further analysis of this issue in an EIR is not warranted.**

b, c) The project site does not contain any residential uses; therefore, no residential uses would be removed as a result of the proposed project. The proposed project would not displace housing or people or necessitate the construction of replacement housing. **No impact would occur further analysis of this issue in an EIR is not warranted.**



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

XIV. Public Services

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

a.i) The Los Angeles County Fire Department (LACFD) provides fire protection and emergency medical services for the City of West Hollywood, which is within LACFD's Battalion 1 service area. The LACFD operates six fire stations within the Battalion 1 area, with 2 fire stations, #7 and #8 located within West Hollywood. The closest fire station to the project site is Fire Station #7, located at 864 N. San Vicente Blvd approximately 0.5 miles west of the project site. The proposed project would involve construction of a commercial development on a vacant lot. The proposed project would increase density on the project site, which would incrementally increase demand for fire protection services.

As identified in Section 14.04.010 of the Municipal Code, the City of West Hollywood has adopted the Los Angeles County Title 32 (Fire Code), an amended California Fire Code (2010 edition), and an amended International Fire Code (2009 edition). The City's Fire Code is based on the Los Angeles County Fire Code supplemented by the other fire codes identified. The Fire Code contains regulations related to construction, maintenance and design of buildings and land uses. The proposed project would be required to comply with applicable Fire Codes. With adherence to existing regulations, the proposed project would not result in the need for new or expanded fire facilities (2035 General Plan FEIR, 2010; Loretta Bagwell, LACFD, personal communication, May 30, 2014). **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

a.ii) Law enforcement services in West Hollywood are provided by contract with the Los Angeles County Sheriff's Department (LACSD). Protection services include emergency and



non-emergency police response, routine police patrols, investigative services, traffic enforcement, traffic investigation, and parking code enforcement. The LACSD has established the West Hollywood Sheriff's Department and operates two stations: the headquarters for West Hollywood, located at 780 N. San Vicente Boulevard, and a sub-station at Universal City Walk. LACSD has mutual aid agreements with the City of Los Angeles and the City of Beverly Hills police departments. According to the City's 2035 General Plan FEIR, the City has a ratio of 3.6 sworn officers per 1,000 residents, which exceeds the average for cities in the Western United States of 1.7 officers per 1,000 residents.

The proposed project involves construction of a commercial development on a vacant lot. The proposed project does not include the construction of housing and would not generate population growth. Therefore, the need for police protection services would be limited, but would be incrementally increased compared to existing conditions. The proposed project would not affect service ratios such that new or expanded police facilities are needed (personal communication, Sergeant Klaus, Los Angeles Sheriff's Department, April 16, 2014). **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

a-iii, iv, v) The proposed project does not include the construction of housing and would not generate population growth. Therefore, the proposed project would not increase demand for schools, parks, or other public facilities. **There would be no impact and further analysis of these issues in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

XV. Recreation

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

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b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

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a, b) The proposed project does not involve the construction of housing and would not generate population growth. Therefore, the proposed project would not increase demand for recreational facilities. **There would be no impact to recreational facilities and further discussion of this issue in an EIR is not warranted.**



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. Transportation/Traffic				
-- Would the Project:				
a) Conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?	☒	☐	☐	☐

a, b, f) The proposed project would increase traffic compared to existing conditions. Trips generated as a result of the proposed project have the potential to impact area intersections and roadway segments and contribute to cumulative traffic increases. The proposed project may also conflict with applicable plans and policies, including the Los Angeles Congestion Management Plan. **Traffic impacts would be potentially significant and will be analyzed further in an EIR.**

c) No airport or airstrip is located within the City of West Hollywood. The proposed project would not affect air traffic patterns. **No impact would occur and further analysis of this issue in an EIR is not warranted.**



d) The project does not include any design features that would increase hazards. In addition, the proposed project is a fairly typical commercial infill project and would not result in vehicles or equipment, such as farm equipment or tractors, that would be incompatible with the existing land uses surrounding the area. **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

e) The project would be required to conform to traffic and safety regulations that specify adequate emergency access measures. The site is located along an existing roadway lacking any identified significant safety hazards. The site would facilitate infill development that would not be expected to hinder emergency access or evacuation. Adherence to existing state and federal regulations would reduce potential impacts (2035 General Plan FEIR, 2010). **Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVII. Utilities and Service Systems				
-- Would the Project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in	☐	☐	☒	☐

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XVII. Utilities and Service Systems

-- Would the Project:

addition to the provider's existing commitments?

- f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?
- g) Comply with federal, state, and local statutes and regulations related to solid waste?

☐	☐	☒	☐
☐	☐	☒	☐

a, b, e) The sewer collection system within West Hollywood contains City-owned local sewers and County-owned trunk sewer links. Within the City, 39 miles of gravity piping provide sewer service to every parcel in the City. None of the regional trunk sewers are at or near capacity (2035 General Plan FEIR, 2010). Wastewater from the City is carried to the Hyperion Treatment Plant (HTP) in Playa Del Rey. This wastewater treatment plant provides full secondary treatment (LADWP website, 2013). The HTP has a dry-weather flow capacity of 450 million gallons per day (MGD) and a wet weather capacity of 850 MGD (2035 General Plan FEIR, 2010). Currently, the average wastewater flow to the plant is 290 MGD (personal communication, Mark Starr, LADPW, 2014). Therefore, the current available capacity of the HTP is 160 MGD. Table 12 shows the estimated wastewater generated by the proposed project.

Table 12
Estimated of Wastewater Generation

Type of Use	Quantity	Generation Factor (per day)	Amount (gallons per day)
Grocery Store	25,000 sf	80 gallons/1000 sf**	2,000
Café	1,319 sf	30 gallons/seat	1,320*
Office	3,998 sf	150 gallons/1000 sf	600
Fitness Center/Gym	8,000 sf	250 gallons/1000 sf	2,000
Personal Service	4,000 sf	80 gallons/1000 sf**	320
Net Increase in Wastewater Demand			6,240

Source: City of Los Angeles CEQA Thresholds Guidelines (2006)

Notes: gpd = gallons per day, SF=square feet

Assumes 5,000 storage area would not generate wastewater.

* Assuming 44 seats (1,319 SF of restaurant space, 50% of restaurant has seating, and 1 seat per 15 SF)

** Grocery store and personal service assume retail use generation factors.



As shown in Table 12, the proposed project would generate a net increase of approximately 6,240 gallons of wastewater per day. This increase would be approximately 0.004% of the existing unused capacity of the HTP. Therefore, the proposed project would not be expected to significantly affect the City's wastewater conveyance system or result in the construction of new treatment facilities. Further, the City requires developers to pay a wastewater mitigation fee to offset any net increases in wastewater flow from new construction. **Impacts would be less than significant and further analysis of these issues in an EIR is not warranted.**

c) Storm drain infrastructure in the City is owned and operated by the City of West Hollywood or the County of Los Angeles. Currently, the project site is a vacant lot and is almost 100% pervious. The proposed project would increase impervious surfaces compared to existing conditions. However, the proposed project involves some permeable surfaces on the front, side, and rear of the building and a green roof that would filter and store rainfall to reduce runoff. In addition, the proposed project would be required to comply with Chapter 15.56 and Chapter 19.20.190 of the West Hollywood Municipal Code. These sections require stormwater runoff to be minimized and require Standard Urban Storm Water Mitigation Plans (SUSMP) for new development. The proposed project would be required to implement Best Management Practices to reduce runoff. **With adherence to applicable regulations, impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

d) The Los Angeles Department of Water and Power (LADWP) would provide water service to the project site. LADWP provides water service to approximately four million people in the City of Los Angeles, portions of West Hollywood, Culver City, and other areas. The primary sources of water supply for LADWP are the Los Angeles Aqueduct (average of 36% of total water supply), local groundwater (average 12%), and purchased imported water from the Metropolitan Water District (MWD, approximately 52%) (LADWP, 2011). LADWP also delivers recycled water for parkland irrigation.

Assuming water use is 120% of wastewater generation, the proposed project would use an estimated 7,488 gallons of water per day, which equates to 8.4 acre-feet per year (AFY).

The LADWP attempts to address issues of water supply in its 2010 Urban Water Management Plan (UWMP). According to the Plan, LADWP has analyzed three different hydrological conditions to determine the reliability of water supplies for the City: average year (50 year average hydrology from FY 1596/57 to 2005/06), single dry-year, and multiple dry-year period. In each of the three hydrological conditions, the projected water demand was calculated taking into account growth in billing data, water conservation efforts, and demographics. The UWMP states that LADWP can reliably meet the projected water demand in each of the hydrological conditions through 2035 (LADWP, 2011). The UWMP states that if a proposed development is consistent with the City's General plan, the projected water demand of the development is accounted for in the most recently adopted UWMP. The UWMP incorporates the projected demographic data from SCAG. As stated in Sections IV, *Land Use and Planning*, and XIII, *Population and Housing*, the proposed project would be consistent with the West Hollywood 2035 General Plan and the SCAG RTP/SCS growth forecast. Thus, the proposed project would not consume water in excess of the water supplies available to the City.

Further, the LADWP, in coordination with the City, would be required to review the proposed project for consistency with water infrastructure requirements established in development plans



and agreements, and to ensure that sufficient water infrastructure capacity is available to serve new development prior to approval of the project (2035 General Plan FEIR, 2010). **Therefore, impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

f, g) The City of West Hollywood contracts with Athens Services to collect, transport, and dispose of solid waste for all residential and commercial uses (2035 General Plan FEIR, 2010). Solid waste from West Hollywood is collected by Athens Services and taken to their recycling and sorting facility, the City of Industry Materials Recovery Facility (MRF). Food waste is processed and delivered to their compost facility, American Organics, in Victorville (Athens, 2014). Waste that cannot be recycled is disposed of at a landfill. Following the closure of the Puente Hills landfill in 2013, Athens Services transports waste to the San Bernardino County Landfill system. Athens Services has a contract with County of San Bernardino to import waste. Thus, solid waste from West Hollywood may be delivered to San Bernardino County landfills, including Mid-Valley Landfill (permitted capacity of 7,500 tons/day), San Timoteo Landfill (permitted capacity of 2,000 tons/day), Victorville Landfill (permitted capacity of 3,000 tons/day), Barstow Landfill (permitted capacity of 1,200 tons/day), or Landers Landfill (permitted capacity of 1,200 tons/day) (CalRecycle, 2014).

Senate Bill (SB) 1016 requires that the 50% diversion requirement mandated by Assembly Bill (AB) 939 be measured in terms of pounds per person per day, instead of by volume or as an aggregate measure separate from population. CalRecycle sets a target for resident and employee per capita per day disposal rates. The target for residents is 5.8 and 7.7 for employees. In 2011 the per capita disposal rate per day per resident in West Hollywood was 4.5 and 5.1 per employee (CalRecycle, 2011). West Hollywood has achieved both the resident and employee targets set by CalRecycle. As shown in Table 13, the proposed project would generate 0.22 tons of solid waste per day. This incremental increase in solid waste would be within the permitted capacities of landfills that accept waste from Athens Services. **Therefore, impacts would be less than significant and further analysis of this issue in an EIR is not warranted.**

Table 13 Estimated Solid Waste Generation

Land Use	Size	Generation Factor*	Total (lbs/day)	Total (tons/day)
Grocery Store	25,000 sf	31.2 lbs/1000 sf/day	780	0.390
Café	1,319 sf	5 lbs/1000 sf/day	7	0.004
Office	3,998 sf	6 lbs/1000 sf/day	24	0.012
Fitness Center/Gym	8,000 sf	6 lbs /1000 sf/day**	48	0.024
Personal Service	4,000 sf	6 lbs/100 0sf/day	24	0.012
Total Net Solid Waste Generation Increase			883	0.442
Total Solid Waste Sent to Landfill (Assuming 50% diversion rate)			442	0.221

Notes: SF = square feet, lbs= pounds

* CalRecycle Waste Generation Rates, available at: <http://www.calrecycle.ca.gov/wastechar/WasteGenRates/default.htm>

** For the purposes of this analysis, fitness center/gym considered office use.



Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact

XVIII. Mandatory Findings of Significance

a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

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c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

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a) As noted under Section V, *Cultural Resources*, and Section IV, *Biological Resources*, implementation of the proposed project would have no impacts on known cultural resources and on biological resources.

b) As described in the discussion of environmental checklist Sections I through XVII, the proposed project would have no impact or a less than significant impact with respect to all environmental issues, except for traffic and noise. The proposed project may contribute to cumulative significant impact with regards to traffic and noise. Cumulative traffic and noise issues would be discussed in an EIR. Cumulative impacts with some of the resource areas have been addressed in the individual resource sections above: Air Quality, Greenhouse Gases, Water Supply, and Solid Waste (See CEQA Guidelines Section 15064(h)(3)). Some of the other resource areas were determined to have no impact in comparison to existing conditions and therefore would not contribute to cumulative impacts and did not warrant further analysis, such as Cultural Resources, Biological Resources, Mineral Resources and Agricultural Resources. There are no other known projects in development or under consideration that would affect the other resource areas. As such, cumulative impacts would also be less than significant (not cumulatively considerable).



c) In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in the preceding responses, the proposed project would not result, either directly or indirectly, in adverse hazards related to air quality, hazardous materials or noise. Impacts to human beings would be less than significant.

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Persons Contacted:

Sergeant Klaus, Los Angeles Sheriff's Department, Personal Communication, April 16, 2014

Mark Starr, Senior Environmental Engineer, Los Angeles Department of Public Works, Personal Communication, April 16, 2014.

Loretta Bagwell, Planning Analyst, Los Angeles County Fire Department, Personal Communication, May 30, 2014.

Appendix A

Air Quality and Greenhouse Gas Modeling Results



8550 Santa Monica Boulevard
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4.00	1000sqft	0.09	3,998.00	0
Enclosed Parking with Elevator	70.00	Space	0.00	28,000.00	0
Health Club	8.00	1000sqft	0.18	8,000.00	0
High Turnover (Sit Down Restaurant)	1.32	1000sqft	0.03	1,319.00	0
Strip Mall	4.00	1000sqft	0.09	4,000.00	0
Supermarket	25.00	1000sqft	0.21	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage adjusted to be 0.6 on ground floor lot area

Construction Phase - No demo, undeveloped lot. Estimated construction schedule of 14 months.

Trips and VMT -

Grading - 925 CY export

Architectural Coating - Green building feature of no-VOC paint on interior surfaces (<5 g/L)

Woodstoves -

Area Coating - Green building feature of no-VOC paint on interior surfaces (< 5 g/L)

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - No-VOC paint per WH Green Bldg Pts System Scorecard

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Vehicle Trips - Traffic study (Fehr & Peers, 2014) assumed 10% pass-by trips & 35% overall trip reduction for mkt walk/bike and 60% reduction for gym walk/bike.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	5.00
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	5
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	100.00	230.00
tblConstructionPhase	NumDays	2.00	30.00
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	MaterialExported	0.00	925.00
tblLandUse	LandUseSquareFeet	4,000.00	3,998.00
tblLandUse	LandUseSquareFeet	1,320.00	1,319.00
tblLandUse	LotAcreage	0.63	0.00
tblLandUse	LotAcreage	0.57	0.21

tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	DV_TP	19.00	13.00
tblVehicleTrips	DV_TP	39.00	38.00
tblVehicleTrips	DV_TP	20.00	53.00
tblVehicleTrips	DV_TP	40.00	45.00
tblVehicleTrips	DV_TP	30.00	56.00
tblVehicleTrips	PB_TP	4.00	10.00
tblVehicleTrips	PB_TP	9.00	10.00
tblVehicleTrips	PB_TP	43.00	10.00
tblVehicleTrips	PB_TP	15.00	10.00
tblVehicleTrips	PB_TP	36.00	10.00
tblVehicleTrips	ST_TR	20.87	8.35
tblVehicleTrips	ST_TR	177.59	115.43
tblVehicleTrips	SU_TR	26.73	10.69
tblVehicleTrips	SU_TR	166.44	108.19
tblVehicleTrips	WD_TR	32.93	13.17
tblVehicleTrips	WD_TR	102.24	66.46

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	1.7146	15.7736	11.7723	0.0175	0.9566	1.0225	1.8528	0.4647	0.9407	1.3202	0.0000	1,768.664 1	1,768.664 1	0.3768	0.0000	1,776.577 8
2016	14.7866	10.7401	8.4660	0.0136	0.2012	0.6625	0.8637	0.0534	0.6131	0.6664	0.0000	1,292.388 8	1,292.388 8	0.3089	0.0000	1,298.876 0
Total	16.5012	26.5137	20.2383	0.0311	1.1578	1.6850	2.7165	0.5180	1.5538	1.9867	0.0000	3,061.053 0	3,061.053 0	0.6858	0.0000	3,075.453 8

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	1.7146	15.7736	11.7723	0.0175	0.5290	1.0225	1.4252	0.2355	0.9407	1.0911	0.0000	1,768.6641	1,768.6641	0.3768	0.0000	1,776.5778
2016	14.7866	10.7401	8.4660	0.0136	0.2012	0.6625	0.8637	0.0534	0.6131	0.6664	0.0000	1,292.3888	1,292.3888	0.3089	0.0000	1,298.8760
Total	16.5012	26.5137	20.2383	0.0311	0.7302	1.6850	2.2889	0.2889	1.5538	1.7575	0.0000	3,061.0530	3,061.0530	0.6858	0.0000	3,075.4538

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	36.93	0.00	15.74	44.23	0.00	11.53	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8399	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260
Energy	0.0317	0.2882	0.2421	1.7300e-003		0.0219	0.0219		0.0219	0.0219		345.8722	345.8722	6.6300e-003	6.3400e-003	347.9771
Mobile	10.5941	20.6281	90.0206	0.1724	11.5033	0.2687	11.7720	3.0760	0.2473	3.3233		14,728.2662	14,728.2662	0.6449		14,741.8086
Total	12.4657	20.9165	90.2744	0.1741	11.5033	0.2907	11.7939	3.0760	0.2692	3.3453		15,074.1629	15,074.1629	0.6516	6.3400e-003	15,089.8117

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.5117	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260
Energy	0.0310	0.2818	0.2367	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.1321	338.1321	6.4800e-003	6.2000e-003	340.1900
Mobile	10.5941	20.6281	90.0206	0.1724	11.5033	0.2687	11.7720	3.0760	0.2473	3.3233		14,728.2662	14,728.2662	0.6449		14,741.8086
Total	12.1368	20.9100	90.2690	0.1740	11.5033	0.2902	11.7935	3.0760	0.2688	3.3448		15,066.4229	15,066.4229	0.6514	6.2000e-003	15,082.0246

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.64	0.03	0.01	0.02	0.00	0.17	0.00	0.00	0.18	0.01	0.00	0.05	0.05	0.02	2.21	0.05

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	1/1/2015	5	1	
2	Grading	Grading	1/2/2015	2/12/2015	5	30	
3	Building Construction	Building Construction	2/13/2015	12/31/2015	5	230	
4	Paving	Paving	1/1/2016	1/7/2016	5	5	
5	Architectural Coating	Architectural Coating	1/8/2016	2/18/2016	5	30	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 105,476; Non-Residential Outdoor: 35,159 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	116.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	26.00	12.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4222	14.2999	7.4063	9.3600e-003		0.8797	0.8797		0.8093	0.8093		984.5542	984.5542	0.2939		990.7267
Total	1.4222	14.2999	7.4063	9.3600e-003	0.5303	0.8797	1.4100	0.0573	0.8093	0.8666		984.5542	984.5542	0.2939		990.7267

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0257	0.0344	0.3602	6.9000e-004	0.0559	5.6000e-004	0.0565	0.0148	5.1000e-004	0.0153		60.0054	60.0054	3.6300e-003		60.0816
Total	0.0257	0.0344	0.3602	6.9000e-004	0.0559	5.6000e-004	0.0565	0.0148	5.1000e-004	0.0153		60.0054	60.0054	3.6300e-003		60.0816

3.2 Site Preparation - 2015**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.4222	14.2999	7.4063	9.3600e-003		0.8797	0.8797		0.8093	0.8093	0.0000	984.5542	984.5542	0.2939		990.7267
Total	1.4222	14.2999	7.4063	9.3600e-003	0.2386	0.8797	1.1183	0.0258	0.8093	0.8351	0.0000	984.5542	984.5542	0.2939		990.7267

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0257	0.0344	0.3602	6.9000e-004	0.0559	5.6000e-004	0.0565	0.0148	5.1000e-004	0.0153		60.0054	60.0054	3.6300e-003		60.0816
Total	0.0257	0.0344	0.3602	6.9000e-004	0.0559	5.6000e-004	0.0565	0.0148	5.1000e-004	0.0153		60.0054	60.0054	3.6300e-003		60.0816

3.3 Grading - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7775	0.0000	0.7775	0.4166	0.0000	0.4166			0.0000			0.0000
Off-Road	1.4120	11.9409	8.8138	0.0120		0.8748	0.8748		0.8359	0.8359		1,200.6386	1,200.6386	0.2451		1,205.7861
Total	1.4120	11.9409	8.8138	0.0120	0.7775	0.8748	1.6523	0.4166	0.8359	1.2525		1,200.6386	1,200.6386	0.2451		1,205.7861

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0823	1.2701	0.9586	2.8900e-003	0.0673	0.0203	0.0876	0.0184	0.0187	0.0371		293.5999	293.5999	2.4200e-003		293.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0514	0.0688	0.7205	1.3700e-003	0.1118	1.1200e-003	0.1129	0.0296	1.0200e-003	0.0307		120.0108	120.0108	7.2600e-003		120.1631
Total	0.1337	1.3388	1.6791	4.2600e-003	0.1791	0.0214	0.2005	0.0481	0.0197	0.0678		413.6106	413.6106	9.6800e-003		413.8138

3.3 Grading - 2015**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3499	0.0000	0.3499	0.1875	0.0000	0.1875			0.0000			0.0000
Off-Road	1.4120	11.9409	8.8138	0.0120		0.8748	0.8748		0.8359	0.8359	0.0000	1,200.6386	1,200.6386	0.2451		1,205.7861
Total	1.4120	11.9409	8.8138	0.0120	0.3499	0.8748	1.2247	0.1875	0.8359	1.0233	0.0000	1,200.6386	1,200.6386	0.2451		1,205.7861

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0823	1.2701	0.9586	2.8900e-003	0.0673	0.0203	0.0876	0.0184	0.0187	0.0371		293.5999	293.5999	2.4200e-003		293.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0514	0.0688	0.7205	1.3700e-003	0.1118	1.1200e-003	0.1129	0.0296	1.0200e-003	0.0307		120.0108	120.0108	7.2600e-003		120.1631
Total	0.1337	1.3388	1.6791	4.2600e-003	0.1791	0.0214	0.2005	0.0481	0.0197	0.0678		413.6106	413.6106	9.6800e-003		413.8138

3.4 Building Construction - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4538	14.3777	8.2983	0.0113		0.9995	0.9995		0.9195	0.9195		1,191.702 1	1,191.702 1	0.3558		1,199.173 3
Total	1.4538	14.3777	8.2983	0.0113		0.9995	0.9995		0.9195	0.9195		1,191.702 1	1,191.702 1	0.3558		1,199.173 3

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1272	1.2172	1.6008	2.6200e-003	0.0748	0.0201	0.0949	0.0213	0.0185	0.0398		264.9341	264.9341	2.2000e-003		264.9804
Worker	0.1336	0.1787	1.8732	3.5700e-003	0.2906	2.9000e-003	0.2935	0.0771	2.6600e-003	0.0797		312.0280	312.0280	0.0189		312.4241
Total	0.2608	1.3959	3.4740	6.1900e-003	0.3654	0.0230	0.3885	0.0984	0.0212	0.1195		576.9621	576.9621	0.0211		577.4045

3.4 Building Construction - 2015**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4538	14.3777	8.2983	0.0113		0.9995	0.9995		0.9195	0.9195	0.0000	1,191.702 1	1,191.702 1	0.3558		1,199.173 3
Total	1.4538	14.3777	8.2983	0.0113		0.9995	0.9995		0.9195	0.9195	0.0000	1,191.702 1	1,191.702 1	0.3558		1,199.173 3

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1272	1.2172	1.6008	2.6200e-003	0.0748	0.0201	0.0949	0.0213	0.0185	0.0398		264.9341	264.9341	2.2000e-003		264.9804
Worker	0.1336	0.1787	1.8732	3.5700e-003	0.2906	2.9000e-003	0.2935	0.0771	2.6600e-003	0.0797		312.0280	312.0280	0.0189		312.4241
Total	0.2608	1.3959	3.4740	6.1900e-003	0.3654	0.0230	0.3885	0.0984	0.0212	0.1195		576.9621	576.9621	0.0211		577.4045

3.5 Paving - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1203	10.6282	7.2935	0.0111		0.6606	0.6606		0.6113	0.6113		1,083.583 2	1,083.583 2	0.2969		1,089.817 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1203	10.6282	7.2935	0.0111		0.6606	0.6606		0.6113	0.6113		1,083.583 2	1,083.583 2	0.2969		1,089.817 5

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0834	0.1119	1.1725	2.4700e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		208.8056	208.8056	0.0120		209.0585
Total	0.0834	0.1119	1.1725	2.4700e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		208.8056	208.8056	0.0120		209.0585

3.5 Paving - 2016**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1203	10.6282	7.2935	0.0111		0.6606	0.6606		0.6113	0.6113	0.0000	1,083.583 2	1,083.583 2	0.2969		1,089.817 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1203	10.6282	7.2935	0.0111		0.6606	0.6606		0.6113	0.6113	0.0000	1,083.583 2	1,083.583 2	0.2969		1,089.817 5

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0834	0.1119	1.1725	2.4700e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		208.8056	208.8056	0.0120		209.0585
Total	0.0834	0.1119	1.1725	2.4700e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		208.8056	208.8056	0.0120		209.0585

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.3950					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	14.7634	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718

3.6 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.3950					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	14.7634	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718
Total	0.0232	0.0311	0.3257	6.9000e-004	0.0559	5.3000e-004	0.0564	0.0148	4.9000e-004	0.0153		58.0016	58.0016	3.3500e-003		58.0718

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	10.5941	20.6281	90.0206	0.1724	11.5033	0.2687	11.7720	3.0760	0.2473	3.3233		14,728.2662	14,728.2662	0.6449		14,741.8086
Mitigated	10.5941	20.6281	90.0206	0.1724	11.5033	0.2687	11.7720	3.0760	0.2473	3.3233		14,728.2662	14,728.2662	0.6449		14,741.8086

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	44.04	9.48	3.92	105,606	105,606
Health Club	105.36	66.80	85.52	206,694	206,694
High Turnover (Sit Down Restaurant)	167.84	209.05	174.03	282,072	282,072
Strip Mall	177.28	168.16	81.72	315,544	315,544
Supermarket	1,661.40	2,885.75	2704.75	3,007,059	3,007,059
Total	2,155.92	3,339.24	3,049.94	3,916,974	3,916,974

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	13	10
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	38	10
High Turnover (Sit Down)	16.60	8.40	6.90	8.50	72.50	19.00	37	53	10
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	45	10
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	34	56	10

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.532559	0.058242	0.178229	0.125155	0.038934	0.006273	0.016761	0.032323	0.002478	0.003154	0.003685	0.000544	0.001663

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0310	0.2818	0.2367	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.1321	338.1321	6.4800e-003	6.2000e-003	340.1900
NaturalGas Unmitigated	0.0317	0.2882	0.2421	1.7300e-003		0.0219	0.0219		0.0219	0.0219		345.8722	345.8722	6.6300e-003	6.3400e-003	347.9771

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	119.721	1.2900e-003	0.0117	9.8600e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0848	14.0848	2.7000e-004	2.6000e-004	14.1705
Health Club	412.274	4.4500e-003	0.0404	0.0340	2.4000e-004		3.0700e-003	3.0700e-003		3.0700e-003	3.0700e-003		48.5028	48.5028	9.3000e-004	8.9000e-004	48.7980
High Turnover (Sit Down Restaurant)	842.028	9.0800e-003	0.0826	0.0693	5.0000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003		99.0621	99.0621	1.9000e-003	1.8200e-003	99.6650
Strip Mall	18.6301	2.0000e-004	1.8300e-003	1.5300e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		2.1918	2.1918	4.0000e-005	4.0000e-005	2.2051
Supermarket	1547.26	0.0167	0.1517	0.1274	9.1000e-004		0.0115	0.0115		0.0115	0.0115		182.0306	182.0306	3.4900e-003	3.3400e-003	183.1384
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0317	0.2882	0.2421	1.7300e-003		0.0219	0.0219		0.0219	0.0219		345.8722	345.8722	6.6300e-003	6.3500e-003	347.9771

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	0.396537	4.2800e-003	0.0389	0.0327	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003		46.6514	46.6514	8.9000e-004	8.6000e-004	46.9353
High Turnover (Sit Down Restaurant)	0.833856	8.9900e-003	0.0818	0.0687	4.9000e-004		6.2100e-003	6.2100e-003		6.2100e-003	6.2100e-003		98.1007	98.1007	1.8800e-003	1.8000e-003	98.6977
Strip Mall	0.0179671	1.9000e-004	1.7600e-003	1.4800e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		2.1138	2.1138	4.0000e-005	4.0000e-005	2.1266
Supermarket	1.51182	0.0163	0.1482	0.1245	8.9000e-004		0.0113	0.0113		0.0113	0.0113		177.8606	177.8606	3.4100e-003	3.2600e-003	178.9430
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.113948	1.2300e-003	0.0112	9.3800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004		13.4057	13.4057	2.6000e-004	2.5000e-004	13.4873
Total		0.0310	0.2818	0.2367	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.1321	338.1321	6.4800e-003	6.2100e-003	340.1900

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	1.8399	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260
Mitigated	1.5117	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3923					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1300e-003	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260
Total	1.8399	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3923					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1300e-003	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260
Total	1.5117	1.1000e-004	0.0117	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0246	0.0246	7.0000e-005		0.0260

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

8550 Santa Monica Boulevard
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4.00	1000sqft	0.09	3,998.00	0
Enclosed Parking with Elevator	70.00	Space	0.00	28,000.00	0
Health Club	8.00	1000sqft	0.18	8,000.00	0
High Turnover (Sit Down Restaurant)	1.32	1000sqft	0.03	1,319.00	0
Strip Mall	4.00	1000sqft	0.09	4,000.00	0
Supermarket	25.00	1000sqft	0.21	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage adjusted to be 0.6 on ground floor lot area

Construction Phase - No demo, undeveloped lot. Estimated construction schedule of 14 months.

Trips and VMT -

Grading - 925 CY export

Architectural Coating - Green building feature of no-VOC paint on interior surfaces (<5 g/L)

Woodstoves -

Area Coating - Green building feature of no-VOC paint on interior surfaces (< 5 g/L)

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - No-VOC paint per WH Green Bldg Pts System Scorecard

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Vehicle Trips - Traffic study (Fehr & Peers, 2014) assumed 10% pass-by trips & 35% overall trip reduction for mkt walk/bike and 60% reduction for gym walk/bike.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	5.00
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	5
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	100.00	230.00
tblConstructionPhase	NumDays	2.00	30.00
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	MaterialExported	0.00	925.00
tblLandUse	LandUseSquareFeet	4,000.00	3,998.00
tblLandUse	LandUseSquareFeet	1,320.00	1,319.00
tblLandUse	LotAcreage	0.63	0.00
tblLandUse	LotAcreage	0.57	0.21

tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	DV_TP	19.00	13.00
tblVehicleTrips	DV_TP	39.00	38.00
tblVehicleTrips	DV_TP	20.00	53.00
tblVehicleTrips	DV_TP	40.00	45.00
tblVehicleTrips	DV_TP	30.00	56.00
tblVehicleTrips	PB_TP	4.00	10.00
tblVehicleTrips	PB_TP	9.00	10.00
tblVehicleTrips	PB_TP	43.00	10.00
tblVehicleTrips	PB_TP	15.00	10.00
tblVehicleTrips	PB_TP	36.00	10.00
tblVehicleTrips	ST_TR	20.87	8.35
tblVehicleTrips	ST_TR	177.59	115.43
tblVehicleTrips	SU_TR	26.73	10.69
tblVehicleTrips	SU_TR	166.44	108.19
tblVehicleTrips	WD_TR	32.93	13.17
tblVehicleTrips	WD_TR	102.24	66.46

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.2197	2.0240	1.5124	2.2700e-003	0.0558	0.1315	0.1873	0.0181	0.1214	0.1395	0.0000	207.6468	207.6468	0.0429	0.0000	208.5480
2016	0.2248	0.0629	0.0545	9.0000e-005	1.3100e-003	4.6100e-003	5.9300e-003	3.5000e-004	4.4900e-003	4.8400e-003	0.0000	7.5705	7.5705	1.2000e-003	0.0000	7.5957
Total	0.4444	2.0869	1.5669	2.3600e-003	0.0571	0.1361	0.1932	0.0185	0.1259	0.1444	0.0000	215.2174	215.2174	0.0441	0.0000	216.1437

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.2197	2.0240	1.5124	2.2700e-003	0.0493	0.1315	0.1807	0.0147	0.1214	0.1361	0.0000	207.6466	207.6466	0.0429	0.0000	208.5478
2016	0.2248	0.0629	0.0545	9.0000e-005	1.3100e-003	4.6100e-003	5.9300e-003	3.5000e-004	4.4900e-003	4.8400e-003	0.0000	7.5705	7.5705	1.2000e-003	0.0000	7.5957
Total	0.4444	2.0869	1.5669	2.3600e-003	0.0506	0.1361	0.1866	0.0150	0.1259	0.1409	0.0000	215.2172	215.2172	0.0441	0.0000	216.1435

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	11.48	0.00	3.40	18.69	0.00	2.39	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3357	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003
Energy	5.7900e-003	0.0526	0.0442	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	470.7785	470.7785	0.0201	4.9800e-003	472.7453
Mobile	1.2985	2.7571	11.7132	0.0230	1.4846	0.0351	1.5197	0.3976	0.0323	0.4300	0.0000	1,778.2500	1,778.2500	0.0767	0.0000	1,779.8614
Waste						0.0000	0.0000		0.0000	0.0000	42.6748	0.0000	42.6748	2.5220	0.0000	95.6370
Water						0.0000	0.0000		0.0000	0.0000	1.5745	21.7611	23.3355	0.1627	4.0300e-003	28.0003
Total	1.6400	2.8097	11.7589	0.0233	1.4846	0.0392	1.5238	0.3976	0.0364	0.4340	44.2492	2,270.7924	2,315.0416	2.7816	9.0100e-003	2,376.2469

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2758	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003
Energy	5.6600e-003	0.0514	0.0432	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	464.8912	464.8912	0.0199	4.9200e-003	466.8322
Mobile	1.2985	2.7571	11.7132	0.0230	1.4846	0.0351	1.5197	0.3976	0.0323	0.4300	0.0000	1,778.2500	1,778.2500	0.0767	0.0000	1,779.8614
Waste						0.0000	0.0000		0.0000	0.0000	21.3374	0.0000	21.3374	1.2610	0.0000	47.8185
Water						0.0000	0.0000		0.0000	0.0000	1.4013	19.7269	21.1282	0.1448	3.5800e-003	25.2790
Total	1.5800	2.8086	11.7579	0.0233	1.4846	0.0391	1.5237	0.3976	0.0363	0.4339	22.7387	2,262.8710	2,285.6096	1.5024	8.5000e-003	2,319.7940

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	3.66	0.04	0.01	0.04	0.00	0.23	0.01	0.00	0.25	0.02	48.61	0.35	1.27	45.99	5.66	2.38

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	1/1/2015	5	1	
2	Grading	Grading	1/2/2015	2/12/2015	5	30	
3	Building Construction	Building Construction	2/13/2015	12/31/2015	5	230	
4	Paving	Paving	1/1/2016	1/7/2016	5	5	
5	Architectural Coating	Architectural Coating	1/8/2016	2/18/2016	5	30	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 105,476; Non-Residential Outdoor: 35,159 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	116.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	26.00	12.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	7.1500e-003	3.7000e-003	0.0000		4.4000e-004	4.4000e-004		4.0000e-004	4.0000e-004	0.0000	0.4466	0.4466	1.3000e-004	0.0000	0.4494
Total	7.1000e-004	7.1500e-003	3.7000e-003	0.0000	2.7000e-004	4.4000e-004	7.1000e-004	3.0000e-005	4.0000e-004	4.3000e-004	0.0000	0.4466	0.4466	1.3000e-004	0.0000	0.4494

3.2 Site Preparation - 2015**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	2.0000e-005	1.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0277	0.0277	0.0000	0.0000	0.0277
Total	1.0000e-005	2.0000e-005	1.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0277	0.0277	0.0000	0.0000	0.0277

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	7.1500e-003	3.7000e-003	0.0000		4.4000e-004	4.4000e-004		4.0000e-004	4.0000e-004	0.0000	0.4466	0.4466	1.3000e-004	0.0000	0.4494
Total	7.1000e-004	7.1500e-003	3.7000e-003	0.0000	1.2000e-004	4.4000e-004	5.6000e-004	1.0000e-005	4.0000e-004	4.1000e-004	0.0000	0.4466	0.4466	1.3000e-004	0.0000	0.4494

3.2 Site Preparation - 2015**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	2.0000e-005	1.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0277	0.0277	0.0000	0.0000	0.0277
Total	1.0000e-005	2.0000e-005	1.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0277	0.0277	0.0000	0.0000	0.0277

3.3 Grading - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	6.2500e-003	0.0000	6.2500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.1791	0.1322	1.8000e-004		0.0131	0.0131		0.0125	0.0125	0.0000	16.3380	16.3380	3.3400e-003	0.0000	16.4081
Total	0.0212	0.1791	0.1322	1.8000e-004	0.0117	0.0131	0.0248	6.2500e-003	0.0125	0.0188	0.0000	16.3380	16.3380	3.3400e-003	0.0000	16.4081

3.3 Grading - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2100e-003	0.0194	0.0140	4.0000e-005	9.9000e-004	3.0000e-004	1.3000e-003	2.7000e-004	2.8000e-004	5.5000e-004	0.0000	4.0007	4.0007	3.0000e-005	0.0000	4.0014
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3000e-004	1.0600e-003	0.0110	2.0000e-005	1.6400e-003	2.0000e-005	1.6600e-003	4.4000e-004	2.0000e-005	4.5000e-004	0.0000	1.6593	1.6593	1.0000e-004	0.0000	1.6614
Total	1.9400e-003	0.0205	0.0250	6.0000e-005	2.6300e-003	3.2000e-004	2.9600e-003	7.1000e-004	3.0000e-004	1.0000e-003	0.0000	5.6600	5.6600	1.3000e-004	0.0000	5.6627

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2500e-003	0.0000	5.2500e-003	2.8100e-003	0.0000	2.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.1791	0.1322	1.8000e-004		0.0131	0.0131		0.0125	0.0125	0.0000	16.3380	16.3380	3.3400e-003	0.0000	16.4080
Total	0.0212	0.1791	0.1322	1.8000e-004	5.2500e-003	0.0131	0.0184	2.8100e-003	0.0125	0.0154	0.0000	16.3380	16.3380	3.3400e-003	0.0000	16.4080

3.3 Grading - 2015**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2100e-003	0.0194	0.0140	4.0000e-005	9.9000e-004	3.0000e-004	1.3000e-003	2.7000e-004	2.8000e-004	5.5000e-004	0.0000	4.0007	4.0007	3.0000e-005	0.0000	4.0014
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3000e-004	1.0600e-003	0.0110	2.0000e-005	1.6400e-003	2.0000e-005	1.6600e-003	4.4000e-004	2.0000e-005	4.5000e-004	0.0000	1.6593	1.6593	1.0000e-004	0.0000	1.6614
Total	1.9400e-003	0.0205	0.0250	6.0000e-005	2.6300e-003	3.2000e-004	2.9600e-003	7.1000e-004	3.0000e-004	1.0000e-003	0.0000	5.6600	5.6600	1.3000e-004	0.0000	5.6627

3.4 Building Construction - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1672	1.6534	0.9543	1.3000e-003		0.1149	0.1149		0.1058	0.1058	0.0000	124.3258	124.3258	0.0371	0.0000	125.1053
Total	0.1672	1.6534	0.9543	1.3000e-003		0.1149	0.1149		0.1058	0.1058	0.0000	124.3258	124.3258	0.0371	0.0000	125.1053

3.4 Building Construction - 2015**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0141	0.1428	0.1772	3.0000e-004	8.4600e-003	2.3000e-003	0.0108	2.4100e-003	2.1100e-003	4.5300e-003	0.0000	27.7732	27.7732	2.3000e-004	0.0000	27.7780
Worker	0.0145	0.0211	0.2198	4.2000e-004	0.0328	3.3000e-004	0.0331	8.7000e-003	3.1000e-004	9.0100e-003	0.0000	33.0756	33.0756	1.9700e-003	0.0000	33.1169
Total	0.0286	0.1639	0.3970	7.2000e-004	0.0412	2.6300e-003	0.0439	0.0111	2.4200e-003	0.0135	0.0000	60.8488	60.8488	2.2000e-003	0.0000	60.8949

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1672	1.6534	0.9543	1.3000e-003		0.1149	0.1149		0.1058	0.1058	0.0000	124.3257	124.3257	0.0371	0.0000	125.1051
Total	0.1672	1.6534	0.9543	1.3000e-003		0.1149	0.1149		0.1058	0.1058	0.0000	124.3257	124.3257	0.0371	0.0000	125.1051

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0141	0.1428	0.1772	3.0000e-004	8.4600e-003	2.3000e-003	0.0108	2.4100e-003	2.1100e-003	4.5300e-003	0.0000	27.7732	27.7732	2.3000e-004	0.0000	27.7780
Worker	0.0145	0.0211	0.2198	4.2000e-004	0.0328	3.3000e-004	0.0331	8.7000e-003	3.1000e-004	9.0100e-003	0.0000	33.0756	33.0756	1.9700e-003	0.0000	33.1169
Total	0.0286	0.1639	0.3970	7.2000e-004	0.0412	2.6300e-003	0.0439	0.0111	2.4200e-003	0.0135	0.0000	60.8488	60.8488	2.2000e-003	0.0000	60.8949

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0266	0.0182	3.0000e-005		1.6500e-003	1.6500e-003		1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.8000e-003	0.0266	0.0182	3.0000e-005		1.6500e-003	1.6500e-003		1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717

3.5 Paving - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4812	0.4812	3.0000e-005	0.0000	0.4818
Total	2.0000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4812	0.4812	3.0000e-005	0.0000	0.4818

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0266	0.0182	3.0000e-005		1.6500e-003	1.6500e-003		1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.8000e-003	0.0266	0.0182	3.0000e-005		1.6500e-003	1.6500e-003		1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717

3.5 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4812	0.4812	3.0000e-005	0.0000	0.4818
Total	2.0000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4812	0.4812	3.0000e-005	0.0000	0.4818

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5300e-003	0.0356	0.0283	4.0000e-005		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	3.8299	3.8299	4.5000e-004	0.0000	3.8394
Total	0.2215	0.0356	0.0283	4.0000e-005		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	3.8299	3.8299	4.5000e-004	0.0000	3.8394

3.6 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.8000e-004	4.9900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8020	0.8020	5.0000e-005	0.0000	0.8029
Total	3.3000e-004	4.8000e-004	4.9900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8020	0.8020	5.0000e-005	0.0000	0.8029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5300e-003	0.0356	0.0283	4.0000e-005		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	3.8299	3.8299	4.5000e-004	0.0000	3.8394
Total	0.2215	0.0356	0.0283	4.0000e-005		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	3.8299	3.8299	4.5000e-004	0.0000	3.8394

3.6 Architectural Coating - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.8000e-004	4.9900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8020	0.8020	5.0000e-005	0.0000	0.8029
Total	3.3000e-004	4.8000e-004	4.9900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8020	0.8020	5.0000e-005	0.0000	0.8029

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	1.2985	2.7571	11.7132	0.0230	1.4846	0.0351	1.5197	0.3976	0.0323	0.4300	0.0000	1,778.2500	1,778.2500	0.0767	0.0000	1,779.8614
Mitigated	1.2985	2.7571	11.7132	0.0230	1.4846	0.0351	1.5197	0.3976	0.0323	0.4300	0.0000	1,778.2500	1,778.2500	0.0767	0.0000	1,779.8614

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	44.04	9.48	3.92	105,606	105,606
Health Club	105.36	66.80	85.52	206,694	206,694
High Turnover (Sit Down Restaurant)	167.84	209.05	174.03	282,072	282,072
Strip Mall	177.28	168.16	81.72	315,544	315,544
Supermarket	1,661.40	2,885.75	2704.75	3,007,059	3,007,059
Total	2,155.92	3,339.24	3,049.94	3,916,974	3,916,974

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	13	10
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	38	10
High Turnover (Sit Down)	16.60	8.40	6.90	8.50	72.50	19.00	37	53	10
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	45	10
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	34	56	10

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.532559	0.058242	0.178229	0.125155	0.038934	0.006273	0.016761	0.032323	0.002478	0.003154	0.003685	0.000544	0.001663

5.0 Energy Detail

2.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	5.6600e-003	0.0514	0.0432	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	55.9816	55.9816	1.0700e-003	1.0300e-003	56.3223
NaturalGas Unmitigated	5.7900e-003	0.0526	0.0442	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.2630	57.2630	1.1000e-003	1.0500e-003	57.6115
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	408.9097	408.9097	0.0188	3.8900e-003	410.5099
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	413.5155	413.5155	0.0190	3.9300e-003	415.1338

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	43698.1	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3319	2.3319	4.0000e-005	4.0000e-005	2.3461
Health Club	150480	8.1000e-004	7.3800e-003	6.2000e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	8.0302	8.0302	1.5000e-004	1.5000e-004	8.0791
High Turnover (Sit Down Restaurant)	307340	1.6600e-003	0.0151	0.0127	9.0000e-005		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	16.4008	16.4008	3.1000e-004	3.0000e-004	16.5007
Strip Mall	6800	4.0000e-005	3.3000e-004	2.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.3629	0.3629	1.0000e-005	1.0000e-005	0.3651
Supermarket	564750	3.0500e-003	0.0277	0.0233	1.7000e-004		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	30.1372	30.1372	5.8000e-004	5.5000e-004	30.3206
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		5.8000e-003	0.0526	0.0442	3.1000e-004		3.9900e-003	3.9900e-003		3.9900e-003	3.9900e-003	0.0000	57.2630	57.2630	1.0900e-003	1.0500e-003	57.6115

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	144736	7.8000e-004	7.0900e-003	5.9600e-003	4.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	7.7237	7.7237	1.5000e-004	1.4000e-004	7.7707
High Turnover (Sit Down Restaurant)	304357	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	16.2417	16.2417	3.1000e-004	3.0000e-004	16.3405
Strip Mall	6558	4.0000e-005	3.2000e-004	2.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.3500	0.3500	1.0000e-005	1.0000e-005	0.3521
Supermarket	551813	2.9800e-003	0.0271	0.0227	1.6000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	29.4468	29.4468	5.6000e-004	5.4000e-004	29.6260
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	41591.2	2.2000e-004	2.0400e-003	1.7100e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.2195	2.2195	4.0000e-005	4.0000e-005	2.2330
Total		5.6600e-003	0.0514	0.0432	3.0000e-004		3.9000e-003	3.9000e-003		3.9000e-003	3.9000e-003	0.0000	55.9816	55.9816	1.0700e-003	1.0300e-003	56.3223

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	188720	54.0054	2.4800e-003	5.1000e-004	54.2168
General Office Building	58090.9	16.6237	7.6000e-004	1.6000e-004	16.6888
Health Club	96400	27.5865	1.2700e-003	2.6000e-004	27.6945
High Turnover (Sit Down Restaurant)	61874.3	17.7064	8.1000e-004	1.7000e-004	17.7757
Strip Mall	60680	17.3646	8.0000e-004	1.7000e-004	17.4326
Supermarket	979250	280.2289	0.0129	2.6700e-003	281.3256
Total		413.5155	0.0190	3.9400e-003	415.1338

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	183232	52.4349	2.4100e-003	5.0000e-004	52.6401
General Office Building	56967.5	16.3022	7.5000e-004	1.6000e-004	16.3660
Health Club	95300	27.2717	1.2500e-003	2.6000e-004	27.3784
High Turnover (Sit Down Restaurant)	61220.7	17.5193	8.1000e-004	1.7000e-004	17.5879
Strip Mall	59700	17.0842	7.9000e-004	1.6000e-004	17.1510
Supermarket	972500	278.2973	0.0128	2.6500e-003	279.3864
Total		408.9096	0.0188	3.9000e-003	410.5099

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	0.3357	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003
Mitigated	0.2758	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0815					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2541					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003
Total	0.3357	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0216					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2541					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003
Total	0.2758	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7900e-003	2.7900e-003	1.0000e-005	0.0000	2.9500e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	23.3355	0.1627	4.0300e-003	28.0003
Mitigated	21.1282	0.1448	3.5800e-003	25.2790

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.710935 / 0.435734	4.2600	0.0234	5.9000e-004	4.9318
Health Club	0.473145 / 0.289992	2.8351	0.0155	3.9000e-004	3.2822
High Turnover (Sit Down Restaurant)	0.400664 / 0.0255743	1.7014	0.0131	3.2000e-004	2.0773
Strip Mall	0.29629 / 0.181597	1.7754	9.7300e-003	2.4000e-004	2.0554
Supermarket	3.08171 / 0.0953105	12.7637	0.1010	2.4800e-003	15.6536
Total		23.3355	0.1627	4.0200e-003	28.0003

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.632732 / 0.435734	3.9438	0.0208	5.2000e-004	4.5420
Health Club	0.421099 / 0.289992	2.6247	0.0138	3.5000e-004	3.0228
High Turnover (Sit Down Restaurant)	0.356591 / 0.0255743	1.5232	0.0117	2.9000e-004	1.8576
Strip Mall	0.263698 / 0.181597	1.6436	8.6600e-003	2.2000e-004	1.8929
Supermarket	2.74272 / 0.0953105	11.3930	0.0898	2.2100e-003	13.9638
Total		21.1282	0.1448	3.5900e-003	25.2790

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.3374	1.2610	0.0000	47.8185
Unmitigated	42.6748	2.5220	0.0000	95.6370

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	3.72	0.7551	0.0446	0.0000	1.6923
Health Club	45.6	9.2564	0.5470	0.0000	20.7442
High Turnover (Sit Down Restaurant)	15.71	3.1890	0.1885	0.0000	7.1467
Strip Mall	4.2	0.8526	0.0504	0.0000	1.9107
Supermarket	141	28.6217	1.6915	0.0000	64.1431
Total		42.6748	2.5220	0.0000	95.6370

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.86	0.3776	0.0223	0.0000	0.8461
Health Club	22.8	4.6282	0.2735	0.0000	10.3721
High Turnover (Sit Down Restaurant)	7.855	1.5945	0.0942	0.0000	3.5734
Strip Mall	2.1	0.4263	0.0252	0.0000	0.9553
Supermarket	70.5	14.3109	0.8458	0.0000	32.0716
Total		21.3374	1.2610	0.0000	47.8185

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

June 3, 2014

Laurie Yelton, Associate Planner
Community Development Department
City of West Hollywood
8300 Santa Monica Boulevard
West Hollywood, CA 90069-6216

Notice of Preparation of a CEQA Document for the Sprouts – 8550 Santa Monica Boulevard Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the Draft EIR upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: www.aqmd.gov/ceqa/hdbk.html. SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional

significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: <http://www.aqmd.gov/ceqa/handbook/LST/LST.html>.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: <http://www.arb.ca.gov/ch/handbook.pdf>. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

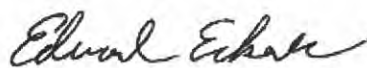
- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: <http://www.aqmd.gov/prdas/aqguide/aqguide.html>.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (<http://www.aqmd.gov>).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at imacmillan@aqmd.gov or call me at (909) 396-3244.

Sincerely,



Ed Eckerle
Program Supervisor
Planning, Rule Development & Area Sources

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net
e-mail: ds_nahc@pacbell.net



June 4, 2014

Ms. Laurie Yelton, Planner

CITY OF WEST HOLLYWOOD

8300 Santa Monica Boulevard
West Hollywood, CA 90069

Sent by U.S. Mail

No. of Pages:

4

RE: SCH#2014051093 CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **"Sprouts – 8550 Santa Monica Boulevard Project;"** located in the City of West Hollywood; Los Angeles County, California

Dear Ms. Yelton

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

If there is federal jurisdiction of this project due to funding or regulatory provisions; then the following may apply: the National Environmental Policy Act (NEPA 42 U.S.C 4321-43351) and Section 106 of the National Historic Preservation Act (16 U.S.C 470 *et seq.*) and 36 CFR Part 800.14(b) require consultation with culturally affiliated Native American tribes to determine if the proposed project may have an adverse impact on cultural resources

We suggest that this (additional archaeological activity) be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. Any information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.

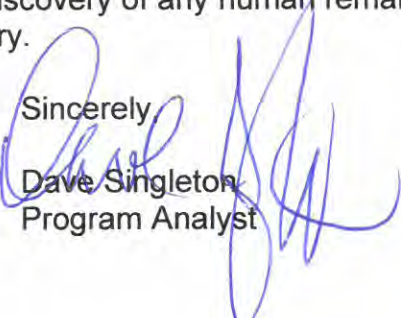
A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed activity might impinge on any cultural resources.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." (The California Code is consistent with the Federal Executive Order 12898 regarding 'environmental justice.' Also, applicable to state agencies is Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely


Dave Singleton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

**Native American Contacts
Los Angeles County California
June 4, 2014**

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva

tattnlaw@gmail.com
310-570-6567

Gabrielino/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1232 - FAX
(626) 286-1758 - Home
(626) 286-1262 -FAX

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
sgoad@gabrielino-tongva.com
951-845-0443

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
P.O. Box 180 Gabrielino
Bonsall , CA 92003
(619) 294-6660-work
(310) 428-5690 - cell
(760) 636-0854- FAX
bacuna1@gabrielinotribe.org

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
P.O. Box 180 Gabrielino
Bonsall , CA 92003
palmsprings9@yahoo.com
626-676-1184- cell
(760) 636-0854 - FAX

Gabrielino Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina , CA 91723
gabrielenoindians@yahoo.
(626) 926-4131

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed
SCH#2014051089; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Sprouts - 8550 Santa Monica
Boulevard; West Hollywood, Los Angeles County, California

**Native American Contacts
Los Angeles County California
June 4, 2014**

Gabrielino-Tongva Tribe
Conrad Acuna,
P.O. Box 180 Gabrielino
Bonsall , CA 92003

760-636-0854 - FAX

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resources Director
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net
909-262-9351

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2014051089; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Sprouts - 8550 Santa Monica Boulevard; West Hollywood, Los Angeles County, California



EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

Notice of Preparation

May 28, 2014

To: Reviewing Agencies

Re: Sprouts - 8550 Santa Monica Boulevard Project
SCH# 2014051089

Attached for your review and comment is the Notice of Preparation (NOP) for the Sprouts - 8550 Santa Monica Boulevard Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

**Laurie Yelton
City of West Hollywood
8300 Santa Monica Boulevard
West Hollywood, CA 90069**

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

**Document Details Report
State Clearinghouse Data Base**

SCH# 2014051089
Project Title Sprouts - 8550 Santa Monica Boulevard Project
Lead Agency West Hollywood, City of

Type NOP Notice of Preparation

Description The proposed project involves construction of a three-story building with approximately 42,300 sf of commercial space on a 0.6-acre undeveloped portion of the project site. The proposed new commercial building would include a 25,000 sf Sprouts Farmers Market, a 1,319 sf corner cafe with an outdoor patio, 3,998-sf of office space, an 8,000-sf fitness center/gym, and a 4,000 sf personal service space. The proposed project does not involve any demolition.

Lead Agency Contact

Name	Laurie Yelton		
Agency	City of West Hollywood		
Phone	323 848 6890	Fax	
email			
Address	8300 Santa Monica Boulevard		
City	West Hollywood	State CA	Zip 90069

Project Location

County	Los Angeles		
City	West Hollywood		
Region			
Cross Streets	Santa Monica Boulevard and West Knoll Drive		
Lat / Long			
Parcel No.	4337-006-29, -030, -031		
Township		Range	Section
			Base

Proximity to:

Highways	
Airports	
Railways	
Waterways	
Schools	
Land Use	Commercial, Community 1 (CC1)

Project Issues Traffic/Circulation

Reviewing Agencies Resources Agency; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Native American Heritage Commission; California Highway Patrol; Caltrans, District 7; Air Resources Board; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

Date Received	05/27/2014	Start of Review	05/28/2014	End of Review	06/26/2014

NOP Distribution List

County: LOS Angeles SCH#: 2014051089

Resources Agency

- ☐ Resources Agency
Nadell Gayou
- ☐ Dept. of Boating & Waterways
Nicole Wong
- ☐ California Coastal Commission
Elizabeth A. Fuchs
- ☐ Colorado River Board
Tanya Trujillo
- ☐ Dept. of Conservation
Elizabeth Carpenter
- ☐ California Energy Commission
Eric Knight
- ☐ Cal Fire
Dan Foster
- ☐ Central Valley Flood Protection Board
James Herota
- ☐ Office of Historic Preservation
Ron Parsons
- ☐ Dept of Parks & Recreation
Environmental Stewardship Section
- ☐ California Department of Resources, Recycling & Recovery
Sue O'Leary
- ☐ S.F. Bay Conservation & Dev't. Comm.
Steve McAdam
- ☐ Dept. of Water Resources
Agency
Nadell Gayou
- ☐ Fish and Game
- ☐ Depart. of Fish & Wildlife
Scott Flint
Environmental Services Division
- ☐ Fish & Wildlife Region 1
Donald Koch

- ☐ Fish & Wildlife Region 1E
Laurie Harnsberger
- ☐ Fish & Wildlife Region 2
Jeff Drongesen
- ☐ Fish & Wildlife Region 3
Charles Armor
- ☐ Fish & Wildlife Region 4
Julie Vance
- ☒ Fish & Wildlife Region 5
Leslie Newton-Reed
Habitat Conservation Program
- ☐ Fish & Wildlife Region 6
Gabrina Gatchel
Habitat Conservation Program
- ☐ Fish & Wildlife Region 6 I/M
Heidi Sickler
Inyo/Mono, Habitat Conservation Program
- ☐ Dept. of Fish & Wildlife M
George Isaac
Marine Region

Other Departments

- ☐ Food & Agriculture
Sandra Schubert
Dept. of Food and Agriculture
- ☐ Depart. of General Services
Public School Construction
- ☐ Dept. of General Services
Anna Garbelf
Environmental Services Section
- ☐ Dept. of Public Health
Jeffery Worth
Dept. of Health/Drinking Water
- ☐ Delta Stewardship Council
Kevan Samsam
- ☐ Independent Commissions, Boards
- ☐ Delta Protection Commission
Michael Machado
- ☐ Cal EMA (Emergency Management Agency)
Dennis Castrillo

- ☒ Native American Heritage Comm.
Debbie Treadway
- ☐ Public Utilities Commission
Leo Wong
- ☐ Santa Monica Bay Restoration
Guangyu Wang
- ☐ State Lands Commission
Jennifer Deleong
- ☐ Tahoe Regional Planning Agency (TRPA)
Cherry Jacques

Business, Trans & Housing

- ☐ Caltrans - Division of Aeronautics
Philip Grimmins
- ☐ Caltrans - Planning
Terri Pencovic
- ☒ California Highway Patrol
Suzann Ikeuchi
Office of Special Projects
- ☐ Housing & Community Development
CEQA Coordinator
Housing Policy Division

Dept. of Transportation

- ☐ Caltrans, District 1
Rex Jackman
- ☐ Caltrans, District 2
Marcelino Gonzalez
- ☐ Caltrans, District 3
Eric Federicks - South
Susan Zanchi - North
- ☐ Caltrans, District 4
Erik Alm
- ☐ Caltrans, District 5
David Murray
- ☐ Caltrans, District 6
Michael Navarro
- ☒ Caltrans, District 7
Dianna Watson

- ☐ Caltrans, District 8
Dan Kopulsky
- ☐ Caltrans, District 9
Gayle Rosander
- ☐ Caltrans, District 10
Tom Dumas
- ☐ Caltrans, District 11
Jacob Armstrong
- ☐ Caltrans, District 12
Maureen El Harake

Cal EPA

Air Resources Board

- ☒ All Projects
CEQA Coordinator
- ☐ Transportation Projects
Nesamani Kalandiyur
- ☐ Industrial Projects
Mike Tollstrup

- ☐ State Water Resources Control Board
Regional Programs Unit
Division of Financial Assistance

- ☐ State Water Resources Control Board
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality

- ☐ State Water Resources Control Board
Phil Crader
Division of Water Rights
- ☒ Dept. of Toxic Substances Control
CEQA Tracking Center

- ☐ Department of Pesticide Regulation
CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ RWQCB 1
Cathleen Hudson
North Coast Region (1)
- ☐ RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)
- ☐ RWQCB 3
Central Coast Region (3)
- ☒ RWQCB 4
Teresa Rodgers
Los Angeles Region (4)
- ☐ RWQCB 5S
Central Valley Region (5)
- ☐ RWQCB 5F
Central Valley Region (5)
Fresno Branch Office
- ☐ RWQCB 5R
Central Valley Region (5)
Redding Branch Office
- ☐ RWQCB 6
Lahontan Region (6)
- ☐ RWQCB 6V
Lahontan Region (6)
Victorville Branch Office
- ☐ RWQCB 7
Colorado River Basin Region (7)
- ☐ RWQCB 8
Santa Ana Region (8)
- ☐ RWQCB 9
San Diego Region (9)

☐ Other _____

☐ _____
Conservancy

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613

For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SC 2014051089

Project Title: Sprouts - 8550 Santa Monica Boulevard Project

Lead Agency: City of West Hollywood

Contact Person: Laurie Yelton

Mailing Address: 8300 Santa Monica Boulevard

Phone: 323-848-6890

City: West Hollywood

Zip: 90069

County: Los Angeles

Project Location: County: Los Angeles

City/Nearest Community: City of West Hollywood

Cross Streets: Santa Monica Boulevard and West Knoll Drive

Zip Code: 90069

Longitude/Latitude (degrees, minutes and seconds): ° ' " N / ° ' " W Total Acres:

Assessor's Parcel No.: 4337-006-29, -030, & -031

Section:

Twp.:

Range:

Base:

Within 2 Miles: State Hwy #:

Waterways:

Airports:

Railways:

Schools:

Document Type:CEQA: ☒ NOP☐ Draft EIRNEPA: ☐ NOIOther: ☐ Joint Document☐ Early Cons☐ Supplement/Subsequent EIR☐ EA☐ Final Document☐ Neg Dec

(Prior SCH No.)

☐ Draft EIS☐ Other:☐ Mit Neg Dec

Other:

☐ FONSI**Local Action Type:**☐ General Plan Update☐ Specific Plan☐ Rezone☐ Annexation☐ General Plan Amendment☐ Master Plan

STATE CLEARINGHOUSE

☐ Redevelopment☐ General Plan Element☐ Planned Unit Development☐ Use Permit☐ Coastal Permit☐ Community Plan☒ Site Plan☐ Land Division (Subdivision, etc.)☐ Other:**Development Type:**☐ Residential: Units

Acres

☒ Office: Sq.ft. 3,998

Acres

Employees

☐ Transportation: Type☐ Mining: Mineral☒ Commercial: Sq.ft. 38,319

Acres

Employees

☐ Power: Type

MW

☐ Industrial: Sq.ft.

Acres

Employees

☐ Waste Treatment: Type

MGD

☐ Educational:☐ Hazardous Waste: Type☐ Recreational:☐ Water Facilities: Type

MGD

☐ Other:**Project Issues Discussed in Document:**☐ Aesthetic/Visual☐ Fiscal☐ Recreation/Parks☐ Vegetation☐ Agricultural Land☐ Flood Plain/Flooding☐ Schools/Universities☐ Water Quality☐ Air Quality☐ Forest Land/Fire Hazard☐ Septic Systems☐ Water Supply/Groundwater☐ Archeological/Historical☐ Geologic/Seismic☐ Sewer Capacity☐ Wetland/Riparian☐ Biological Resources☐ Minerals☐ Soil Erosion/Compaction/Grading☐ Growth Inducement☐ Coastal Zone☐ Noise☐ Solid Waste☐ Land Use☐ Drainage/Absorption☐ Population/Housing Balance☐ Toxic/Hazardous☐ Cumulative Effects☐ Economic/Jobs☐ Public Services/Facilities☒ Traffic/Circulation☐ Other:**Present Land Use/Zoning/General Plan Designation:**

Zoning and GP Designation: Commercial, Community 1 (CC1)

Project Description: (please use a separate page if necessary)

The proposed project involves construction of a three-story building with approximately 42,300 sf of commercial space on a 0.6-acre undeveloped portion of the project site. The proposed new commercial building would include a 25,000-square-foot Sprouts Farmers Market, a 1,319-square-foot corner café with an outdoor patio, 3,998-square-feet of office space, an 8,000-square-foot fitness center/gym, and a 4,000-square-foot personal service space. The proposed project does not involve any demolition.



COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

June 20, 2014

Laurie Yelton, Associate Planner
City of West Hollywood
Community Development Department
8300 Santa Monica Boulevard
West Hollywood, CA 90069-6216

Dear Ms. Yelton:

**PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT, "SPROUTS," THE
CONSTRUCTION OF A THREE-STORY BUILDING WITH APPROXIMATELY 42,300 SF OF
COMMERCIAL SPACE ON A 0.6-ACRE UNDEVELOPED PROJECT SITE, 8550 SANTA MONICA
BOULEVARD, WEST HOLLYWOOD (FFER #201400084)**

The Preparation of a Draft Environmental Impact Report has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1. We will reserve our comments for the EIR analysis.

LAND DEVELOPMENT UNIT:

1. The statutory responsibilities of the County of Los Angeles Fire Department, Land Development Unit, are the review of, and comment on all projects within the unincorporated areas of the County of Los Angeles. Our emphasis is on the availability of sufficient water supplies for firefighting operations and local/regional access issues. However, we review all projects for issues that may have a significant impact on the County of Los Angeles Fire Department. We are responsible for the review of all projects within contract cities (cities that contract with the County of Los Angeles Fire Department for fire protection services). We are responsible for all County facilities, located within non-contract cities. The County of Los

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS
ARTESIA
AZUSA
BALDWIN PARK
BELL
BELL GARDENS
BELLFLOWER
BRADBURY

CALABASAS
CARSON
CERRITOS
CLAREMONT
COMMERCE
COVINA
CUDAHY

DIAMOND BAR
DUARTE
EL MONTE
GARDENA
GLEN DORA
HAWAIIAN GARDENS
HAWTHORNE

HIDDEN HILLS
HUNTINGTON PARK
INDUSTRY
INGLEWOOD
IRVINDALE
LA CANADA FLINTRIDGE
LA HABRA

LA MIRADA
LA PUENTE
LAKEWOOD
LANCASTER
LAWDALE
LOMITA
LYNWOOD

MALIBU
MAYWOOD
NORWALK
PALMDALE
PALOS VERDES ESTATES
PARAMOUNT
PICO RIVERA

POMONA
RANCHO PALOS VERDES
ROLLING HILLS
ROLLING HILLS ESTATES
ROSEMEAD
SAN DIMAS
SANTA CLARITA

SIGNAL HILL
SOUTH EL MONTE
SOUTH GATE
TEMPLE CITY
WALNUT
WEST HOLLYWOOD
WESTLAKE VILLAGE
WHITTIER

Angeles Fire Department, Land Development Unit, may also comment on conditions that may be imposed on a project by the Fire Prevention Division, which may create a potentially significant impact to the environment.

2. The County of Los Angeles Fire Department, Land Development Unit's comments are general requirements. Specific fire and life safety requirements and conditions set during the environmental review process will be addressed and conditions set at the building and fire plan check phase. Once the official plans are submitted for review there may be additional requirements.
3. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and fire hydrants.
4. Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.
5. When involved with subdivision in a city contracting fire protection with the County of Los Angeles Fire Department, Fire Department requirements for access, fire flows and hydrants are addressed during the subdivision tentative map stage.
6. Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is strongly suggested that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for residential use.
7. The development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of buildings, its relationship to other structures, property lines, and types of construction used.
8. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:
 - a) No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.
 - b) No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.
 - c) Additional hydrants will be required if hydrant spacing exceeds specified distances.
 - d) When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid-block.
 - e) A cul-de-sac shall not be more than 500 feet in length, when serving land zoned for commercial use.

9. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in-length and at the end of all cul-de-sacs.
10. All on-site driveways/roadways shall provide a minimum unobstructed width of 28 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to and within 30 feet of an exterior wall on one side of the proposed structure.
11. Driveway width for non-residential developments shall be increased when any of the following conditions will exist:
 - a) Provide 34 feet in-width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.
 - b) Provide 42 feet in-width, when parallel parking is allowed on each side of the access roadway/driveway.
 - c) Any access way less than 34 feet in-width shall be labeled "Fire Lane" on the final recording map, and final building plans.
 - d) For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING - FIRE LANE" in three-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.
12. Notify the County of Los Angeles Fire Department, Fire Stations 7 at (310) 358-3430, and Fire Station 8 at (323) 654-5445, at least three days in advance of any street closures that may affect Fire/Paramedic responses in the area.
13. Disruptions to water service shall be coordinated with the County of Los Angeles Fire Department and alternate water sources shall be provided for fire protection during such disruptions.
14. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department, Land Development Unit Inspector, Nancy Rodeheffer, at (323) 890-4243 or at nrodeheffer@fire.lacounty.gov.
15. The County of Los Angeles Fire Department, Land Development Unit, appreciates the opportunity to comment on this project.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impact in these areas should be addressed in the Draft Environmental Impact Report.

Laurie Yelton
June 20, 2014
Page 4

HEALTH HAZARDOUS MATERIALS DIVISION:

1. It is recommended that a Phase I to be prepared for the project site. If the Phase I indicates historical use or storage of hazardous materials at the property, the project site must be assessed/mitigated under oversight of a governmental agency prior to grading.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



FRANK VIDALES, CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

FV:jl



COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

July 16, 2014

Ref File No.: 2986742

Ms. Laurie Yelton, Associate Planner
Community Development Department
City of West Hollywood
8300 Santa Monica Boulevard
West Hollywood, CA 90069-6216

Dear Ms. Yelton:

Sprouts – 8550 Santa Monica Boulevard Project

The County Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Draft Environmental Impact Report for the subject project on May 28, 2014. The proposed development is located within the jurisdictional boundaries of District No. 4. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Sherman Trunk Sewer, located in Huntley Drive at Melrose Avenue. This 15-inch diameter trunk sewer has a design capacity of 4.0 million gallons per day (mgd) and conveyed a peak flow of 0.6 mgd when last measured in 2013.
2. Wastewater generated by the proposed project will be treated by the City of Los Angeles Hyperion Treatment System. Questions regarding sewerage service for the proposed project should also be directed to the City of Los Angeles' Department of Public Works.
3. The expected average wastewater flow from the project site is 6,345 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org, Wastewater & Sewer Systems, click on Will Serve Program, and click on the [Table 1, Loadings for Each Class of Land Use](#) link.
4. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before a permit to connect to the sewer is issued. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org, Wastewater & Sewer Systems, click on Will Serve Program, and search for the

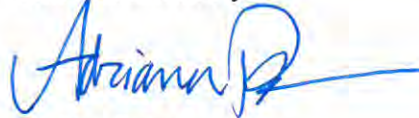
appropriate link. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at extension 2727.

5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the design capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CCA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels that are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Grace Robinson Hyde



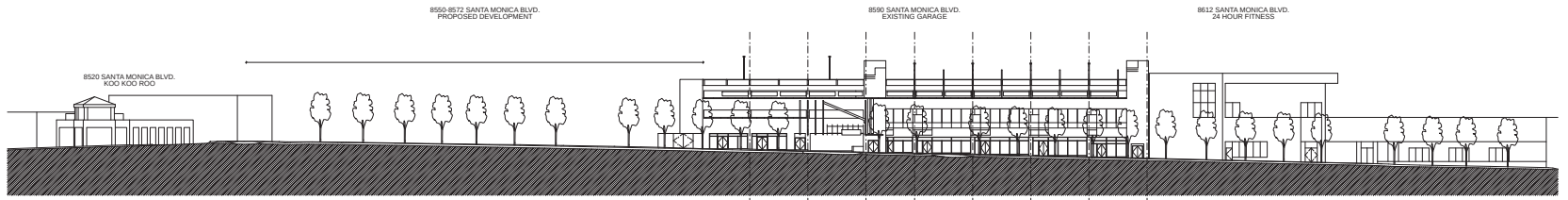
Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

Appendix B

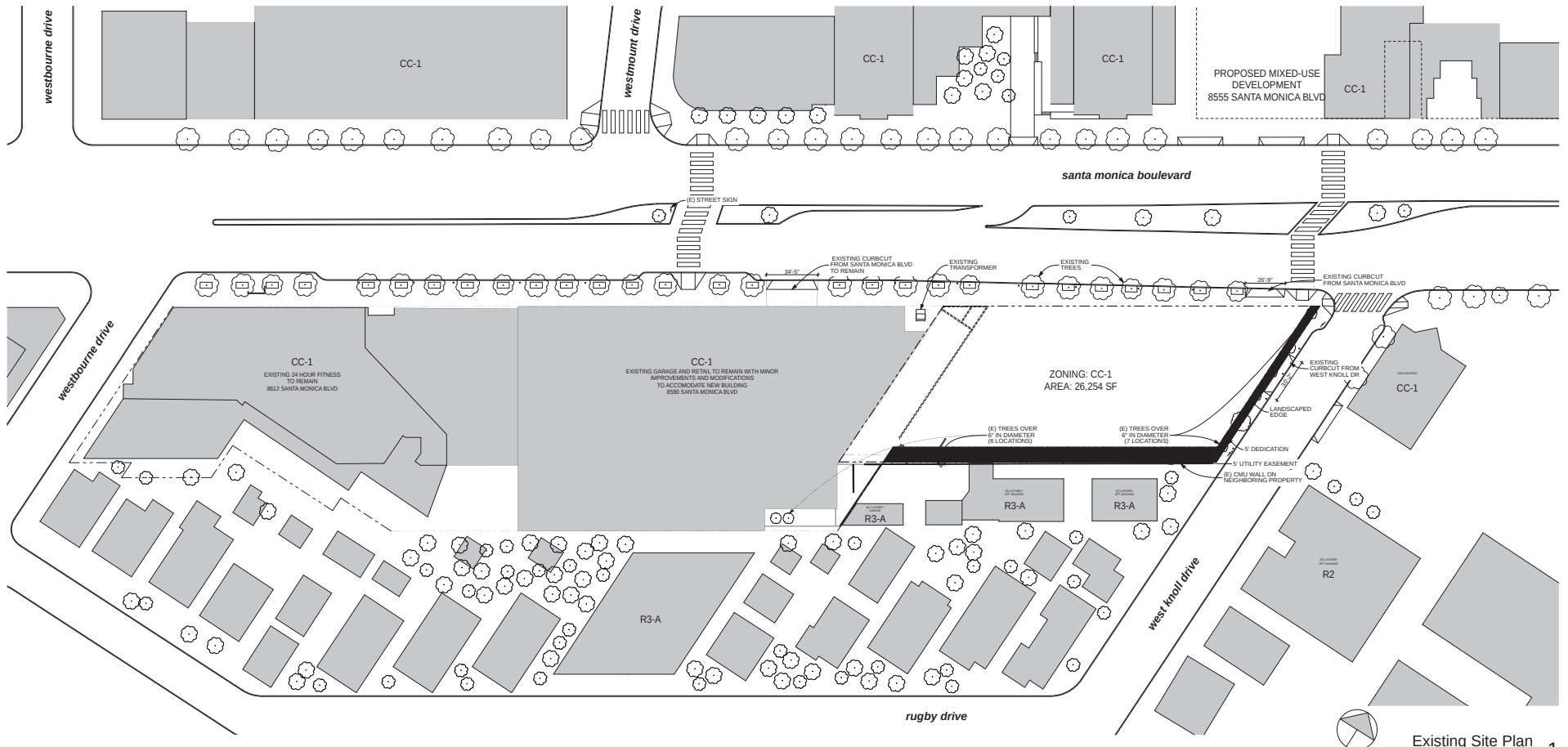
Site Plans, Elevations, Landscaping Plan





Santa Monica Blvd Elevation
SCALE: 1/32" = 1'-0"

2

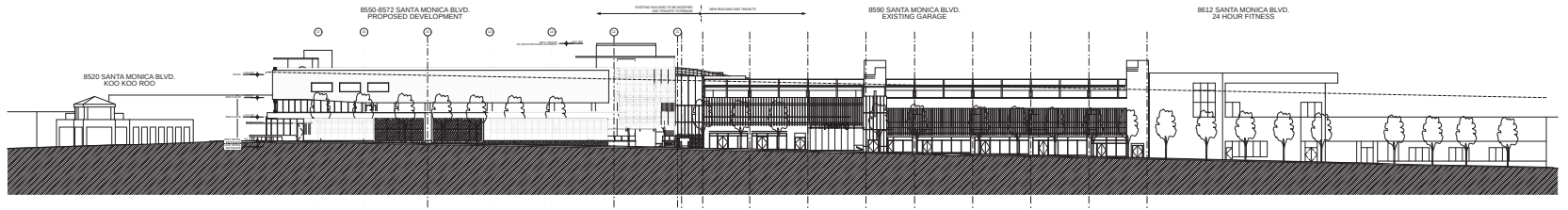


Existing Site Plan
SCALE: 1/32" = 1'-0"

1

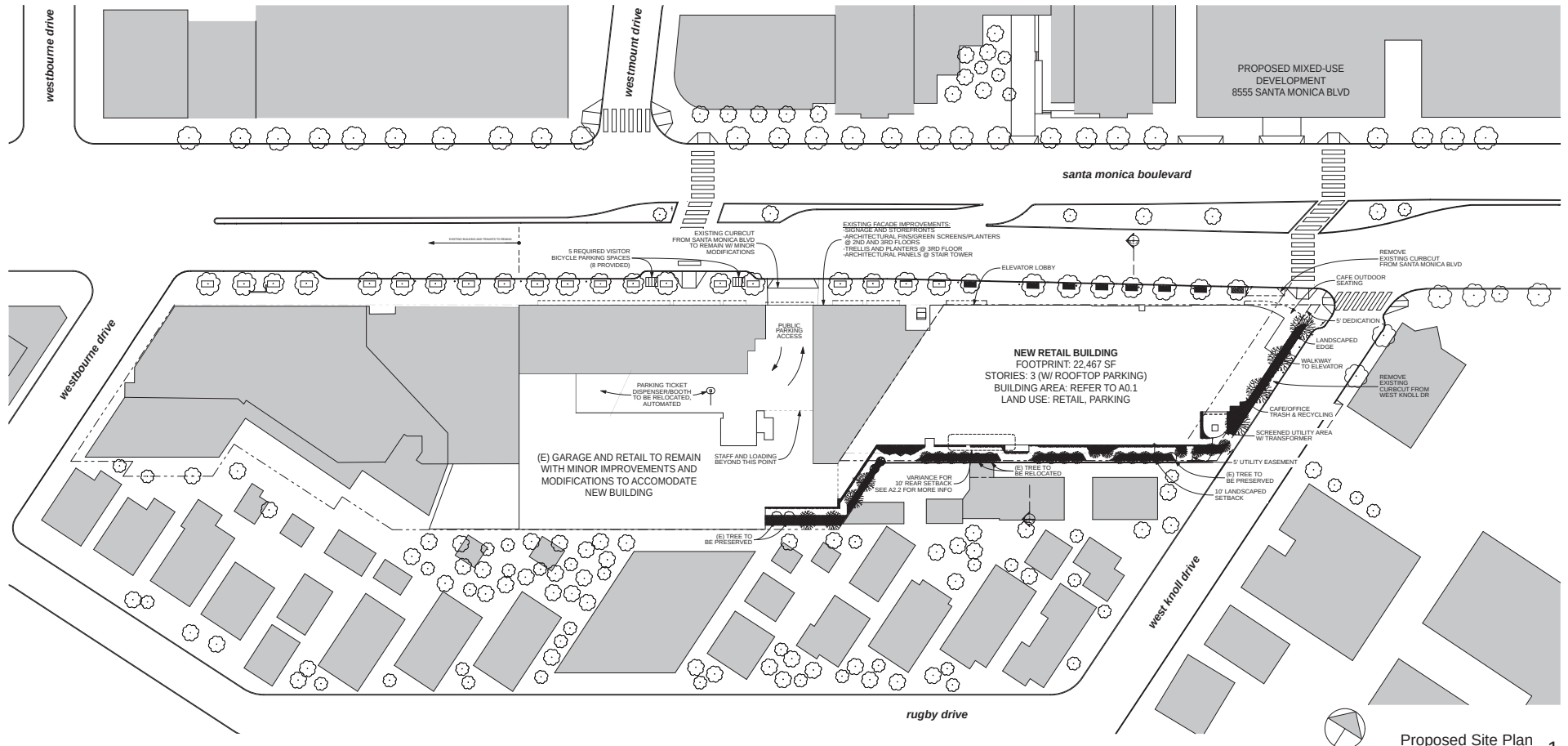
Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Existing Site Plan & North Elevation	Issue: Thursday, January 16, 2014	A1.2

IF THIS DRAWING IS NOT 24" X 36" IT IS A REDUCED PRINT



Santa Monica Blvd Elevation
SCALE: 1/32" = 1'-0"

2



Proposed Site Plan
SCALE: 1/32" = 1'-0"

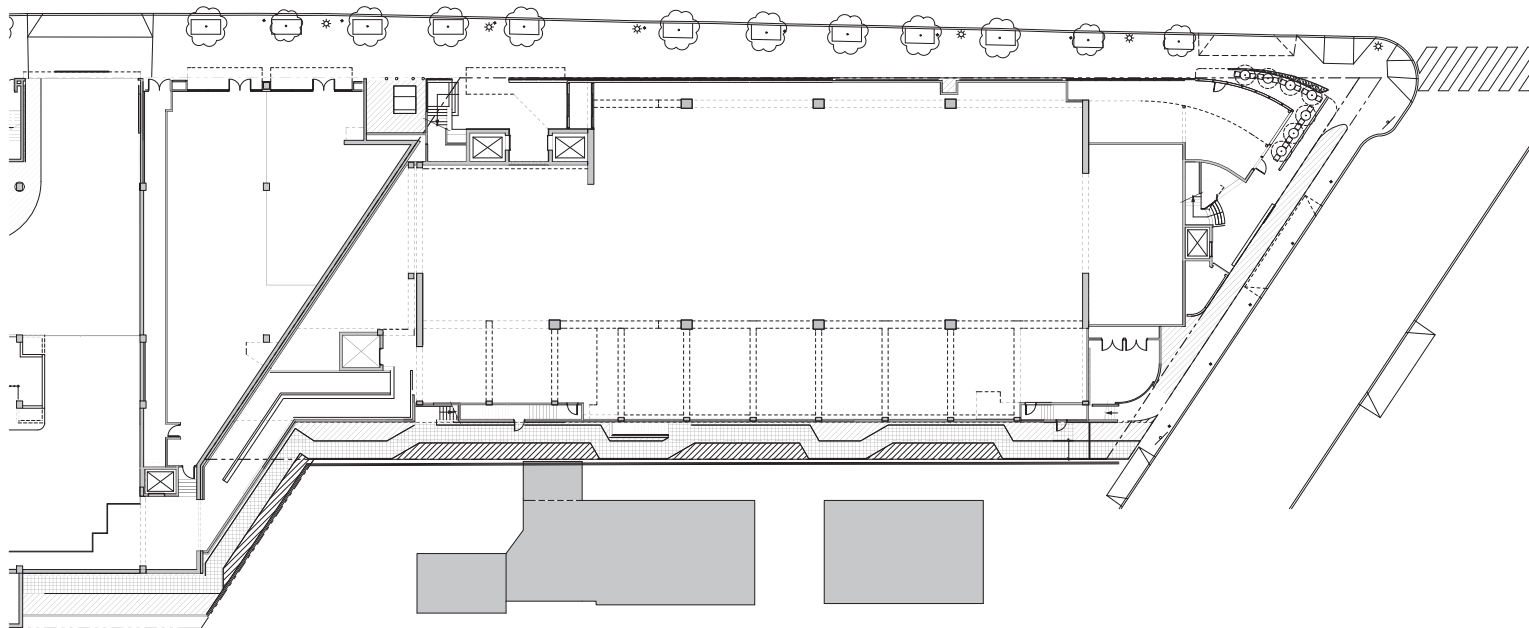
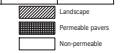
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Architect: Aleks Istanbul Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Proposed Site Plan & SMB Elevation	Issue: Thursday, January 16, 2014	A1.3

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PERMEABLE SURFACE CALCULATIONS

YARD	TOTAL AREA	EXIST'G % PERMEABLE	PROPOSED % PERMEABLE
Front	139 SF	55%	>55%
Side	621 SF	50%	>50%
Rear	3,541 SF	50%	>50%



Permeable Surface Calculations
SCALE: 1/16" = 1'-0"

1

Architect:
Aleks Istanbulu Architects
310.450.8246 www.ai-architects.com

Owner:
8550 SMB, LLC
Owner address: 1803 Pontius Ave
Los Angeles, CA 90069

Project #: 1201A

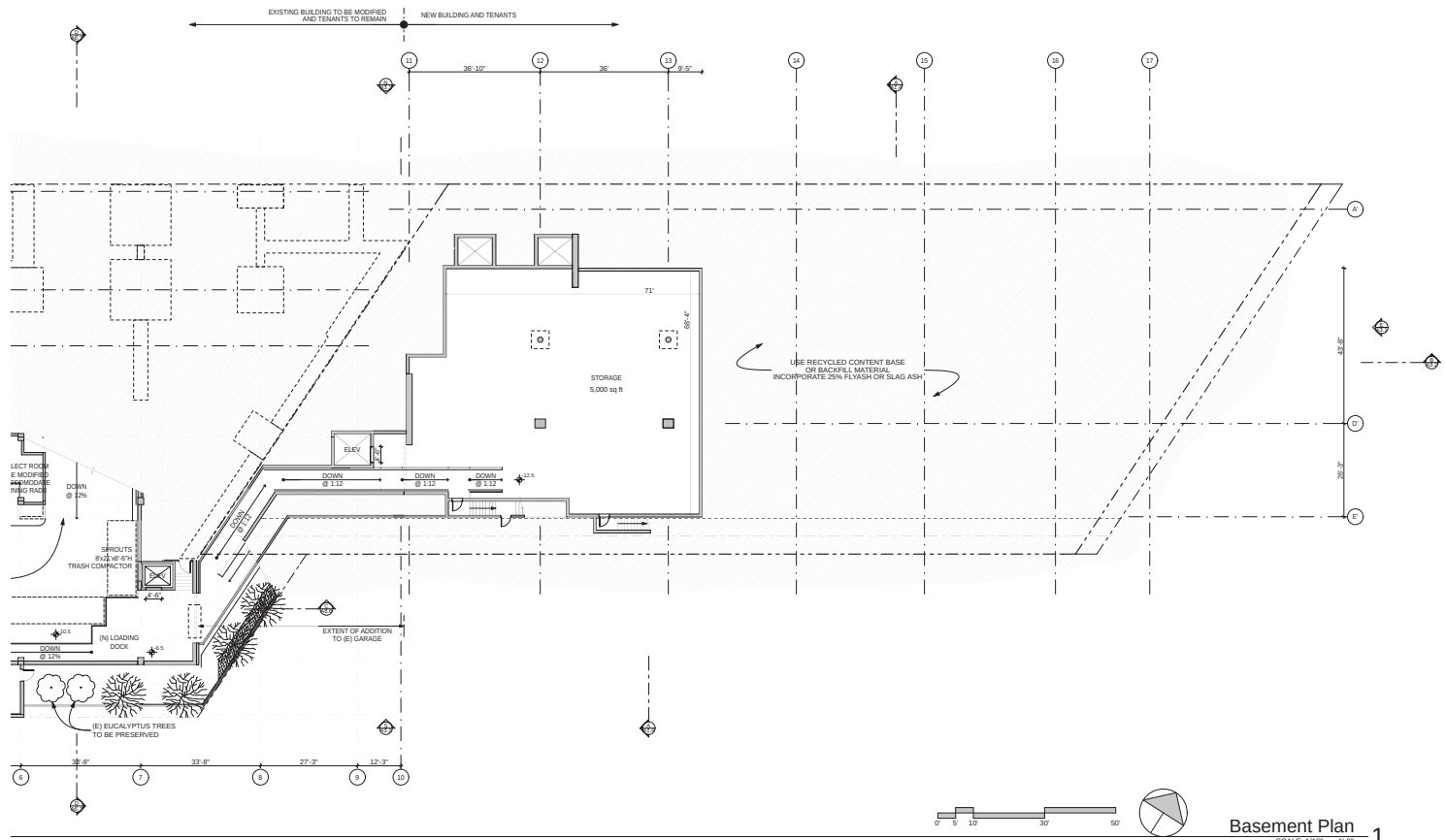
Project Name & Address: **8550 SMB**
8550 Santa Monica Blvd.
West Hollywood, CA 90069

Layout Name:
Permeable Surface Calculations

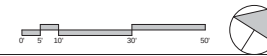
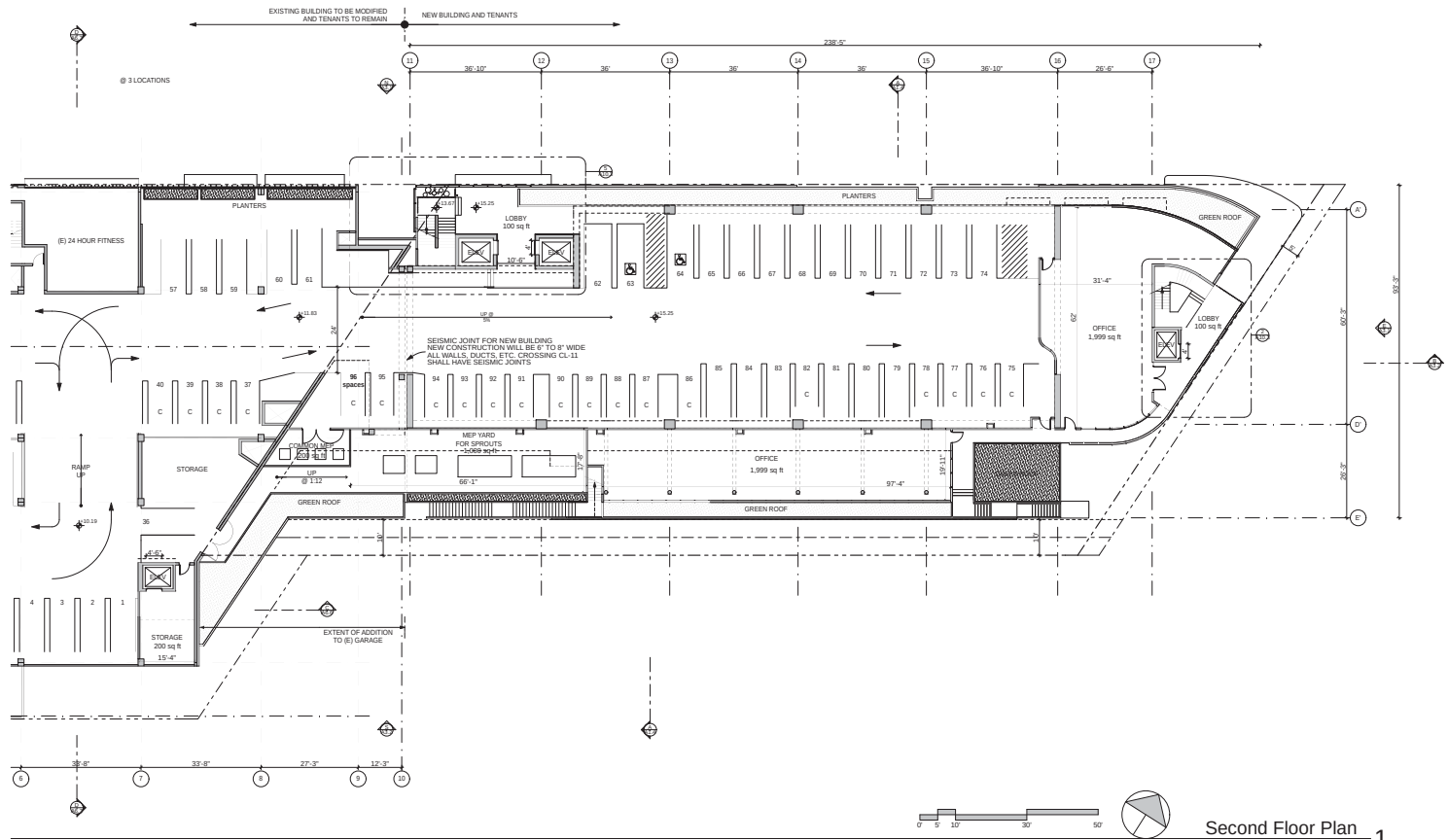
Issue:
Thursday, January 16, 2014

A1.5

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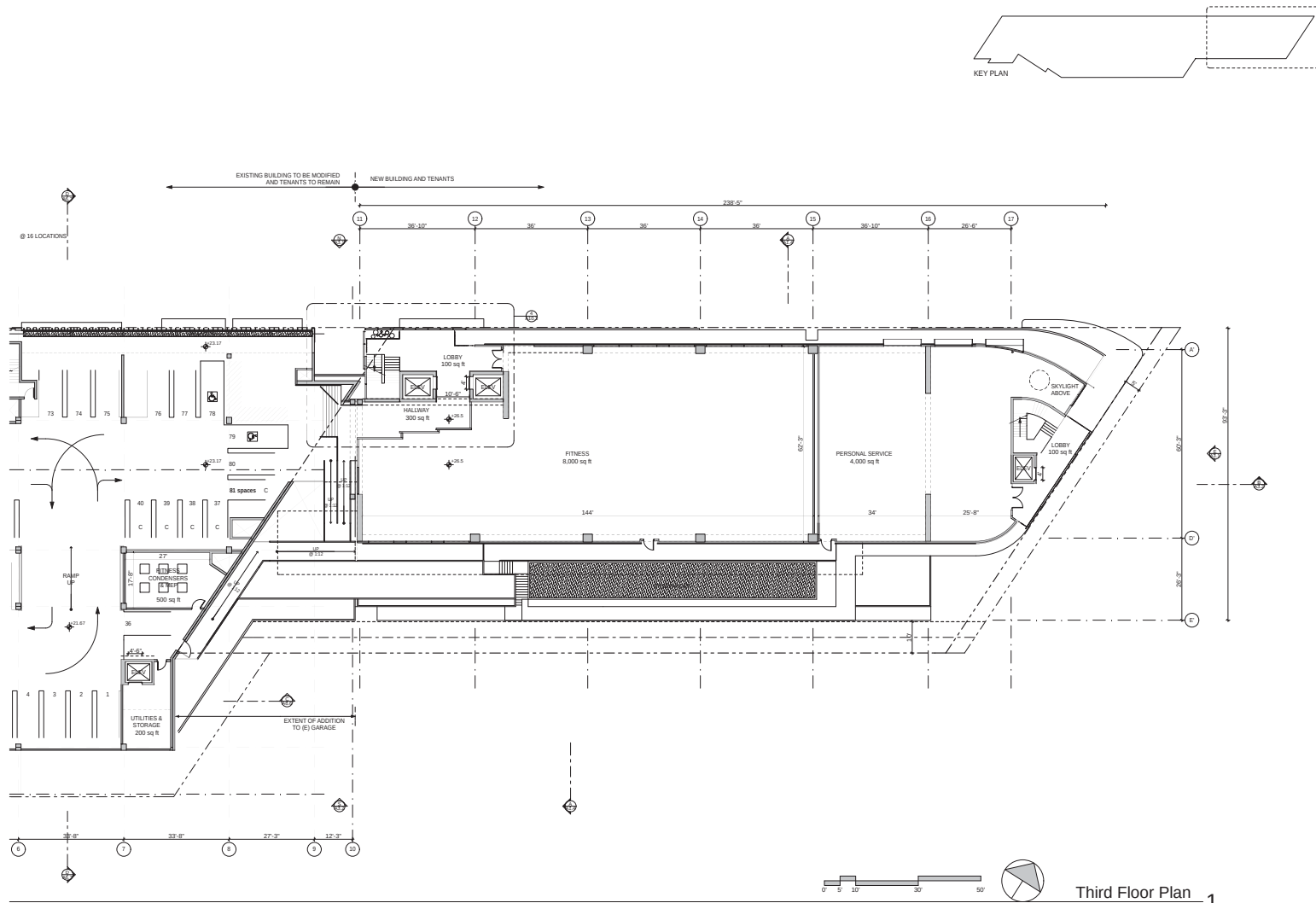


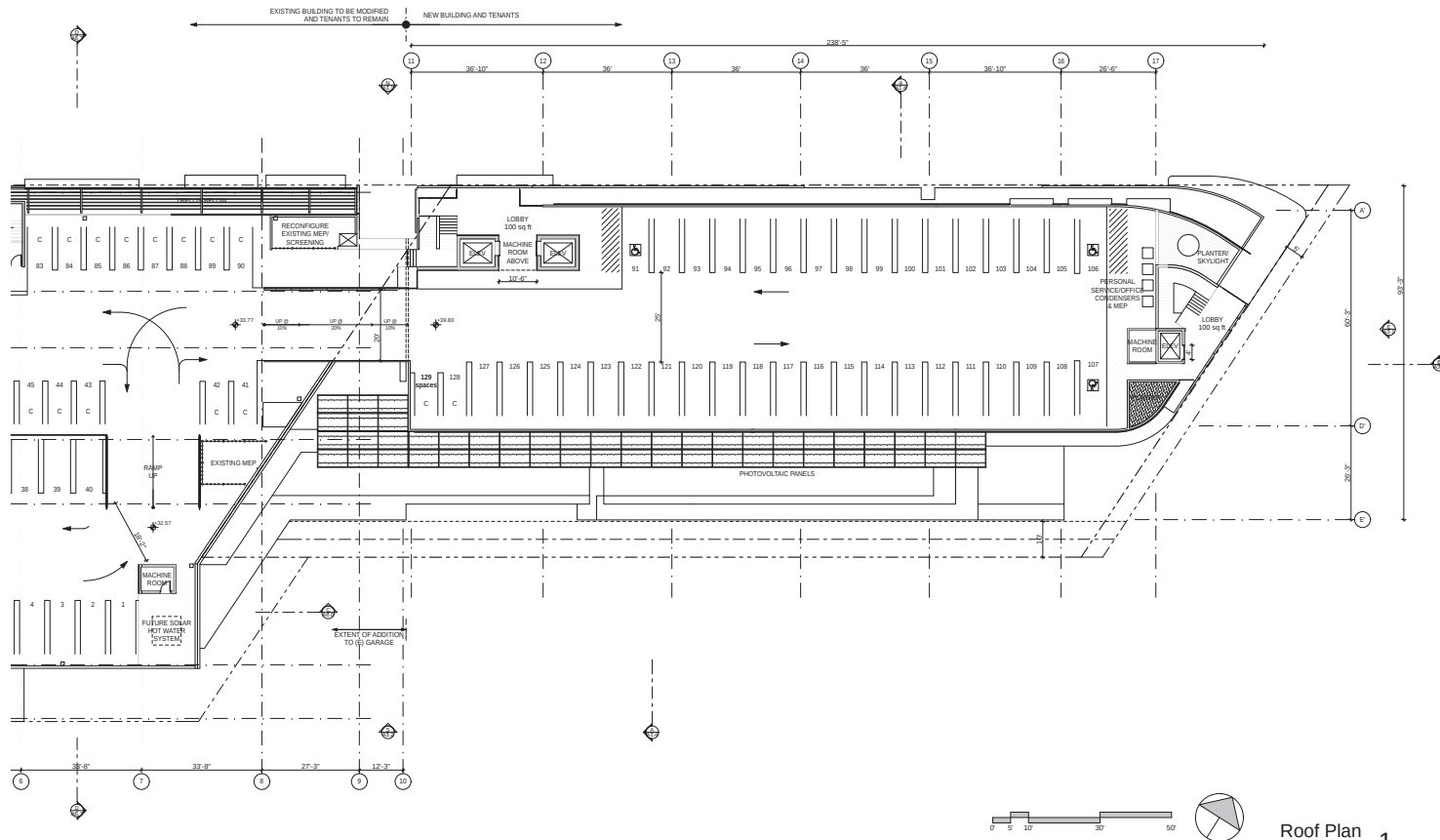
Second Floor Plan
SCALE: 1/16" = 1'-0"

1

Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Second Floor Plan	Issue: Thursday, January 16, 2014	A2.3

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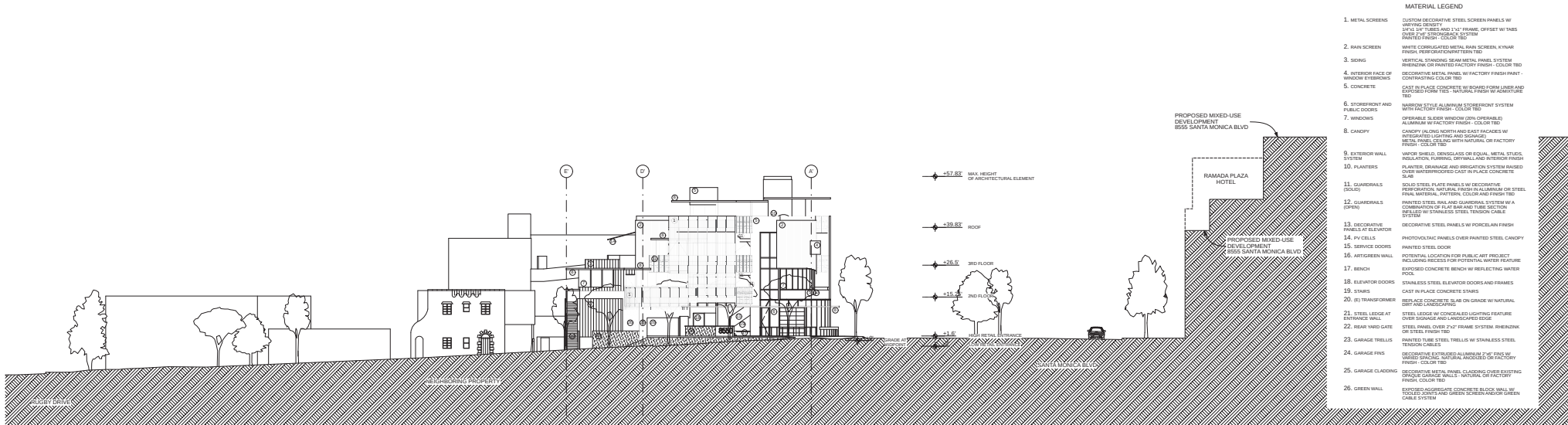




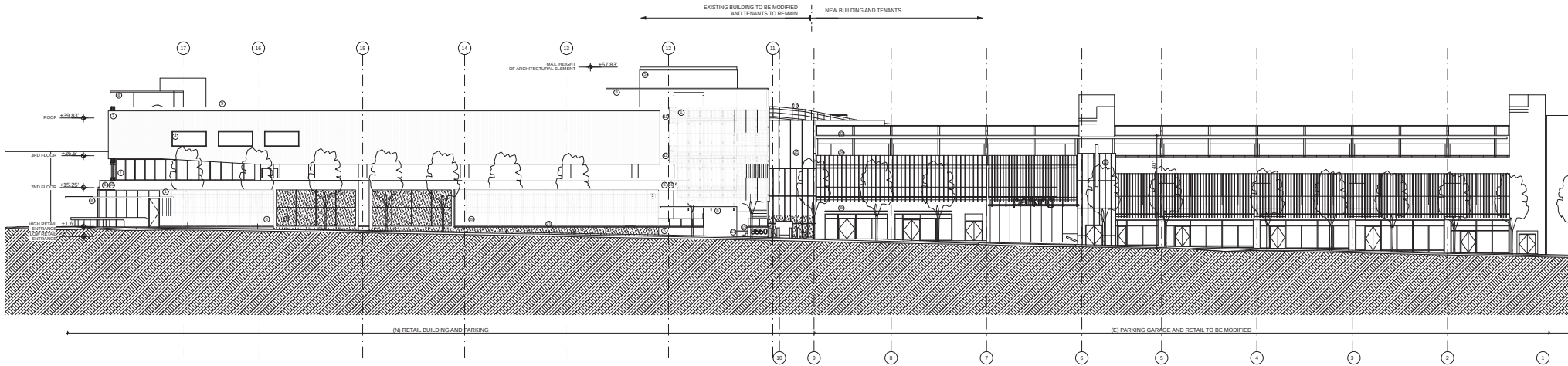
Roof Plan
SCALE: 1/32" = 1'-0"

Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Roof Plan	Issue: Thursday, January 16, 2014	A2.5

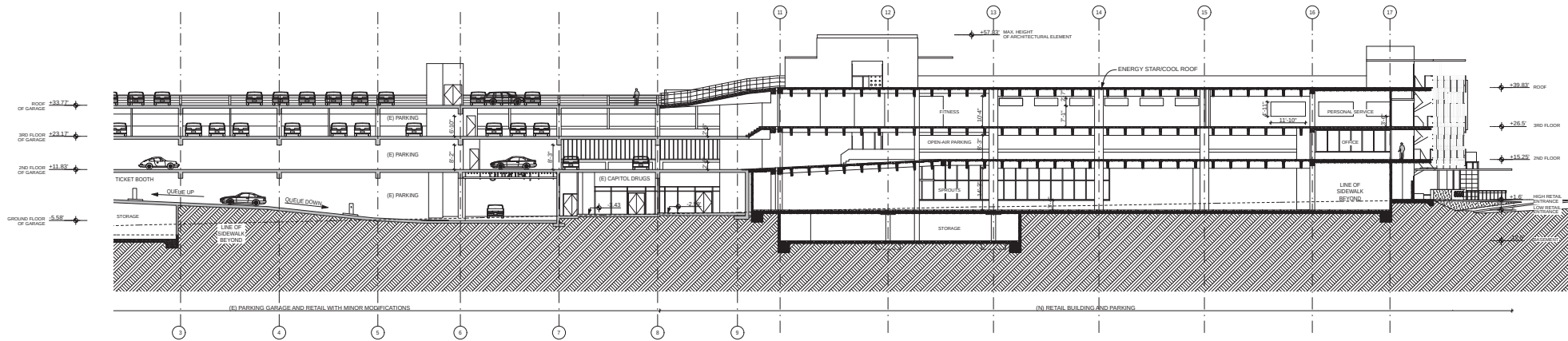
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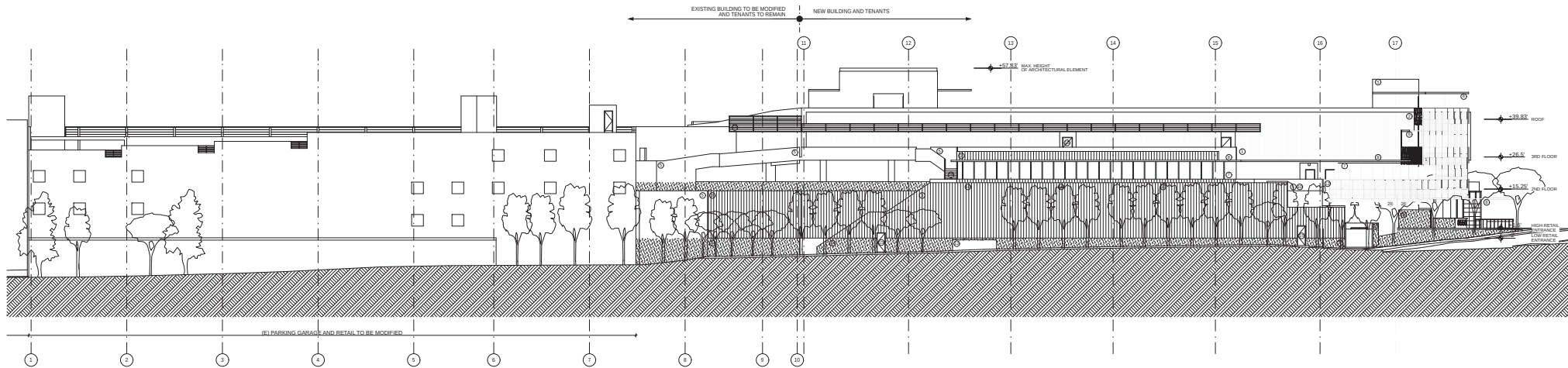
Elevation
SCALE: 1/16" = 1'-0" E



Elevation
SCALE: 1/16" = 1'-0" N



Section
SCALE: 1/16" = 1'-0" B



Elevation
SCALE: 1/16" = 1'-0" S

Architect:
Aleks Istanbulu Architects
310.450.8246 www.ai-architects.com

Owner: **8550 SMB, LLC**
Owner address: **1803 Pontius Ave
Los Angeles, CA 90069**

Project #: **1201A**

Project Name & Address: **8550 SMB
8550 Santa Monica Blvd.
West Hollywood, CA 90069**

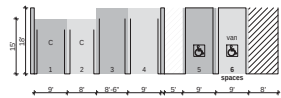
Layout Name:
South Elevation, Section B

Issue:
Thursday, January 16, 2014

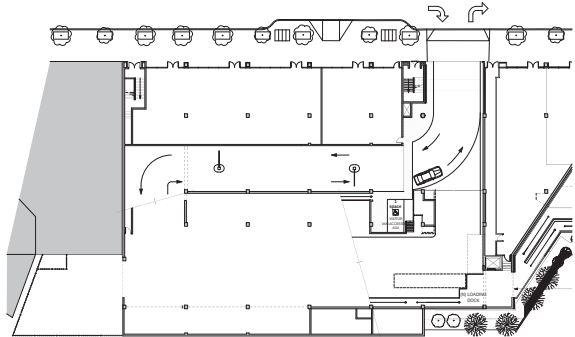
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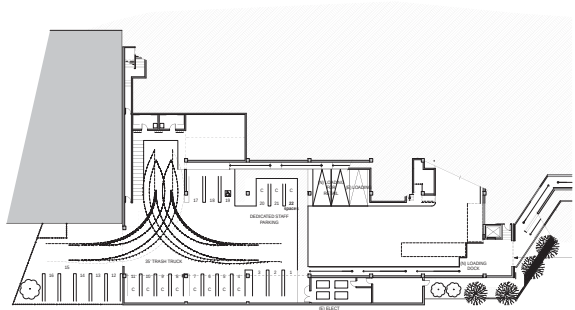
PARKING PROVIDED BY FLOOR												
FLOOR	(S) STALLS		CHANGE		(N) STALLS	% COMPACT	STALLS/FLOOR	TANDUM/VALET	ACCESSIBLE	ALTERNATIVE FUEL VEHICLE	LOADING	
Basement	0C	0S	+11C	+11S	11C	50%	22	0	1 van	0	1 existing	2 new
Ground Floor	28C	12S	-28C	-11S	0C	15	0%	1	1 van	0	0	0
Second Floor	27C	23S	+9C	+33S	36C	60%	96	0	2	0	0	0
Third Floor	56C	28S	-19C	+16S	37C	44%	46%	81	2	0	0	0
Roof	10C	73S	+42C	+4S	52C	77%	129	59	3	0	0	0
TOTALS	121C	138S	+13C	+55S	136C	193%	41%	329	84	7 + 2 van	1 existing	2 new
TOTAL REQD								399				



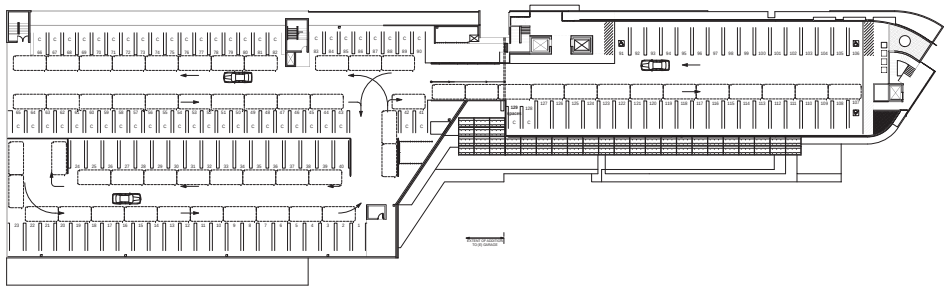
Parking Stall Dimensions



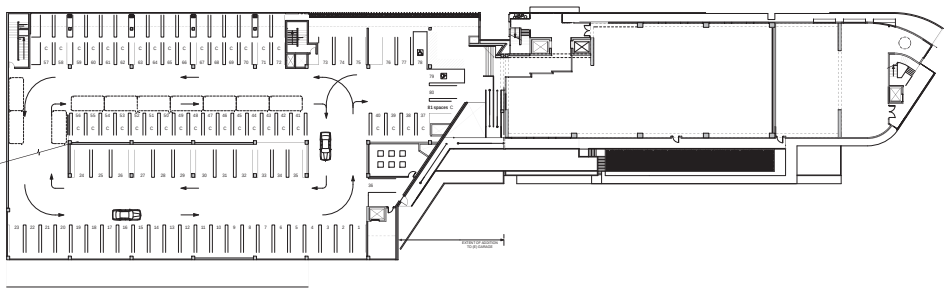
Ground Floor Plan



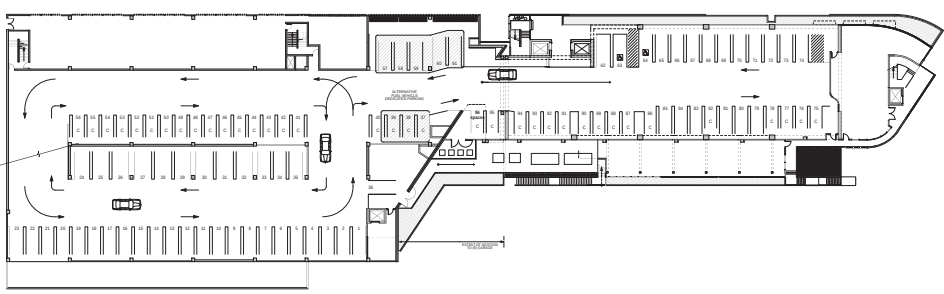
Basement Plan



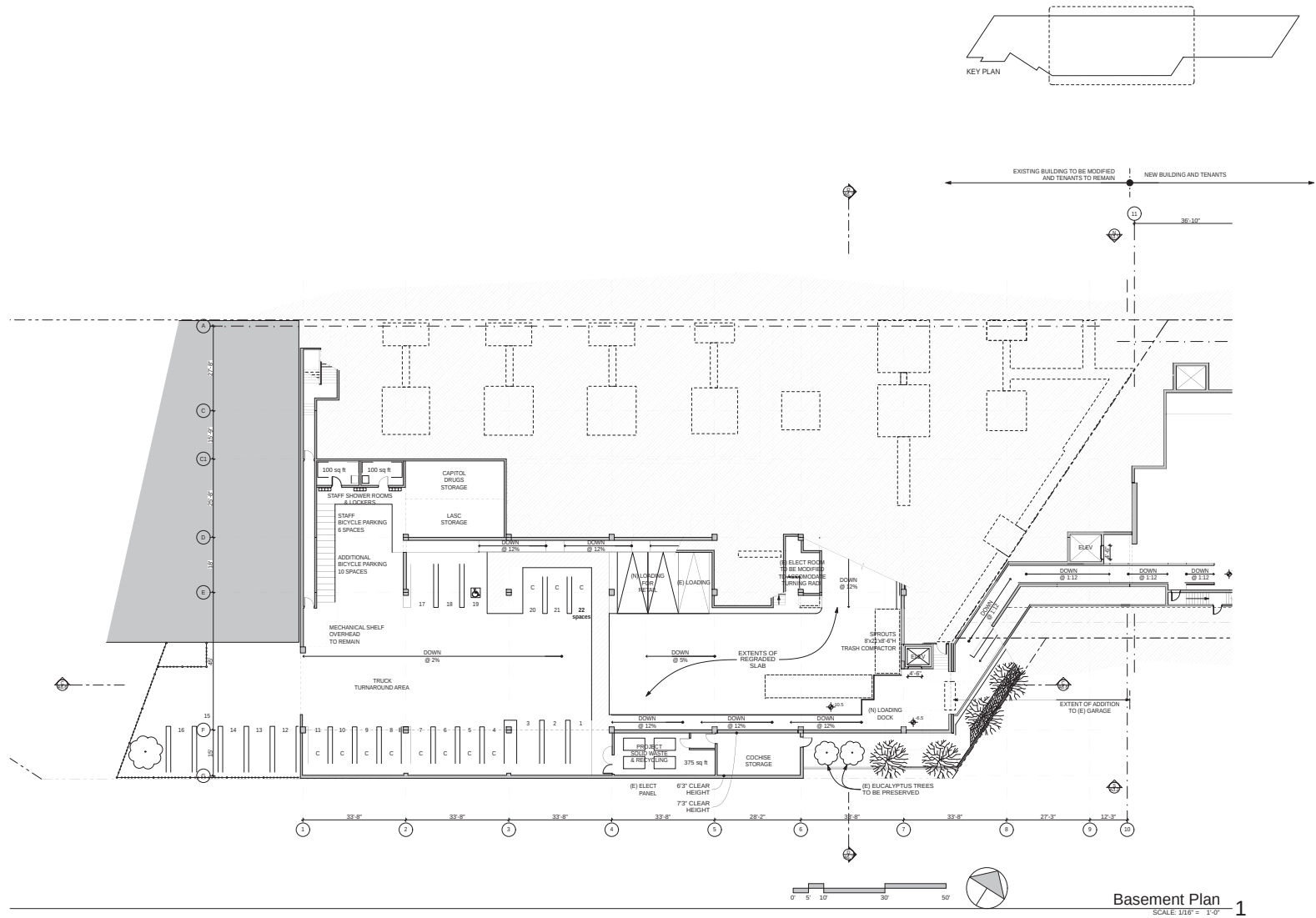
Roof Plan



Third Floor Plan

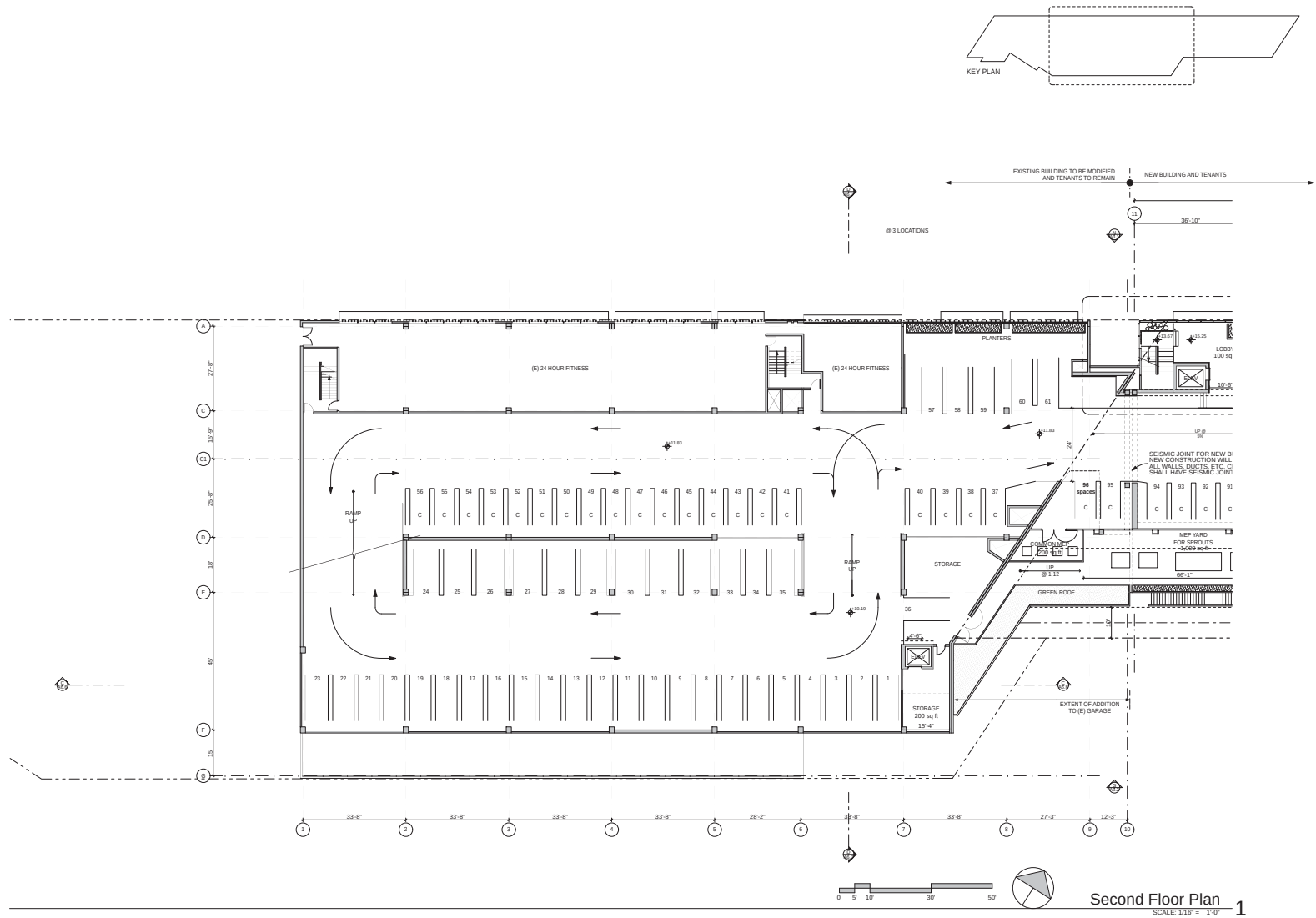


Second Floor Plan



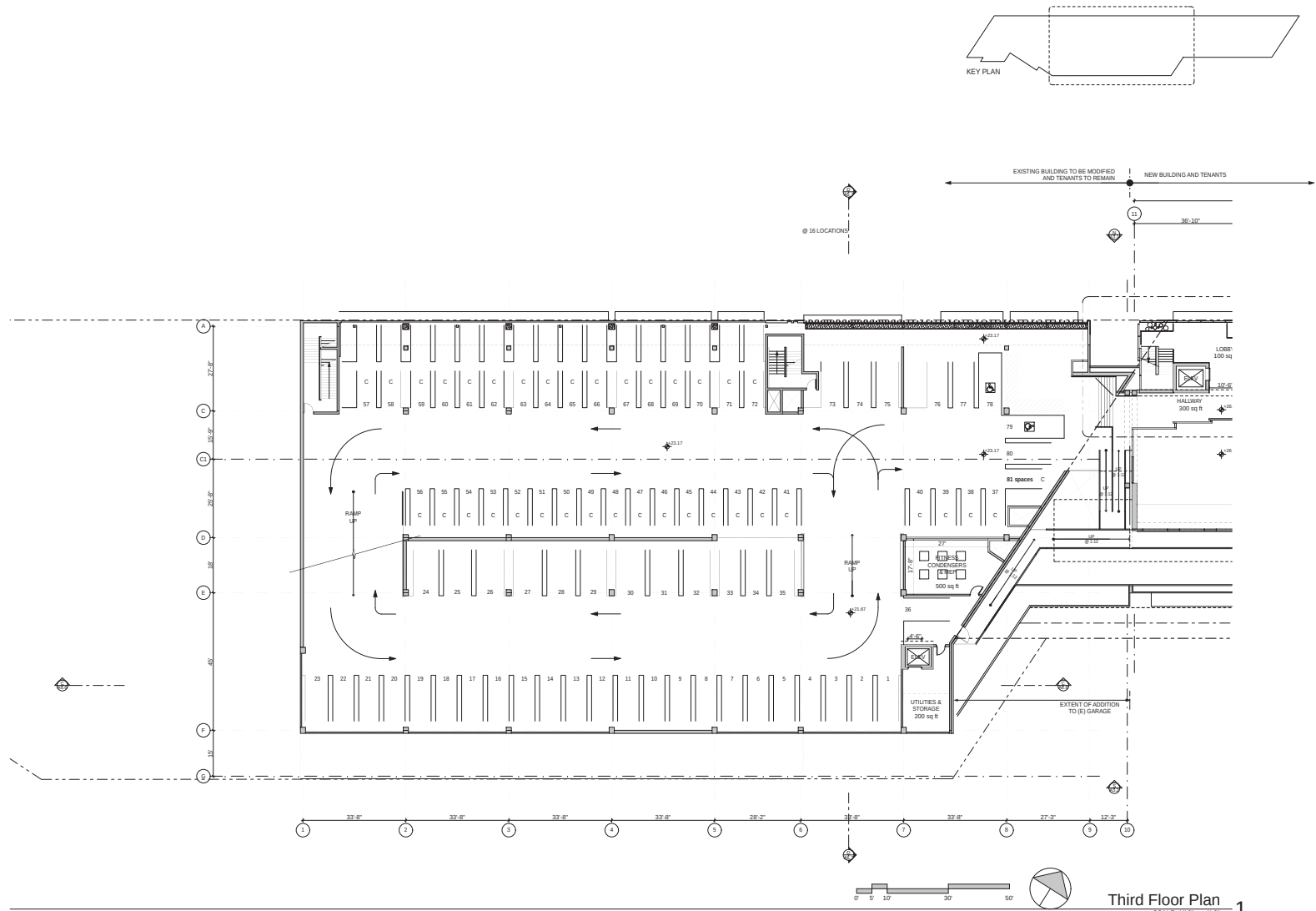
Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: (E) Garage Basement Plan	Issue: Thursday, January 16, 2014	A6.1

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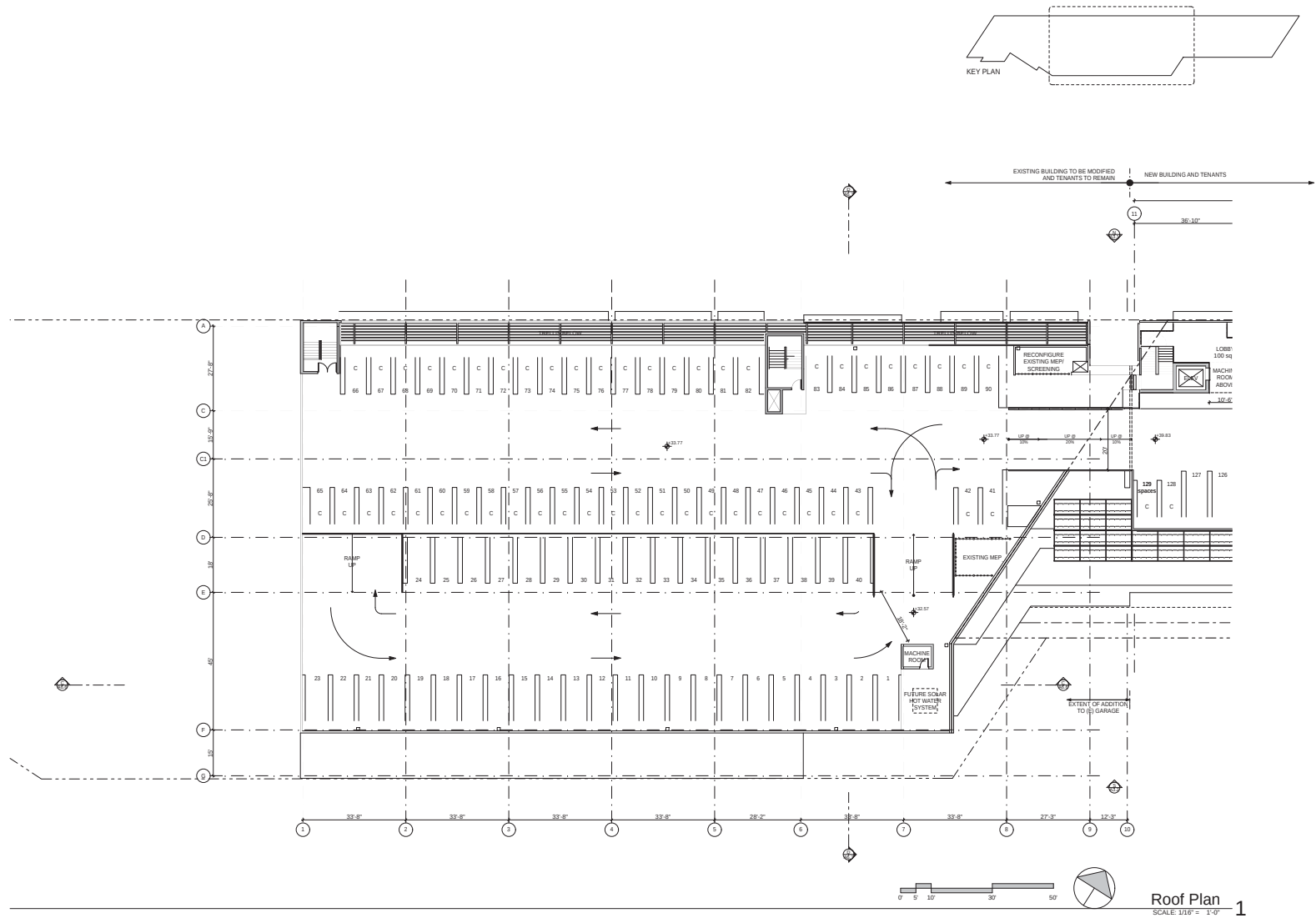
Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: (E) Garage Second Floor Plan	Issue: Thursday, January 16, 2014	A6.3

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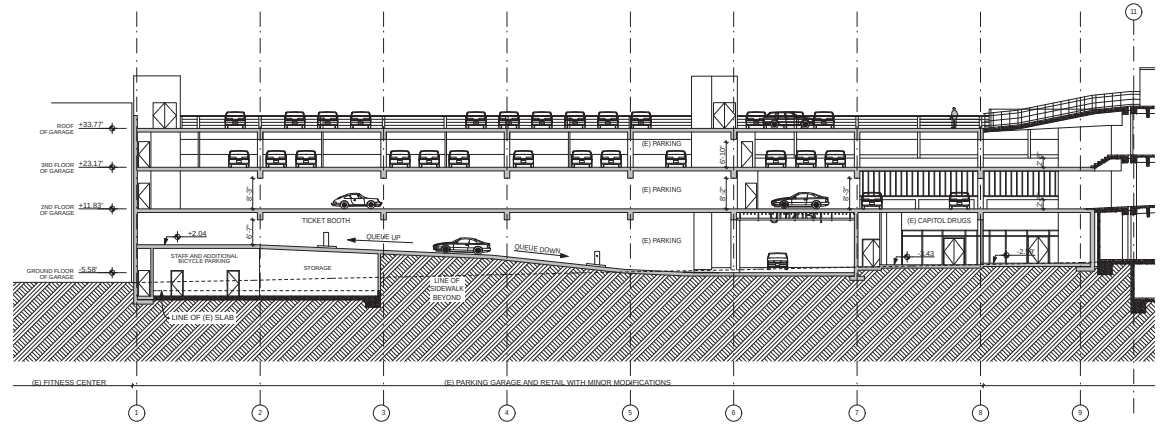
Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: (E) Garage Third Floor Plan	Issue: Thursday, January 16, 2014	A6.4

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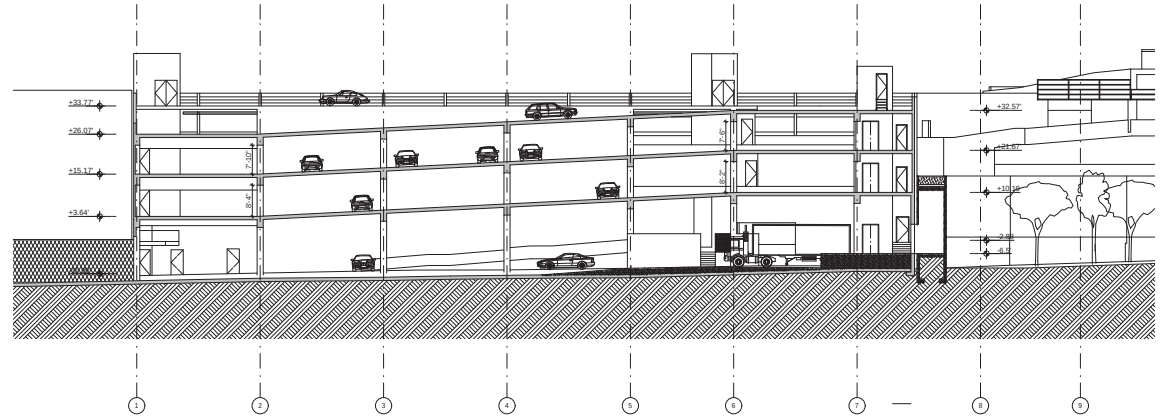


Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: (E) Garage Roof Plan	Issue: Thursday, January 16, 2014	A6.5

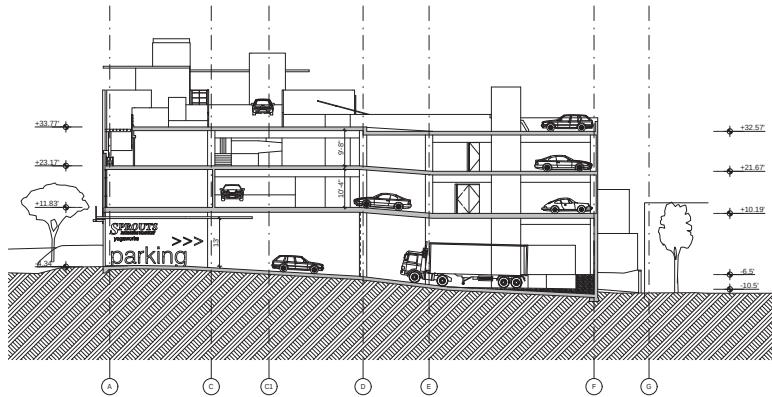
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Section B
SCALE: 1/16" = 1'-0"



Section C
SCALE: 1/16" = 1'-0"



Section D
SCALE: 1/16" = 1'-0"



PRIMARY VERTICAL CIRCULATION
VIEW WEST ON SANTA MONICA BLVD



PRIMARY VERTICAL CIRCULATION
VIEW EAST ON SANTA MONICA BLVD



VIEW WEST ON SANTA MONICA BLVD



SECONDARY VERTICAL CIRCULATION
VIEW SOUTH ON WEST KNOLL DR



SANTA MONICA BLVD & WEST KNOLL DR

Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Renderings	Issue: Thursday, January 16, 2014	A9.1

IF THIS DRAWING IS NOT 24" X 36" IT IS A REDUCED PRINT



VIEW EAST ON SANTA MONICA BLVD



PRIMARY VERTICAL CIRCULATION
VIEW WEST FROM 2ND FLOOR LOBBY



PRIMARY VERTICAL CIRCULATION
VIEW EAST FROM 3RD FLOOR LOBBY

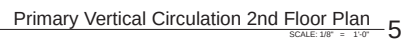


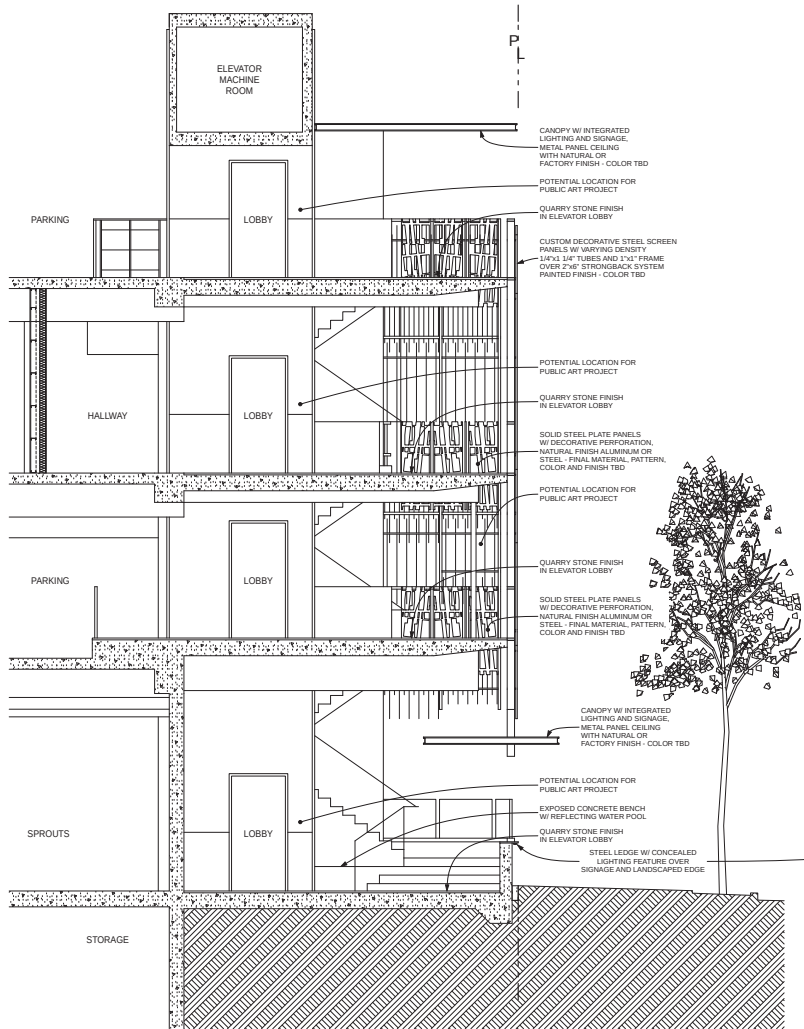
SPROUTS ENTRANCE
VIEW EAST ON SANTA MONICA BLVD



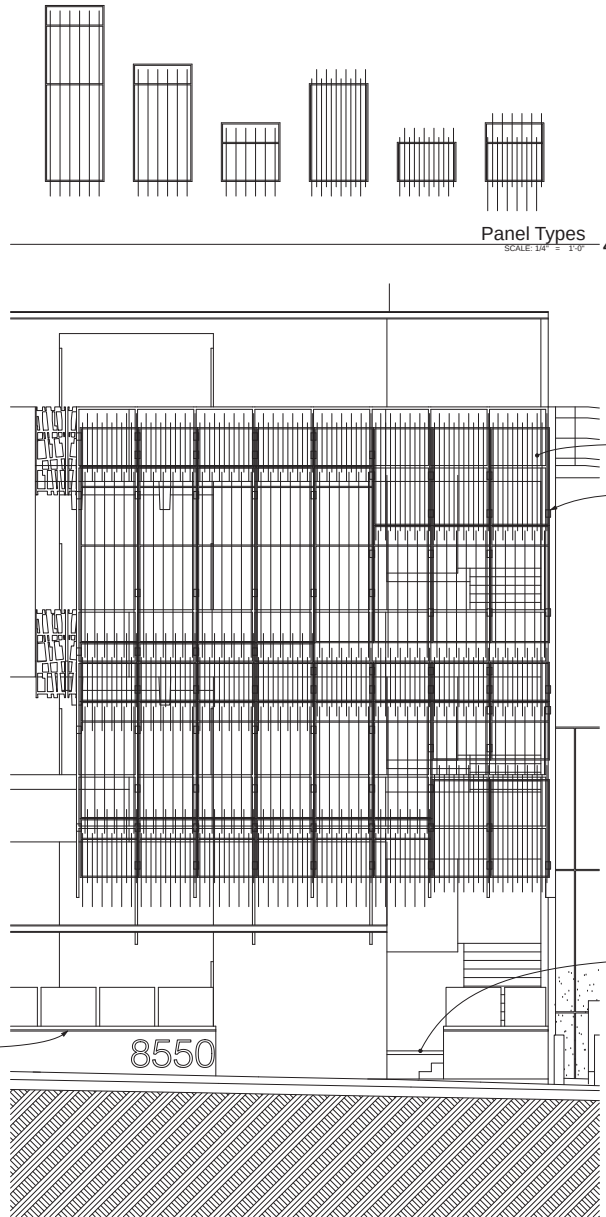
VIEW EAST FROM EXISTING GARAGE 3RD FLOOR

Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Renderings	Issue: Thursday, January 16, 2014	A9.2

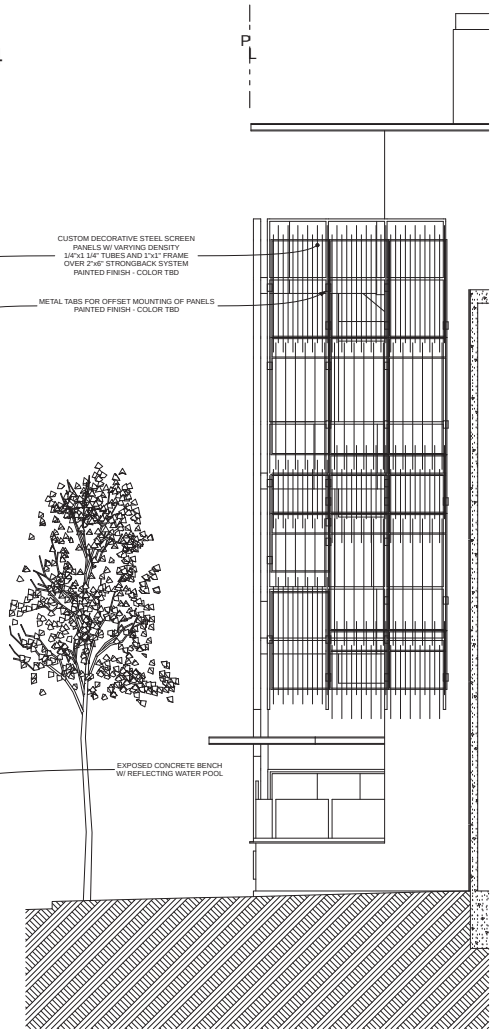




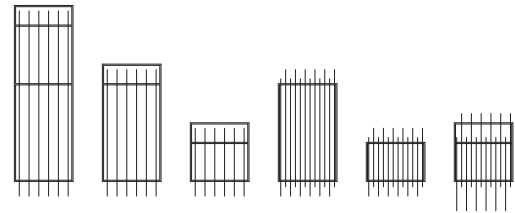
Sprouts Entrance Section 3
SCALE: 1/4" = 1'-0"



Screen Elevation 2
SCALE: 1/4" = 1'-0"



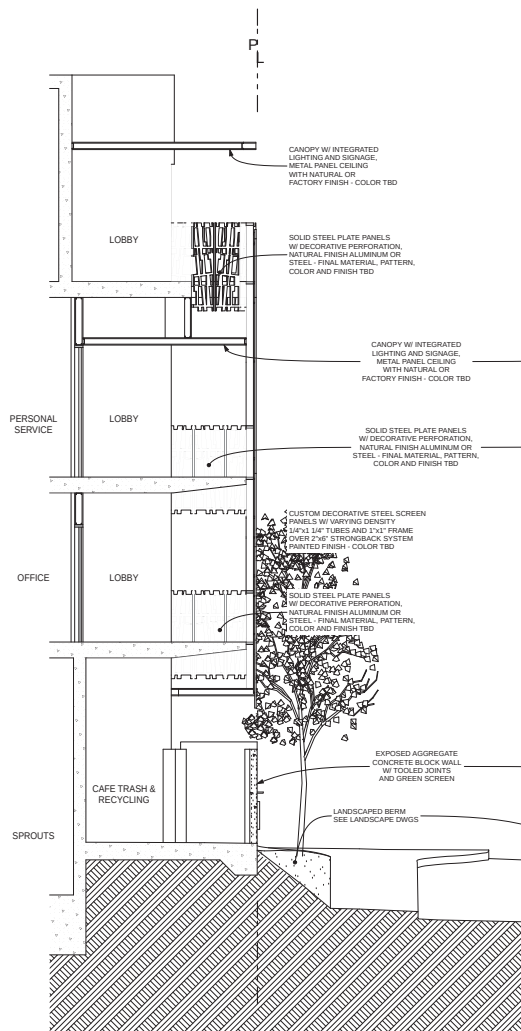
Screen Elevation 1
SCALE: 1/4" = 1'-0"



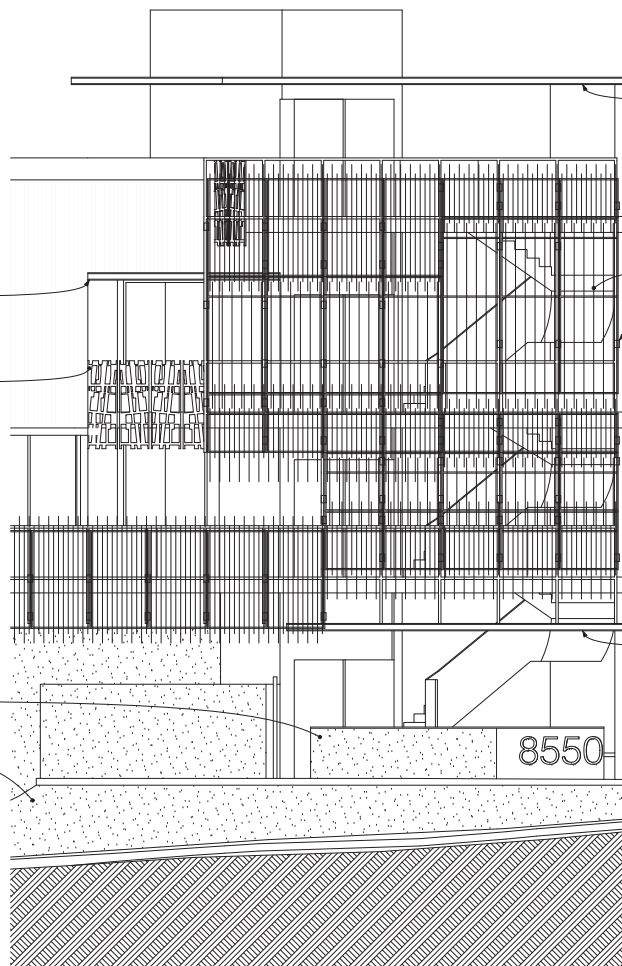
Panel Types 4
SCALE: 1/4" = 1'-0"

Architect: Aleks Istanbulu Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Primary Vertical Circulation	Issue: Thursday, January 16, 2014	A10.4

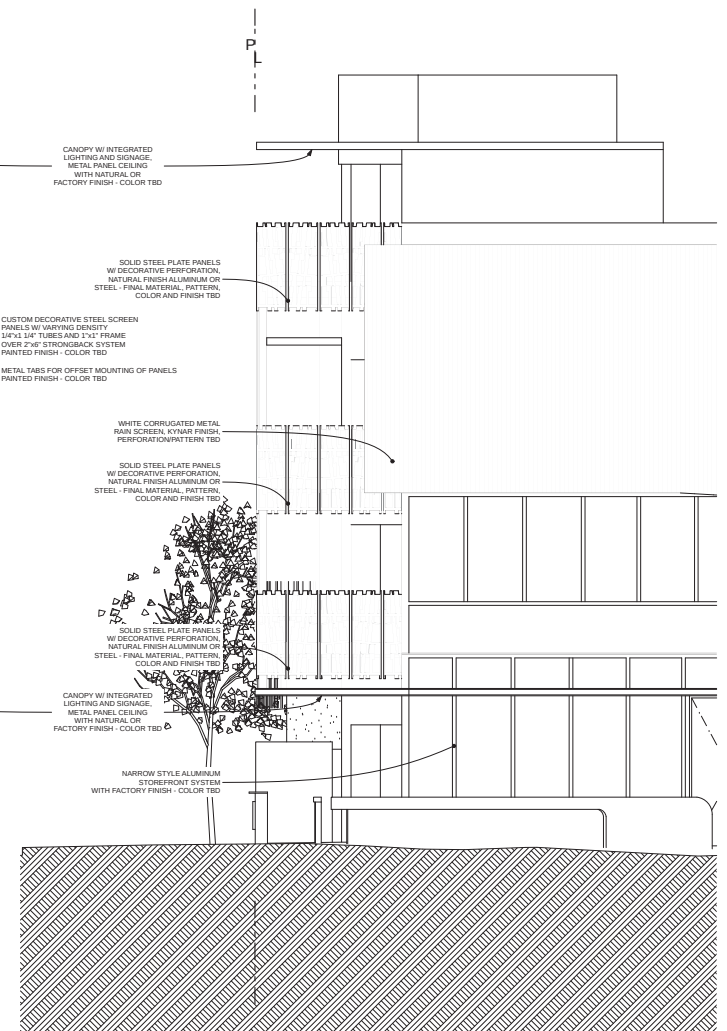
IF THIS DRAWING IS NOT 24" X 36" IT IS A REDUCED PRINT



Secondary Vertical Circulation Section 3
SCALE: 1/4" = 1'-0"



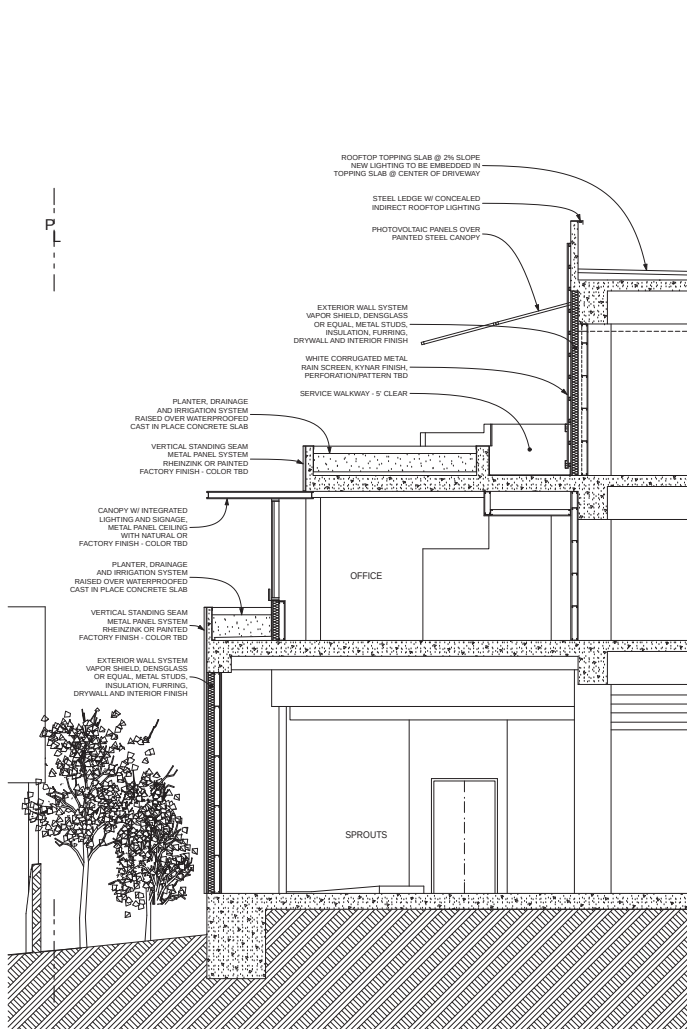
Screen Elevation 2
SCALE: 1/4" = 1'-0"



Cafe Corner Elevation 1
SCALE: 1/4" = 1'-0"

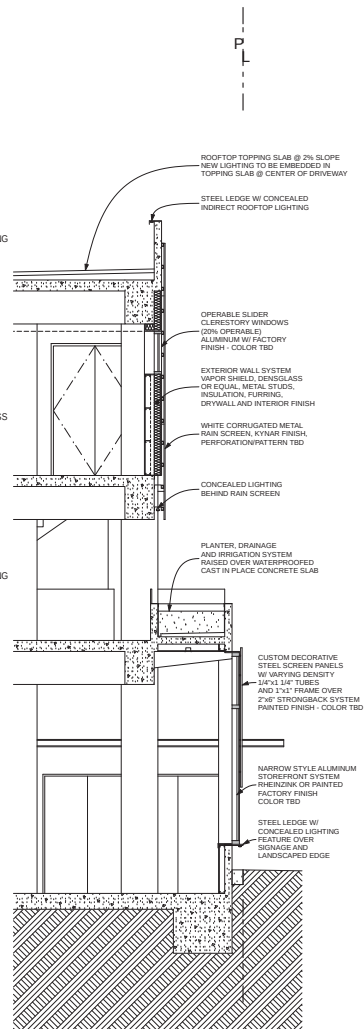
Architect: Aleks Istanbuli Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Secondary Vertical Circulation	Issue: Thursday, January 16, 2014	A10.5

IF THIS DRAWING IS NOT 24" X 36" IT IS A REDUCED PRINT



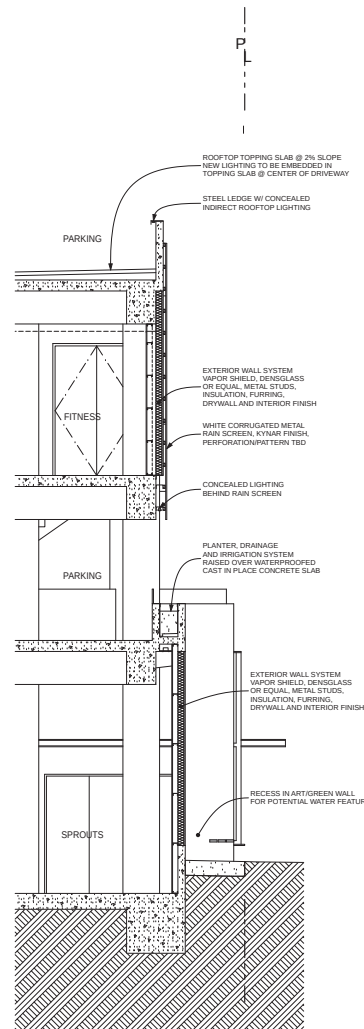
Section @ Rear Yard
SCALE: 1/4" = 1'-0"

4



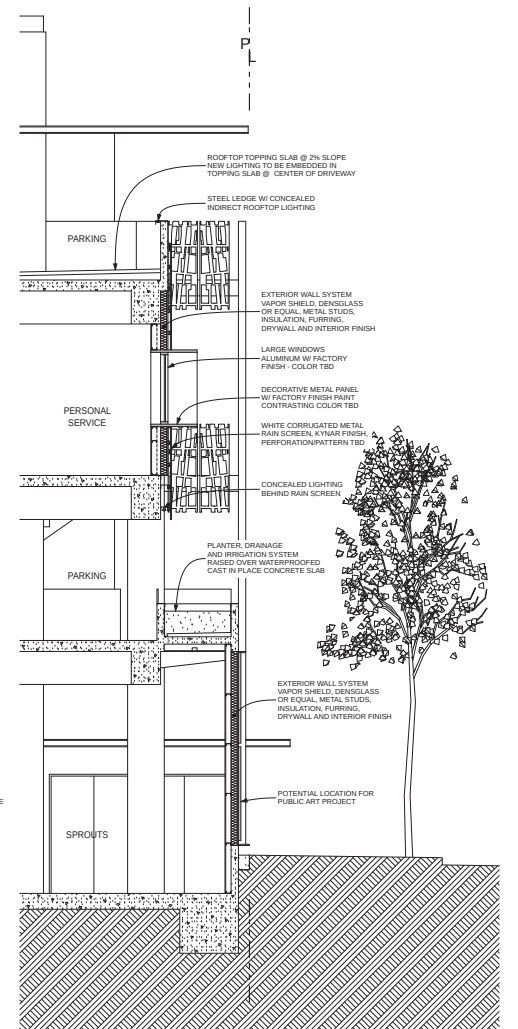
Section @ SMB Storefront
SCALE: 1/4" = 1'-0"

3



Section @ SMB Art Wall Recess
SCALE: 1/4" = 1'-0"

2

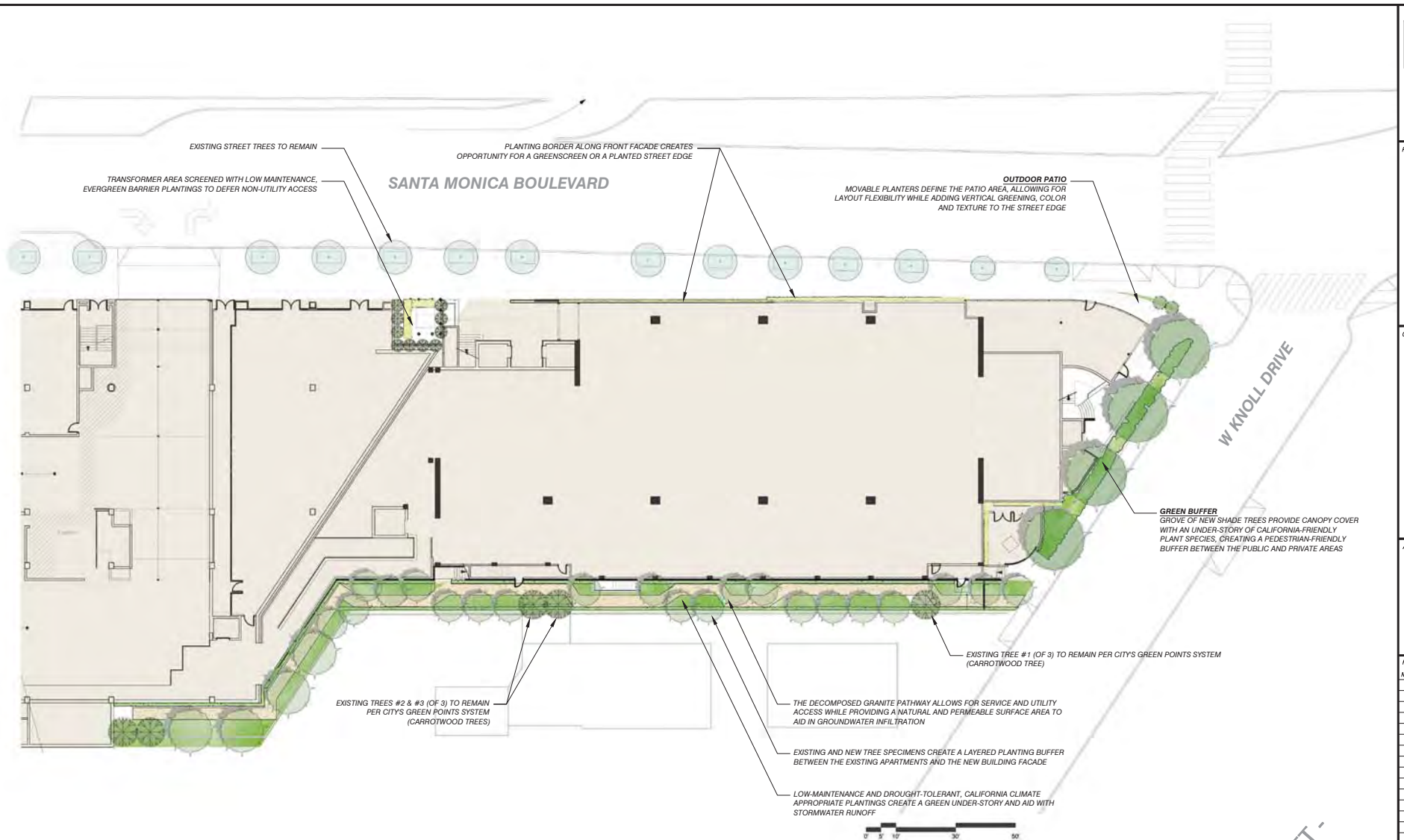


Section @ SMB Art Wall
SCALE: 1/4" = 1'-0"

1

Architect: Aleks Istanbuli Architects 310.450.8246 www.ai-architects.com	Owner: 8550 SMB, LLC Owner address: 1803 Pontius Ave Los Angeles, CA 90069	Project #: 1201A	Project Name & Address: 8550 SMB 8550 Santa Monica Blvd. West Hollywood, CA 90069	Layout Name: Wall Sections	Issue: Thursday, January 16, 2014	A10.6

IF THIS DRAWING IS NOT 24" X 36" IT IS A REDUCED PRINT

[illegible]

PROGRESS SET -
NOT FOR
CONSTRUCTION



Project Names:

8550 SANTA MONICA BLVD.
LANDSCAPE DOCUMENTS
WEST HOLLYWOOD, CA 90069

Consultants:

Approvals

Revisions:

[illegible]

Sheet Title:

SECOND FLOOR
LANDSCAPE PLAN

Date:	11-26-13
Scale:	AS SHOWN

L-20

Sheet Number



PROGRESS SET -
NOT FOR
CONSTRUCTION

- SECOND FLOOR LANDSCAPE PLAN

SCALE: $\frac{1}{16}'' = 1'-0''$

Ph. 310 574-4468
F. 310 574-4463
4212 1/2 Glencoe Avenue
Marina Del Rey, Ca. 90292

LANDSCAPE
ARCHITECTURE

Project Name:

8550 SANTA MONICA BLVD.
LANDSCAPE DOCUMENTS
WEST HOLLYWOOD, CA 90069

Consultants:

Approvals

Revisions:

[illegible]

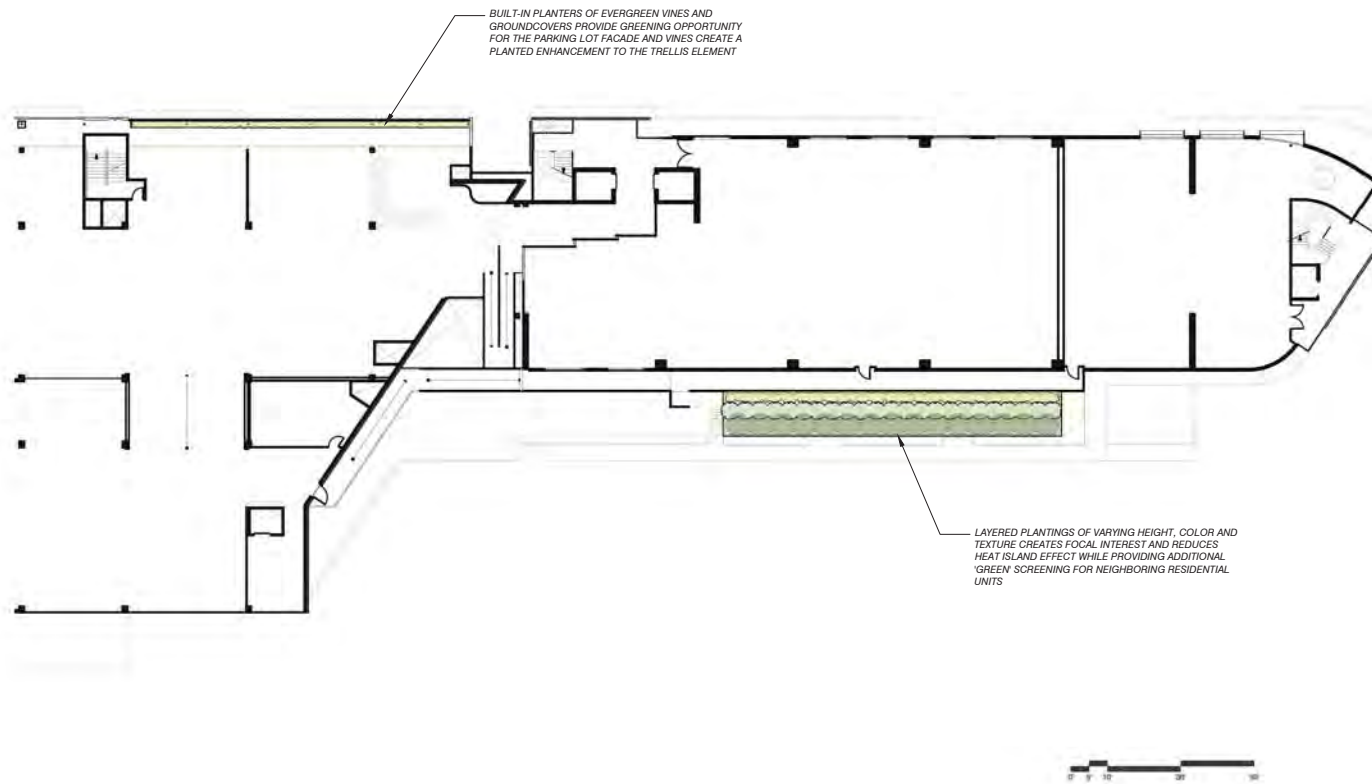
Sheet Title:

THIRD FLOOR
LANDSCAPE PLAN

Date:	11-25-13
Scale:	AS SHOWN

L-3.0

Sheet Number



PROGRESS SET -
NOT FOR
CONSTRUCTION



SCALE: $\frac{1}{16}'' = 1'-0''$

- THIRD FLOOR LANDSCAPE PLAN

Ph. 310 574-4468
F. 310 574-4463
4212 1/2 Glencoe Avenue
Marina Del Rey, Ca. 90292

LANDSCAPE
ARCHITECTURE

Project Name:

8550 SANTA MONICA BLVD.
LANDSCAPE DOCUMENTS
WEST HOLLYWOOD, CA 90069

Consultants:

Approvals

Revisions:

[illegible]

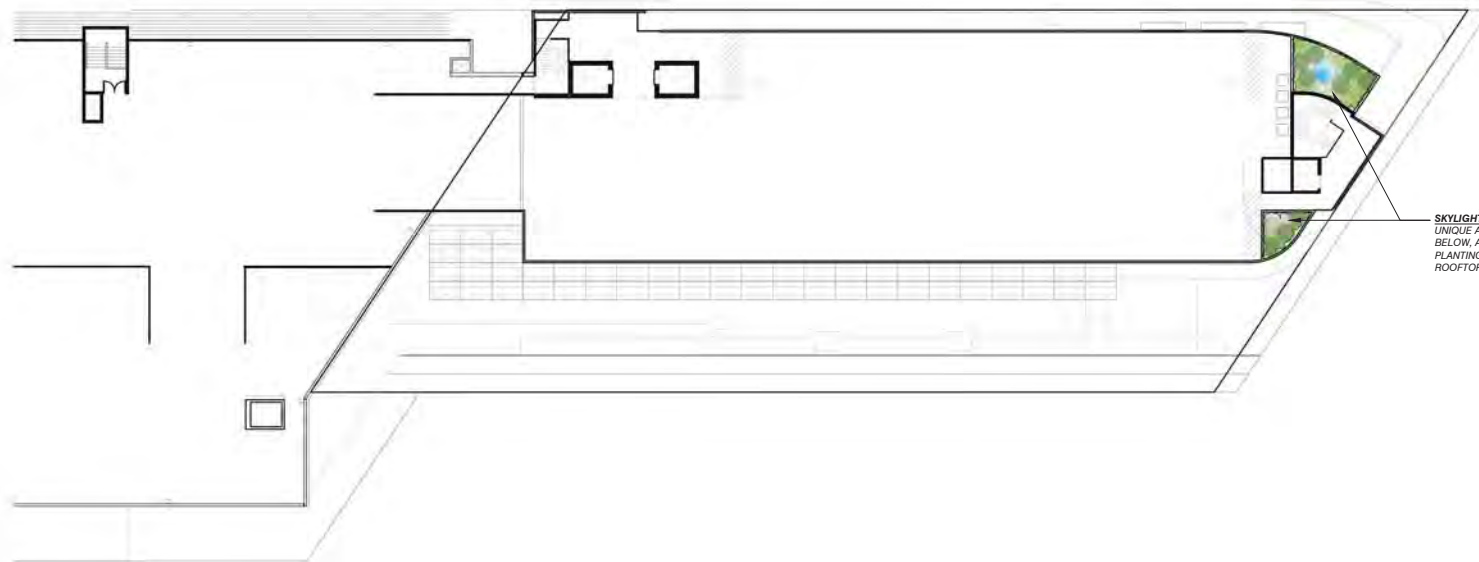
Sheet Title:

ROOF
LANDSCAPE PLAN

Date:	11-25-13
Scale:	AS SHOWN

L-4.0

Sheet Number



SKYLIGHT PLANTERS
UNIQUE ARCHITECTURAL SKYLIGHTS OPEN THE SKY TO BELOW, AS LOW-MAINTENANCE, DROUGHT-TOLERANT PLANTING BRINGS COLOR AND VIBRANCY TO THE ROOFTOP PARKING LOT



PROGRESS SET -
NOT FOR
CONSTRUCTION



SCALE: $\frac{1}{16}'' = 1'-0''$

- ROOF LANDSCAPE PLAN

SHADE



Cercidium
Palo Verde
Brilliant color, Provides shade,
Low to moderate water



Hesperaloe parviflora
Red Yucca
Red flowers, heat tolerant, low water



No Mow Fescue
Evergreen, low maintenance ground cover
Low water



Fragaria chiloensis
Beach Strawberry
Evergreen, flowers and berries, low water use



Ficus pumila
Creeping Fig
Evergreen, fine textured, low water use

VINES

Appendix C

Noise Measurement and Modeling Results



Peak	Uw _{pk}

Site	Location	Number	Date	Duration	Leq	SEL	Lmax	Lmin	Peak	Uwpk	L(10)	L(33)	L(50)	L(90)

0	0	4Mar 14	1200	64.9	96	87.6	54.5	97.9	104	67.4	64.3	62.6	58.2	
0	0	4Mar 14	1200	58.9	90	75.3	47.1	92.9	100.5	61.7	57.9	56.2	52.2	

West Knoll btwn SMB and Rugby - Existing

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn SMB and Rugby - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	131.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	9.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	5.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.1

West Knoll btwn SMB and Rugby - Existing + Project

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn SMB and Rugby - Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	153.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	11.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	5.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.5

West Knoll btwn Santa Monica and Rugby - Cumulative.txt
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn Santa Monica and Rugby - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	134.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	10.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	5.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.3

West Knoll btwn SMB & Rugby - Cumulative + Project

***** CASE INFORMATION *****

***** Results calculated with TNM Version 2.5 *****

West Knoll btwn SMB & Rugby - Cumulative + Project

***** TRAFFIC VOLUME/SPEED INFORMATION *****

Automobile volume (v/h):	155.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	11.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	6.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

***** TERRAIN SURFACE INFORMATION *****

Terrain surface:	hard

***** RECEIVER INFORMATION *****

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.9

West Knoll btwn Rugby and Sherwood - Existing

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn Rugby and Sherwood - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	146.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	10.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	5.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.4

West Knoll btwn Rugby and Sherwood - Existing + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn Rugby and Sherwood - Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	154.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	11.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	5.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.5

West Knoll btwn Rugby and Sherwood - Cumulative.txt
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn Rugby and Sherwood - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	148.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	11.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	5.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.5

West Knoll btwn Rugby and Sherwood - Cumulative + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

West Knoll btwn Rugby and Sherwood - Cumulative + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	154.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	11.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	6.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	58.9

Rugby btwn West Knoll and Westmount - Existing
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn West Knoll and Westmount - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	79.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	6.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	56.1

Rugby btwn West Knoll and Westmount- Existing + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn West Knoll and Westmount- Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	93.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	7.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	56.5

Rugby btwn West Knoll and Westmount -Cumulative.txt
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn West Knoll and Westmount -Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	81.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	6.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	56.1

Rugby btwn West Knoll and Westmount - Cumulative + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn West Knoll and Westmount - Cumulative + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	94.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	7.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	56.5

Rugby btwn Westmounte and Westbourne - Existing
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn Westmounte and Westbourne - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	90.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	6.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	56.2

Rugby btwn Westmount and Westbourne - Existing + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn Westmount and Westbourne - Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	103.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	7.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	4.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	57.1

Rugby btwn Westmount and Westbourne -Cumulative.txt
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn Westmount and Westbourne -Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	92.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	7.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	56.4

Rugby btwn Westmount and Westbourne - Cumulative + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Rugby btwn Westmount and Westbourne - Cumulative + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	105.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	8.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	4.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	1.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	57.3

Westbourne btwn SMB and Rugby - Existing

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Westbourne btwn SMB and Rugby - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	237.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	17.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	8.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	2.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	60.5

Westbourne btwn SMB and Rugby - Existing + Project

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Westbourne btwn SMB and Rugby - Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	262.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	19.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	9.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	2.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	61.0

Westbourne btwn Santa Monica and Rugby - Cumulative.txt
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Westbourne btwn Santa Monica and Rugby - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	243.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	17.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	9.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	2.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	60.7

Westbourne btwn SMB and Rugby - Cumulative + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Westbourne btwn SMB and Rugby - Cumulative + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	268.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	19.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	10.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	2.0
Average bus speed (mph):	25.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	25.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface:	hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	61.2

SMB btwn West Knoll and Westmount- Existing
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

SMB btwn West Knoll and Westmount- Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	263.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	19.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	10.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	2.0
Average bus speed (mph):	35.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	35.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.4

SMB btwn West Knoll and Westmount - Existing + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

SMB btwn West Knoll and Westmount - Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	281.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	20.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	10.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	2.0
Average bus speed (mph):	35.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	35.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.5

Santa Monica Blvd Btwn West Knoll and Westmount - Cumulative.txt
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Santa Monica Blvd Btwn West Knoll and Westmount - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	315.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	23.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	11.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	2.0
Average bus speed (mph):	35.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	35.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.0

SMB btwn West Knoll and Westmount - Cumulative + Project
* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

SMB btwn West Knoll and Westmount - Cumulative + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	328.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	23.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	12.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	2.0
Average bus speed (mph):	35.0
Motorcycle volume (v/h):	1.0
Average Motorcycle speed (mph):	35.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

receptor

Distance from center of 12-ft wide, single lane roadway (ft):	32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.2

SOUND BARRIER LOSS ESTIMATION*

Scenario: 8550 Santa Monica Boulevard

DATA

	INPUT
Barrier Top Elevation, feet	34
Source Ground Elevation, feet	0
Height of Source above Ground, feet:	30
Observer Elevation at ground or floor	25
Distance from source to barrier, feet:	75
Distance from barrier to observer, feet:	50

BARRIER EFFECT RESULT

Infinite Barrier Attenuation:	-7.5 dBA
Is Observer at Ground Level (yes or no):	yes
Adjustment for Loss of Ground Attenuation:	0.0 dBA
Infinite Barrier Insertion Loss:	-7.5 dBA
Finite Barrier Adjustment	
Enter angle subtended by barrier :	180 degrees
Enter Noise Level Without Barrier:	72 dBA
Enter Reference Distance for Noise Level:	50 feet
Noise level including insertion loss of Barrier:	60.5 dBA
Noise Level of barrier gaps:	0.0 dBA
SUMMED AVERAGE LEVEL:	60.5 dBA

* Assumes a sound wavelength of 2 feet (about 550 Hz).

Methodology Source: Harris, C.M. (1979), Handbook of Noise Control, 2nd. Ed.



Appendix D

Traffic Impact Study

Transportation Study for the

8550 Santa Monica Boulevard Mixed-Use Project



FINAL

Prepared for:
City of West Hollywood

August 2014

Prepared by:

FEHR & PEERS

TABLE OF CONTENTS

1. INTRODUCTION	1
PROJECT DESCRIPTION	1
STUDY SCOPE	1
ORGANIZATION OF REPORT	5
2. EXISTING CONDITIONS	6
STREET SYSTEM	6
TRANSIT SERVICE	7
TRAFFIC VOLUMES AND OPERATIONS	8
3. PROJECT TRAFFIC GENERATION AND DISTRIBUTION	16
PROJECT TRAFFIC VOLUMES	16
EXISTING PLUS PROJECT TRAFFIC CONDITIONS	19
EXISTING PLUS PROJECT TRAFFIC LEVEL OF SERVICE	19
4. CUMULATIVE (2016) TRAFFIC CONDITIONS	25
TRANSPORTATION IMPROVEMENTS	25
CUMULATIVE BASE TRAFFIC PROJECTIONS	25
CUMULATIVE PLUS PROJECT TRAFFIC PROJECTIONS	31
5. TRAFFIC IMPACT ANALYSIS	34
INTERSECTION SIGNIFICANT IMPACT CRITERIA	34
PROJECT IMPACT ANALYSIS	35
STREET SEGMENT IMPACT ANALYSIS	35
STREET SEGMENT IMPACT CRITERIA	35
EXISTING PLUS PROJECT STREET SEGMENT TRAFFIC PROJECTIONS	36
CUMULATIVE PLUS PROJECT STREET SEGMENT TRAFFIC PROJECTIONS	36
MITIGATION PROGRAM	36
6. ALTERNATIVE TRANSPORTATION MODE IMPACTS	51
SIGNIFICANCE CRITERIA	51
BICYCLE FACILITY IMPACTS	51
PEDESTRIAN FACILITY IMPACTS	51
TRANSIT FACILITY IMPACTS	52
7. CONGESTION MANAGEMENT PROGRAM ANALYSIS	53
REGIONAL TRAFFIC IMPACT ANALYSIS	53
FREEWAYS	54
8. PARKING, SITE ACCESS AND CIRCULATION	56
PARKING CODE ANALYSIS	56
BICYCLE PARKING CODE ANALYSIS	58
SITE CIRCULATION	58
9. CONSTRUCTION IMPACTS	61
CONSTRUCTION MITIGATION PLAN	61
10. PROJECT ALTERNATIVES ANALYSIS	63
ESTIMATED TRIP GENERATION FOR PROJECT ALTERNATIVES	63

POTENTIAL TRAFFIC IMPACTS OF PROJECT ALTERNATIVES	67
11. SUMMARY AND CONCLUSIONS.....	69

APPENDICES

APPENDIX A: TRAFFIC COUNTS

APPENDIX B: LEVEL OF SERVICE WORKSHEETS

APPENDIX C: SIGNAL WARRANT ANALYSIS

APPENDIX D: WEST HOLLYWOOD MIXED-USE PROJECT TRAVEL CHARACTERISTICS STUDY

APPENDIX E: RELATED PROJECTS

LIST OF FIGURES

Figure 1	Project Area	2
Figure 2	Site Plan	3
Figure 3	Existing Peak Hour Traffic Volumes	9
Figure 4	Trip Distribution.....	18
Figure 5	Project Only Peak Hour Traffic Volumes.....	20
Figure 6	Existing plus Project Peak Hour Traffic Volumes.....	22
Figure 7	Related Projects	27
Figure 8	Cumulative Base Peak Hour Traffic Volumes	28
Figure 9	Cumulative plus Project Peak Hour Traffic Volumes	32
Figure 10	Project Only with Mitigation Peak Hour Traffic Volumes.....	42
Figure 11	Existing plus Project with Mitigation Peak Hour Traffic Volumes.....	42
Figure 12	Cumulative plus Project with Mitigation Peak Hour Traffic Volumes	47

LIST OF TABLES

Table 1A - Level of Service Definitions for Signalized Intersections	12
Table 1B - Level of Service Definitions for Stop-Controlled Intersections	13
Table 2 - Existing Intersection Level of Service Analysis.....	14
Table 3 - Proposed Project Trip Generation Estimates	17
Table 4 – Existing plus Project intersection Level of Service Analysis	24
Table 5 – Cumulative Intersection Level of Service Analysis.....	30
Table 6 – Existing Weekday Roadway Segment Impact Analysis.....	38
Table 7 – Cumulative Weekday Roadway Segment Impact Analysis	39
Table 8 – Weekday Roadway Segment Project Impact Mitigation Analysis.....	40
Table 9 – Existing Project Impact Mitigation Intersection Level of Service Analysis	41
Table 10 – Cumulative Project Impact Mitigation Intersection Level of Service Analysis	42
Table 11 – Existing and Cumulative CMP Intersection Level of Service Analysis.....	55
Table 12 – Parking Requirement Estimates.....	57
Table 13 – Bicycle Parking Requirement Estimates.....	59
Table 14 – Alternative 2 Trip Generation Estimates.....	64
Table 15 – Alternative 3 Trip Generation Estimates.....	65
Table 16 – Alternative 4 Trip Generation Estimates.....	66

1. INTRODUCTION

This report documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers to evaluate the potential traffic impacts for the proposed mixed-use development on the southwest corner of Santa Monica Boulevard & West Knoll Drive in West Hollywood, California.

PROJECT DESCRIPTION

The project is located at 8550 Santa Monica Boulevard. The project site is currently vacant. The site occupies approximately one third of the southern block face along Santa Monica Boulevard and is generally bordered by West Knoll Drive to the east, adjacent buildings to the west (24-Hour Fitness), and Rugby Drive to the south. Figure 1 illustrates the location of the project site in relation to the surrounding street system.

The proposed project involves the construction of a mixed-use development containing 25,000 square feet (sf) of ground floor retail space, which will house a Sprouts grocery store, 1,319 sf of ground floor restaurant space including outdoor seating, 3,998 sf of office space, 8,000 sf of health/fitness club space for a yoga studio, and 4,000 sf of personal services space. Parking is provided in an existing adjacent multi-level parking garage, to be augmented with additional parking on the roof of the project site. A total of 413 parking spaces will be provided.

Vehicular access to the project site would primarily be provided by one driveway on Santa Monica Boulevard. The driveway would be restricted to right-turn ingress and egress only. Figure 2 illustrates the ground level site plan of the proposed development.

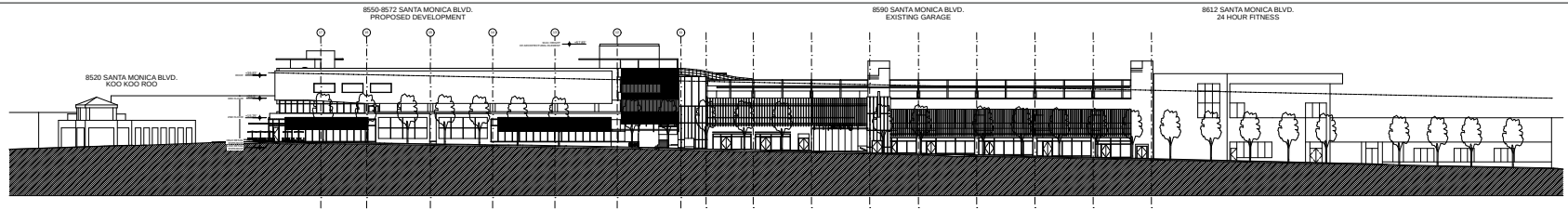
STUDY SCOPE

The scope of work for this study was developed in conjunction with City of West Hollywood Transportation Division staff. The base assumptions and technical methodologies and geographic coverage were identified with city staff as part of the study approach. The study, which analyzes potential project-generated traffic impacts on the adjacent street system, anticipates that the project would be completed by 2016. The analysis of cumulative year traffic forecasts was based on projected conditions in 2016 both with and without the addition of the project traffic. The following traffic scenarios have been developed and analyzed as part of this study:

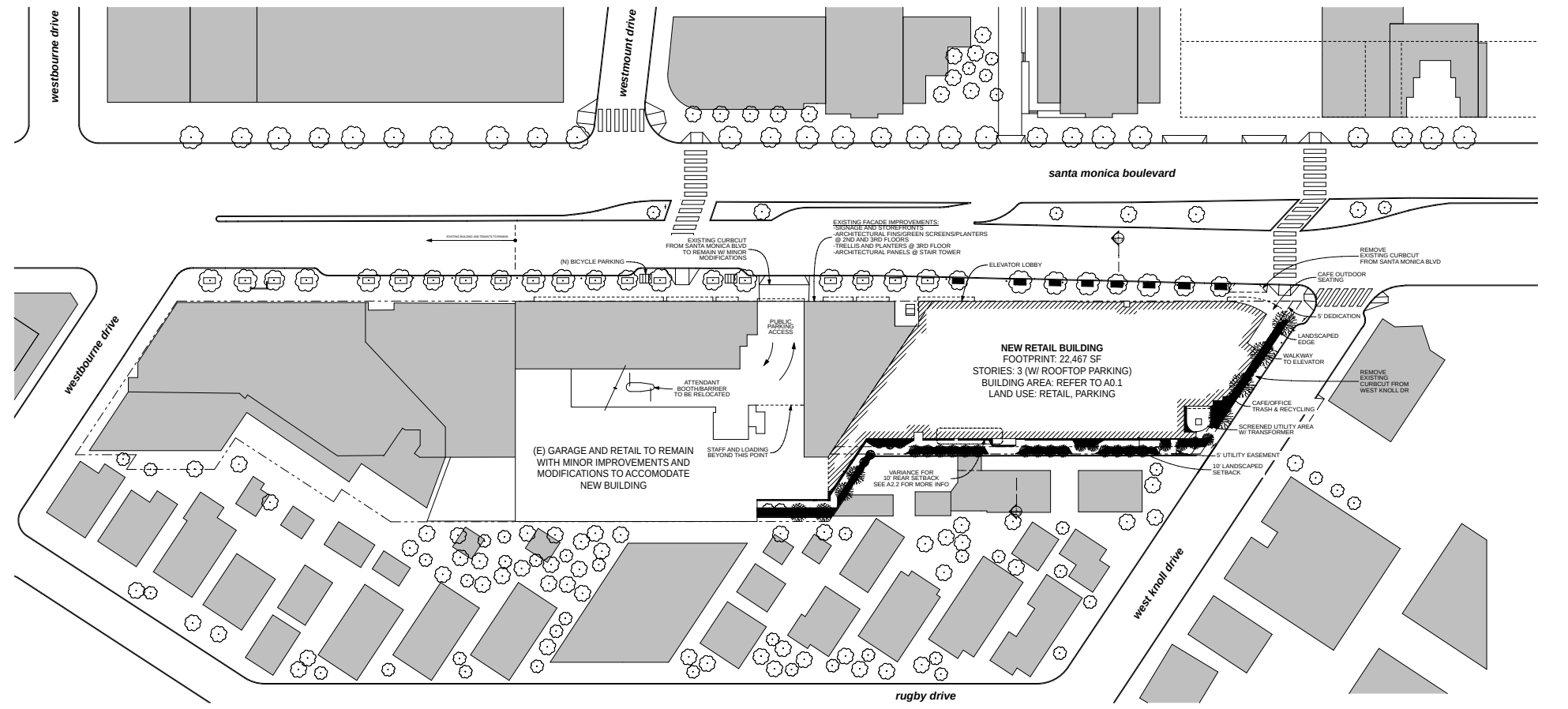
- Existing (2014) Conditions – The analysis of existing traffic conditions was intended to provide a basis for the remainder of the study. The existing conditions analysis included a description of the street system serving the site, current traffic volumes, and an assessment of the operating conditions at these locations.
- Existing (2014) plus Project Conditions – This traffic scenario includes the proposed project, provides projected traffic volumes, and an assessment of operating conditions under existing conditions with the addition of project-generated traffic. The impacts of the proposed project on existing traffic operating conditions can then be identified.







Santa Monica Blvd Elevation
SCALE: 1/32" = 1'-0" 2



- Cumulative Base (2016) Conditions – Cumulative traffic conditions without the proposed project were developed for the year 2016. The objective of this analysis was to project cumulative traffic growth and operating conditions that could be expected to result from regional growth and related projects in the vicinity of the project site by the year 2016.
- Cumulative (2016) plus Project Conditions – This traffic scenario provided projected traffic volumes and an assessment of operating conditions under cumulative conditions with the addition of project-generated traffic. The impacts of the proposed project on cumulative traffic operating conditions could then be identified.

Eleven intersections were identified for analysis in consultation with West Hollywood staff. All the study intersections are in the City of West Hollywood with the exception of La Cienega Boulevard & Sherwood Avenue, which is fully within the City of Los Angeles's jurisdiction.

1. San Vicente Boulevard & Santa Monica Boulevard
2. Westbourne Drive & Santa Monica Boulevard
3. Miller Drive/La Cienega Boulevard & Sunset Boulevard
4. La Cienega Boulevard & Fountain Avenue
5. La Cienega Boulevard & Holloway Drive
6. La Cienega Boulevard & Santa Monica Boulevard
7. La Cienega Boulevard & Melrose Avenue
8. Holloway Drive/Croft Avenue & Santa Monica Boulevard
9. Kings Road & Santa Monica Boulevard
10. West Knoll Drive & Santa Monica Boulevard
11. La Cienega Boulevard & Sherwood Drive

Of the 11 study intersections, 10 operate under traffic signal control while the intersection at La Cienega Boulevard & Sherwood Drive is stop-controlled.

Five street segments were also selected for analysis:

1. North West Knoll Drive between Santa Monica Boulevard and Rugby Drive
2. North West Knoll Drive between Rugby Drive and Sherwood Drive
3. Rugby Drive between North West Knoll Drive & Sherwood Drive
4. Rugby Drive between Westmount Drive & Westbourne Drive
5. Westbourne Drive between Santa Monica Boulevard & Rugby Drive

Figure 1 illustrates the locations of the 11 intersections and five segments selected for analysis.



ORGANIZATION OF REPORT

This report is divided into 11 chapters, including this introduction. Chapter 2 describes the existing circulation system, traffic volumes, and traffic conditions in the study area. The methodologies used to generate and distribute traffic for the proposed project, as well as the methodologies used to forecast existing plus project traffic conditions are described and applied in Chapter 3. The methodologies used to forecast cumulative traffic volumes are described and applied in Chapter 4. Chapter 5 presents an assessment of potential traffic impacts for the existing plus project and cumulative plus project scenarios. Alternative transportation impacts are addressed in Chapter 6. Chapter 7 presents the regional Congestion Management Program (CMP) analysis. Issues regarding on-site parking and site access are evaluated in Chapter 8 (to follow once available). Chapter 9 describes construction impacts. Chapter 10 includes the alternatives analysis for the project scenarios (to follow once available). Chapter 11 presents the study conclusions. Details of the technical analysis are included in the appendices.



2. EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study included an inventory of the street system, traffic volumes on these facilities and operating conditions at key intersections.

STREET SYSTEM

As discussed, the study intersections were determined in consultation with City of West Hollywood staff. The study area for this analysis is generally bordered by Sunset Boulevard to the north, Kings Road to the east, Melrose Avenue to the south, and San Vicente Boulevard to the west. Primary regional access to the study area is provided by Santa Monica Boulevard, which runs east-west through the study area, and the Hollywood Freeway (US 101), which generally runs northwest-southeast approximately two miles northeast of the project site. Access to the US 101 is provided at the Highland Avenue interchange.

Surface street north-south regional project access is provided by San Vicente Boulevard and La Cienega Boulevard; east-west regional access is provided by Sunset Boulevard and Santa Monica Boulevard. Localized access is provided by Melrose Avenue, Fountain Avenue, Westbourne Drive, and North West Knoll Drive.

The following is a brief description of the streets in the vicinity of the project site:

- Santa Monica Boulevard – Santa Monica Boulevard is an east-west arterial. In the project area, it provides four travel lanes with two lanes in each direction. Parking is available but limited in the study area. The posted speed limit is 30 mph.
- La Cienega Boulevard – La Cienega Boulevard a north-south arterial south of Santa Monica Boulevard and a collector between Santa Monica Boulevard and Sunset Boulevard east of the project site. It provides four travel lanes with two lanes in each direction. La Cienega also provides regional access with a connection to the I-10 ramps, south of the study area. Parking is generally allowed on both sides of the street in the project vicinity. The posted speed limit is 35 mph.
- San Vicente Boulevard – San Vicente Boulevard is a north-south arterial south of Santa Monica Boulevard and a collector between Santa Monica Boulevard and Sunset Boulevard west of the project site. It provides two lanes in each direction during the peak hours. Parking is generally allowed on both sides of the street near the study area, with some segments including diagonal parking south of Santa Monica Boulevard. The posted speed limit is 35 miles per hour (mph).
- Sunset Boulevard – Sunset Boulevard is an east-west arterial that provides four travel lanes during the peak periods, with two lanes in each direction. Parking is prohibited during the AM and PM peak periods and limited between the peak periods. The posted speed limit is 35 mph.
- Fountain Avenue – Fountain Avenue is an east-west collector. Four travel lanes are provided East of La Cienega Boulevard during the PM peak period in the study area. Parking is generally allowed in the study area between 7:00 AM and 4:00 PM without a permit. The posted speed limit is 35 mph.



- Melrose Avenue – Melrose Avenue is an east-west collector. Between San Vicente Boulevard and La Cienega Boulevard, generally two travel lanes and a shared center turn lane are provided. Parking is available on both sides of the street, and is metered between 8:00AM and 7:00PM. The posted speed limit is 35 mph.
- North West Knoll Drive – Knoll Drive is a north-south local street to the east of the project site. Two travel lanes are provided on the undivided roadway; parking is available on the street. The speed limit is 25 mph.
- Rugby Drive – Rugby Drive is an east-west local street to the south of the project site that connects North West Knoll Drive to Westbourne Drive. Two travel lanes are provided on the undivided roadway; parking is available on the street. The speed limit is 25 miles per hour.
- Westbourne Drive – Westbourne Drive is a north-south local street to the west of the project site. Two travel lanes are provided on the undivided roadway; parking is available on the street. The speed limit is 25 mph.

TRANSIT SERVICE

The Los Angeles County Metropolitan Transportation Authority (Metro) and City of West Hollywood CityLine system provide existing public transit service in the vicinity of the proposed project. A number of bus routes serve the surrounding area, including municipal bus lines, Metro local service to and from downtown Los Angeles, east-west local services to other areas, north-south local service to other areas, limited service in the peak hours, and Metro Rapid service. The transit lines serving the study area are described below.

Metro Bus Lines

- Metro Lines 2 and 302 – Line 2 is a local service that runs along Sunset Boulevard between downtown Los Angeles and Pacific Palisades. Line 302 is a limited-stop service line that provides service during the weekday in the peak hours. In the AM peak hour, the lines operate with average seven-minute headways in the eastbound direction and average five-minute headways in the westbound direction. In the PM peak hour, the lines operate at average six-minute headways.
- Metro Lines 4 and 704 – Line 4 is a local east-west line that travels from Santa Monica to downtown Los Angeles. Line 704 is a Metro Rapid line that provides limited-stop service along the same route. Line 4 and Line 704 provide service to Echo Park, Silver Lake, Hollywood, West Hollywood, Beverly Hills, Century City, Westwood and Santa Monica. Lines 4 and 704 both travel along Santa Monica Boulevard in the study area. In the AM peak hour, Metro Line 4 and 704 operate at six-minute headways. In the PM peak hour, the lines operate at 10-minute headways.
- Metro Line 10 – Line 10 is a local east-west line that travels from West Los Angeles to Downtown Los Angeles via Temple Street and Melrose Avenue. Line 10 travels along Melrose Avenue in the study area. The lines operate at average 10-minute headways in the AM and PM peak hours.
- Metro Lines 30 and 330 – Line 30 is a local east-west line that travels from Mid-City to east Los Angeles. Line 330 is a Metro line that provides limited-stop service from West Hollywood to east Los Angeles. Line 30 and Line 330 provide service to Mid-city, downtown Los Angeles, Boyle Heights,



and east Los Angeles, with Line 330 also serving West Hollywood and Beverly Hills. Lines 30 and 330 both travel along San Vicente Boulevard in the study area. In the AM peak hour, Metro Line 30 operates at six-minute headways and Line 330 operates with 30-minute headways. In the PM peak hour, Line 30 operates at seven-minute headways and Line 330 operates with 30-minute headways.

- Metro Lines 105 and 705 – Line 105 is a local southeast-northwest line that travels from West Hollywood to Vernon. Line 705 is a Metro Rapid line that provides limited-stop service along the same route. Line 105 and Line 705 provide service to West Hollywood, Beverly Hills, Baldwin Hills, Liemert Park, Exposition Park, and Vernon. Lines 105 and 705 both travel along La Cienega Boulevard in the study area. In the AM peak hour, Metro Line 105 and 705 operate at 10-minute headways. In the PM peak hour, the lines operate at 20-minute headways.

West Hollywood CityLine

- Blue Route – The West Hollywood CityLine Blue Route provides local circulation service to the City of West Hollywood, linking the east and west communities while primarily traveling on Santa Monica Boulevard. Near the project site, the Blue Route stops include Santa Monica Boulevard & La Cienega Boulevard, Santa Monica Boulevard & West Knoll Drive, and Santa Monica Boulevard & Hancock Avenue. Route A operates at 35- to 70-minute headways during the day.
- Orange Route – The West Hollywood CityLine Orange Route provides local circulation service to the City of West Hollywood, linking the east and west communities to Plummer Park while primarily traveling on Santa Monica Boulevard. Near the project site, the Orange Route stops include Santa Monica Boulevard & Westbourne Drive and Santa Monica Boulevard & La Cienega Boulevard. The Orange Route operates at 35- to 70-minute headways during the day.

TRAFFIC VOLUMES AND OPERATIONS

The following sections discuss the methodology used to analyze the intersection traffic conditions and present the intersection peak hour traffic volumes and the resulting level of service (LOS) at each of the study intersections under existing conditions.

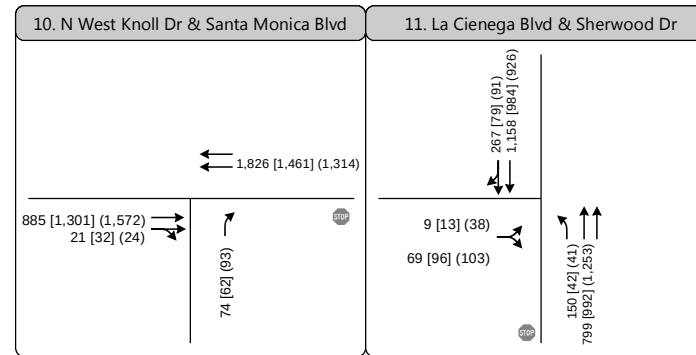
Traffic Volumes - Intersections

New weekday AM, MD, and PM peak hour traffic counts were collected in February 2013 at all study intersections. These intersection counts were factored upwards by 1% to reflect existing 2014 conditions. Figure 3 shows the existing intersection volumes for the AM, midday (MD), and PM peak hours. Traffic counts are provided in Appendix A.

Traffic Volumes - Segments

New daily traffic counts were collected in January 2014 at all study segments.





LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



N

NOT TO SCALE



FEHR & PEERS

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EXISTING PEAK HOUR TRAFFIC VOLUMES

FIGURE 3

Level of Service Methodology

LOS is a qualitative measure used to describe the traffic flow conditions, ranging from excellent (LOS A) to overloaded (LOS F) conditions. A variety of methodologies are available to analyze LOS depending on the type of intersection control. In accordance with policies established by the City of West Hollywood, the "Operational Analysis" method from the Highway Capacity Manual (HCM) was used to perform signalized intersection LOS analysis at all signalized and unsignalized study intersections, including those partially or wholly within the City of Los Angeles.

The HCM operational method determines two key operating characteristics of signalized intersections. The first characteristic is the average stopped delay experienced per vehicle. The second is the volume-to-capacity (V/C) ratio at intersections based on the amount of traffic traveling through the intersection, the lane geometries, and other factors affecting capacity such as on-street parking and pedestrian volumes at crosswalks. These characteristics are used to evaluate the operation of each signalized intersection, which is described generally in terms of level of service and expressed in terms of seconds of delay.

The intersection in the City of Los Angeles was analyzed per the requirements in *Traffic Study Policies and Procedures* (LADOT, May 2009). For the purposes of this analysis, the City of Los Angeles stop-controlled intersections were also analyzed using the HCM-Unsignalized methodology as a reference. The stop-controlled intersection was also analyzed with signal warrants; therefore, LOS is provided for informational purposes. This analysis standard was applied to the stop-controlled intersection in the City of Los Angeles under AM and PM peak hour conditions.

Level of service definitions for signalized and unsignalized intersections can be found in Tables 1A and 1B, respectively.

Traffic Operations

The traffic volumes presented in Figure 3 were analyzed using the HCM methodology to determine current operating conditions at the 11 study intersections. Table 2 summarizes the existing weekday AM, MD, and PM peak hour delay and the corresponding LOS for each of the study intersections.

Of the 10 City of West Hollywood intersections, five are currently operating at LOS E or F during one or more peak periods, including:

1. San Vicente Boulevard & Santa Monica Boulevard (PM peak hour)
3. La Cienega Boulevard & Sunset Boulevard (AM and PM peak hours)
4. La Cienega Boulevard & Fountain Avenue (AM peak hour)
6. La Cienega Boulevard & Santa Monica Boulevard (AM, MD, and PM peak hours)
7. La Cienega Boulevard & Melrose Avenue (PM peak hour)



TABLE 1A
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS
WEST HOLLYWOOD AND LOS ANGELES

Level of Service	Average Stopped Delay per Vehicle (seconds)	Definition
A	≤ 10	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	> 10 and ≤ 20	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	> 20 and ≤ 35	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	> 35 and ≤ 55	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	> 55 and ≤ 80	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 80	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

TABLE 1B
LEVEL OF SERVICE DEFINITIONS FOR
STOP-CONTROLLED INTERSECTIONS

Level of Service	Average Total Delay (seconds/vehicle)
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0

Source: *Highway Capacity Manual, Special Report 209*,
Transportation Research Board, 2000.

TABLE 2
EXISTING INTERSECTION LEVEL OF SERVICE ANALYSIS
SPROUTS - 8550 SANTA MONICA BOULEVARD PROJECT

Intersection	Jurisdiction	Peak Hour	Existing (Year 2014)	
			V/C or Delay	LOS
1. San Vicente Blvd & Santa Monica Blvd	WH	AM Midday PM	33 44 56	C D E
2. Westbourne Dr & Santa Monica Blvd	WH	AM Midday PM	19 32 30	B C C
3. La Cienega Blvd & Sunset Blvd	WH	AM Midday PM	90 42 65	F D E
4. La Cienega Blvd & Fountain Ave	WH	AM Midday PM	149 12 14	F B B
5. La Cienega Blvd & Holloway Dr	WH	AM Midday PM	39 28 51	D C D
6. La Cienega Blvd & Santa Monica Blvd	WH	AM Midday PM	62 107 106	E F F
7. La Cienega Blvd & Melrose Ave	WH	AM Midday PM	39 30 58	D C E
8. Croft Ave & Santa Monica Blvd	WH	AM Midday PM	18 25 34	B C C
9. Kings Rd & Santa Monica Blvd	WH	AM Midday PM	5 6 6	A A A
10. N West Knoll Drive Santa Monica Blvd	WH	AM Midday PM	10 11 13	B B B
11. La Cienega Blvd & Sherwood Dr [a] [b]	LA	AM PM	56 78	F F

Notes:

LA Los Angeles

WH West Hollywood

[a] The minor approach is stop controlled. Average vehicular delay reported for worst case approach.

[b] Signal warrant analysis were performed per LADOT policy.

The City of Los Angeles intersection, La Cienega Boulevard & Sherwood Drive, is currently operating at LOS F during the AM and PM peak periods. La Cienega Boulevard & Sherwood Drive is a stop-controlled intersection that currently satisfies the peak hour, four-hour, and interruption of continuous traffic signal warrants.

Appendix B contains the LOS calculation worksheets. Appendix C contains the signal warrant analysis.



3. PROJECT TRAFFIC GENERATION AND DISTRIBUTION

PROJECT TRAFFIC VOLUMES

The development of traffic generation estimates for the proposed project involves the use of a three-step process similar to the process described below for cumulative projects.

Project Traffic Generation

The trip rates from *Trip Generation 8th Edition* were used to estimate the number of trips generated by the proposed project. Table 3 provides a summary of the proposed project trip generation.

As shown in Table 3, two categories of trip credits (pass-by and transit/walk/bike reductions) were considered for application to the trip generation estimates. Pass-by trips measure the level of traffic that was already on the roadway system that visits one of the uses at the project site. These trips are not considered new trips generated by the project because they were already on adjacent roadways, though they are accounted for at driveway access locations. A 10 percent pass-by credit was applied to the grocery use.

Consideration of a walk/bike trip credit was based on empiric data collected at similar uses in the immediate vicinity of the project area as part of a West Hollywood Mixed-Use Project Travel Characteristics study. To be consistent with the typical peak periods analyzed by the City of West Hollywood in traffic impact studies, data was collected during the morning (7:00 – 10:00 AM), midday (11:00 AM – 2:00 PM), and afternoon (4:00 – 7:00 PM) peak periods. The proximity and similarity of the studied uses to the proposed project made them good candidates for assessing overall project travel characteristics and capturing the share of trips that will be made by active modes, such as walking and bicycling. The study revealed that, depending on the time of day, between 61 and 75 percent of visitors to a nearby health/fitness facility walked or biked to the destination, as did between 35 and 39 percent of visitors to a nearby grocery store. The West Hollywood Travel Characteristics study is included in this report as Appendix D. In consultation with City of West Hollywood staff, a 60 percent walk/bike credit was applied to the health/fitness use, while a 35 percent walk/bike credit was applied to the grocery store use.

The proposed project, following the application of the trip credits described above, would generate approximately 1,989 net new daily trips, including 77 AM (48 inbound, 29 outbound), 158 MD (83 inbound, 75 outbound), and 181 PM (92 inbound, 89 outbound) peak hour trips.

Project Traffic Distribution

The geographic distribution of trips generated by the proposed project is dependent on the surrounding land uses, characteristics of the street system serving the site, and the level of accessibility of routes to and from the proposed project site. The general distribution pattern for this study was estimated based on the City of West Hollywood Travel Demand Forecasting Model. Figure 4 shows the trip distribution for the proposed project.



TABLE 3
PROJECT TRIP GENERATION ESTIMATES
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Trip Generation Rates [a]												
Land Use	ITE#	Rate	Daily	AM Peak Hour			MD Peak Hour [b]			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Office [b]	710	per 1,000 square feet	11.01	88%	12%	1.55	88%	12%	1.55	17%	83%	1.49
Supermarket (Sprouts)	850	per 1,000 square feet	102.24	62%	38%	3.40	52%	48%	7.07	51%	49%	9.48
High-Turnover Restaurant (Café)	931	per 1,000 square feet	127.15	52%	48%	11.52	52%	48%	13.53	59%	41%	11.15
Specialty Retail [c]	826	per 1,000 square feet	44.32	61%	39%	0.73	48%	52%	6.84	44%	56%	2.71
Health/Fitness Club	492	per 1,000 square feet	32.93	45%	55%	1.38	42%	58%	1.41	57%	43%	3.53

Trip Generation Estimates													
Land Use	ITE#	Size	Weekday Daily	AM Peak Hour			MD Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	In	Out	Total	
Proposed Project													
Sprouts (Grocery Store)	850	25.000 ksf	2,556	53	32	85	92	85	177	121	116	237	
Walk/Bike Credit (35%)			(895)	(19)	(11)	(30)	(32)	(30)	(62)	(42)	(41)	(83)	
Pass-by Credit (10%)			(166)	(3)	(3)	(6)	(6)	(6)	(12)	(8)	(8)	(16)	
Total Grocery Trips			1,495	31	18	49	54	49	103	71	67	138	
Café (High-Turnover Restaurant)	931	1.319 ksf	168	8	7	15	9	9	18	9	6	15	
Office	710	3.998 ksf	44	5	1	6	5	1	6	1	5	6	
Health/Fitness Club	492	8.000 ksf	263	5	6	11	5	6	11	16	12	28	
Walk/Bike Credit (60%)			(158)	(3)	(4)	(7)	(3)	(4)	(7)	(10)	(7)	(17)	
Total Health/Fitness Trips			105	2	2	4	2	2	4	6	5	11	
Personal Services (Specialty Retail)	826	4.000 ksf	177	2	1	3	13	14	27	5	6	11	
Total Proposed Trip Generation			42.317 ksf	1,989	48	29	77	83	75	158	92	89	181

Notes:

[a] Source: ITE Trip Generation Manual, 9th Edition, 2012.

[b] The AM peak hour generator is equivalent to the AM peak hour of adjacent street traffic for ITE 710.

[c] AM rate was derived from the proportional relationship of PM rates between ITE 814 and Shopping Center (ITE 820) and applied to ITE 820 AM rate.



Project Traffic Assignment

The trip generation estimates summarized in Table 3 and the distribution patterns illustrated in Figure 4 were used to assign the project-generated traffic to the local and regional street system. Figure 5 illustrates the proposed project-generated peak hour traffic volumes at the 11 analyzed intersections during typical the weekday AM, MD, and PM peak hours.

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

The project traffic estimated under the aforementioned section was added to the existing (Year 2014) traffic volumes to estimate existing plus project traffic volumes. Figure 6 shows turning movement traffic volumes for the existing plus project scenario.

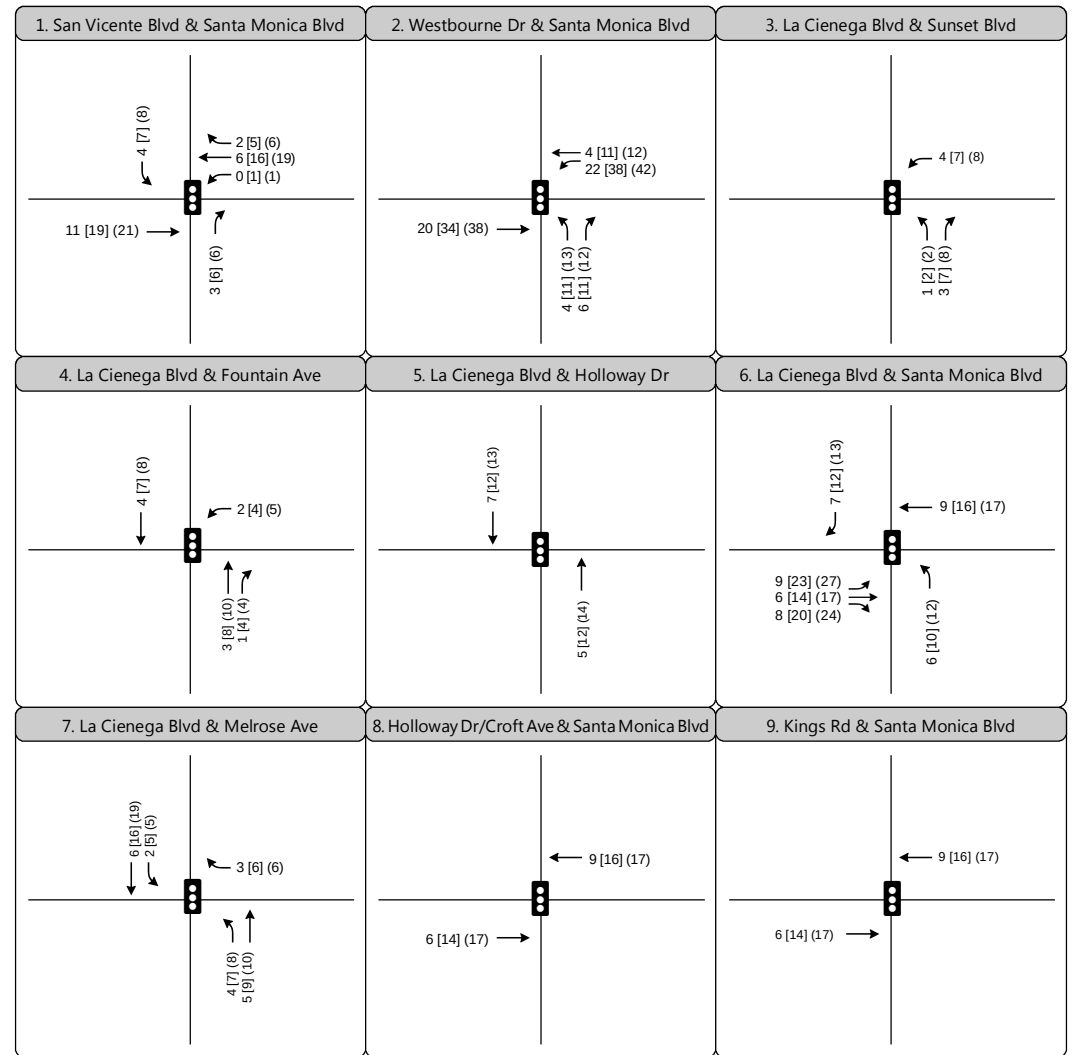
EXISTING PLUS PROJECT TRAFFIC LEVEL OF SERVICE

The existing plus project peak hour traffic volumes illustrated in Figure 6 were analyzed to determine the projected existing (year 2014) operating conditions with the completion of the proposed project. Table 4 summarizes these results. As shown in Table 4, six of the 11 study intersections are projected to operate at LOS E or F during one or more of the analyzed peak hours with the addition of project traffic. Detailed LOS worksheets are presented in Appendix B. The intersections projected to operate at poor levels of service are:

1. San Vicente Boulevard & Santa Monica Boulevard (PM peak hour)
3. La Cienega Boulevard & Sunset Boulevard (AM, and PM peak hours)
4. La Cienega Boulevard & Fountain Avenue (AM peak hour)
6. La Cienega Boulevard & Santa Monica Boulevard (AM, MD, and PM peak hours)
7. La Cienega Boulevard & Melrose Avenue (PM peak hour)
11. La Cienega Boulevard & Sherwood Drive (AM and PM peak hours)

The remaining five intersections are projected to operate at LOS D or better during all analyzed peak hours.





LEGEND

- Turn Movement
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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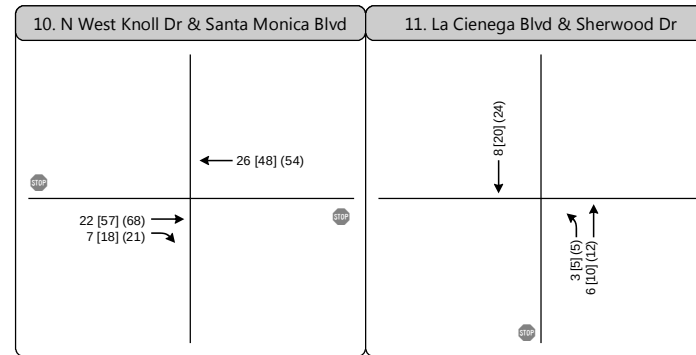


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PROJECT ONLY PEAK HOUR TRAFFIC VOLUMES

FIGURE 5



LEGEND

- Turn Movement
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign

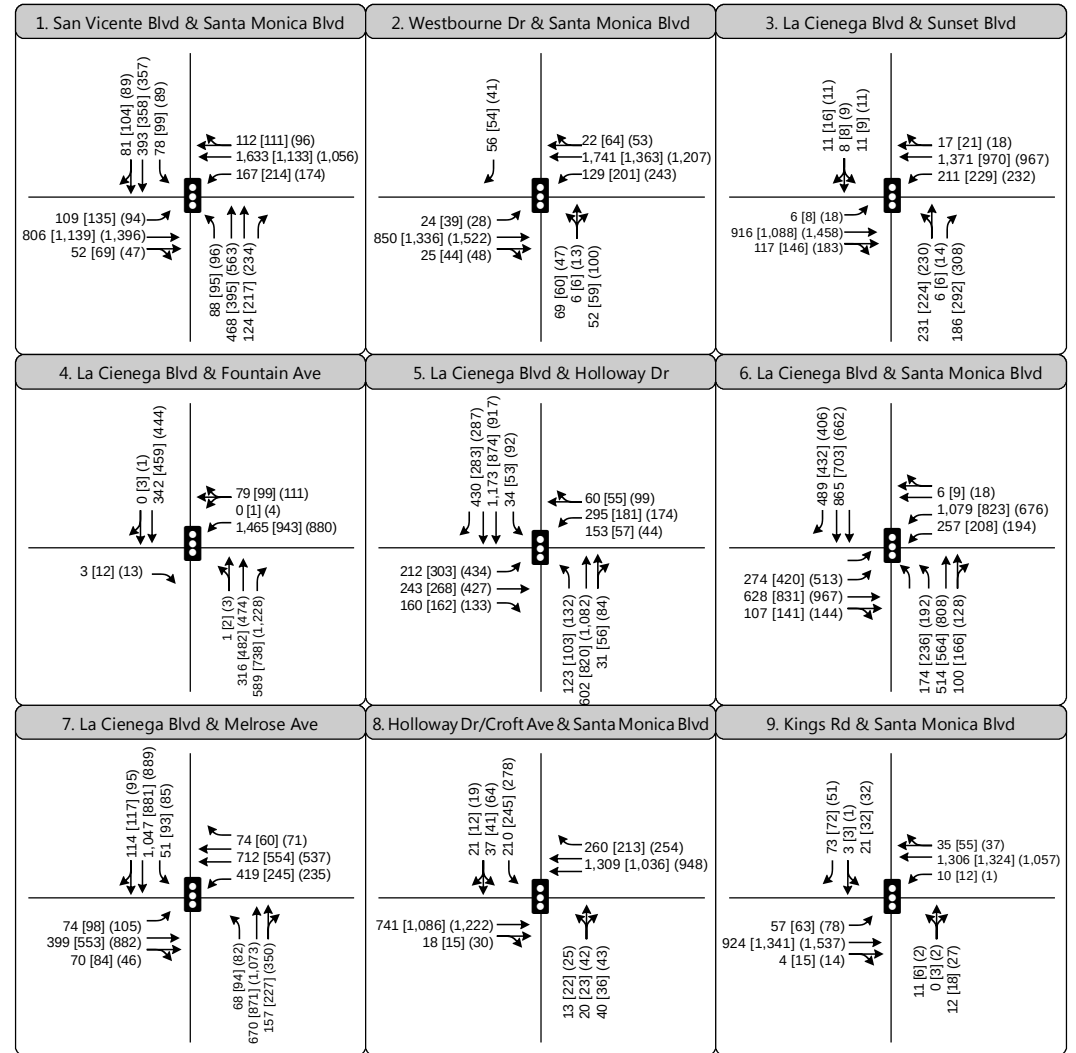


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LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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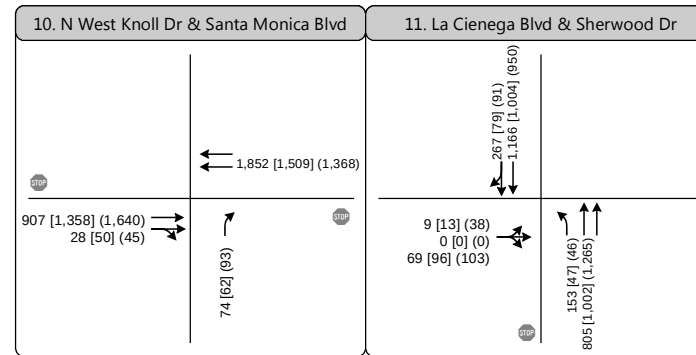


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EXISTING PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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TABLE 4
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE ANALYSIS
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Intersection	Jurisdiction	Peak Hour	Existing (Year 2014)		With Project (Year 2014)			
			V/C or Delay	LOS	Delay	LOS	Change in Delay	Impact?
1. San Vicente Blvd & Santa Monica Blvd	WH	AM Midday PM	33 44 56	C D E	34 45 59	C D E	1 1 3	No No No
2. Westbourne Dr & Santa Monica Blvd	WH	AM Midday PM	19 32 30	B C C	21 35 36	C C D	2 3 6	No No No
3. La Cienega Blvd & Sunset Blvd	WH	AM Midday PM	90 42 65	F D E	90 43 68	F D E	0 1 3	No No No
4. La Cienega Blvd & Fountain Ave	WH	AM Midday PM	149 12 14	F B B	149 12 14	F B B	0 0 0	No No No
5. La Cienega Blvd & Holloway Dr	WH	AM Midday PM	39 28 51	D C D	39 28 52	D C D	0 0 1	No No No
6. La Cienega Blvd & Santa Monica Blvd	WH	AM Midday PM	62 107 106	E F F	65 111 110	E F F	3 4 4	No No No
7. La Cienega Blvd & Melrose Ave	WH	AM Midday PM	39 30 58	D C E	39 31 60	D C E	0 1 2	No No No
8. Croft Ave & Santa Monica Blvd	WH	AM Midday PM	18 25 34	B C C	18 25 34	B C C	0 0 0	No No No
9. Kings Rd & Santa Monica Blvd	WH	AM Midday PM	5 6 6	A A A	5 6 6	A A A	0 0 0	No No No
10. N West Knoll Drive Santa Monica Blvd	WH	AM Midday PM	10 11 13	A B B	10 12 13	A B B	0 1 0	No No No
11. La Cienega Blvd & Sherwood Dr [b] [c]	LA	AM PM	56 78	F F	59 96	F F	3 18	- -

Notes:

LA Los Angeles

WH West Hollywood

[b] The minor approach is stop controlled. Average vehicular delay reported for worst case approach.

[c] Signal warrant analysis were performed per LADOT policy.

4. CUMULATIVE (2016) TRAFFIC CONDITIONS

To evaluate the potential impacts of the proposed project on cumulative (Year 2016) conditions, it was necessary to develop estimates of cumulative traffic conditions in the area both without and with project traffic. First, estimates of traffic growth were developed for the study area to forecast cumulative conditions without the project. These forecasts included traffic increases as a result of both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the project (related projects). These projected traffic volumes, identified herein as the cumulative base conditions, represent the cumulative study year conditions without the proposed project. The traffic generated by the proposed project was then estimated and assigned to the surrounding street system. The project traffic was added to the cumulative base to form the cumulative plus project traffic conditions, which were analyzed to determine the incremental traffic impacts attributable to the project itself.

The assumptions and analysis methodology used to develop each of the cumulative year scenarios discussed above are described in more detail in the following sections.

TRANSPORTATION IMPROVEMENTS

There are no proposed transportation network improvements that are projected to occur between now and 2016 that should be included in the cumulative base traffic network, per discussions with city staff.

CUMULATIVE BASE TRAFFIC PROJECTIONS

The cumulative base traffic projections reflect growth in traffic over existing conditions from two sources. The first source is the ambient growth in traffic. Ambient growth reflects increases in traffic as a result of regional growth and development. The second source is growth due to traffic generated by specific projects in or near the study area. The methods and assumptions used to develop cumulative base traffic projections are described in more detail below.

Areawide Traffic Growth

Existing traffic is expected to increase between year 2014 and year 2016 as a result of general areawide and regional growth and development. Based on historical trends and in consultation with City of West Hollywood staff, an ambient growth factor of one percent per year was used to adjust the existing year 2014 traffic volumes to reflect the effects of regional growth and development by the year 2016. The result was a total adjustment of two percent applied from 2014 to 2016.

Project Traffic Generation and Assignment

Cumulative base traffic forecasts include the effects of specific projects, called related projects, expected to be implemented in the vicinity of the study area prior to the buildout date of the proposed project. The list of related projects was obtained from the City of West Hollywood, LADOT and other traffic studies conducted in the vicinity of the proposed project. A total of 52 related projects were identified, and details are provided in Appendix E.

Trip generation estimates for the related projects were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation, 8th Edition* (Institute of Transportation



Engineers, 2008). Appendix E shows that the 52 related projects would generate a combined approximate total of 38,948 daily trips. Approximately 2,580 vehicles per hour (vph) are estimated to travel during the weekday AM peak hour, 3,935 vph during the MD peak, and 3,352 vph during the PM peak hour. Some of these projections are conservative in that they do not account for the existing uses to be removed or the use of alternative travel modes (transit, walk, etc.). Figure 7 illustrates the locations of the related projects.

Using the trip generation estimates and trip distribution patterns dependent on the type and density of the proposed land use, the geographic distribution of population from which the employees and potential patrons of proposed commercial projects could be drawn, and the location of the projects in relation to the surrounding street system, traffic expected to be generated by the identified related projects was assigned to the street network. These related project traffic volumes were then added to the existing traffic volumes after the adjustment for area-wide growth to represent cumulative base conditions (i.e., cumulative conditions without the proposed project). Figure 8 illustrates the projected cumulative base traffic conditions for the weekday peak hours in 2016.

Cumulative Base Intersection Traffic Conditions

The cumulative base peak hour traffic volumes illustrated in Figure 8 were analyzed to determine delay and corresponding LOS for each of the analyzed intersections under year 2016 cumulative conditions without the proposed project, taking into account ambient growth and related projects. Table 5 summarizes these results. Detailed LOS worksheets are presented in Appendix B.

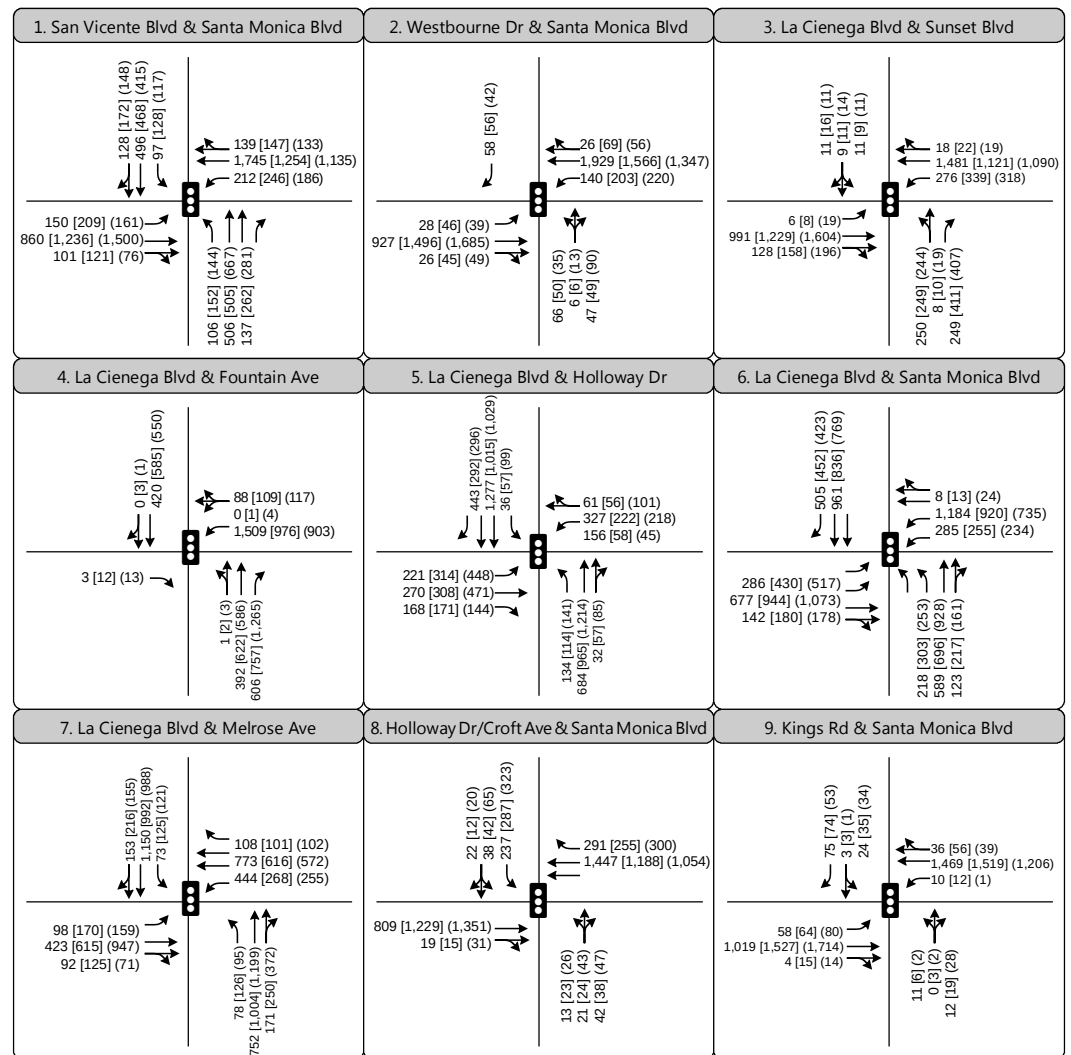
Under year 2016 cumulative base conditions, Table 5 shows that seven of the 11 analyzed intersections are projected to operate at LOS D or better during the AM, PM, and peak hours. The seven intersections projected to operate at LOS E or F during one or more of the analyzed peak hours are:

1. San Vicente Boulevard & Santa Monica Boulevard (AM, MD, and PM peak hour)
3. La Cienega Boulevard & Sunset Boulevard (AM, MD, and PM peak hours)
4. La Cienega Boulevard & Fountain Avenue (AM peak hour)
5. La Cienega Boulevard & Holloway Drive (AM and PM peak hour)
6. La Cienega Boulevard & Santa Monica Boulevard (AM, MD, and PM peak hours)
7. La Cienega Boulevard & Melrose Avenue (AM, MD, and PM peak hour)
11. La Cienega Boulevard & Sherwood Drive (AM and PM peak hours)

One of the stop-controlled intersections is expected to meet signal warrants under year 2016 cumulative base conditions per LADOT policy described above. This analysis is intended to examine the general correlation between the planned level of cumulative development and the need to install new traffic signals. It estimates cumulative development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in *Manual on Uniform Traffic Control Devices* (Federal Highway Administration, 2003) and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of







LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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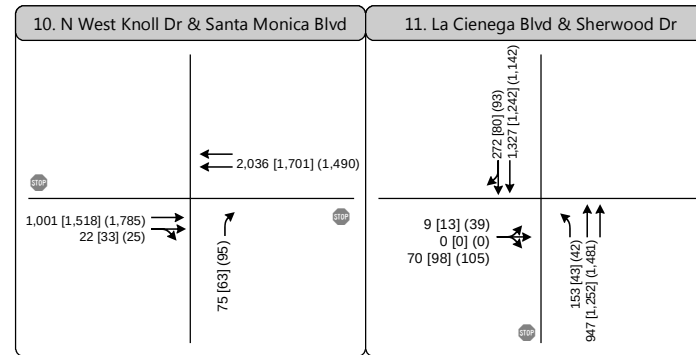


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CUMULATIVE BASE PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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TABLE 5
CUMULATIVE INTERSECTION LEVEL OF SERVICE ANALYSIS
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Intersection	Jurisdiction	Peak Hour	Cumulative (Year 2016)		With Project (Year 2016)			
			V/C or Delay	LOS	Delay	LOS	Change in Delay	Impact?
1. San Vicente Blvd & Santa Monica Blvd	WH	AM	68	E	69	E	1	No
		Midday	114	F	118	F	4	No
		PM	65	E	67	E	2	No
2. Westbourne Dr & Santa Monica Blvd	WH	AM	40	D	46	D	6	No
		Midday	32	C	34	C	2	No
		PM	42	D	65	E	23	Yes
3. La Cienega Blvd & Sunset Blvd	WH	AM	120	F	121	F	1	No
		Midday	79	E	81	F	2	No
		PM	231	F	231	F	0	No
4. La Cienega Blvd & Fountain Ave	WH	AM	167	F	167	F	0	No
		Midday	14	B	14	B	0	No
		PM	19	B	19	B	0	No
5. La Cienega Blvd & Holloway Dr	WH	AM	56	E	56	E	0	No
		Midday	34	C	35	C	1	No
		PM	83	F	86	F	3	No
6. La Cienega Blvd & Santa Monica Blvd	WH	AM	88	F	91	F	3	No
		Midday	170	F	172	F	2	No
		PM	99	F	103	F	4	No
7. La Cienega Blvd & Melrose Ave	WH	AM	56	E	57	E	1	No
		Midday	61	E	65	E	4	No
		PM	107	F	110	F	3	No
8. Croft Ave & Santa Monica Blvd	WH	AM	21	C	22	C	1	No
		Midday	30	C	30	C	0	No
		PM	20	B	20	B	0	No
9. Kings Rd & Santa Monica Blvd	WH	AM	5	A	5	A	0	No
		Midday	7	A	7	A	0	No
		PM	6	A	6	A	0	No
10. N West Knoll Drive Santa Monica Blvd	WH	AM	10	A	10	A	0	No
		Midday	12	B	12	B	0	No
		PM	14	B	14	B	0	No
11. La Cienega Blvd & Sherwood Dr [b] [c]	LA	AM	115	F	125	F	10	-
		PM	607	F	721	F	114	-

Notes:

LA Los Angeles

WH West Hollywood

[a] Intersection is a two-way stop. Average vehicular delay reported for worst case approach.

[b] The minor approach is stop controlled. Average vehicular delay reported for worst case approach.

CUMULATIVE PLUS PROJECT TRAFFIC PROJECTIONS

The project-generated traffic volumes shown in Figure 5 were added to the cumulative base traffic projections shown in Figure 8. Figure 9 illustrates the resulting projected cumulative plus project AM, MD, and PM peak hour traffic volumes. These volumes represent projected cumulative weekday peak hour traffic conditions with the completion of the proposed project.

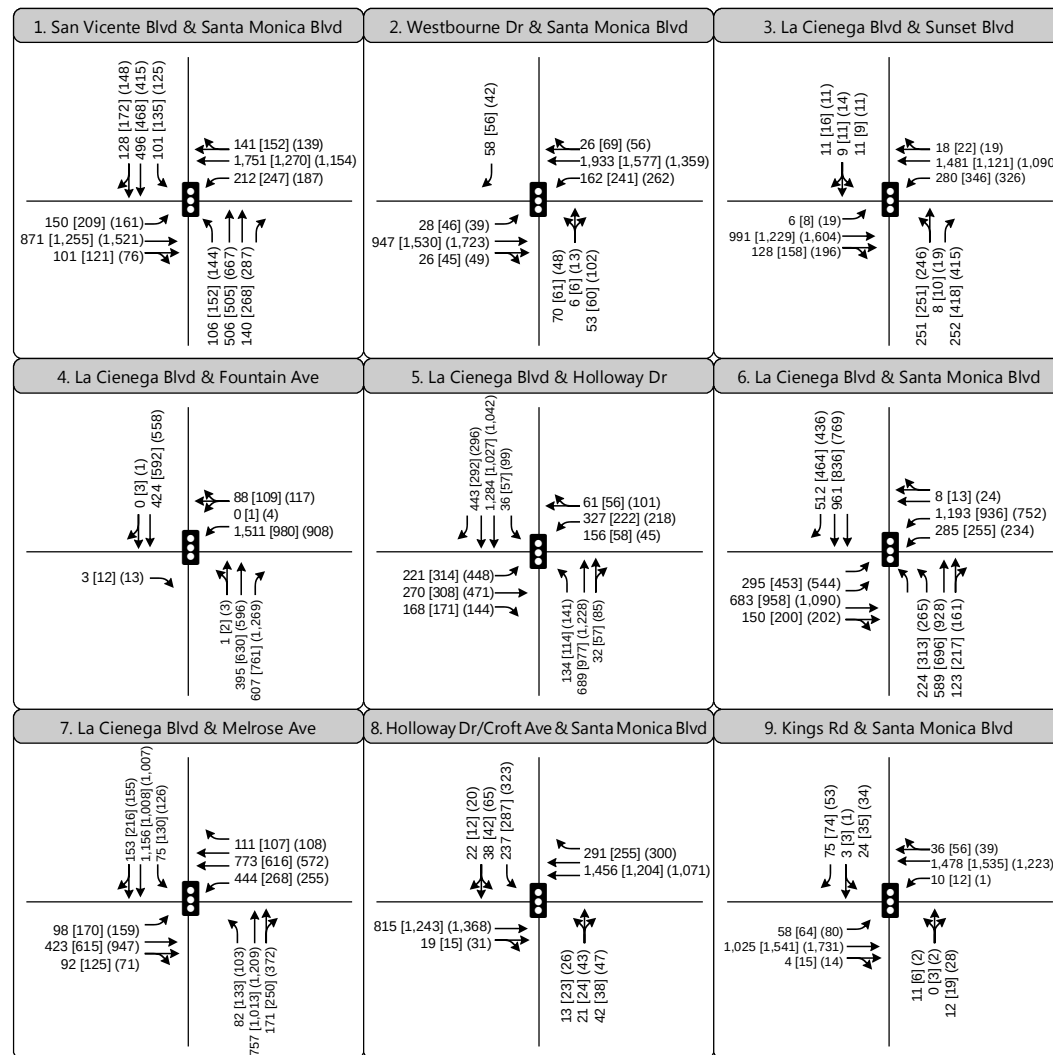
Cumulative plus Project Intersection Traffic Operations

The cumulative plus project peak hour traffic volumes illustrated in Figure 9 were analyzed to determine the projected year 2016 cumulative operating conditions with the completion of the proposed project. Table 5 summarizes these results. As shown in Table 5, eight of the 11 analyzed intersections are projected to operate at LOS E or F during one or more of the analyzed peak hours with the addition of project traffic. Detailed LOS worksheets are presented in Appendix B. The intersections projected to operate at poor levels of service:

1. San Vicente Boulevard & Santa Monica Boulevard (AM, MD, and PM peak hour)
2. Westbourne Drive & Santa Monica Boulevard (PM peak hour)
3. La Cienega Boulevard & Sunset Boulevard (AM, MD, and PM peak hours)
4. La Cienega Boulevard & Fountain Avenue (AM peak hour)
5. La Cienega Boulevard & Holloway Drive (AM and PM peak hour)
6. La Cienega Boulevard & Santa Monica Boulevard (AM, MD, and PM peak hours)
7. La Cienega Boulevard & Melrose Avenue (AM, MD, and PM peak hours)
11. La Cienega Boulevard & Sherwood Drive (AM and PM peak hours)

The same unsignalized intersection identified as meeting signal warrants under the cumulative base traffic conditions would continue to do so under the cumulative plus project conditions. This analysis is intended to examine the general correlation between the planned level of cumulative development and the need to install new traffic signals. It estimates cumulative development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in *Manual on Uniform Traffic Control Devices* and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. The responsible state or local agency should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization. La Cienega Boulevard & Sherwood Drive meets peak hour volume, four-hour volume, and interruption of continuous traffic warrants. The signal warrant analysis can be found in Appendix C.





LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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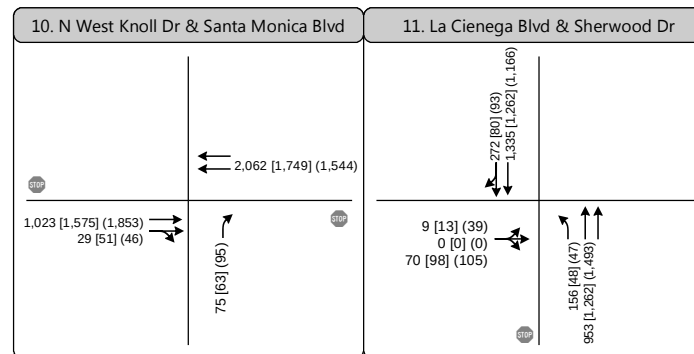


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CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

FIGURE 9



LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



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5. TRAFFIC IMPACT ANALYSIS

The traffic impact analysis compares the projected levels of service at each study intersection under the existing and cumulative plus project conditions to estimate the incremental increase in delay caused by the proposed project. This provides the information needed to assess the potential impact of the project using the significance criteria established by the City of West Hollywood and the City of Los Angeles.

INTERSECTION SIGNIFICANT IMPACT CRITERIA

The intersections selected for analysis span the jurisdictions of West Hollywood and Los Angeles; the following summarizes the significant traffic impact criteria established by each jurisdiction.

City of West Hollywood

The intersection threshold criteria used to determine if a project has an adverse significant traffic impact at signalized or unsignalized intersections in the City of West Hollywood are as follows:

- Signalized intersections formed by two commercial corridors are significantly impacted if:
 - o The addition of project traffic results in a LOS D and in an increase in delay of 12 seconds or greater, or
 - o The addition of project traffic results in a LOS E or F and an increase in delay of eight seconds or greater.
- All other signalized and/or four-way stop intersections are significantly impacted if:
 - o The addition of project traffic results in a LOS D and in an increase in delay of eight seconds or greater, or
 - o The addition of project traffic results in a LOS E or F and an increase in delay of five seconds or greater.
- Unsignalized one-way or two-way stop intersections are significantly impacted if:
 - o The addition of project traffic results in a LOS D, E or F and in an increase in delay of five seconds or greater.

City of Los Angeles

Per LADOT policy (*Traffic Study Policies and Procedures*), stop-controlled intersections in Los Angeles are solely analyzed to determine the need for installation of a traffic signal or other traffic control device. The policy is as follows:

In reviewing unsignalized intersections, only intersections that are adjacent to the project or that are expected to be integral to the project's site access and circulation plan should be identified as study intersections. For these intersections, the overall intersection delay should be measured pursuant to procedures accepted by LADOT during the scoping process. If, based on the



estimated delay, the resultant LOS is E or F in the “cumulative with project” scenario, then the intersection should be evaluated for the potential installation of a new traffic signal. The study shall include a traffic signal warrant analysis prepared pursuant to Section 353 of LADOT’s Manual of Policies and Procedures and submitted to DOT for review and approval. Unsignalized intersections shall only be evaluated to determine the need for the installation of a traffic signal or other traffic control device, but will not be included in the impact analysis.

The foregoing criteria were applied to the locations as required by the respective jurisdictions.

PROJECT IMPACT ANALYSIS

Existing (2014) plus Project Conditions

Using the City of West Hollywood’s criteria for determining the significance of the project impacts, it was determined that the project would not result in significant impacts under existing plus project conditions.

Cumulative (2016) plus Project Conditions

Using the City of West Hollywood’s criteria for determining the significance of the project impacts, it was determined that the project would result in a significant impact under cumulative plus project conditions at one intersection, Westbourne Drive & Santa Monica Boulevard.

STREET SEGMENT IMPACT ANALYSIS

A street segment impact analysis was performed to assess the impacts along adjacent neighborhood streets under typical weekday conditions. In consultation with City of West Hollywood staff, five segments were identified for analysis. The segments selected are located in the City of West Hollywood, as follows:

1. North West Knoll Drive between Santa Monica Boulevard and Rugby Drive
2. North West Knoll Drive between Rugby Drive and Sherwood Drive
3. Rugby Drive between North West Knoll Drive & Sherwood Drive
4. Rugby Drive between Westmount Drive & Westbourne Drive
5. Westbourne Drive between Santa Monica Boulevard & Rugby Drive

As discussed in Chapter 2, 24-hour (daily) segment volumes data was used to perform this analysis.

STREET SEGMENT IMPACT CRITERIA

The street segments were analyzed using the City of West Hollywood’s impact criteria. These criteria are summarized below.

West Hollywood

The street segment impact criteria used by the City of West Hollywood defines an adverse significant traffic impact as:



- An average daily traffic (ADT) of 2,000 vehicles or less and a project-related ADT increase of 12% or greater; or
- An ADT between 2,000 to 3,000 vehicles and a project-related ADT increase of 10% or greater; or
- An ADT between 3,000 to 6,750 vehicles and a project-related ADT increase of 8% or greater; or
- An ADT of more than 6,750 vehicles and a project-related ADT increase of 6.25% or more.

EXISTING PLUS PROJECT STREET SEGMENT TRAFFIC PROJECTIONS

The traffic volumes used to perform the existing street segment analysis were developed from the existing ADT counts in a manner consistent with the development of the volumes used for the intersection analyses. The project traffic volumes were added to the existing volumes to develop the existing plus project volumes. The segment volumes for the existing with project scenario were calculated using the trip distribution shown in Figure 4. Table 6 summarizes the weekday ADT volumes used for this analysis.

CUMULATIVE PLUS PROJECT STREET SEGMENT TRAFFIC PROJECTIONS

The traffic volumes used to perform the cumulative street segment analysis were developed from the existing ADT counts in a manner consistent with the development of the volumes used for the intersection analyses. The existing volumes were factored to year 2016 (from 2014) levels and the daily traffic expected to be generated by the cumulative projects was added to the cumulative base conditions. Similarly, the project traffic volumes were added to the cumulative base volumes to develop the cumulative plus project volumes. The segment volumes for the cumulative with project scenario were calculated using the trip distribution shown in Figure 4. Table 7 summarizes the weekday ADT volumes used for this analysis.

Analysis of Impacts

The street segments in West Hollywood were analyzed using the criteria described above. The percentage increase in weekday ADT on the selected segments ranges from 5 to 16 percent. According to the City of West Hollywood segment impact criteria, four segments are adversely impacted by the proposed project under both existing with project and cumulative with project conditions: North West Knoll Drive between Santa Monica Boulevard and Rugby Drive, Rugby Drive between North West Knoll Drive and Westmount Drive, Rugby Drive between Westmount Drive and Westbourne Drive, and Westbourne Drive between Santa Monica Boulevard & Rugby Drive.

MITIGATION PROGRAM

As indicated in the impact analysis, one intersection and four street segments are identified as significantly impacted. This section describes the proposed transportation mitigation program for the Project and evaluates the effectiveness of the program in mitigating the significant Project impacts. The mitigation program has been developed in discussions with the City of West Hollywood, which has approved the approaches, analysis methods, and assumptions used to complete this analysis. Opportunities for physical mitigation measures such as restriping of the impacted intersection approaches to add turn lanes and improving traffic control devices were investigated. The emphasis was to identify physical and/or operational improvements that could be easily implemented. Additionally, mitigations to



calm traffic on the neighborhood street segments including speed humps and curb extensions were also explored. Prior to issuance of a building permit, the Project applicant shall be required to implement the mitigation program described in this section.

The street segment improvement measures for the significantly impacted segments are described below, and the results are presented in Table 8. Table 9 presents the existing conditions plus project with mitigations intersection impact analysis, and Table 10 shows the same for the cumulative conditions. Figure 10 shows project-generated turning movement traffic volumes for the project with mitigations scenario, Figure 11 shows turning movement traffic volumes for the existing plus project with mitigations scenario, and Figure 12 shows turning movement traffic volumes for the cumulative plus project with mitigations scenario.

Westbourne Drive & Santa Monica Boulevard

Due to the physical constraints and design limitations at this intersection, no feasible mitigations were identified. This intersection would therefore remain significantly impacted by project-related traffic.

North West Knoll Drive between Santa Monica Boulevard and Rugby Drive

Due to the right-in/out driveway configuration on Santa Monica Boulevard, westbound departing vehicles must either proceed eastbound to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a u-turn during the protected left-turn signal phase, or turn right at North West Knoll Drive to loop through residential streets in order to make a northbound left at the intersection at Westbourne Drive & Santa Monica Boulevard. In both the Existing and Cumulative plus Project conditions, it was assumed that 50 percent of westbound departing vehicles would choose to make a U-turn at La Cienega Boulevard, while the other 50 percent would choose to take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard.

Traffic calming measures such as speed humps and a curb extension at the intersection of North West Knoll Drive & Santa Monica Boulevard were explored to discourage a portion of westbound departing vehicles from choosing neighborhood streets as their departure route. If traffic calming mitigation measures are implemented, approximately half of the vehicles that had chosen to turn right onto North West Knoll Drive and take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard would choose to instead proceed to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a U-turn. The reduction in westbound departing vehicles choosing neighborhood streets as their departure route resulting from the proposed mitigation would reduce the project's increase to ADT trips on the street segment on North West Knoll Drive between Santa Monica Boulevard and Rugby Drive to a level below significance under both Existing (2014) plus Project and Cumulative (2016) plus Project conditions.

Rugby Drive between North West Knoll Drive and Westmount Drive

Due to the right-in/out driveway configuration on Santa Monica Boulevard, westbound departing vehicles must either proceed eastbound to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a U-turn during the protected left-turn signal phase, or turn right at North West Knoll Drive to loop through residential streets in order to make a northbound left at the intersection at Westbourne Drive & Santa Monica Boulevard. In both the Existing and Cumulative plus Project conditions, it was assumed that 50 percent of westbound departing vehicles would choose to make a U-turn at La Cienega



TABLE 6
EXISTING PLUS PROJECT WEEKDAY ROADWAY SEGMENT IMPACT ANALYSIS
FOR 8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Segment	Existing Daily Count (2014)	Allowable Increase	Proposed Project			
			Project Only Daily Traffic	Ex + Project (2014)	% Increase	Significant Impact?
1. North West Knoll Drive b/w Santa Monica Boulevard & Rugby Drive	1,470	12%	239	1,709	16.3%	YES
2. North West Knoll Drive b/w Rugby Drive & Sherwood Drive	1,628	12%	90	1,718	5.5%	No
3. Rugby Drive b/w North West Knoll Drive & Westmount Drive	889	12%	149	1,038	16.8%	YES
4. Rugby Drive b/w Westmount Drive & Westbourne Drive	1,005	12%	149	1,154	14.8%	YES
5. Westbourne Drive b/w Santa Monica Boulevard & Rugby Drive	2,649	10%	283	2,932	10.7%	YES

Notes:

Impact criteria based on City of West Hollywood *Traffic Study Thresholds*, (October, 2009).

TABLE 7
CUMULATIVE PLUS PROJECT WEEKDAY ROADWAY SEGMENT IMPACT ANALYSIS
FOR 8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Segment	Existing Daily Count (2014)	Cumulative Base Daily Traffic (2016)	Allowable Increase	Proposed Project			
				Project Only ADT	Cum + Project (2016)	% Increase	Significant Impact?
1. North West Knoll Drive b/w Santa Monica Boulevard & Rugby Drive	1,470	1,499	12%	239	1,738	15.9%	YES
2. North West Knoll Drive b/w Rugby Drive & Sherwood Drive	1,628	1,661	12%	90	1,751	5.4%	No
3. Rugby Drive b/w North West Knoll Drive & Westmount Drive	889	907	12%	149	1,056	16.4%	YES
4. Rugby Drive b/w Westmount Drive & Westbourne Drive	1,005	1,025	12%	149	1,174	14.5%	YES
5. Westbourne Drive b/w Santa Monica Boulevard & Rugby Drive	2,649	2,716	10%	283	2,999	10.4%	YES

Notes:

Impact criteria based on City of West Hollywood *Traffic Study Thresholds*, (October, 2009).

TABLE 8
WEEKDAY ROADWAY SEGMENT PROJECT IMPACT MITIGATION ANALYSIS
FOR 8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

EXISTING (2014)

Segment	Existing Daily Count (2014)	Allowable Increase	Proposed Project				Proposed Project + Mitigation			
			Project Only Daily Traffic	Ex + Project (2014)	% Increase	Significant Impact?	Project Only + Mitigation + Daily Traffic	Ex (2014) + Project + Mitigation	% Increase	Significant Impact?
1. North West Knoll Drive b/w Santa Monica Boulevard & Rugby Drive	1,470	12%	239	1,709	16.3%	YES	165	1,635	11.2%	No
2. North West Knoll Drive b/w Rugby Drive & Sherwood Drive	1,628	12%	90	1,718	5.5%	No	90	1,718	5.5%	No
3. Rugby Drive b/w North West Knoll Drive & Westmount Drive	889	12%	149	1,038	16.8%	YES	75	964	8.4%	No
4. Rugby Drive b/w Westmount Drive & Westbourne Drive	1,005	12%	149	1,154	14.8%	YES	75	1,080	7.5%	No
5. Westbourne Drive b/w Santa Monica Boulevard & Rugby Drive	2,649	10%	283	2,932	10.7%	YES	174	2,823	6.6%	No

CUMULATIVE (2016)

Segment	Cumulative Daily Count (2016)	Allowable Increase	Proposed Project				Proposed Project + Mitigation			
			Project Only Daily Traffic	Cum (2016) + Project	% Increase	Significant Impact?	Project Only + Mitigation + Daily Traffic	Cum (2016) + Project + Mitigation	% Increase	Significant Impact?
1. North West Knoll Drive b/w Santa Monica Boulevard & Rugby Drive	1,499	12%	239	1,738	15.9%	YES	190	1,689	12.7%	No
2. North West Knoll Drive b/w Rugby Drive & Sherwood Drive	1,660	12%	90	1,750	5.4%	No	104	1,764	6.3%	No
3. Rugby Drive b/w North West Knoll Drive & Westmount Drive	906	12%	149	1,055	16.4%	YES	86	992	9.5%	No
4. Rugby Drive b/w Westmount Drive & Westbourne Drive	1,025	12%	149	1,174	14.5%	YES	86	1,111	8.4%	No
5. Westbourne Drive b/w Santa Monica Boulevard & Rugby Drive	2,716	10%	283	2,999	10.4%	YES	147	2,863	5.4%	No

Notes:

Impact criteria based on City of West Hollywood *Traffic Study Thresholds*, (October, 2009).

TABLE 9
EXISTING PROJECT IMPACT MITIGATION INTERSECTION LEVEL OF SERVICE ANALYSIS
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Intersection	Jurisdiction	Peak Hour	Existing (Year 2014)		With Project (Year 2014)				With Project + Mitigations (Year 2014)			
			V/C or Delay	LOS	Delay	LOS	Change in Delay	Impact?	Delay	LOS	Change in Delay	Impact?
1. San Vicente Blvd & Santa Monica Blvd	WH	AM	33	C	34	C	1	No	34	C	1	No
		Midday	44	D	45	D	1	No	45	D	1	No
		PM	56	E	59	E	3	No	59	E	3	No
2. Westbourne Dr & Santa Monica Blvd	WH	AM	19	B	21	C	2	No	21	C	2	No
		Midday	32	C	35	C	3	No	34	C	2	No
		PM	30	C	36	D	6	No	35	D	5	No
3. La Cienega Blvd & Sunset Blvd	WH	AM	90	F	90	F	0	No	90	F	0	No
		Midday	42	D	43	D	1	No	43	D	1	No
		PM	65	E	68	E	3	No	68	E	3	No
4. La Cienega Blvd & Fountain Ave	WH	AM	149	F	149	F	0	No	149	F	0	No
		Midday	12	B	12	B	0	No	12	B	0	No
		PM	14	B	14	B	0	No	14	B	0	No
5. La Cienega Blvd & Holloway Dr	WH	AM	39	D	39	D	0	No	39	D	0	No
		Midday	28	C	28	C	0	No	28	C	0	No
		PM	51	D	52	D	1	No	52	D	1	No
6. La Cienega Blvd & Santa Monica Blvd	WH	AM	62	E	65	E	3	No	65	E	3	No
		Midday	107	F	111	F	4	No	112	F	5	No
		PM	106	F	110	F	4	No	111	F	5	No
7. La Cienega Blvd & Melrose Ave	WH	AM	39	D	39	D	0	No	39	D	0	No
		Midday	30	C	31	C	1	No	31	C	1	No
		PM	58	E	60	E	2	No	60	E	2	No
8. Croft Ave & Santa Monica Blvd	WH	AM	18	B	18	B	0	No	18	B	0	No
		Midday	25	C	25	C	0	No	25	C	0	No
		PM	34	C	34	C	0	No	34	C	0	No
9. Kings Rd & Santa Monica Blvd	WH	AM	5	A	5	A	0	No	5	A	0	No
		Midday	6	A	6	A	0	No	6	A	0	No
		PM	6	A	6	A	0	No	6	A	0	No
10. N West Knoll Drive Santa Monica Blvd	WH	AM	10	A	10	A	0	No	11	B	1	No
		Midday	11	B	12	B	1	No	12	B	1	No
		PM	13	B	13	B	0	No	13	B	0	No
11. La Cienega Blvd & Sherwood Dr [b] [c]	LA	AM	56	F	59	F	3	-	59	F	3	-
		PM	78	F	96	F	18	-	98	F	20	-

Notes:

LA Los Angeles

WH West Hollywood

[b] The minor approach is stop controlled. Average vehicular delay reported for worst case approach.

[c] Signal warrant analysis were performed per LADOT policy.

TABLE 10
CUMULATIVE PROJECT IMPACT MITIGATION INTERSECTION LEVEL OF SERVICE ANALYSIS
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Intersection	Jurisdiction	Peak Hour	Cumulative (Year 2016)		With Project (Year 2016)				With Project + Mitigations (Year 2016)			
			V/C or Delay	LOS	Delay	LOS	Change in Delay	Impact?	Delay	LOS	Change in Delay	Impact?
1. San Vicente Blvd & Santa Monica Blvd	WH	AM	68	E	69	E	1	No	69	E	1	No
		Midday	114	F	118	F	4	No	118	F	4	No
		PM	65	E	67	E	2	No	67	E	2	No
2. Westbourne Dr & Santa Monica Blvd	WH	AM	40	D	46	D	6	No	47	D	7	No
		Midday	32	C	34	C	2	No	34	C	2	No
		PM	42	D	65	E	23	Yes	60	E	18	Yes
3. La Cienega Blvd & Sunset Blvd	WH	AM	120	F	121	F	1	No	121	F	1	No
		Midday	79	E	81	F	2	No	81	F	2	No
		PM	231	F	231	F	0	No	231	F	0	No
4. La Cienega Blvd & Fountain Ave	WH	AM	167	F	167	F	0	No	167	F	0	No
		Midday	14	B	14	B	0	No	14	B	0	No
		PM	19	B	19	B	0	No	19	B	0	No
5. La Cienega Blvd & Holloway Dr	WH	AM	56	E	56	E	0	No	57	E	1	No
		Midday	34	C	35	C	1	No	35	C	1	No
		PM	83	F	86	F	3	No	86	F	3	No
6. La Cienega Blvd & Santa Monica Blvd	WH	AM	88	F	91	F	3	No	92	F	4	No
		Midday	170	F	172	F	2	No	173	F	3	No
		PM	99	F	103	F	4	No	104	F	5	No
7. La Cienega Blvd & Melrose Ave	WH	AM	56	E	57	E	1	No	56	E	0	No
		Midday	61	E	65	E	4	No	64	E	3	No
		PM	107	F	110	F	3	No	110	F	3	No
8. Croft Ave & Santa Monica Blvd	WH	AM	21	C	22	C	1	No	22	C	1	No
		Midday	30	C	30	C	0	No	30	C	0	No
		PM	20	B	20	B	0	No	20	B	0	No
9. Kings Rd & Santa Monica Blvd	WH	AM	5	A	5	A	0	No	5	A	0	No
		Midday	7	A	7	A	0	No	7	A	0	No
		PM	6	A	6	A	0	No	6	A	0	No
10. N West Knoll Drive Santa Monica Blvd	WH	AM	10	A	10	A	0	No	10	A	0	No
		Midday	12	B	12	B	0	No	12	B	0	No
		PM	14	B	14	B	0	No	14	B	0	No
11. La Cienega Blvd & Sherwood Dr [b] [c]	LA	AM	115	F	125	F	10	-	125	F	10	-
		PM	607	F	721	F	114	-	733	F	126	-

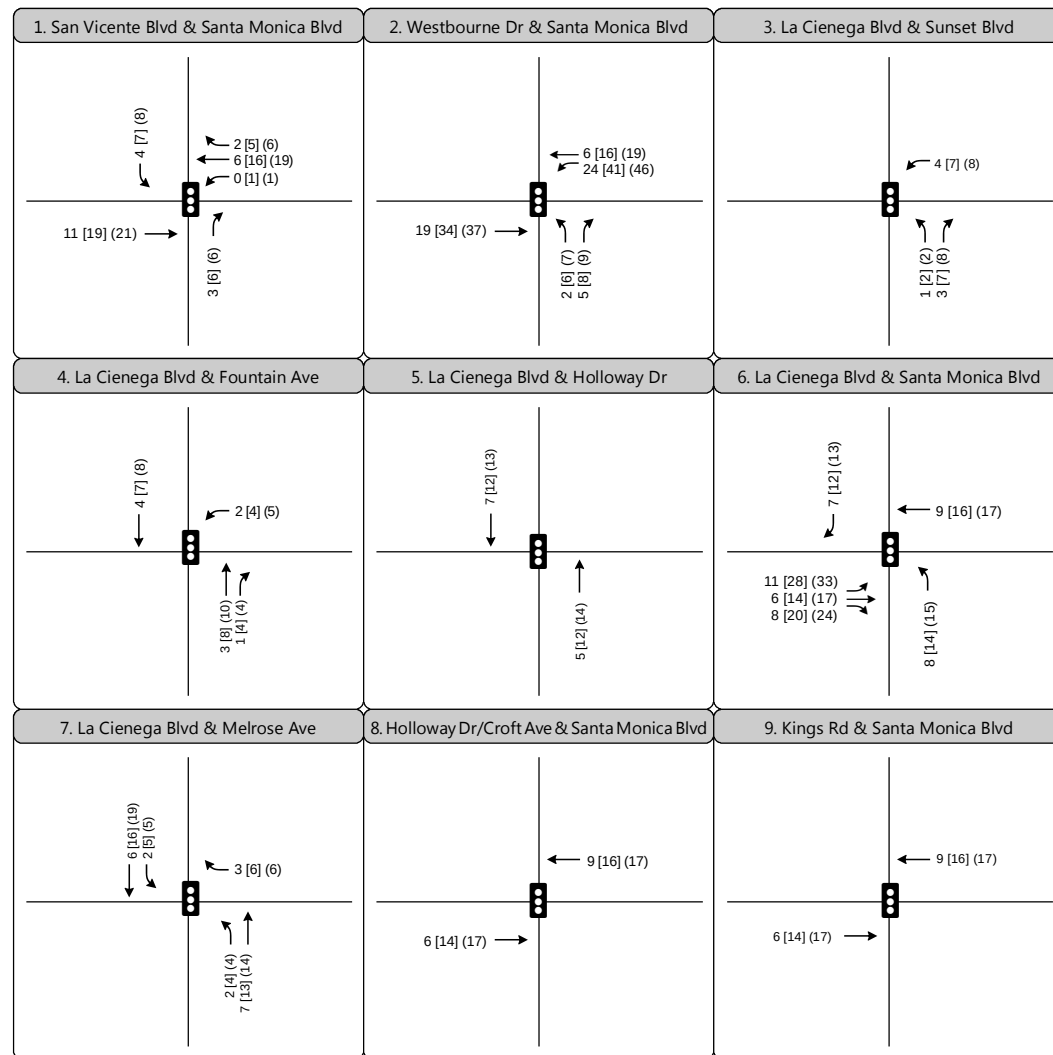
Notes:

LA Los Angeles

WH West Hollywood

[a] Intersection is a two-way stop. Average vehicular delay reported for worst case approach.

[b] The minor approach is stop controlled. Average vehicular delay reported for worst case approach.



LEGEND

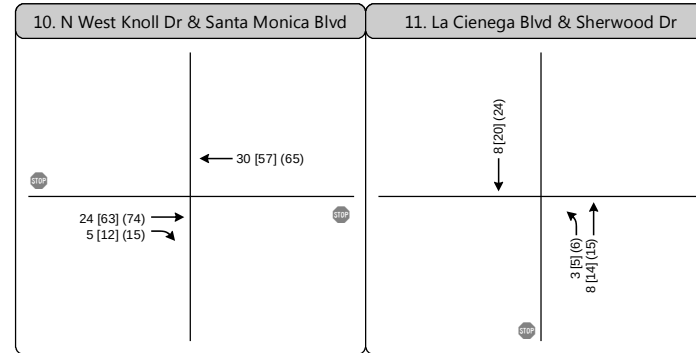
- Turn Movement
- AM [MD] (PM) Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign



N

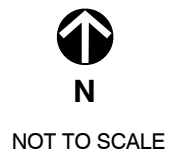
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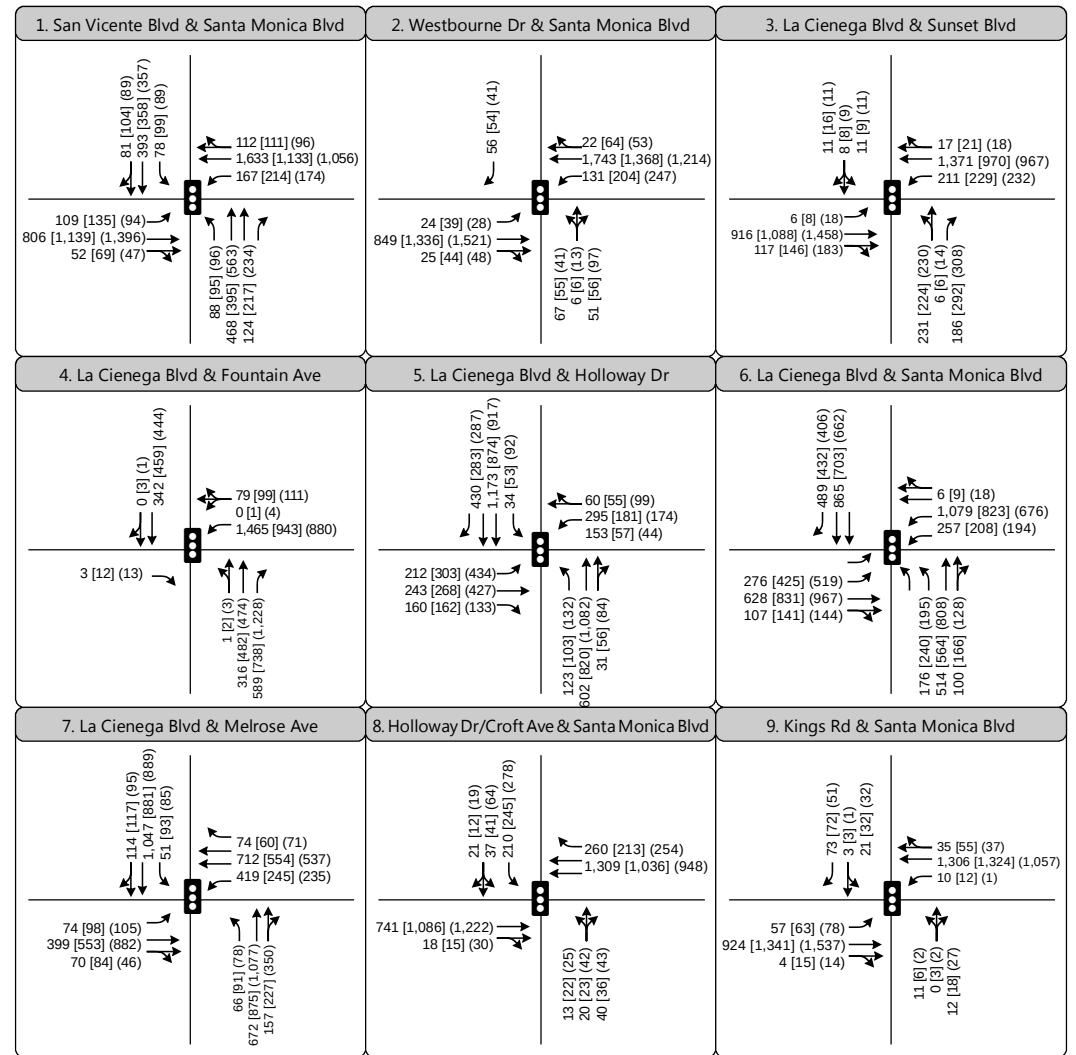




LEGEND

- Turn Movement
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign





LEGEND

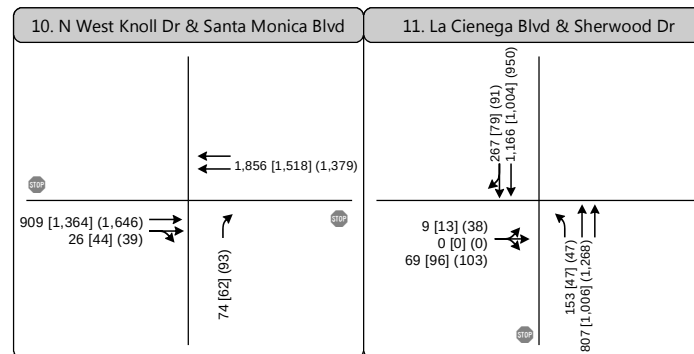
- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



N

NOT TO SCALE





LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



N

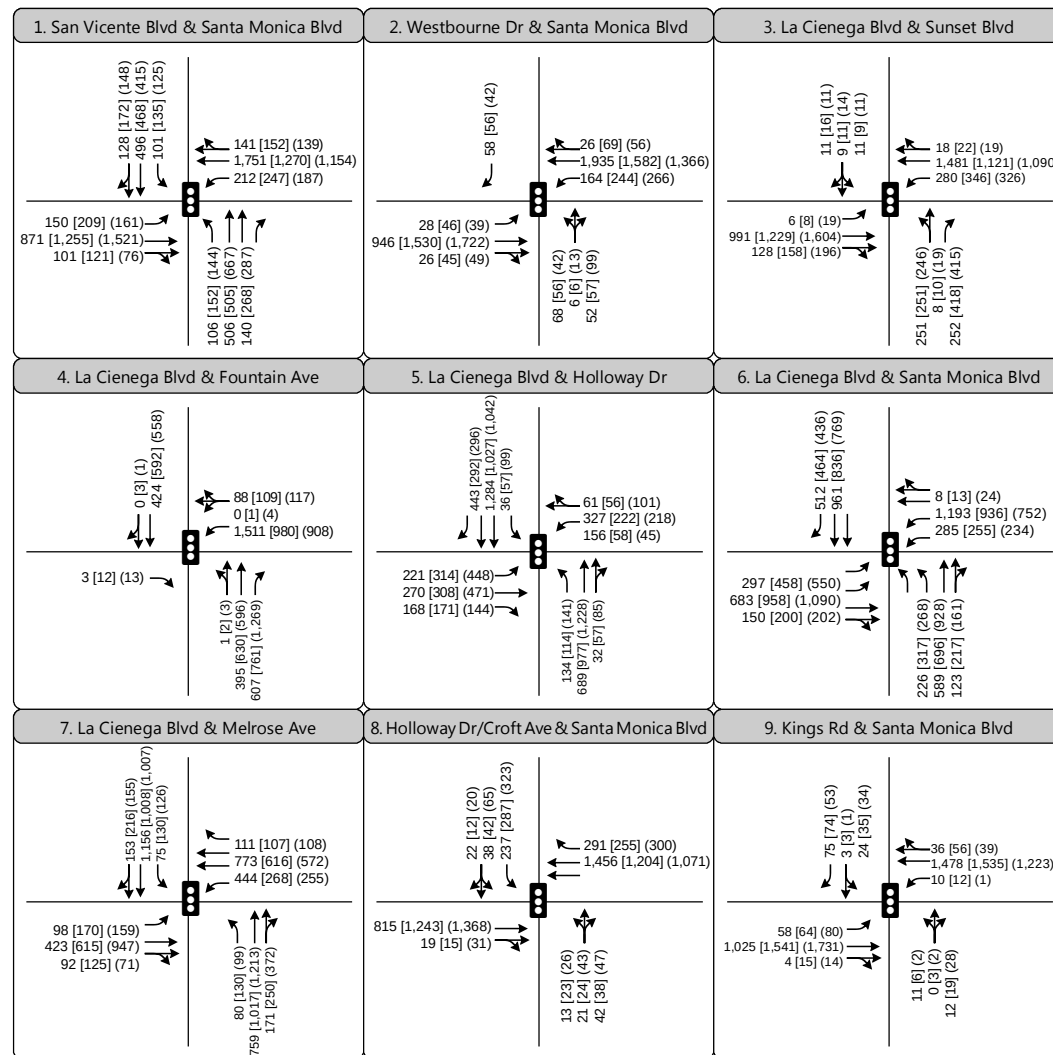
NOT TO SCALE



FEHR PEERS

EXISTING PLUS PROJECT WITH MITIGATION PEAK HOUR TRAFFIC VOLUMES

FIGURE 11



LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



N

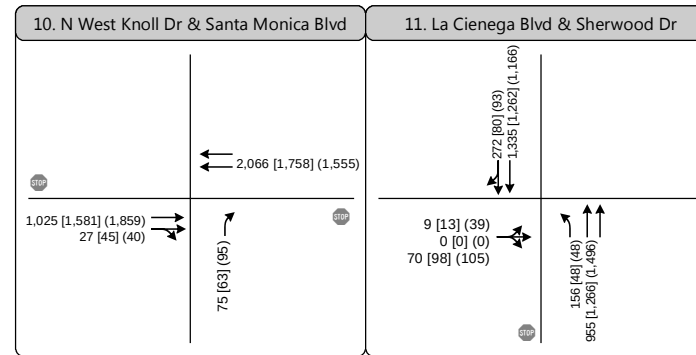
NOT TO SCALE



FEHR & PEERS

CUMULATIVE PLUS PROJECT WITH MITIGATION PEAK HOUR TRAFFIC VOLUMES

FIGURE 12



LEGEND

- Turn Lane
- AM [MD] (PM) Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign



N

NOT TO SCALE



FEHR PEERS

CUMULATIVE PLUS PROJECT WITH MITIGATION PEAK HOUR TRAFFIC VOLUMES

FIGURE 12

Boulevard, while the other 50 percent would choose to take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard.

Traffic calming measures such as speed humps and a curb extension at the intersection of North West Knoll Drive & Santa Monica Boulevard were explored to discourage a portion of westbound departing vehicles from choosing neighborhood streets as their departure route. If traffic calming mitigation measures are implemented, approximately half of the vehicles that had chosen to turn right onto North West Knoll Drive and take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard would choose to instead proceed to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a U-turn. The reduction in westbound departing vehicles choosing neighborhood streets as their departure route resulting from the proposed mitigation would reduce the project's increase to ADT trips on the street segment on Rugby Drive between North West Knoll Drive and Westmount Drive to a level below significance under both Existing (2014) plus Project and Cumulative (2016) plus Project conditions.

Rugby Drive between Westmount Drive and Westbourne Drive

Due to the right-in/out driveway configuration on Santa Monica Boulevard, westbound departing vehicles must either proceed eastbound to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a U-turn during the protected left-turn signal phase, or turn right at North West Knoll Drive to loop through residential streets in order to make a northbound left at the intersection at Westbourne Drive & Santa Monica Boulevard. In both the Existing and Cumulative plus Project conditions, it was assumed that 50 percent of westbound departing vehicles would choose to make a U-turn at La Cienega Boulevard, while the other 50 percent would choose to take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard.

Traffic calming measures such as speed humps and a curb extension at the intersection of North West Knoll Drive & Santa Monica Boulevard were explored to discourage a portion of westbound departing vehicles from choosing neighborhood streets as their departure route. If traffic calming mitigation measures are implemented, approximately half of the vehicles that had chosen to turn right onto North West Knoll Drive and take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard would choose to instead proceed to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a U-turn. The reduction in westbound departing vehicles choosing neighborhood streets as their departure route resulting from the proposed mitigation would reduce the project's increase to ADT trips on the street segment on Rugby Drive between Westmount Drive and Westbourne Drive to a level below significance under both Existing (2014) plus Project and Cumulative (2016) plus Project conditions.

Westbourne Drive between Santa Monica Boulevard and Rugby Drive

Due to the right-in/out driveway configuration on Santa Monica Boulevard, westbound departing vehicles must either proceed eastbound to the intersection at La Cienega Boulevard & Santa Monica Boulevard in order to make a U-turn during the protected left-turn signal phase, or turn right at North West Knoll Drive to travel through residential streets in order to make a northbound left-turn at the intersection of Westbourne Drive & Santa Monica Boulevard. In both the Existing and Cumulative plus Project conditions, it was assumed that 50 percent of westbound departing vehicles would choose to make a U-turn at La Cienega Boulevard, while the other 50 percent would choose to take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard.



Traffic calming measures, such as speed humps, traffic circles or curb extensions, were explored to discourage a portion of westbound departing vehicles from choosing neighborhood streets as their departure route. If traffic calming mitigation measures are implemented, approximately half of the vehicles that had chosen to turn right onto North West Knoll Drive and take neighborhood streets to the intersection at Westbourne Drive & Santa Monica Boulevard would likely choose to instead proceed to the intersection at La Cienega Boulevard & Santa Monica Boulevard as the most direct route to reach their ultimate destination. The reduction in westbound departing vehicles choosing neighborhood streets as their departure route resulting from the proposed mitigation would reduce the project's increase to ADT trips on the street segment on Westbourne Drive between Santa Monica Boulevard and Rugby Drive to a level below significance under both Existing (2014) plus Project and Cumulative (2016) plus Project conditions.



6. ALTERNATIVE TRANSPORTATION MODE IMPACTS

This section reviews the impacts of the project on the bicycle and pedestrian facilities in the study area. Potential impacts may include disruptions to existing facilities, interference with planned facilities, and conflicts with adopted plans, guidelines, policies, or standards.

SIGNIFICANCE CRITERIA

A project impact would be considered significant if:

- The project disrupts existing facilities
- The project interferes with planned facilities
- The project conflicts or creates inconsistencies with adopted guidelines, plans, policies, or standards

BICYCLE FACILITY IMPACTS

The existing bicycle network in the study area consists of Class II facilities (designated bicycle lane, noted by striping and signage) on San Vicente Boulevard between Santa Monica Boulevard and Beverly Boulevard and on Santa Monica Boulevard between North Almont Drive and North Flores Street. Also present are Class III facilities (shared roadway, noted by signage) on San Vicente Boulevard between Santa Monica Boulevard and Sunset Boulevard and on Melrose Avenue between Santa Monica Boulevard and North Croft Avenue. Although there are no other designated bicycle facilities, there is bicycle activity in the study area.

Disruptions to Existing Facilities

There is an existing bicycle lane on Santa Monica Boulevard immediately north of the project site. The proposed project would not modify the bicycle lane on Santa Monica Boulevard or alter access to the existing facility. Therefore, the project impact is less than significant and no mitigation is required.

PEDESTRIAN FACILITY IMPACTS

The pedestrian network in the study area consists of crosswalks, pedestrian crossings, and sidewalks. Sidewalks are available on all streets bordering the project site and all study intersections have a crosswalk on at least one approach, with the exception of La Cienega Boulevard & Sherwood Drive. Additionally, several of the stop-controlled intersections and mid-block locations in the study area have marked pedestrian crossings with high visibility signage.

Disruptions to Existing Facilities

There is an existing crosswalk immediately to the west of the project parking facility entrance, and to the east of the project site at the intersection of Santa Monica Boulevard & North West Knoll Drive. The proposed project would not modify or alter access to the existing pedestrian facilities. Therefore, the project impact is less than significant and no mitigation is required.



TRANSIT FACILITY IMPACTS

The transit facilities in the study area consist of bus stops with benches and shelters. Bus stops are available along the project frontage on Santa Monica Boulevard.

Disruptions to Existing Facilities

The project frontage along Santa Monica Boulevard is not expected to interfere with the existing bus stops, which are located on frontages of nearby properties. Therefore, the project impact is less than significant and no mitigation is required.



7. CONGESTION MANAGEMENT PROGRAM ANALYSIS

This section presents an analysis of potential impacts to the regional transportation system. This analysis was conducted in accordance with the procedures outlined in *2010 Congestion Management Program for Los Angeles County* (Metro, July 2010). The CMP requires that, when an environmental impact report is prepared for a project, traffic impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities.

REGIONAL TRAFFIC IMPACT ANALYSIS

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

Significant Traffic Impact Criteria

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following threshold is exceeded:

- The proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$), causing LOS F ($V/C > 1.00$)
- If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$).

Arterial Monitoring Stations

The CMP arterial monitoring intersection nearest to the project site is the intersection of La Cienega Boulevard & Santa Monica Boulevard. Another CMP arterial monitoring station is on Santa Monica Boulevard at Doheny Drive. In accordance with the project trip generation estimates previously presented and a review of the project traffic volumes shown in Figure 5, the proposed project would add fewer than 50 trips to Doheny Drive & Santa Monica Boulevard during either peak hour. At La Cienega Boulevard & Santa Monica Boulevard, the proposed project would also add fewer than 50 trips during the AM peak hour, but more than 50 trips during the PM peak hour. At La Cienega Boulevard & Santa Monica Boulevard, the proposed project would increase traffic by 110 trips in the evening peak hour (which is the CMP analysis hour with the greatest proposed project trip generation). If project street segment impact mitigations are implemented, the number of PM peak hour project trips at La Cienega Boulevard & Santa Monica Boulevard would increase from 110 to 119 trips. Since the project adds more than 50 trips at La Cienega Boulevard & Santa Monica Boulevard, an arterial intersection CMP analysis is required. The CMP analysis is provided for both Existing (2014) and Cumulative (2016) conditions with and without the project. The following scenarios were analyzed:



1. Existing (2014)
2. Existing (2014) plus Project
3. Existing (2014) plus Project with Mitigations
4. Cumulative (2016)
5. Cumulative (2016) plus Project
6. Cumulative (2016) plus Project with Mitigations

Existing plus Project CMP Impact Analysis

Table 11 presents the arterial intersection LOS for the CMP Arterial Monitoring Station located at La Cienega Boulevard & Santa Monica Boulevard for the PM peak hour under the Existing (2014) analysis conditions listed above. This analysis concluded that the identified CMP arterial intersection is expected to operate at LOS E or better during the PM peak hour under all Existing (2014) analysis conditions.

Cumulative plus Project CMP Impact Analysis

Table 11 presents the arterial intersection LOS for the CMP Arterial Monitoring Station located at La Cienega Boulevard & Santa Monica Boulevard for the PM peak hour under the Cumulative (2016) analysis conditions listed above. This analysis concluded that the identified CMP arterial intersection is expected to operate at LOS E or better during the PM peak hour under all Cumulative (2016) analysis conditions.

FREEWAYS

The project site is approximately four miles west and 4.25 miles south of US 101. The CMP freeway monitoring station closest to the project site is the US 101 south of Santa Monica Boulevard. An additional Caltrans monitoring station near the project site on US 101 is at Cold Water Canyon Avenue. An analysis was conducted of potential impacts at these stations on the US 101. Based on the trip generation estimates shown in Table 3 and trip distribution presented in Figure 4, the project is projected to result in a net increase of approximately 34 peak hour trips on US-101 southbound and 17 peak hour trips on US-101 northbound during the AM or PM peak hours to the segments identified as CMP monitoring stations. This is based on an assumption that project trips distributed on Santa Monica Boulevard are also trips on the US 101 south of the project site, and that all project trips distributed on Sunset Boulevard are trips on the US 101 north of the project site. Based on this conservative analysis, the proposed project is not expected to add more than 150 vehicles to the CMP mainline freeway monitoring locations during either peak hour; therefore, a CMP freeway analysis is not required.



TABLE 11
EXISTING AND CUMULATIVE CMP INTERSECTION LEVEL OF SERVICE ANALYSIS
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Intersection	Jurisdiction	Peak Hour	V/C	LOS	V/C	LOS	Change in V/C	Impact?	V/C	LOS	Change in V/C	Impact?
6. La Cienega Boulevard & Santa Monica Boulevard	West Hollywood		Existing (Year 2014)		With Project (Year 2014)				With Project + Mitigation (Year 2014)			
		AM	--	--	--	--	--	--	--	--	--	--
		PM	0.810	D	0.835	D	0.025	No	0.836	D	0.026	No
			Cumulative Base (Year 2016)		With Project (Year 2016)				With Project + Mitigation (Year 2016)			
		AM	--	--	--	--	--	--	--	--	--	--
		PM	0.924	E	0.950	E	0.026	No	0.951	E	0.027	No

Notes:

Analysis conducted per 2010 Congestion Management Program for Los Angeles County (Metro, July 2010).

8. PARKING, SITE ACCESS AND CIRCULATION

The parking system was analyzed by comparing the available supply to the applicable code requirements specified by the City of West Hollywood. Issues relating to the project's proposed site access and internal circulation design were also evaluated using standard guides for the types of vehicles expected to use these facilities.

The proposed mixed-use development contains 25,000 sf of ground floor retail space which will house a Sprouts grocery store, 1,100 sf of ground floor restaurant space including outdoor seating, 4,000 sf of office space, 8,000 sf of health/fitness club space for a yoga studio, and 4,000 sf of personal services space. The project proposes to build an addition to, and ultimately share parking space in, an adjacent parking structure currently utilized by an existing 24-hour Fitness and other retail uses located along Santa Monica Boulevard.

PARKING CODE ANALYSIS

Section 19.28.040 of the City of West Hollywood Municipal Code (WHMC) provides the minimum off-street parking requirements of new developments. The WHMC indicated the following requirements:

Existing Uses utilizing Shared Parking	- 201 spaces
Grocery space	- 3.5 spaces per 1,000 sf
High-turnover restaurant space	- 3.5 spaces per 1,000 sf
Office space	- 3.5 spaces per 1,000 sf
Health/fitness facilities	- 10 spaces per 1,000 sf
Personal Services	- 5 spaces per 1,000 sf

Section 19.28.160 of the WHMC requires one loading space per 20,000 square feet for non-residential space. The non-residential portion of the project would require three loading spaces to be made available.

Section 19.28.170 of the WHMC requires two percent of all parking spaces in parking lots contain twenty-five or more parking spaces to be designated for preferential parking for alternative fuel vehicles. Based on the provided parking, the project would require seven alternative fuel vehicle parking spaces.

Lastly, Section 1129B of the 2010 California Building Code requires a minimum of nine spaces of the total number of parking spaces in garages providing 401-500 spaces to be designated for accessible parking. Based on the provided parking, the project would require nine accessible parking spaces.

As shown in Table 12, the total parking requirement for the project, including the 201 spaces for the existing uses, would be 407 spaces. The site plans indicate that 413 spaces would be provided for the project. This supply would meet the City requirement of spaces.



TABLE 12
PARKING REQUIREMENT ESTIMATES
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Parking Ratio		
Land Use	Ratio	
Grocery	3.50	per ksf
Restaurant (High-Turnover Sit-Down)	3.50	per ksf
Office	3.50	per ksf
Health/Fitness Facilities	10.00	per ksf
Personal Services	5.00	per ksf

Parking Requirements per Code		
Land Use	Size	Required Spaces
Existing Uses (requires based on existing CUP)	50.225 ksf	201
Sprouts (Grocery)	25.000 ksf	88
Restaurant (High-Turnover Sit-Down)	1.100 ksf	4
Office	3.998 ksf	14
Health/Fitness Facilities	8.000 ksf	80
Personal Services	4.000 ksf	20
TOTAL SPACE 92.323 ksf		
TOTAL REQUIRED		407
SPACES PROVIDED		413
TOTAL NEEDED		0

NON-STANDARD REQUIRED PARKING		Required Spaces
Accessible	9 per 401-500 spaces	9
Alternative Fuel Vehicle Parking	2%	8
Loading	1 per 20 ksf	3

Notes:

Source: West Hollywood Municipal Code Sec 19.28.040, Tables 3-6 & Sec 19.22.050, Sec 19.28.160, and Sec 19.28.170 Updated February 16, 2007. 2010 California Building Code Section 1129B Accessible Parking Required.

BICYCLE PARKING CODE ANALYSIS

Section 19.28.150 of the WHMC provides the minimum bicycle parking requirements of new developments. The WHMC indicated the following requirements:

Non-Residential	- 1 employee space per 7,500 sf
Non-Residential	- 1 visitor space per 10,000 sf

As shown in Table 13, the total bicycle parking requirement for the project would be 11 spaces, including six spaces for commercial employees and five spaces for visitors.

Section 19.28.150 of the WHMC requires two shower facilities for non-residential spaces between 25,000 and 124,999 sf and one clothes locker per employee bicycle parking space required. The non-residential portion of the project would require six clothing lockers to be made available.

The site plans indicate that 30 bicycle parking spaces, two shower facilities, and six clothing lockers would be provided for the project on the lower level of the parking garage. This supply meets the City requirements. Commercial visitor parking should be located where accessible to nearby commercial uses.

SITE ACCESS

As shown in Figure 2, one un-signalized, stop-controlled driveway on Santa Monica Boulevard will provide vehicular site access between Westmount Drive and West Knoll Drive. The driveway would serve both inbound and outbound traffic. The driveway will be right-turn-in and right-turn-out only. Employee parking would be provided on one subterranean level, and visitor parking on three above-ground-levels, including on the roof. The ground floor will provide site access only.

SITE CIRCULATION

Driveways

WHMC Section 19.28.130 indicates that non-residential sites may have one driveway, which shall be located as far away from intersections as is practical. The Santa Monica Boulevard driveway will be 25 feet wide.

Drive Aisles and Access Ramps

Inside the parking structure, the drive aisle widths vary from 24 to 25 feet, with two-way operation; the ramps providing access between the parking levels vary from 18 to 33 feet wide. Some parking stalls are proposed to be perpendicular to other parking spaces such that a parked car would obstruct entry and exit from the adjacent parking stalls. This placement of parking spaces is found on two of three parking levels and city staff should closely review and consider this during the plan check review process. Additionally, some parking spaces do not provide sufficiently wide aisles (approximately 15 feet) to allow for cars to back out of parking spaces, unless the parking area is managed by a valet attendant.



TABLE 13
BICYCLE PARKING REQUIREMENT ESTIMATES
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Parking Ratio		
Land Use	Ratio	
Commercial Employee	0.133	per ksf
Commercial Visitor	0.10	per ksf
Bicycle Showers	2.00	per 25,000 - 124,999 sf
Bicycle Clothing Lockers	1.00	per emp bicycle parking space

Parking Requirements per Code		
Land Use	Size	Required Spaces
Commercial - Employee	42.193 ksf	6
Commercial - Visitor	42.193 ksf	5
TOTAL SPACES REQUIRED		11
TOTAL SPACES PROVIDED		30
Bicycle Showers	42.193 ksf	2
TOTAL SHOWERS REQUIRED		2
TOTAL SHOWERS PROVIDED		2
Bicycle Clothing Lockers	6 spaces	6
TOTAL LOCKERS REQUIRED		6
TOTAL LOCKERS PROVIDED		6

Notes:

Source: West Hollywood Municipal Code, Sec 19.28.150, Updated February 16, 2007.

In general, the drive aisle widths meet the minimum recommended width for two-way operation, with the exception of the areas identified above where parking stalls limit the drive aisle widths that may need to serve two-way traffic and are 15 to 17 feet wide. In relation to circulation between parking levels, the ramps meet the recommended width for two-way operation of a ramp between floors.

Most of the proposed parking spaces are 8 feet by 15 feet or 9 feet by 18 feet in compliance with WHMC 19.28.090. One hundred thirty six of the proposed parking spaces are compact parking spaces. To discourage traffic from passing too closely to the parked cars and support columns, yellow pavement markings out from the columns should delineate parking from the travel lanes. The placement of support columns in the parking structure is such that they would allow for the visibility and maneuverability around turns and the accessibility into and out of parking spaces. City staff should closely review and consider these issues during the plan check review process.

Ramp and Parking Area Slopes

Section 19.28.110 of the WHMC requires ramps with greater than a 10 percent grade to have a transition at the top and bottom of the ramp. The project ramp grades vary from a 13 percent grade with 5 percent grade transitions at the top and bottom of the ramp, to a 20 percent grade with 10 percent grade transitions at the top and bottom. The ramp design meets design guidelines.

According to the code, the parking area slopes shall not exceed 5 percent. Design plans do not include proposed slopes.

Loading Docks/Areas

The loading area, serving all uses on the project site, would be accessed from the driveway on Santa Monica Boulevard. Trucks would enter the Santa Monica Boulevard driveway, descend straight down a ramp and then reverse into the loading dock.

Based on the current design, the loading driveway turning radius and layout is sufficient to accommodate a delivery truck. A test was performed that determined a 30-foot single unit truck found in *A Policy on Geometric Design of Highways and Streets 2004* was able to exit the loading area without crossing over the raised median or conflicting with the equipment holding the gate arms; however, inbound and outbound trucks do need to make wide turns for ingress and egress that require partially crossing over into the lane of oncoming traffic for some portion of their turn in and out of the Santa Monica Boulevard driveway. City staff should closely review and consider these issues during the plan check review process.



9. CONSTRUCTION IMPACTS

Short-term adverse traffic and parking impacts could occur in the project vicinity during construction of the project. Additional trips generated by the truck deliveries and construction employees could affect traffic flow in the study area; construction activity could impact traffic along Santa Monica Boulevard and West Knoll Drive; pedestrian traffic flow near the project site could be altered as a result of construction; and the availability of parking, especially on-street parking in the study area, could be impacted if on-site parking for construction employees were not provided.

CONSTRUCTION MITIGATION PLAN

The developer must comply with the standard City of West Hollywood development permit conditions relating to construction activities:

Grading and other construction activities shall be limited to the hours of 8:00 AM to 7:00 PM, Monday through Friday, and shall be limited to interior construction during the same hours on Saturday. No construction activity shall be permitted on Sundays and City or national holidays. The use of heavy equipment shall be restricted to the hours of 8:00 AM to 7:00 PM, Monday through Friday. Trucks and other heavy equipment and vehicles shall not arrive before 8:00 AM. Employees for the project shall not arrive at the site prior to 7:45 AM on any working day. All construction equipment and materials shall be stored on site.

To minimize construction impacts, City policy and procedure requires that the developer submit a Construction Mitigation Plan to the City for review as part of the project approval process. The elements of the proposed plan are described below.

Staging Area

The staging area for construction will be determined in consultation with the project applicant and City staff.

Haul Route

Locally, the following haul routes are available for construction truck trips:

- East on Santa Monica Boulevard to US-101
- South on La Cienega Boulevard to I-10
- West on Santa Monica Boulevard to I-405



Employee Parking

The developer must ensure that construction period employees can either park on-site or at an off-site location. Off-site parking in the adjacent residential neighborhoods is strictly prohibited.

Pedestrian Safety

If sidewalks are to be closed during construction, pedestrians would need to be advised of the closure with signage. It may also be necessary for the applicant to provide a protected walkway, approved by the City.



10. PROJECT ALTERNATIVES ANALYSIS

Four alternatives to the proposed project were evaluated, including the no project alternative and three build alternatives. Each of these alternatives was reviewed to determine its potential impact on the surrounding transportation system, as compared to the proposed project. Trip generation for each alternative was estimated and compared with that of the proposed project. A quantitative analysis of each alternative was not prepared as part of this study. The alternatives to the proposed project are described below:

- Alternative 1 (No Project/No Development) – The no project alternative assumes that the development proposed as part of the project would not occur. The site would remain as it is and the existing land uses would remain in place.
- Alternative 2 (Reduced Density Alternative) – This alternative would involve the construction of a 25,000 sf of grocery store, 3,998 sf of office uses, 8,000 sf of health/fitness uses, and 4,000 sf of personal services uses.
- Alternative 3 (Mixed Use Housing Alternative) – This alternative would involve the construction of a 25,000 sf of grocery store, 1,319 sf of restaurant uses, 3,998 sf of office uses, and nine two-bedroom apartments.
- Alternative 4 (Reduced Density and Office Use Alternative) – This alternative would involve construction of a 20,000 sf of grocery store, 1,319 sf of restaurant uses, and 15,998 sf of office uses.

ESTIMATED TRIP GENERATION FOR PROJECT ALTERNATIVES

The potential trip generation of each of the alternatives was estimated using a methodology similar to that used for the proposed project. The resulting trip generation estimates for each alternative and for the proposed project are shown in Tables 14, 15, and 16. The estimated trip generation of each alternative is summarized below:

- Alternative 1 – Under this alternative, the project would not be constructed and there would be no new trips generated on the project site.
- Alternative 2 – The trip generation for Alternative 2 would be the less than that of the proposed project in all peak periods. This alternative would generate approximately 20 percent fewer trips as the proposed project in the weekday AM peak hour, and 10 percent fewer trips in the mid-day and PM peak hours. As shown in Table 14, this alternative is estimated to generate approximately 62 net new trips during the weekday AM peak hour, 140 net new trips during the weekday mid-day peak hour, and 166 net new trips during the PM peak hour.



TABLE 14
PROJECT ALTERNATIVE 2 TRIP GENERATION ESTIMATES
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Trip Generation Rates [a]												
Land Use	ITE#	Rate	Daily	AM Peak Hour			MD Peak Hour [b]			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Office [b]	710	per 1,000 square feet	11.01	88%	12%	1.55	88%	12%	1.55	17%	83%	1.49
Supermarket (Sprouts)	850	per 1,000 square feet	102.24	62%	38%	3.40	52%	48%	7.07	51%	49%	9.48
Specialty Retail [c]	826	per 1,000 square feet	44.32	61%	39%	0.73	48%	52%	6.84	44%	56%	2.71
Health/Fitness Club	492	per 1,000 square feet	32.93	45%	55%	1.38	42%	58%	1.41	57%	43%	3.53

Trip Generation Estimates													
Land Use	ITE#	Size	Weekday Daily	AM Peak Hour			MD Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	In	Out	Total	
Proposed Project													
Sprouts (Grocery Store)	850	25.000 ksf	2,556	53	32	85	92	85	177	121	116	237	
Walk/Bike Credit (35%)			(895)	(19)	(11)	(30)	(32)	(30)	(62)	(42)	(41)	(83)	
Pass-by Credit (10%)			(166)	(3)	(3)	(6)	(6)	(6)	(12)	(8)	(8)	(16)	
Total Grocery Trips			1,495	31	18	49	54	49	103	71	67	138	
Office	710	3.998 ksf	44	5	1	6	5	1	6	1	5	6	
Health/Fitness Club	492	8.000 ksf	263	5	6	11	5	6	11	16	12	28	
Walk/Bike Credit (60%)			(158)	(3)	(4)	(7)	(3)	(4)	(7)	(10)	(7)	(17)	
Total Health/Fitness Trips			105	2	2	4	2	2	4	6	5	11	
Personal Services (Specialty Retail)	826	4.000 ksf	177	2	1	3	13	14	27	5	6	11	
Total Proposed Trip Generation			40.998 ksf	1,821	40	22	62	74	66	140	83	83	166

Notes:

[a] Source: ITE Trip Generation Manual, 9th Edition, 2012.

[b] The AM peak hour generator is equivalent to the AM peak hour of adjacent street traffic for ITE 710

[c] AM rate was derived from the proportional relationship of PM rates between ITE 814 and Shopping Center (ITE 820) and applied to ITE 820 AM rate

TABLE 15
PROJECT ALTERNATIVE 3 TRIP GENERATION ESTIMATES
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Trip Generation Rates [a]												
Land Use	ITE#	Rate	Daily	AM Peak Hour			MD Peak Hour [b]			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Office [b]	710	per 1,000 square feet	11.01	88%	12%	1.55	88%	12%	1.55	17%	83%	1.49
Supermarket (Sprouts)	850	per 1,000 square feet	102.24	62%	38%	3.40	52%	48%	7.07	51%	49%	9.48
High-Turnover Restaurant (Café)	931	per 1,000 square feet	127.15	52%	48%	11.52	52%	48%	13.53	59%	41%	11.15
Specialty Retail [c]	826	per 1,000 square feet	44.32	61%	39%	0.73	48%	52%	6.84	44%	56%	2.71
Apartment	220	per DU	6.65	20%	80%	0.51	29%	71%	0.55	65%	35%	0.62

Trip Generation Estimates													
Land Use	ITE#	Size	Weekday Daily	AM Peak Hour			MD Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	In	Out	Total	
Proposed Project													
Sprouts (Grocery Store)	850	25.000 ksf	2,556	53	32	85	92	85	177	121	116	237	
Walk/Bike Credit (35%)			(895)	(19)	(11)	(30)	(32)	(30)	(62)	(42)	(41)	(83)	
Pass-by Credit (10%)			(166)	(3)	(3)	(6)	(6)	(6)	(12)	(8)	(8)	(16)	
Total Grocery Trips			1,495	31	18	49	54	49	103	71	67	138	
Café (High-Turnover Restaurant)	931	1.319 ksf	168	8	7	15	9	9	18	9	6	15	
Office	710	3.998 ksf	44	5	1	6	5	1	6	1	5	6	
Apartments	220	9.000 DU	60	1	4	5	1	4	5	4	2	6	
Total Proposed Trip Generation			39.317 ksf	1,707	44	26	70	68	59	127	81	78	159

Notes:

[a] Source: ITE Trip Generation Manual, 9th Edition, 2012.

[b] The AM peak hour generator is equivalent to the AM peak hour of adjacent street traffic for ITE 710

[c] AM rate was derived from the proportional relationship of PM rates between ITE 814 and Shopping Center (ITE 820) and applied to ITE 820 AM rate

TABLE 16
PROJECT ALTERNATIVE 4 TRIP GENERATION ESTIMATES
8550 SANTA MONICA BOULEVARD MIXED USE PROJECT

Trip Generation Rates [a]												
Land Use	ITE#	Rate	Daily	AM Peak Hour			MD Peak Hour [b]			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Office [b]	710	per 1,000 square feet	11.01	88%	12%	1.55	88%	12%	1.55	17%	83%	1.49
Supermarket (Sprouts)	850	per 1,000 square feet	102.24	62%	38%	3.40	52%	48%	7.07	51%	49%	9.48
High-Turnover Restaurant (Café)	931	per 1,000 square feet	127.15	52%	48%	11.52	52%	48%	13.53	59%	41%	11.15
Specialty Retail [c]	826	per 1,000 square feet	44.32	61%	39%	0.73	48%	52%	6.84	44%	56%	2.71
Health/Fitness Club	492	per 1,000 square feet	32.93	45%	55%	1.38	42%	58%	1.41	57%	43%	3.53

Trip Generation Estimates													
Land Use	ITE#	Size	Weekday Daily	AM Peak Hour			MD Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	In	Out	Total	
Proposed Project													
Sprouts (Grocery Store)	850	20.000 ksf	2,045	42	26	68	73	68	141	97	93	190	
Walk/Bike Credit (35%)			(716)	(15)	(9)	(24)	(26)	(23)	(49)	(34)	(33)	(67)	
Pass-by Credit (10%)			(133)	(3)	(1)	(4)	(5)	(4)	(9)	(6)	(7)	(13)	
Total Grocery Trips			1,196	24	16	40	42	41	83	57	53	110	
Café (High-Turnover Restaurant)	931	1.319 ksf	168	8	7	15	9	9	18	9	6	15	
Office	710	15.998 ksf	176	22	3	25	22	3	25	4	20	24	
Total Proposed Trip Generation			37.317 ksf	1,540	54	26	80	73	53	126	70	79	149

Notes:

[a] Source: ITE Trip Generation Manual, 9th Edition, 2012.

[b] The AM peak hour generator is equivalent to the AM peak hour of adjacent street traffic for ITE 710

[c] AM rate was derived from the proportional relationship of PM rates between ITE 814 and Shopping Center (ITE 820) and applied to ITE 820 AM rate

- Alternative 3 – The trip generation for Alternative 3 would be the less than that of the proposed project in all analyzed peak periods. This alternative would generate approximately 10 percent fewer trips as the proposed project in the weekday AM and PM peak periods, and 20 percent fewer trips during the mid-day peak period. As shown in Table 15, this alternative is estimated to generate approximately 70 net new trips during the weekday AM peak hour, 127 net new trips during the weekday mid-day peak hour, and 159 net new trips during the PM peak hour.
- Alternative 4 – The trip generation for Alternative 4 would be the greater than that of the proposed project in the AM peak period, but less than that of the proposed project in the mid-day and PM peak periods. This alternative would generate just under four percent more trips as the proposed project in the weekday AM peak hour, and 20 percent fewer trips during the mid-day and PM peak hours. As shown in Table 16, this alternative is estimated to generate approximately 80 net new trips during the weekday AM peak hour, 126 net new trips during the weekday mid-day peak hour, and 149 net new trips during the PM peak hour.

POTENTIAL TRAFFIC IMPACTS OF PROJECT ALTERNATIVES

As indicated, a detailed intersection operations analysis was not performed as part of the analysis of the project alternatives. Based on the projected trip generation of the proposed alternatives, however, the following general conclusions can be made:

- Alternative 1 – By definition, no traffic impacts would occur under this alternative, as no new development would occur on the project site.
- Alternative 2 – Since the estimated trip generation of Alternative 2 is lower relative to the incremental increases projected for the proposed project and the proposed project's incremental increases in delay at the impacted intersection is just over the City's significance threshold, Alternative 2 would likely not result in any new significant impacts. The significant impacts at the segment of North West Knoll Drive between Santa Monica Boulevard and Rugby Drive, Rugby Drive between North West Knoll Drive and Westmount Drive, and Rugby Drive between Westmount Drive & Westbourne Drive, and the intersection of Santa Monica Boulevard and Westbourne Drive would likely remain under this alternative.
- Alternative 3 – Since the estimated trip generation of Alternative 3 and the incremental increases in delay at the analyzed intersections are lower relative to the incremental increases projected for the proposed project, it would not result in any new significant impacts. The significant impacts at the segment of North West Knoll Drive between Santa Monica Boulevard and Rugby Drive, Rugby Drive between North West Knoll Drive and Westmount Drive, and Rugby Drive between Westmount Drive & Westbourne Drive, and the intersection of Santa Monica Boulevard and Westbourne Drive are expected to remain under this alternative.



- Alternative 4 – Since the estimated trip generation of Alternative 4 and the incremental increases in delay at the analyzed intersections are lower relative to the incremental increases projected for the proposed project in the mid-day and PM peak hours, and only three trips higher in the AM peak hour, it would likely not result in any new significant impacts. Due to the City's thresholds for residential roadway impacts, two significant segment impacts would likely remain: on the segment of North West Knoll Drive between Santa Monica Boulevard and Rugby Drive and Rugby Drive between North West Knoll Drive and Westmount Drive. No intersection impacts are expected under this alternative.



11. SUMMARY AND CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed mixed-use development. The following summarizes the findings of this analysis:

- The proposed development is a mixed-use complex containing 25,000 sf of ground floor commercial space, 1,319 sf of ground floor restaurant space, 3,998 sf of office space, 8,000 sf of health/fitness space, 4,000 sf of personal services space, and a 413-space garage spanning five levels.
- Eleven intersections and five street segments within the cities of West Hollywood and Los Angeles were analyzed for this project. Six of the analyzed intersections operate at LOS E or F during any of the peak hours under existing conditions.
- The proposed project is expected to generate a net increase of approximately 1,989 daily trips, 77 trips during the AM peak hour, 158 trips during the peak hour, and 181 trips during the PM peak hour.
- Analysis of projected year 2014 existing plus project conditions indicates that six intersections are projected to operate at LOS E or F during the analyzed peak hours.
- No intersections and four neighborhood street segments would be significantly impacted by project-related trips under existing plus project conditions. Street calming mitigation measures were considered for the street segment impacts. Based on the proposed mitigations, all street segment significant impacts can be mitigated below a level of significance.
- The 2016 cumulative base conditions include ambient growth and 52 related projects. The analysis of cumulative base conditions indicates that seven intersections are projected to operate at LOS E or F during both analyzed peak hours; the remaining intersections are projected to operate at LOS D or better during analyzed peak hours.
- Analysis of projected year 2016 cumulative plus project conditions indicates that eight intersections are projected to operate at LOS E or F during the analyzed peak hours.
- One intersection and four neighborhood street segments would be significantly impacted by project-related trips under cumulative plus project conditions. Various mitigation measures were analyzed for the intersection of Westbourne Drive & Santa Monica Boulevard and the impacted street segments of North West Knoll Drive between Santa Monica Boulevard and Rugby Drive, Rugby Drive between North West Knoll Drive and Westmount Drive and Rugby Drive between Westmount Drive & Westbourne Drive. No mitigations were found to mitigate the impact to the intersection at Westbourne Drive & Santa Monica Boulevard; therefore, the impacts to the intersection would remain significant and unavoidable. Based on the proposed street segment mitigations, all street segment significant impacts can be mitigated below a level of significance.
- According to the WHMC, the vehicle parking requirement for the proposed project is 206 spaces. Four hundred thirteen parking spaces will be provided in an adjacent, five-level, shared parking structure, of which 201 spaces are allotted to existing uses.



- According to the WHMC, the bicycle parking requirement for the proposed project is 11 spaces with six for employees and five for visitors. The proposed project would provide 30 spaces in the parking structure and is in compliance with the municipal code requirement for bicycle parking spaces.
- Analysis of potential impacts on the regional transportation system conducted in accordance with CMP requirements determined that the project would not generate sufficient trips to have a significant impact on the CMP arterial highway network or on the mainline freeway system.
- Site access and circulation review indicates that there is one inbound/out driveway to the project site on Santa Monica Boulevard between Westbourne Drive and North West Knoll Drive.
- The potential for short-term adverse impacts related to construction traffic was examined. There could be impacts caused by lane and sidewalk closures and the loss of parking. The project applicant is required to develop, for approval, a construction staging and Traffic Management Plan outlining specific mitigation measures for potential construction impacts.



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West Hollywood Bicycle and Pedestrian Mobility Plan, City of West Hollywood, 2003.

APPENDIX A: TRAFFIC COUNTS

ITM Peak Hour Summary

Prepared by:

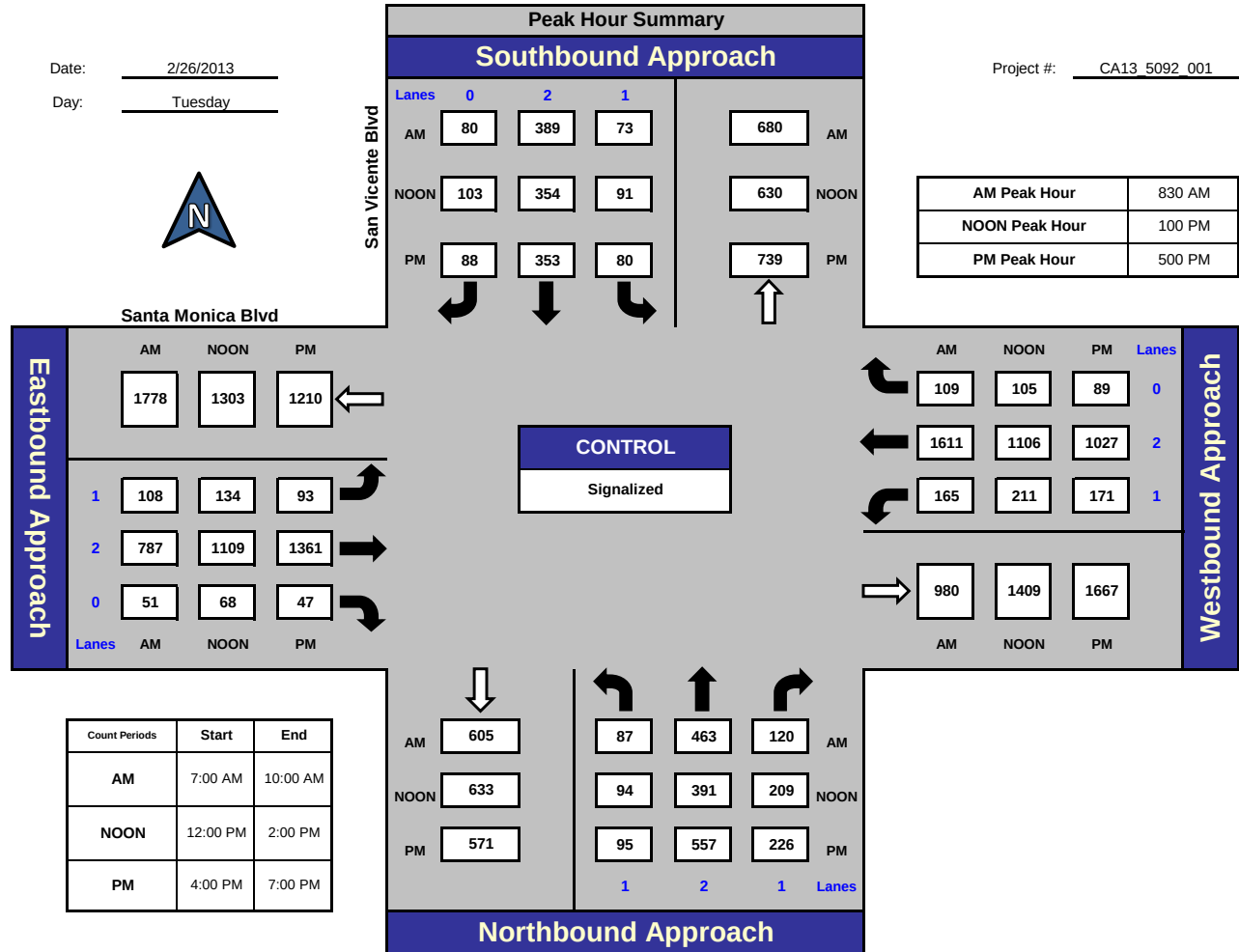


San Vicente Blvd and Santa Monica Blvd, City of West Hollywood

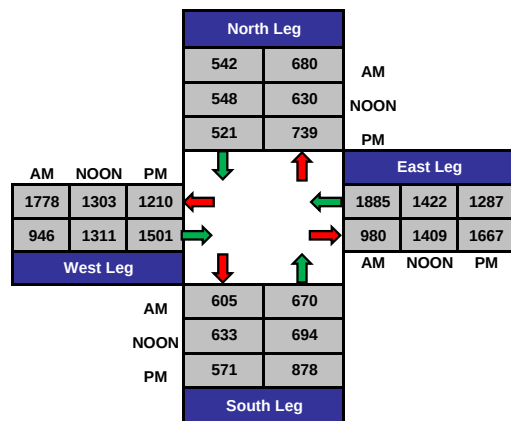
Date: 2/26/2013

Day: Tuesday

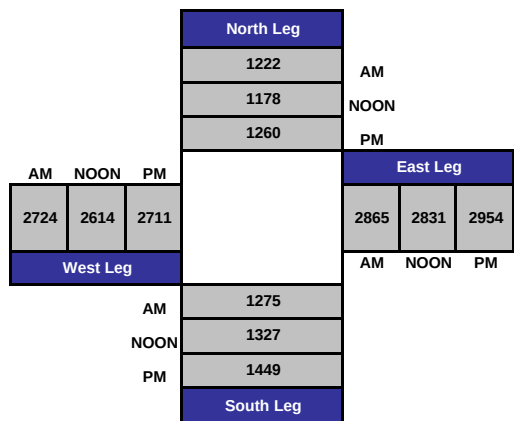
Project #: CA13 5092 001



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

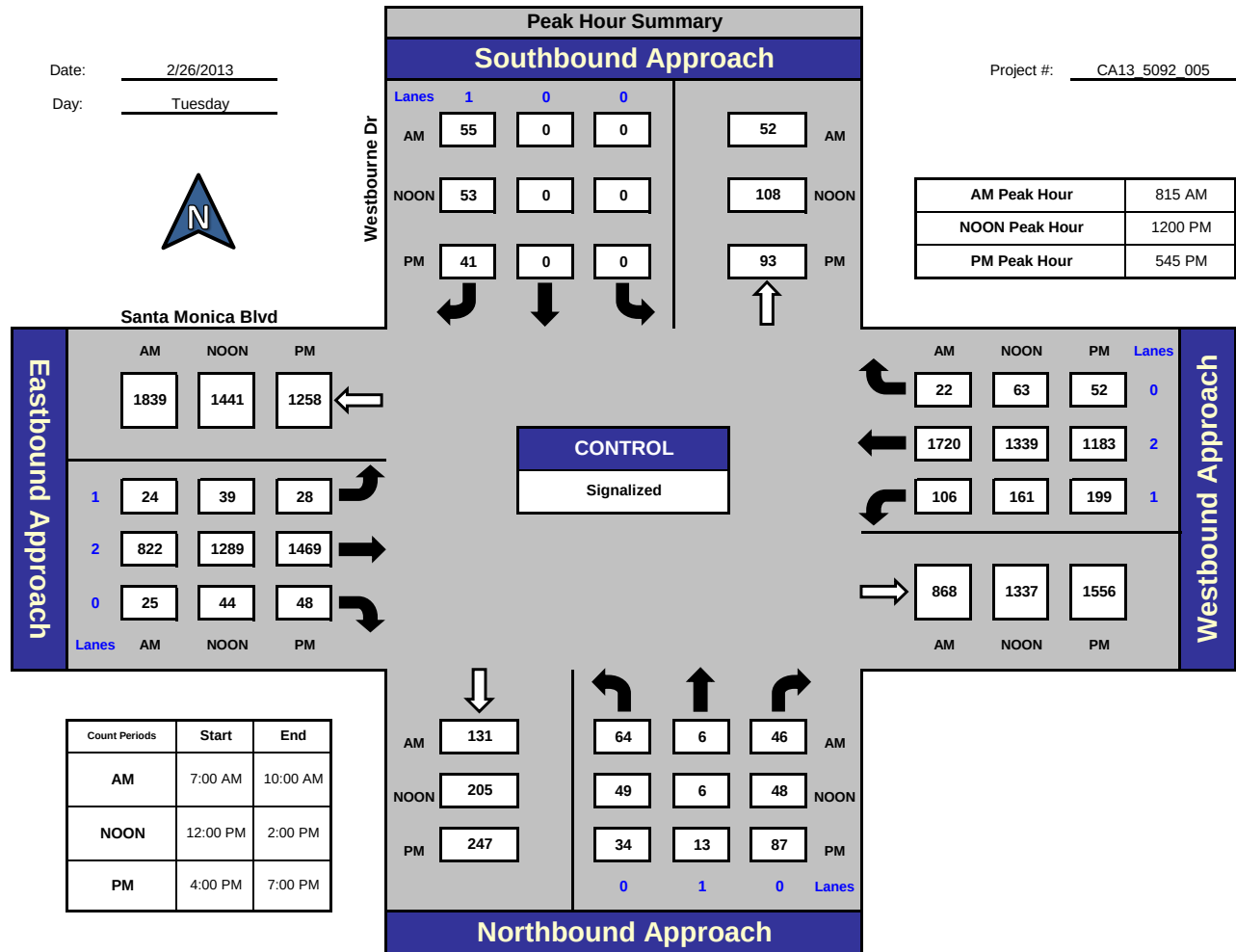


Westbourne Dr and Santa Monica Blvd, City of West Hollywood

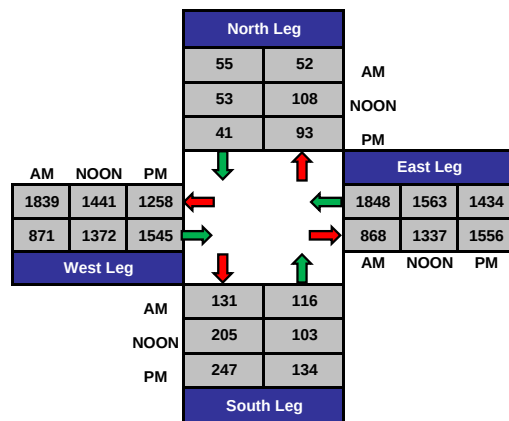
Date: 2/26/2013

Day: Tuesday

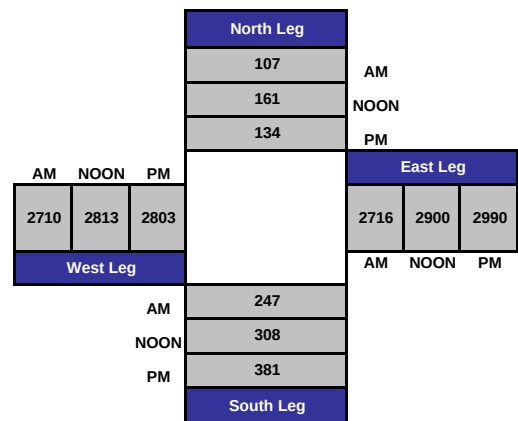
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Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

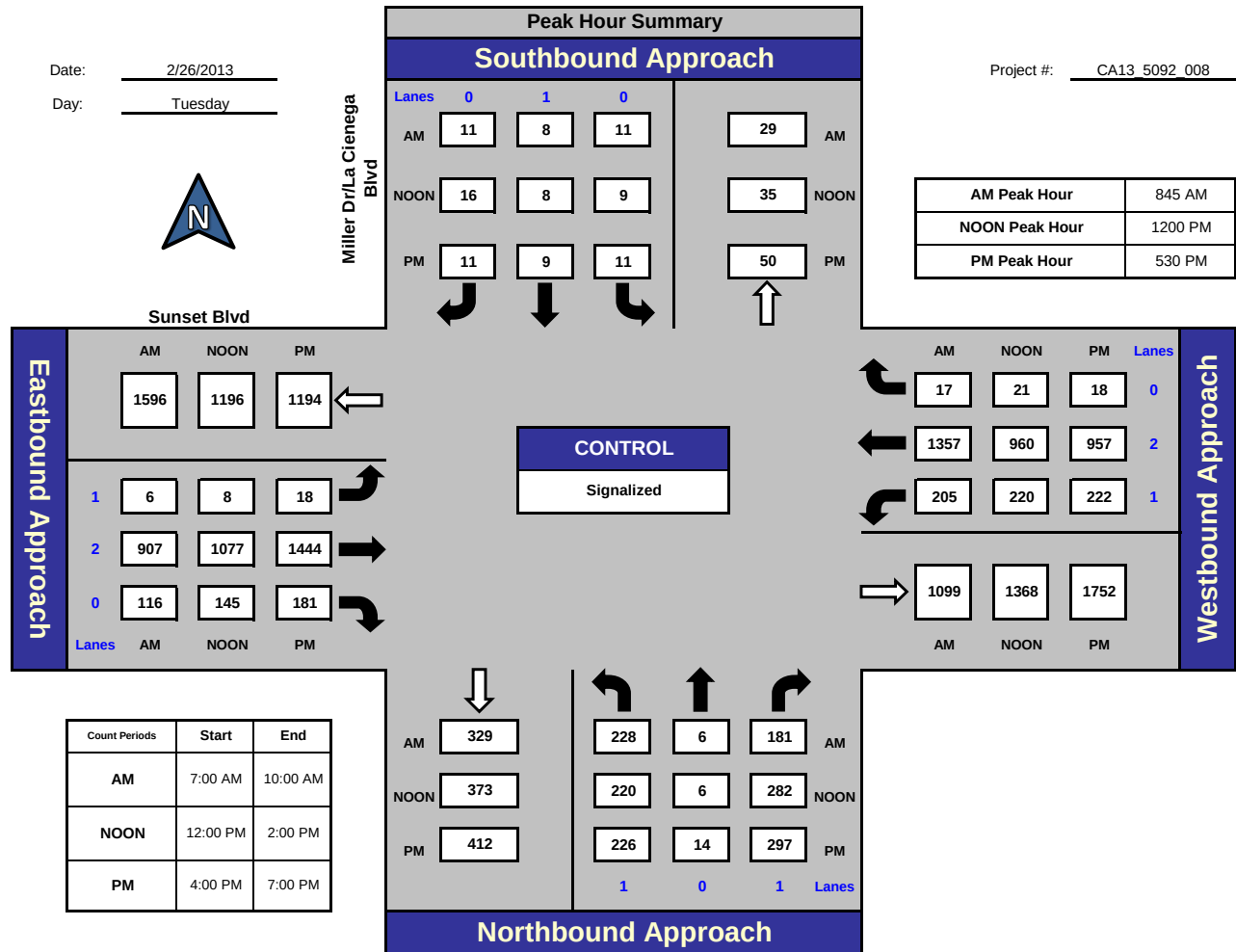


Miller Dr/La Cienega Blvd and Sunset Blvd , City of West Hollywood

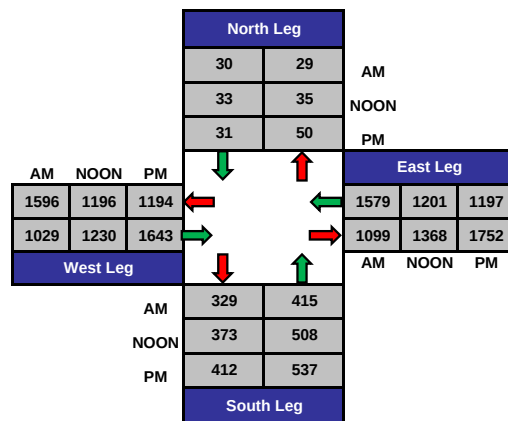
Date: 2/26/2013

Day: Tuesday

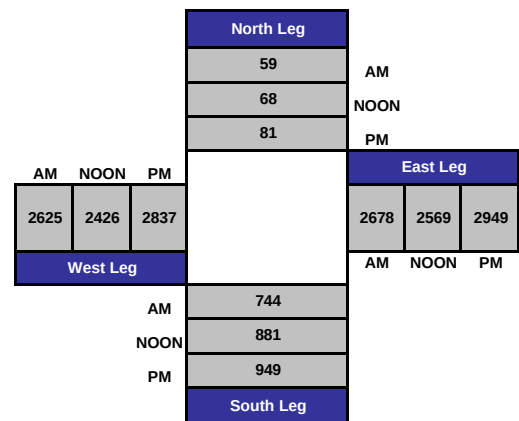
Project #: CA13 5092 008



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

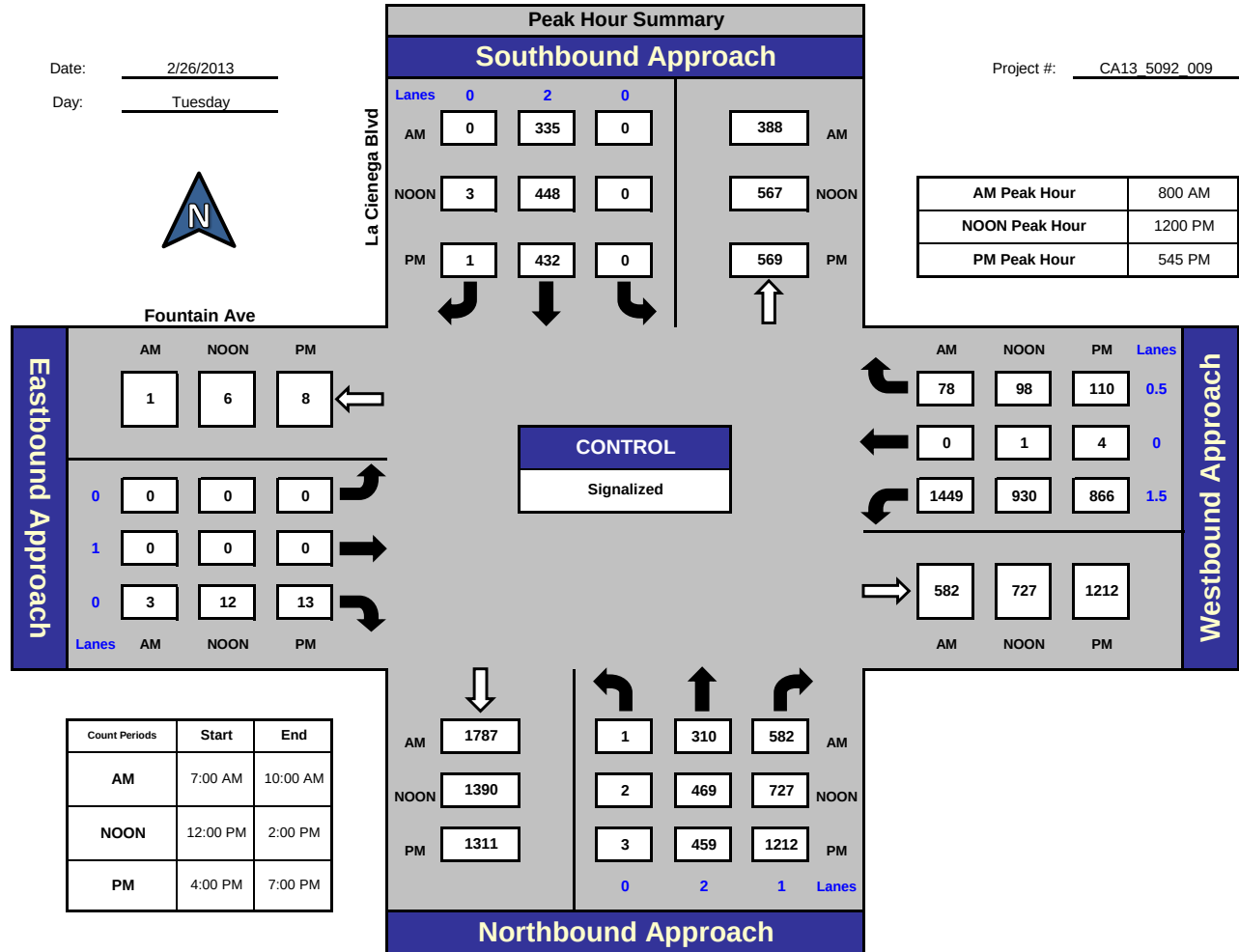


La Cienega Blvd and Fountain Ave , City of West Hollywood

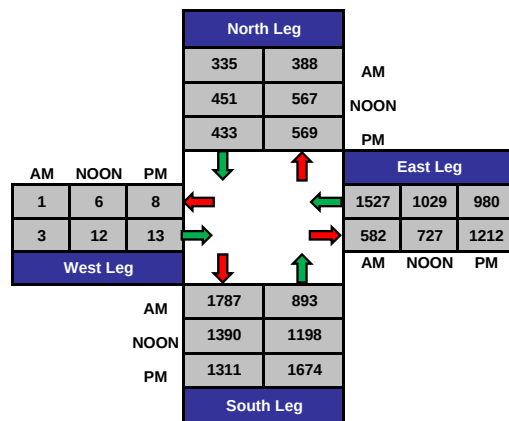
Date: 2/26/2013

Day: Tuesday

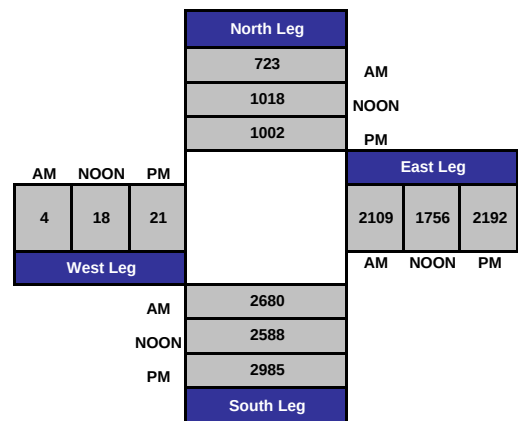
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Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

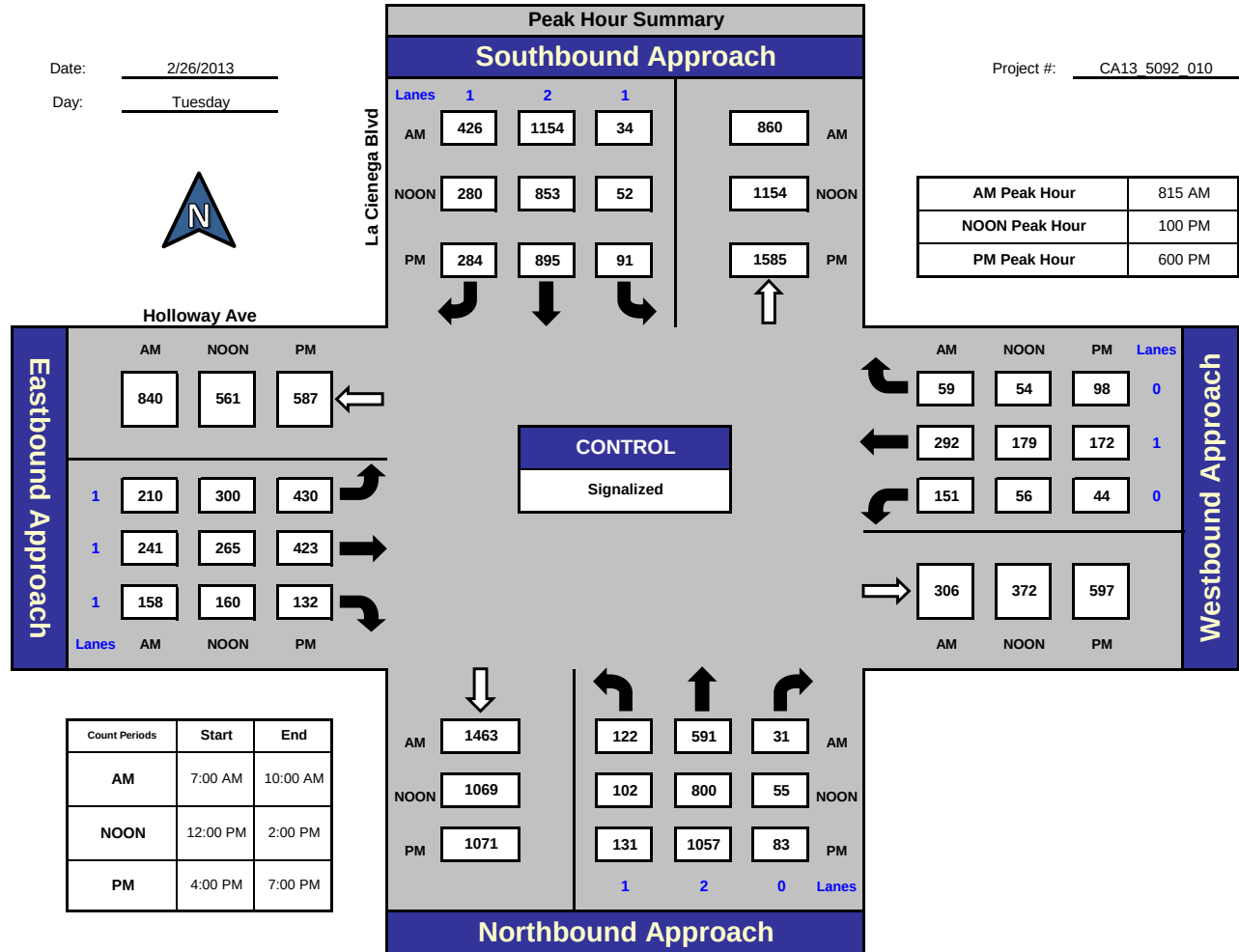


La Cienega Blvd and Holloway Ave , City of West Hollywood

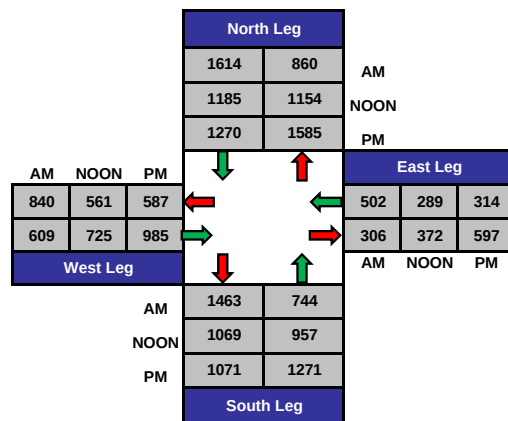
Date: 2/26/2013

Day: Tuesday

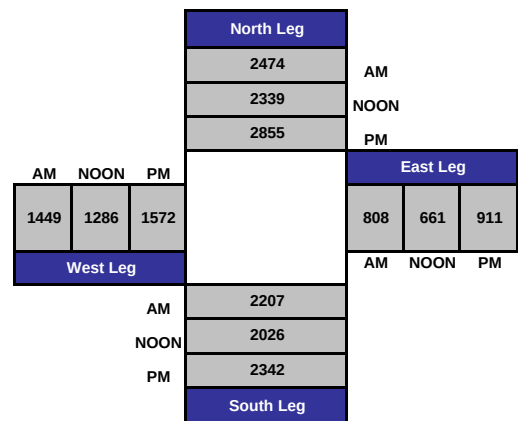
Project #: CA13 5092 010



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

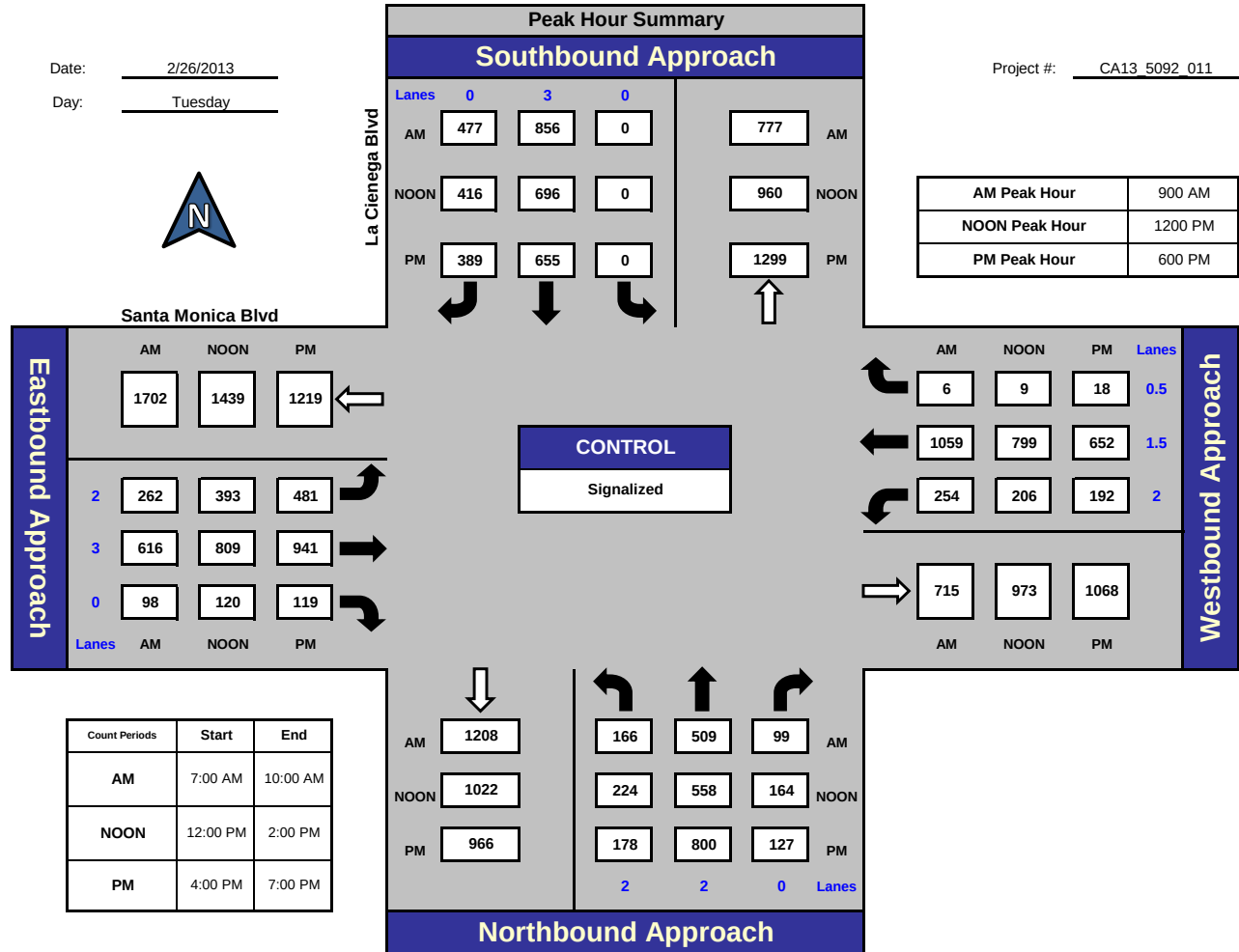


La Cienega Blvd and Santa Monica Blvd , City of West Hollywood

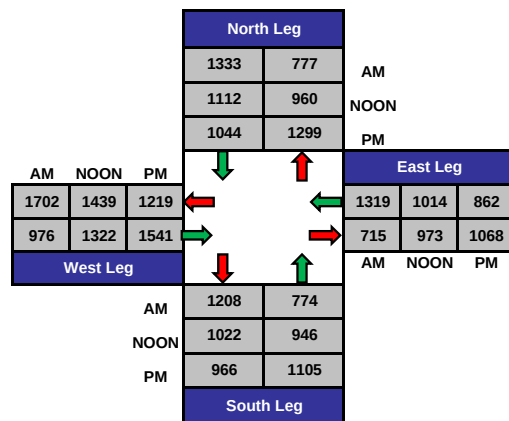
Date: 2/26/2013

Day: Tuesday

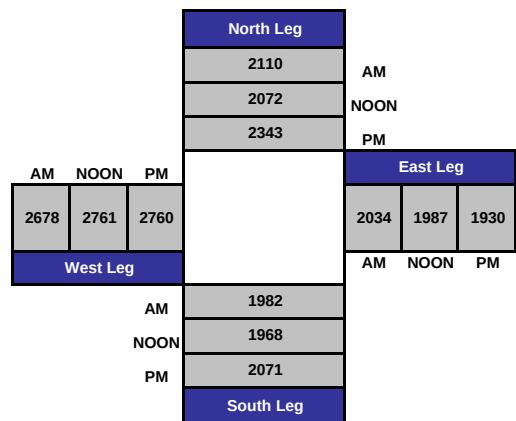
Project #: CA13 5092 011



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

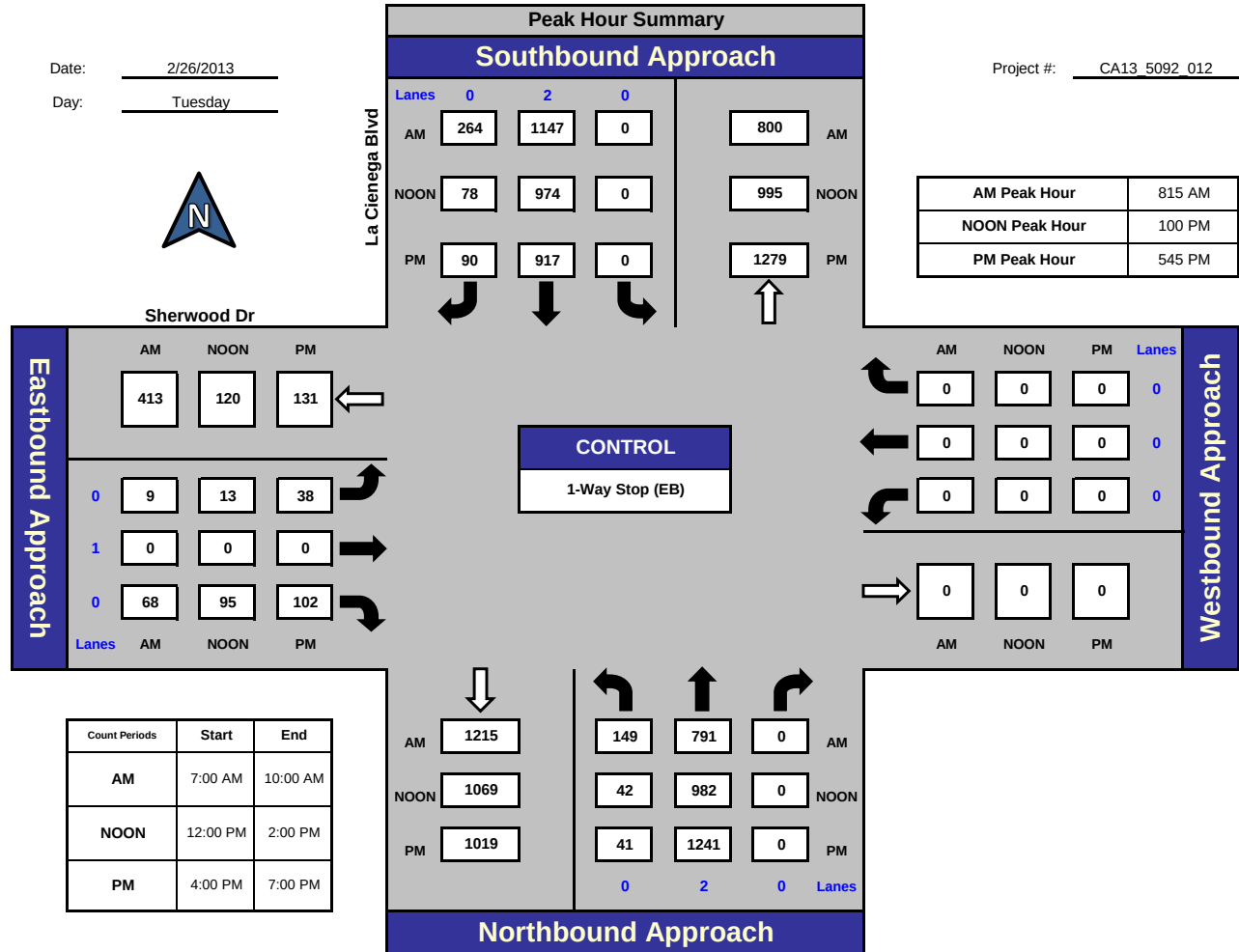


La Cienega Blvd and Sherwood Dr., City of West Hollywood

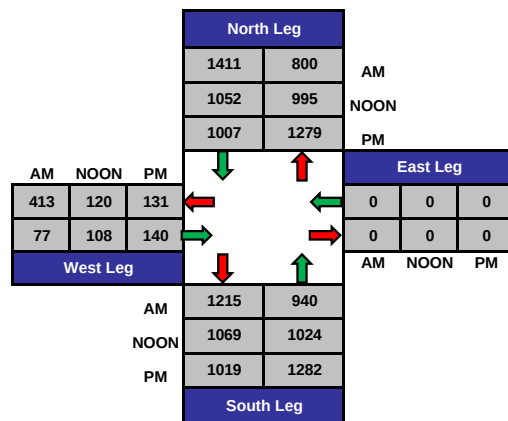
Date: 2/26/2013

Day: Tuesday

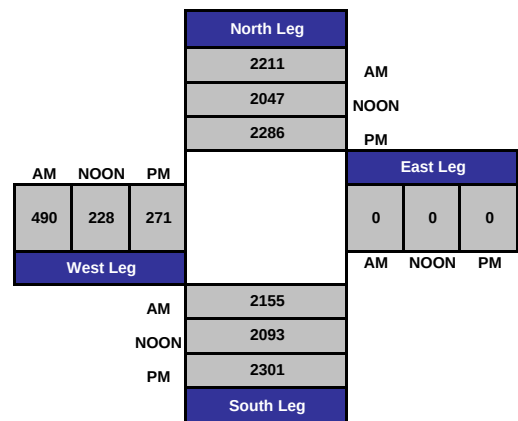
Project #: CA13 5092 012



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

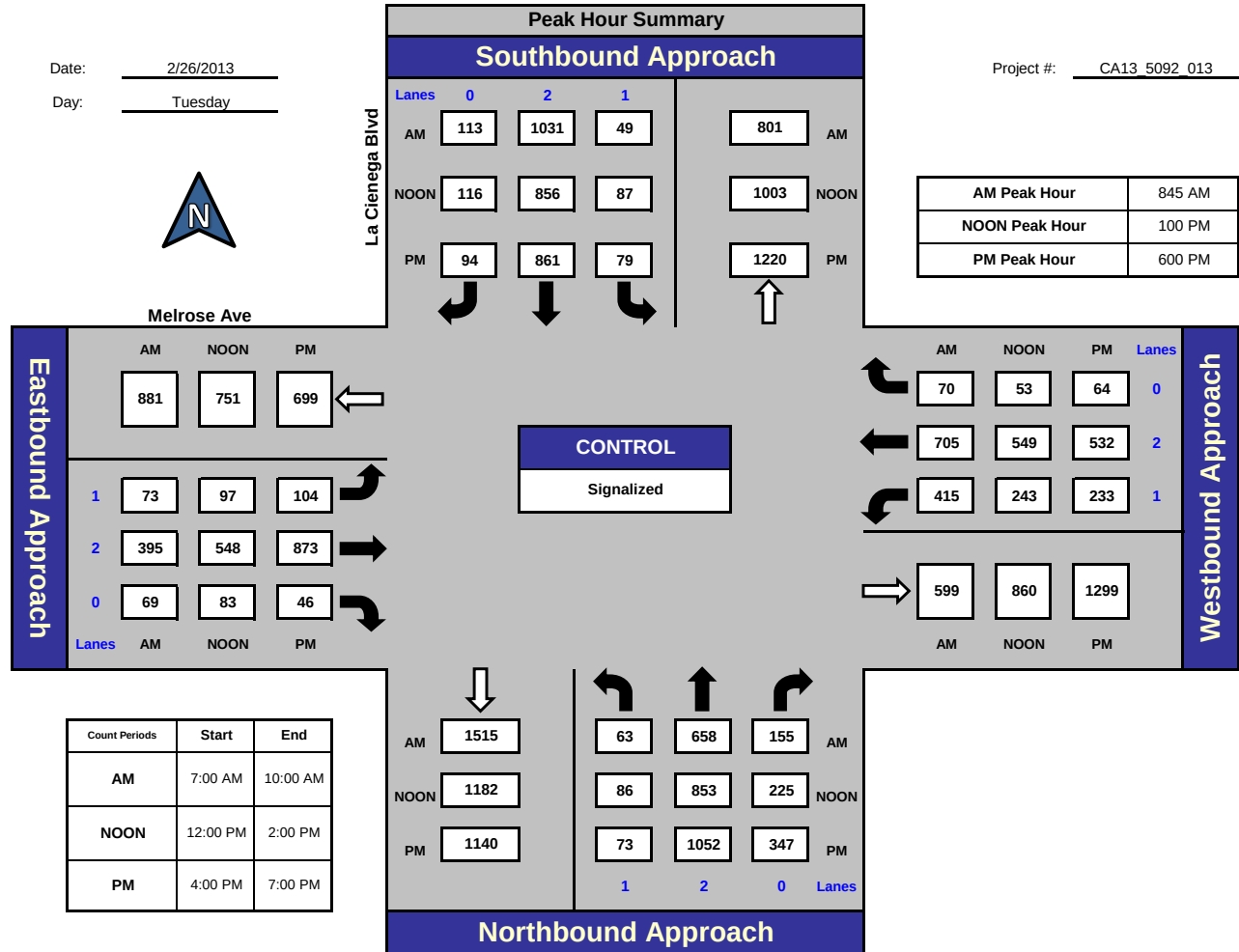


La Cienega Blvd and Melrose Ave , City of West Hollywood

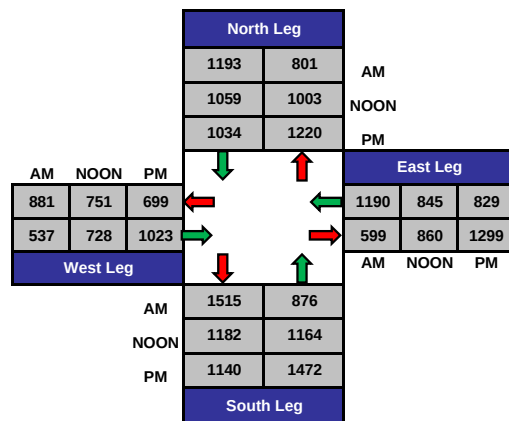
Date: 2/26/2013

Day: Tuesday

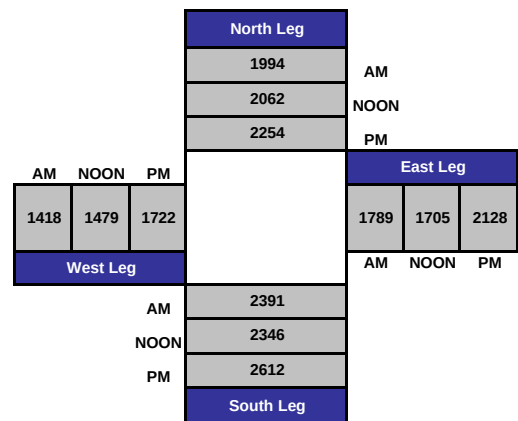
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Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

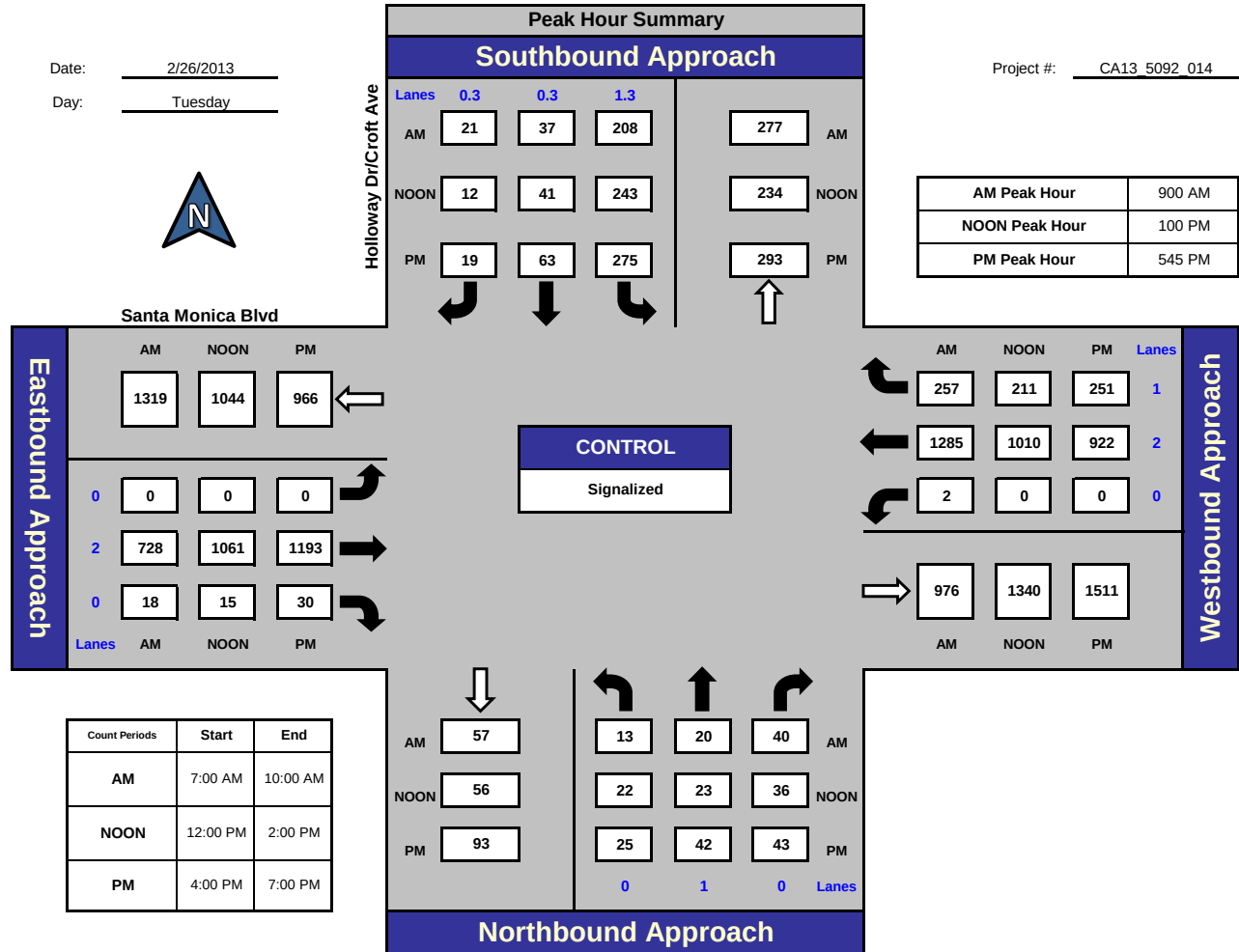


Holloway Dr/Croft Ave and Santa Monica Blvd , City of West Hollywood

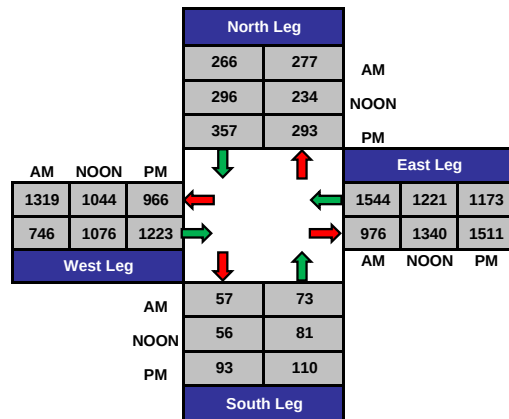
Date: 2/26/2013

Day: Tuesday

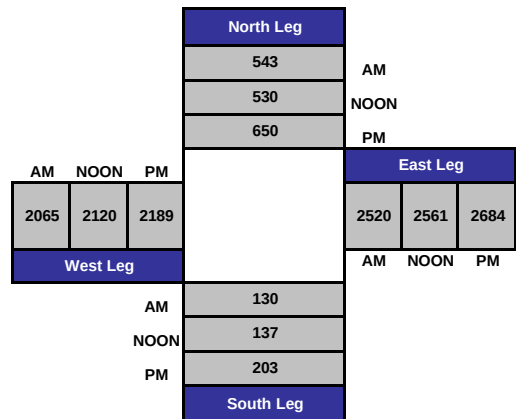
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Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

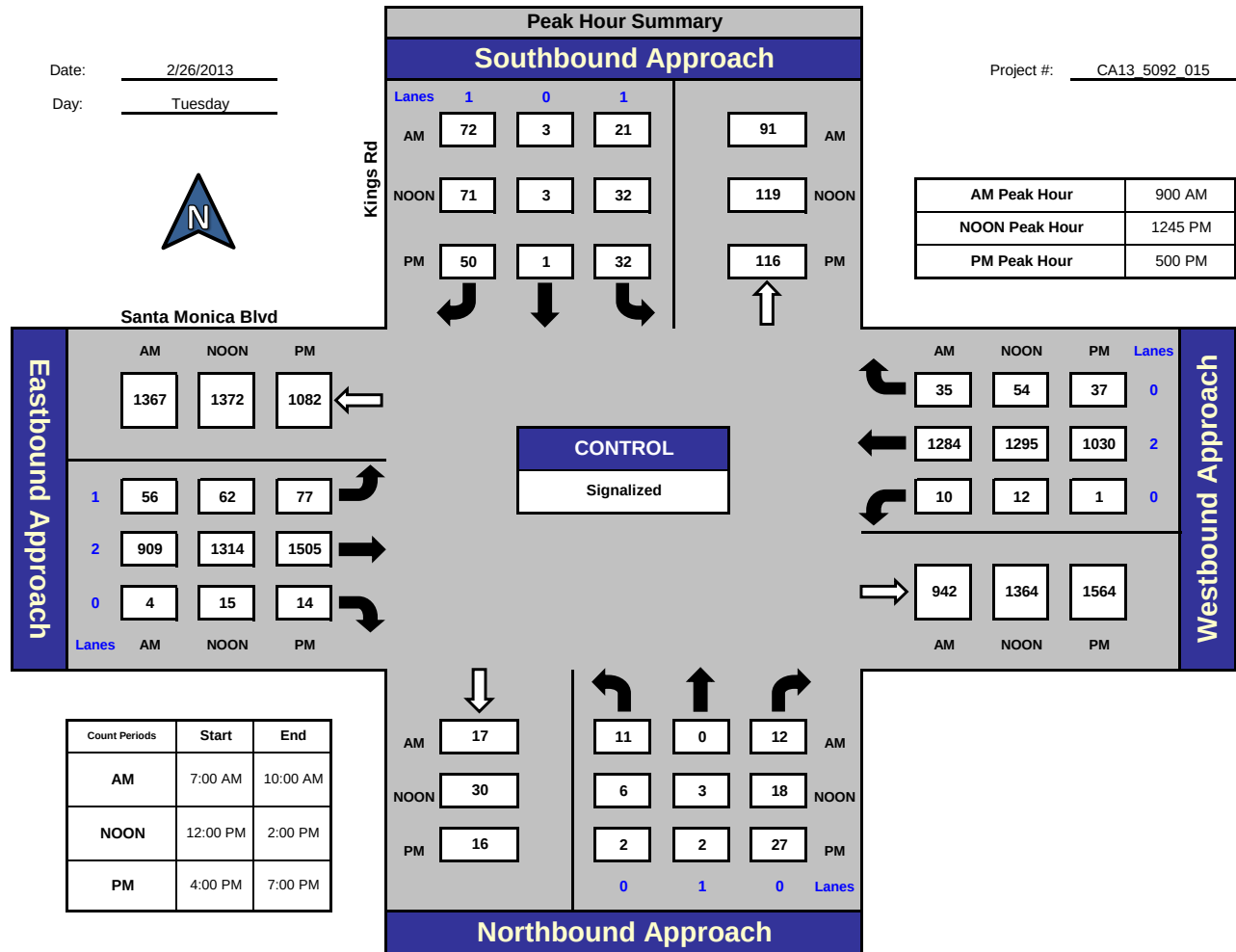


Kings Rd and Santa Monica Blvd , City of West Hollywood

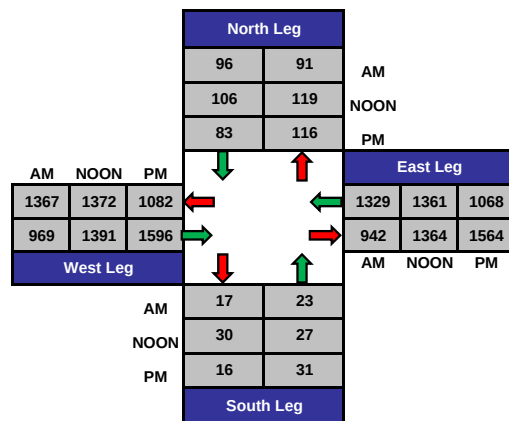
Date: 2/26/2013

Day: Tuesday

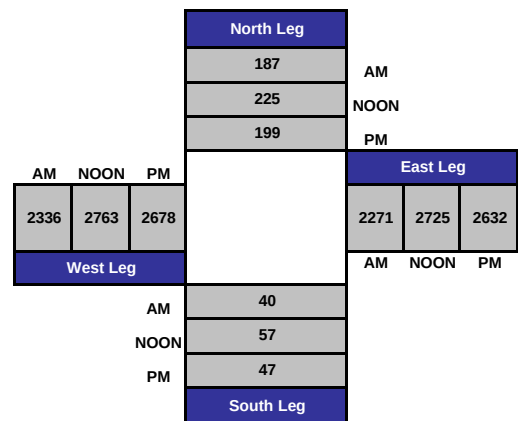
Project #: CA13 5092 015



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

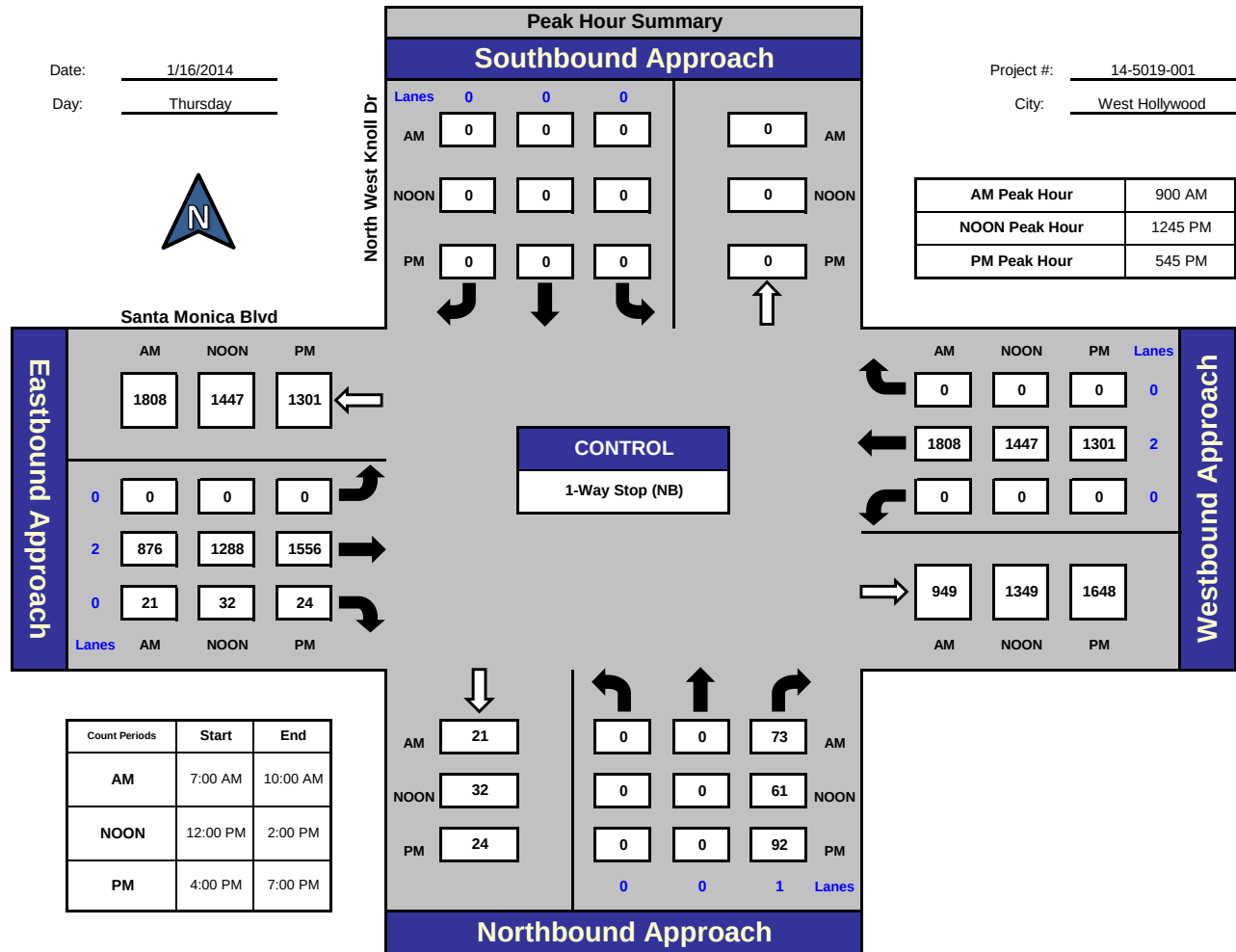


North West Knoll Dr and Santa Monica Blvd , West Hollywood

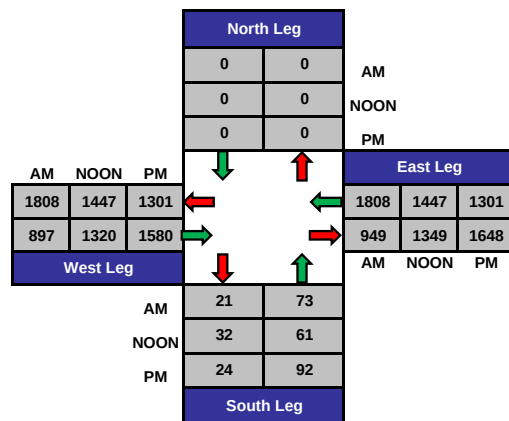
Date: 1/16/2014
Day: Thursday



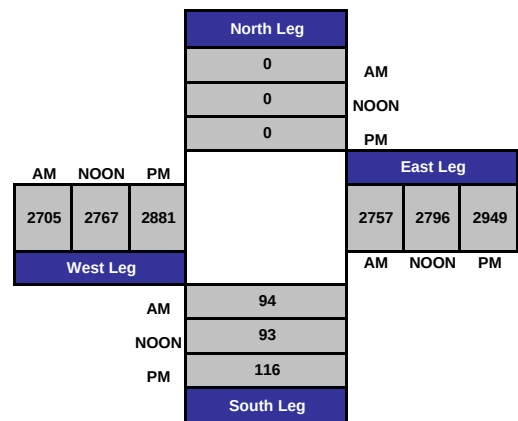
Project #: 14-5019-001
City: West Hollywood



Total Ins & Outs



Total Volume Per Leg



APPENDIX B:
LEVEL OF SERVICE WORKSHEETS

EXISTING CONDITIONS

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2990		1509	2989		1509	3018	1350	1509	2940	
Flt Permitted	0.07	1.00		0.27	1.00		0.30	1.00	1.00	0.31	1.00	
Satd. Flow (perm)	110	2990		425	2989		478	3018	1350	486	2940	
Volume (vph)	109	795	52	167	1627	110	88	468	121	74	393	81
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	110	803	53	169	1643	111	89	473	122	75	397	82
RTOR Reduction (vph)	0	4	0	0	5	0	0	0	94	0	18	0
Lane Group Flow (vph)	110	852	0	169	1749	0	89	473	28	75	461	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8		4
Actuated Green, G (s)	63.7	58.0		66.8	59.3		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	63.7	58.0		66.3	59.3		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.64	0.58		0.66	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	150	1734		358	1772		110	694	311	112	676	
v/s Ratio Prot	c0.04	0.28		0.03	c0.59		0.16			0.16		
v/s Ratio Perm	0.43			0.28			c0.19			0.02	0.15	
v/c Ratio	0.73	0.49		0.47	0.99		0.81	0.68	0.09	0.67	0.68	
Uniform Delay, d1	18.1	12.3		7.3	20.0		36.4	35.2	30.3	35.0	35.2	
Progression Factor	1.32	0.76		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	1.0		0.4	18.5		45.4	5.4	0.6	27.5	5.5	
Delay (s)	38.1	10.4		7.7	38.5		81.8	40.5	30.8	62.5	40.7	
Level of Service	D	B		A	D		F	D	C	E	D	
Approach Delay (s)	13.5			35.8			44.2			43.6		
Approach LOS	B			D			D			D		
Intersection Summary												
HCM Average Control Delay			33.0		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			98.8%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Boulevard & Westbourne Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	1.00			0.95				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (prot)	1509	3005		1509	3012			1464				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (perm)	1509	3005		1509	3012			1464				1374
Volume (vph)	24	830	25	107	1737	22	65	6	46	0	0	56
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	24	838	25	108	1755	22	66	6	46	0	0	57
RTOR Reduction (vph)	0	2	0	0	1	0	0	24	0	0	0	51
Lane Group Flow (vph)	24	861	0	108	1776	0	0	94	0	0	0	6
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	11.1	41.0		31.7	65.6			11.3				11.1
Effective Green, g (s)	11.1	41.0		31.7	65.6			11.3				11.1
Actuated g/C Ratio	0.11	0.41		0.32	0.66			0.11				0.11
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	167	1232		478	1976			165				153
v/s Ratio Prot	0.02	0.29		c0.07	c0.59							0.00
v/s Ratio Perm								0.06				
v/c Ratio	0.14	0.70		0.23	0.90			0.57				0.04
Uniform Delay, d1	40.2	24.4		25.1	14.4			42.0				39.7
Progression Factor	1.00	1.00		1.39	0.58			1.00				1.00
Incremental Delay, d2	0.4	3.3		0.1	3.3			4.7				0.1
Delay (s)	40.6	27.7		35.1	11.7			46.7				39.8
Level of Service	D	C		D	B			D				D
Approach Delay (s)		28.0			13.1			46.7			39.8	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM Average Control Delay			19.4			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2967		1509	3012			1514	1350		1483	
Flt Permitted	0.13	1.00		0.11	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	205	2967		182	3012			1514	1350		1483	
Volume (vph)	6	916	117	207	1371	17	230	6	183	11	8	11
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	974	124	220	1459	18	245	6	195	12	9	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	132	0	10	0
Lane Group Flow (vph)	6	1090	0	220	1476	0	0	251	63	0	23	0
Turn Type	Perm			pm+pt			Split			pm+ov		Split
Protected Phases	6			5 7		2	4		4	5 7		8 8
Permitted Phases	6			2						4		
Actuated Green, G (s)	31.0	31.0		47.0	39.0			18.0	31.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			18.0	30.0		16.0	
Actuated g/C Ratio	0.33	0.33		0.51	0.42			0.19	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	68	989		263	1263			293	435		255	
v/s Ratio Prot		0.37		c0.11	c0.49			c0.17	0.02		c0.02	
v/s Ratio Perm	0.03			0.32					0.03			
v/c Ratio	0.09	1.10		0.84	1.17			0.86	0.14		0.09	
Uniform Delay, d1	21.3	31.0		22.6	27.0			36.3	22.4		32.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.6	60.8		19.3	84.9			21.7	0.1		0.7	
Delay (s)	21.9	91.8		41.9	111.9			58.0	22.4		33.1	
Level of Service	C	F		D	F			E	C		C	
Approach Delay (s)		91.4			102.8			42.4			33.1	
Approach LOS		F			F			D			C	
Intersection Summary												
HCM Average Control Delay			90.1			HCM Level of Service				F		
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			93.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization		102.1%				ICU Level of Service			G			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.98			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1421			3017	1350		3018	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1421			2880	1350		3018	
Volume (vph)	0	0	3	1463	0	79	1	313	588	0	338	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	3	1493	0	81	1	319	600	0	345	0
RTOR Reduction (vph)	0	0	2	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1	827	743	0	0	320	600	0	345	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.0	37.0	37.0			54.0	100.0		54.0	
Effective Green, g (s)			37.0	37.0	37.0			55.0	100.0		55.0	
Actuated g/C Ratio			0.37	0.37	0.37			0.55	1.00		0.55	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			508	530	526			1584	1350		1660	
v/s Ratio Prot				c0.58	0.52						0.11	
v/s Ratio Perm			0.00					0.11	c0.44			
v/c Ratio			0.00	1.56	1.41			0.20	0.44		0.21	
Uniform Delay, d1			19.9	31.5	31.5			11.4	0.0		11.4	
Progression Factor			1.00	1.00	1.00			1.50	1.00		1.00	
Incremental Delay, d2			0.0	261.3	196.4			0.2	0.9		0.3	
Delay (s)			19.9	292.8	227.9			17.3	0.9		11.7	
Level of Service			B	F	F			B	A		B	
Approach Delay (s)		19.9			262.0			6.6			11.7	
Approach LOS		B			F			A			B	
Intersection Summary												
HCM Average Control Delay			148.7			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			79.6%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1548		1509	2996		1509	3018	1350
Flt Permitted	0.24	1.00	1.00	0.44	1.00		0.10	1.00		0.37	1.00	1.00
Satd. Flow (perm)	375	1588	1350	694	1548		151	2996		590	3018	1350
Volume (vph)	212	243	160	153	295	60	123	597	31	34	1166	430
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	214	245	162	155	298	61	124	603	31	34	1178	434
RTOR Reduction (vph)	0	0	120	0	8	0	0	3	0	0	0	94
Lane Group Flow (vph)	214	245	42	155	351	0	124	631	0	34	1178	340
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	34.2	25.7	25.7	33.9	25.8		54.2	47.4		48.1	44.3	44.3
Effective Green, g (s)	33.7	26.2	26.2	32.9	25.8		54.3	47.9		47.1	44.3	44.3
Actuated g/C Ratio	0.34	0.26	0.26	0.33	0.26		0.54	0.48		0.47	0.44	0.44
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	211	416	354	286	399		169	1435		304	1337	598
v/s Ratio Prot	c0.08	0.15		0.04	0.23		c0.05	0.21		0.00	c0.39	
v/s Ratio Perm	c0.27		0.03	0.14			0.35			0.05		0.25
v/c Ratio	1.01	0.59	0.12	0.54	0.88		0.73	0.44		0.11	0.88	0.57
Uniform Delay, d1	31.3	32.2	28.1	25.8	35.6		17.6	17.2		14.4	25.4	20.7
Progression Factor	0.88	0.91	1.27	1.17	1.14		1.02	0.49		1.95	1.65	2.09
Incremental Delay, d2	64.4	2.0	0.1	1.0	17.9		9.4	0.7		0.0	0.9	0.4
Delay (s)	92.0	31.2	35.8	31.2	58.5		27.3	9.0		28.1	42.9	43.7
Level of Service	F	C	D	C	E		C	A		C	D	D
Approach Delay (s)		53.4			50.2			12.0			42.8	
Approach LOS		D			D			B			D	
Intersection Summary												
HCM Average Control Delay			39.2			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			95.4%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Boulevard & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2956		2927	3015		2927	2944			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2956		2927	3015		2927	2944			3018	1350
Volume (vph)	265	622	99	257	1070	6	168	514	100	0	865	482
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	276	648	103	268	1115	6	175	535	104	0	901	502
RTOR Reduction (vph)	0	12	0	0	1	0	0	16	0	0	0	132
Lane Group Flow (vph)	276	739	0	268	1120	0	175	623	0	0	901	370
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	8.0	29.9		12.1	34.0		6.0	44.5			33.5	33.5
Effective Green, g (s)	8.0	30.4		12.1	34.5		7.0	45.5			34.5	34.5
Actuated g/C Ratio	0.08	0.30		0.12	0.34		0.07	0.46			0.34	0.34
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	234	899		354	1040		205	1340			1041	466
v/s Ratio Prot	c0.09	0.25		c0.09	c0.37		c0.06	0.21			c0.30	
v/s Ratio Perm												0.27
v/c Ratio	1.18	0.82		0.76	1.08		0.85	0.46			0.87	0.79
Uniform Delay, d1	46.0	32.3		42.5	32.8		46.0	18.8			30.6	29.5
Progression Factor	1.00	1.00		1.20	1.09		1.00	1.00			1.56	2.04
Incremental Delay, d2	116.0	8.4		5.8	47.5		26.6	0.3			5.0	5.9
Delay (s)	162.0	40.7		56.7	83.0		72.6	19.2			52.6	66.0
Level of Service	F	D		E	F		E	B			D	E
Approach Delay (s)		73.3			78.0			30.7			57.4	
Approach LOS		E			E			C			E	
Intersection Summary												
HCM Average Control Delay			62.4			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			90.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2950		1509	3018	1350	1509	2931		1509	2973	
Flt Permitted	0.37	1.00		0.31	1.00	1.00	0.10	1.00		0.23	1.00	
Satd. Flow (perm)	592	2950		491	3018	1350	163	2931		364	2973	
Volume (vph)	74	399	70	419	712	71	64	665	157	49	1041	114
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	76	411	72	432	734	73	66	686	162	51	1073	118
RTOR Reduction (vph)	0	16	0	0	0	39	0	23	0	0	9	0
Lane Group Flow (vph)	76	467	0	432	734	34	66	825	0	51	1182	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4			6		2	
Permitted Phases	8			4		4	6				2	
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	171	852		365	1408	630	72	1303		162	1321	
v/s Ratio Prot		0.16		c0.16	0.24			0.28			0.40	
v/s Ratio Perm	0.13			c0.39		0.03	c0.41			0.14		
v/c Ratio	0.44	0.55		1.18	0.52	0.05	0.92	0.63		0.31	0.89	
Uniform Delay, d1	26.1	27.0		20.8	16.9	13.1	23.4	19.3		16.1	23.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.2	2.5		107.1	1.4	0.2	84.5	2.4		5.0	9.6	
Delay (s)	34.3	29.6		127.9	18.3	13.3	108.0	21.7		21.2	32.7	
Level of Service	C	C		F	B	B	F	C		C	C	
Approach Delay (s)		30.2			56.2			27.9			32.2	
Approach LOS		C			E			C			C	
Intersection Summary												
HCM Average Control Delay			38.5				HCM Level of Service			D		
HCM Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			102.5%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Boulevard & Holloway Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.93		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1458		1433	1432	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1458		1433	1432	
Volume (vph)	0	735	18	0	1300	260	13	20	40	210	37	21
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	758	19	0	1340	268	13	21	41	216	38	22
RTOR Reduction (vph)	0	1	0	0	0	54	0	39	0	0	7	0
Lane Group Flow (vph)	0	776	0	0	1340	214	0	36	0	137	132	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		62.8			62.8	19.3		5.9		19.3	19.3	
Effective Green, g (s)		62.8			62.8	19.3		5.9		19.3	19.3	
Actuated g/C Ratio		0.63			0.63	0.19		0.06		0.19	0.19	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1888			1895	261		86		277	276	
v/s Ratio Prot		0.26			c0.44	c0.16		c0.02		0.10	0.09	
v/s Ratio Perm												
v/c Ratio		0.41			0.71	0.82		0.42		0.49	0.48	
Uniform Delay, d1		9.3			12.4	38.7		45.4		36.0	35.9	
Progression Factor		0.32			1.00	1.00		1.00		0.72	0.70	
Incremental Delay, d2		0.4			2.3	18.7		3.3		1.7	1.6	
Delay (s)		3.4			14.7	57.4		48.7		27.8	26.9	
Level of Service		A			B	E		D		C	C	
Approach Delay (s)		3.4			21.8			48.7			27.3	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM Average Control Delay		17.9					HCM Level of Service			B		
HCM Volume to Capacity ratio		0.71										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		64.2%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Boulevard & Kings Rd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1509	3016		1509	3006			1442			1521	1350
Flt Permitted	0.16	1.00		0.30	1.00			0.85			0.74	1.00
Satd. Flow (perm)	253	3016		474	3006			1262			1168	1350
Volume (vph)	57	918	4	10	1297	35	11	0	12	21	3	73
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	956	4	10	1351	36	11	0	12	22	3	76
RTOR Reduction (vph)	0	0	0	0	1	0	0	11	0	0	0	70
Lane Group Flow (vph)	59	960	0	10	1386	0	0	12	0	0	25	6
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	84.7	84.7		78.1	78.1			7.3			7.3	7.3
Effective Green, g (s)	84.7	84.7		78.1	78.1			7.3			7.3	7.3
Actuated g/C Ratio	0.85	0.85		0.78	0.78			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	247	2555		370	2348			92			85	99
v/s Ratio Prot	0.01	c0.32			c0.46							
v/s Ratio Perm	0.20			0.02				0.01			c0.02	0.00
v/c Ratio	0.24	0.38		0.03	0.59			0.13			0.29	0.06
Uniform Delay, d1	2.6	1.7		2.4	4.4			43.4			43.9	43.1
Progression Factor	1.00	1.00		0.81	0.46			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.4		0.1	0.8			0.6			1.9	0.2
Delay (s)	2.8	2.1		2.1	2.9			44.0			45.8	43.4
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		2.2			2.9			44.0			44.0	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			4.6			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			65.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Boulevard & North West Knoll Drive

4/23/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	885	21	0	1826	0	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	962	23	0	1985	0	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	575			697		
pX, platoon unblocked			0.79		0.72	0.79
vC, conflicting volume			985		2958	492
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			716		2994	93
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			696		8	747
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	641	343	80			
Volume Left	0	0	0			
Volume Right	0	23	80			
cSH	1700	1700	747			
Volume to Capacity	0.38	0.20	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	10.4			
Lane LOS			B			
Approach Delay (s)	0.0		10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

4/23/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	69	150	799	1158	267
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	73	160	850	1232	284
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1029		
pX, platoon unblocked						
vC, conflicting volume	2118	758	1516			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2118	758	1516			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	65	79	63			
cM capacity (veh/h)	27	350	437			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	160	425	425	821	695
Volume Left	10	160	0	0	0	0
Volume Right	73	0	0	0	0	284
cSH	149	437	1700	1700	1700	1700
Volume to Capacity	0.56	0.37	0.25	0.25	0.48	0.41
Queue Length 95th (ft)	71	41	0	0	0	0
Control Delay (s)	56.2	17.9	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	56.2	2.8			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			2.9			
Intersection Capacity Utilization		72.9%			ICU Level of Service	C
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2991		1509	2979		1509	3018	1350	1509	2916	
Flt Permitted	0.17	1.00		0.18	1.00		0.19	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	268	2991		284	2979		307	3018	1350	432	2916	
Volume (vph)	135	1120	69	213	1117	106	95	395	211	92	358	104
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	1167	72	222	1164	110	99	411	220	96	373	108
RTOR Reduction (vph)	0	3	0	0	5	0	0	0	147	0	21	0
Lane Group Flow (vph)	141	1236	0	222	1269	0	99	411	73	96	460	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8		4
Actuated Green, G (s)	96.2	90.5		96.3	90.3		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	96.2	90.5		95.8	90.3		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.73	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	251	2066		259	2053		54	530	237	76	512	
v/s Ratio Prot	0.02	0.41		c0.04	0.43		0.14			0.16		
v/s Ratio Perm	0.39			c0.59			c0.32		0.05	0.22		
v/c Ratio	0.56	0.60		0.86	0.62		1.83	0.78	0.31	1.26	0.90	
Uniform Delay, d1	7.8	10.7		10.4	11.0		54.0	51.5	47.1	54.0	52.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	1.3		22.5	1.4		437.8	10.6	3.4	189.5	21.3	
Delay (s)	9.5	12.0		32.9	12.4		491.8	62.2	50.4	243.5	74.2	
Level of Service	A	B		C	B		F	E	D	F	E	
Approach Delay (s)	11.7			15.5			116.9			102.4		
Approach LOS	B			B			F			F		
Intersection Summary												
HCM Average Control Delay			43.9		HCM Level of Service			D				
HCM Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			87.7%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (prot)	1509	3003		1509	2997			1453				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (perm)	1509	3003		1509	2997			1453				1374
Volume (vph)	39	1302	44	163	1352	64	49	6	48	0	0	54
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1356	46	170	1408	67	51	6	50	0	0	56
RTOR Reduction (vph)	0	3	0	0	4	0	0	20	0	0	0	49
Lane Group Flow (vph)	41	1399	0	170	1471	0	0	87	0	0	0	7
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	15.8	67.1		28.9	84.2			20.0				15.8
Effective Green, g (s)	15.8	67.1		28.9	84.2			20.0				15.8
Actuated g/C Ratio	0.12	0.51		0.22	0.64			0.15				0.12
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	181	1527		330	1912			220				164
v/s Ratio Prot	0.03	c0.47		c0.11	c0.49							0.00
v/s Ratio Perm								0.06				
v/c Ratio	0.23	0.92		0.52	0.77			0.39				0.04
Uniform Delay, d1	52.6	29.9		45.4	17.0			50.5				51.4
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.6	10.2		1.4	3.1			1.2				0.1
Delay (s)	53.2	40.0		46.7	20.1			51.7				51.5
Level of Service	D	D		D	C			D				D
Approach Delay (s)		40.4			22.8			51.7			51.5	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM Average Control Delay			32.1			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			71.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2964		1509	3008			1514	1350		1464	
Flt Permitted	0.23	1.00		0.09	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	362	2964		138	3008			1514	1350		1464	
Volume (vph)	8	1088	146	222	970	21	222	6	285	9	8	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1122	151	229	1000	22	229	6	294	9	8	16
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	221	0	14	0
Lane Group Flow (vph)	8	1266	0	229	1021	0	0	235	73	0	19	0
Turn Type	Perm			pm+pt			Split			pm+ov		Split
Protected Phases	6			5 7		2	4		4	5 7		8 8
Permitted Phases	6			2						4		
Actuated Green, G (s)	56.7	56.7		72.8	64.8			17.2	30.3		16.2	
Effective Green, g (s)	56.7	56.7		72.8	64.8			17.2	29.3		16.2	
Actuated g/C Ratio	0.48	0.48		0.62	0.55			0.15	0.25		0.14	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	174	1422		225	1649			220	335		201	
v/s Ratio Prot		0.43		c0.10	0.34			c0.16	0.02		c0.01	
v/s Ratio Perm	0.02			c0.52					0.03			
v/c Ratio	0.05	0.89		1.02	0.62			1.07	0.22		0.10	
Uniform Delay, d1	16.4	27.9		33.0	18.3			50.5	35.3		44.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	7.4		64.7	0.7			79.9	0.1		0.9	
Delay (s)	16.5	35.3		97.6	19.0			130.4	35.5		45.5	
Level of Service	B	D		F	B			F	D		D	
Approach Delay (s)		35.2			33.4			77.6			45.5	
Approach LOS		D			C			E			D	
Intersection Summary												
HCM Average Control Delay			41.8		HCM Level of Service				D			
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			118.2		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			88.7%		ICU Level of Service				E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1407			3017	1350		3015	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1407			2877	1350		3015	
Volume (vph)	0	0	12	939	1	99	2	474	734	0	452	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	12	958	1	101	2	484	749	0	461	3
RTOR Reduction (vph)	0	0	5	0	6	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	7	554	500	0	0	486	749	0	463	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			17.3	63.6		17.3	
Effective Green, g (s)			37.3	37.3	37.3			18.3	63.6		18.3	
Actuated g/C Ratio			0.59	0.59	0.59			0.29	1.00		0.29	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			806	840	825			828	1350		868	
v/s Ratio Prot				c0.39	0.36						0.15	
v/s Ratio Perm			0.01					0.17	c0.55			
v/c Ratio			0.01	0.66	0.61			0.59	0.55		0.53	
Uniform Delay, d1			5.5	8.9	8.4			19.4	0.0		19.1	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	3.5	1.3			1.1	1.6		0.6	
Delay (s)			5.5	12.4	9.7			20.5	1.6		19.7	
Level of Service			A	B	A			C	A		B	
Approach Delay (s)		5.5			11.1			9.1			19.7	
Approach LOS		A			B			A			B	
Intersection Summary												
HCM Average Control Delay			11.6			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			63.6			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			67.2%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1533		1509	2988		1509	3018	1350
Flt Permitted	0.28	1.00	1.00	0.59	1.00		0.19	1.00		0.22	1.00	1.00
Satd. Flow (perm)	452	1588	1350	937	1533		298	2988		345	3018	1350
Volume (vph)	303	268	162	57	181	55	103	808	56	53	862	283
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	312	276	167	59	187	57	106	833	58	55	889	292
RTOR Reduction (vph)	0	0	109	0	12	0	0	4	0	0	0	81
Lane Group Flow (vph)	312	276	58	59	232	0	106	887	0	55	889	211
Turn Type	pm+pt		Perm	pm+pt			pm+pt			pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	39.3	31.2	31.2	24.8	19.7		50.8	43.9		47.1	42.3	42.3
Effective Green, g (s)	39.8	31.7	31.7	23.8	19.7		50.3	44.4		46.1	42.3	42.3
Actuated g/C Ratio	0.40	0.32	0.32	0.24	0.20		0.50	0.44		0.46	0.42	0.42
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	350	503	428	246	302		221	1327		203	1277	571
v/s Ratio Prot	c0.14	0.17		0.01	0.15		c0.03	c0.30		0.01	0.29	
v/s Ratio Perm	c0.21		0.04	0.05			0.21			0.11		0.16
v/c Ratio	0.89	0.55	0.13	0.24	0.77		0.48	0.67		0.27	0.70	0.37
Uniform Delay, d1	24.0	28.2	24.4	30.2	38.0		15.4	22.0		16.1	23.6	19.7
Progression Factor	0.90	0.85	1.26	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.0	0.5	0.1	0.2	10.7		0.6	2.7		0.3	3.2	1.8
Delay (s)	33.6	24.5	30.8	30.4	48.7		16.0	24.7		16.4	26.8	21.6
Level of Service	C	C	C	C	D		B	C		B	C	C
Approach Delay (s)	29.7				45.1		23.7				25.1	
Approach LOS	C				D		C				C	
Intersection Summary												
HCM Average Control Delay			27.6		HCM Level of Service				C			
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			82.8%		ICU Level of Service				E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2959		2927	3013		2927	2915			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2959		2927	3013		2927	2915			3018	1350
Volume (vph)	397	817	121	208	807	9	226	564	166	0	703	420
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	409	842	125	214	832	9	233	581	171	0	725	433
RTOR Reduction (vph)	0	12	0	0	1	0	0	11	0	0	0	214
Lane Group Flow (vph)	409	955	0	214	840	0	233	741	0	0	725	219
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	66.7		4.0	50.2		31.7	77.3			40.6	40.6
Effective Green, g (s)	20.5	67.2		4.0	50.7		32.7	78.3			41.6	41.6
Actuated g/C Ratio	0.13	0.42		0.02	0.31		0.20	0.48			0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1231		72	946		593	1413			777	348
v/s Ratio Prot	c0.14	0.32		c0.07	c0.28		0.08	c0.25			c0.24	
v/s Ratio Perm												0.16
v/c Ratio	1.10	0.78		2.97	0.89		0.39	0.52			0.93	0.63
Uniform Delay, d1	70.5	40.6		78.8	52.7		55.8	28.7			58.6	53.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	76.2	4.8		923.7	12.2		0.2	0.5			18.2	4.0
Delay (s)	146.7	45.5		1002.4	64.9		56.0	29.2			76.8	57.1
Level of Service	F	D		F	E		E	C			E	E
Approach Delay (s)		75.6			255.1			35.5			69.4	
Approach LOS		E			F			D			E	
Intersection Summary												
HCM Average Control Delay			106.8			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			161.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			83.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2958		1509	3018	1350	1509	2923		1509	2964	
Flt Permitted	0.44	1.00		0.21	1.00	1.00	0.17	1.00		0.13	1.00	
Satd. Flow (perm)	699	2958		327	3018	1350	264	2923		203	2964	
Volume (vph)	98	553	84	245	554	54	87	862	227	88	865	117
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	100	564	86	250	565	55	89	880	232	90	883	119
RTOR Reduction (vph)	0	13	0	0	0	29	0	26	0	0	12	0
Lane Group Flow (vph)	100	637	0	250	565	26	89	1086	0	90	990	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4	6			2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.4	25.4		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.4	26.4		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	868		305	1408	630	117	1299		90	1317	
v/s Ratio Prot		0.22		c0.11	0.19			0.37			0.33	
v/s Ratio Perm	0.14			c0.28		0.02	0.34			c0.44		
v/c Ratio	0.49	0.73		0.82	0.40	0.04	0.76	0.84		1.00	0.75	
Uniform Delay, d1	26.2	28.6		17.4	15.7	13.0	21.0	22.1		25.0	20.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.1	5.5		15.7	0.9	0.1	36.5	6.5		94.9	4.0	
Delay (s)	34.3	34.1		33.0	16.6	13.2	57.5	28.6		119.9	24.9	
Level of Service	C	C		C	B	B	E	C		F	C	
Approach Delay (s)		34.1			21.1			30.7			32.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	29.8			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.89											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	95.1%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3011			3018	1350		1472		1433	1444	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3011			3018	1350		1472		1433	1444	
Volume (vph)	0	1072	15	0	1020	213	22	23	36	245	41	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1140	16	0	1085	227	23	24	38	261	44	13
RTOR Reduction (vph)	0	1	0	0	0	41	0	22	0	0	3	0
Lane Group Flow (vph)	0	1155	0	0	1085	186	0	63	0	157	158	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		91.5			91.5	20.8		7.7		20.8	20.8	
Effective Green, g (s)		91.5			91.5	20.8		7.7		20.8	20.8	
Actuated g/C Ratio		0.69			0.69	0.16		0.06		0.16	0.16	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2087			2092	213		86		226	228	
v/s Ratio Prot		c0.38			0.36	c0.14		c0.04		0.11	0.11	
v/s Ratio Perm												
v/c Ratio		0.55			0.52	0.87		0.74		0.69	0.70	
Uniform Delay, d1		10.1			9.7	54.3		61.2		52.6	52.6	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.9	30.7		27.6		9.6	9.5	
Delay (s)		11.1			10.6	85.0		88.8		62.2	62.1	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		11.1			23.5			88.8			62.2	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		24.7					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.62										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		58.3%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1509	3013		1509	2999			1427			1519	1350
Flt Permitted	0.16	1.00		0.19	1.00			0.94			0.85	1.00
Satd. Flow (perm)	257	3013		308	2999			1354			1355	1350
Volume (vph)	63	1327	15	12	1308	55	6	3	18	32	3	72
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	1368	15	12	1348	57	6	3	19	33	3	74
RTOR Reduction (vph)	0	0	0	0	1	0	0	18	0	0	0	69
Lane Group Flow (vph)	65	1383	0	12	1404	0	0	10	0	0	36	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.2	110.2		103.5	103.5			8.8			8.8	8.8
Effective Green, g (s)	110.2	110.2		103.5	103.5			8.8			8.8	8.8
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	250	2614		251	2444			94			94	94
v/s Ratio Prot	0.01	c0.46			c0.47							
v/s Ratio Perm	0.22			0.04			0.01				c0.03	0.00
v/c Ratio	0.26	0.53		0.05	0.57		0.11				0.38	0.05
Uniform Delay, d1	2.5	2.1		2.3	4.1		55.4				56.5	55.2
Progression Factor	1.00	1.00		1.00	1.00		1.00				1.00	1.00
Incremental Delay, d2	0.2	0.8		0.4	1.0		0.5				2.6	0.2
Delay (s)	2.7	2.8		2.6	5.1		55.9				59.1	55.5
Level of Service	A	A		A	A		E				E	E
Approach Delay (s)		2.8			5.1		55.9				56.6	
Approach LOS		A			A		E				E	
Intersection Summary												
HCM Average Control Delay			6.3			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			76.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

4/23/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1301	32	0	1461	0	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1414	35	0	1588	0	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	553			720		
pX, platoon unblocked			0.58		0.73	0.58
vC, conflicting volume			1449		3020	724
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1049		2548	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			382		16	629
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	943	506	67			
Volume Left	0	0	0			
Volume Right	0	35	67			
cSH	1700	1700	629			
Volume to Capacity	0.55	0.30	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	11.4			
Lane LOS			B			
Approach Delay (s)	0.0		11.4			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	3003		1509	2981		1509	3018	1350	1509	2927	
Flt Permitted	0.20	1.00		0.12	1.00		0.21	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	311	3003		197	2981		335	3018	1350	276	2927	
Volume (vph)	94	1375	47	173	1037	90	96	563	228	81	357	89
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	98	1432	49	180	1080	94	100	586	238	84	372	93
RTOR Reduction (vph)	0	2	0	0	5	0	0	0	110	0	16	0
Lane Group Flow (vph)	98	1479	0	180	1169	0	100	586	128	84	449	0
Turn Type	pm+pt			pm+pt			Perm			Perm		Perm
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	95.8	90.5		96.7	90.7		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	95.8	90.5		96.2	90.7		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.73	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	276	2075		200	2064		59	530	237	48	514	
v/s Ratio Prot	0.01	0.49		c0.04	0.39		0.19			0.15		
v/s Ratio Perm	0.25			c0.62			0.30			0.10	c0.30	
v/c Ratio	0.36	0.71		0.90	0.57		1.69	1.11	0.54	1.75	0.87	
Uniform Delay, d1	6.5	12.3		13.1	10.2		54.0	54.0	49.2	54.0	52.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	2.1		36.6	1.1		374.8	71.3	8.6	409.6	18.2	
Delay (s)	6.8	14.5		49.7	11.3		428.8	125.3	57.8	463.6	70.8	
Level of Service	A	B		D	B		F	F	E	F	E	
Approach Delay (s)	14.0			16.4			140.7			130.9		
Approach LOS	B			B			F			F		
Intersection Summary												
HCM Average Control Delay			55.9		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			94.4%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.91				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (prot)	1509	3003		1509	2998			1431				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (perm)	1509	3003		1509	2998			1431				1374
Volume (vph)	28	1484	48	201	1195	53	34	13	88	0	0	41
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1546	50	209	1245	55	35	14	92	0	0	43
RTOR Reduction (vph)	0	2	0	0	3	0	0	46	0	0	0	37
Lane Group Flow (vph)	29	1594	0	209	1297	0	0	95	0	0	0	6
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	19.0	77.1		23.0	85.1			15.9				19.0
Effective Green, g (s)	19.0	77.1		23.0	85.1			15.9				19.0
Actuated g/C Ratio	0.14	0.58		0.17	0.64			0.12				0.14
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	217	1754		263	1933			172				198
v/s Ratio Prot	0.02	c0.53		c0.14	c0.43							0.00
v/s Ratio Perm								0.07				
v/c Ratio	0.13	0.91		0.79	0.67			0.55				0.03
Uniform Delay, d1	49.3	24.3		52.2	14.7			54.7				48.6
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.3	8.5		15.2	1.9			3.8				0.1
Delay (s)	49.6	32.8		67.4	16.6			58.5				48.7
Level of Service	D	C		E	B			E				D
Approach Delay (s)		33.1			23.6			58.5			48.7	
Approach LOS		C			C			E			D	
Intersection Summary												
HCM Average Control Delay			30.1			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			82.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2967		1509	3009			1517	1350		1486	
Flt Permitted	0.25	1.00		0.05	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	396	2967		83	3009			1517	1350		1486	
Volume (vph)	18	1458	183	224	967	18	228	14	300	11	9	11
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	19	1503	189	231	997	19	235	14	309	11	9	11
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	229	0	10	0
Lane Group Flow (vph)	19	1687	0	231	1015	0	0	249	80	0	21	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	90.0	90.0		106.0	98.0			17.0	30.0		16.0	
Effective Green, g (s)	90.0	90.0		106.0	98.0			17.0	29.0		16.0	
Actuated g/C Ratio	0.60	0.60		0.70	0.65			0.11	0.19		0.11	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	236	1768		172	1953			171	259		157	
v/s Ratio Prot		0.57		c0.11	0.34			c0.16	0.02		c0.01	
v/s Ratio Perm	0.05			c0.84					0.03			
v/c Ratio	0.08	0.95		1.34	0.52			1.46	0.31		0.13	
Uniform Delay, d1	12.9	28.6		49.2	14.0			67.0	52.4		61.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	12.3		188.0	0.2			234.7	0.2		1.8	
Delay (s)	13.1	40.8		237.2	14.3			301.7	52.7		63.0	
Level of Service	B	D		F	B			F	D		E	
Approach Delay (s)		40.5			55.6			163.8			63.0	
Approach LOS		D			E			F			E	
Intersection Summary												
HCM Average Control Delay		65.4					HCM Level of Service		E			
HCM Volume to Capacity ratio		1.21										
Actuated Cycle Length (s)		151.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		101.0%					ICU Level of Service		G			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.96			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1403			3017	1350		3017	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1403			2873	1350		3017	
Volume (vph)	0	0	13	875	4	111	3	464	1224	0	436	1
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	13	893	4	113	3	473	1249	0	445	1
RTOR Reduction (vph)	0	0	6	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	7	526	477	0	0	476	1249	0	446	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			34.9	34.9	34.9			16.7	60.6		16.7	
Effective Green, g (s)			34.9	34.9	34.9			17.7	60.6		17.7	
Actuated g/C Ratio			0.58	0.58	0.58			0.29	1.00		0.29	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			791	825	808			839	1350		881	
v/s Ratio Prot				0.37	0.34						0.15	
v/s Ratio Perm			0.01					0.17	c0.93			
v/c Ratio			0.01	0.64	0.59			0.57	0.93		0.51	
Uniform Delay, d1			5.5	8.6	8.3			18.2	0.0		17.8	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	3.1	1.2			0.9	12.1		0.5	
Delay (s)			5.5	11.8	9.4			19.1	12.1		18.3	
Level of Service			A	B	A			B	B		B	
Approach Delay (s)		5.5			10.6			14.0			18.3	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			13.5			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			60.6			Sum of lost time (s)			0.0			
Intersection Capacity Utilization			65.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1502		1509	2984		1509	3018	1350
Flt Permitted	0.28	1.00	1.00	0.45	1.00		0.14	1.00		0.11	1.00	1.00
Satd. Flow (perm)	441	1588	1350	713	1502		221	2984		170	3018	1350
Volume (vph)	434	427	133	44	174	99	132	1068	84	92	904	287
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	447	440	137	45	179	102	136	1101	87	95	932	296
RTOR Reduction (vph)	0	0	52	0	22	0	0	5	0	0	0	85
Lane Group Flow (vph)	447	440	85	45	259	0	136	1183	0	95	932	211
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	43.0	36.3	36.3	26.7	23.0		47.1	39.0		43.4	37.4	37.4
Effective Green, g (s)	43.5	36.8	36.8	25.7	23.0		46.6	39.5		42.4	37.4	37.4
Actuated g/C Ratio	0.44	0.37	0.37	0.26	0.23		0.47	0.40		0.42	0.37	0.37
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	368	584	497	205	345		194	1179		139	1129	505
v/s Ratio Prot	c0.20	0.28		0.01	0.17		c0.05	c0.40		0.03	0.31	
v/s Ratio Perm	c0.33		0.06	0.05			0.28			0.26		0.16
v/c Ratio	1.21	0.75	0.17	0.22	0.75		0.70	1.00		0.68	0.83	0.42
Uniform Delay, d1	24.1	27.6	21.3	28.5	35.8		18.9	30.2		21.8	28.3	23.2
Progression Factor	0.96	0.88	0.93	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	107.3	2.4	0.1	0.2	8.5		9.0	26.9		10.5	6.9	2.5
Delay (s)	130.3	26.8	19.9	28.7	44.4		27.9	57.2		32.3	35.3	25.8
Level of Service	F	C	B	C	D		C	E		C	D	C
Approach Delay (s)		71.1			42.2			54.2			32.9	
Approach LOS		E			D			D			C	
Intersection Summary												
HCM Average Control Delay			50.5			HCM Level of Service				D		
HCM Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			103.1%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2967		2927	3005		2927	2956			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2967		2927	3005		2927	2956			3018	1350
Volume (vph)	486	950	120	194	659	18	180	808	128	0	662	393
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	501	979	124	200	679	19	186	833	132	0	682	405
RTOR Reduction (vph)	0	10	0	0	2	0	0	5	0	0	0	240
Lane Group Flow (vph)	501	1093	0	200	696	0	186	960	0	0	682	165
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	68.0		4.0	51.5		24.7	76.0			46.3	46.3
Effective Green, g (s)	20.5	68.5		4.0	52.0		25.7	77.0			47.3	47.3
Actuated g/C Ratio	0.13	0.42		0.02	0.32		0.16	0.48			0.29	0.29
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1258		72	968		466	1409			884	395
v/s Ratio Prot	c0.17	c0.37		c0.07	0.23		0.06	c0.32			c0.23	
v/s Ratio Perm												0.12
v/c Ratio	1.35	0.87		2.78	0.72		0.40	0.68			0.77	0.42
Uniform Delay, d1	70.5	42.4		78.8	48.3		61.0	32.7			52.2	46.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	173.0	8.3		837.3	4.6		0.2	1.5			4.5	1.0
Delay (s)	243.5	50.7		916.1	52.9		61.2	34.2			56.6	47.0
Level of Service	F	D		F	D		E	C			E	D
Approach Delay (s)	110.9			245.1			38.6				53.0	
Approach LOS	F			F			D				D	
Intersection Summary												
HCM Average Control Delay			105.5		HCM Level of Service				F			
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			161.5		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			82.8%		ICU Level of Service				E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2995		1509	3018	1350	1509	2906		1509	2973	
Flt Permitted	0.45	1.00		0.13	1.00	1.00	0.17	1.00		0.10	1.00	
Satd. Flow (perm)	710	2995		210	3018	1350	275	2906		159	2973	
Volume (vph)	105	882	46	235	537	65	74	1063	350	80	870	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	107	900	47	240	548	66	76	1085	357	82	888	97
RTOR Reduction (vph)	0	4	0	0	0	22	0	36	0	0	9	0
Lane Group Flow (vph)	107	943	0	240	548	44	76	1406	0	82	976	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4			6	2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.2	25.2		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.2	26.2		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	872		268	1408	630	122	1292		71	1321	
v/s Ratio Prot	c0.31			c0.12		0.18		0.48			0.33	
v/s Ratio Perm	0.15			0.30		0.03	0.28			c0.52		
v/c Ratio	0.52	1.08		0.90	0.39	0.07	0.62	1.09		1.15	0.74	
Uniform Delay, d1	26.6	31.9		21.8	15.6	13.2	19.2	25.0		25.0	20.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	54.8		29.2	0.8	0.2	21.6	52.8		154.8	3.7	
Delay (s)	35.6	86.7		51.1	16.5	13.4	40.8	77.8		179.8	24.4	
Level of Service	D	F		D	B	B	D	E		F	C	
Approach Delay (s)	81.5			25.9			75.9			36.3		
Approach LOS	F			C			E			D		
Intersection Summary												
HCM Average Control Delay			58.3		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			114.8%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.95		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1488		1433	1446	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1488		1433	1446	
Volume (vph)	0	1205	30	0	931	254	25	42	43	278	64	19
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1282	32	0	990	270	27	45	46	296	68	20
RTOR Reduction (vph)	0	1	0	0	0	53	0	18	0	0	3	0
Lane Group Flow (vph)	0	1313	0	0	990	217	0	100	0	189	192	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		90.0			90.0	22.0		8.0		22.0	22.0	
Effective Green, g (s)		90.0			90.0	22.0		8.0		22.0	22.0	
Actuated g/C Ratio		0.68			0.68	0.17		0.06		0.17	0.17	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2050			2058	225		90		239	241	
v/s Ratio Prot		c0.44			0.33	c0.16		c0.07		0.13	0.13	
v/s Ratio Perm												
v/c Ratio		0.64			0.48	0.96		1.11		0.79	0.80	
Uniform Delay, d1		11.9			9.9	54.6		62.0		52.8	52.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.5			0.8	49.5		128.6		17.0	17.3	
Delay (s)		13.4			10.8	104.1		190.6		69.8	70.1	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		13.4			30.7			190.6			70.0	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		34.4					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		65.2%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

4/23/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	1509	3014		1509	3002			1396			1515	1350
Flt Permitted	0.23	1.00		0.15	1.00			0.98			0.85	1.00
Satd. Flow (perm)	365	3014		245	3002			1378			1343	1350
Volume (vph)	78	1520	14	1	1040	37	2	2	27	32	1	51
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	80	1567	14	1	1072	38	2	2	28	33	1	53
RTOR Reduction (vph)	0	0	0	0	1	0	0	26	0	0	0	49
Lane Group Flow (vph)	80	1581	0	1	1109	0	0	6	0	0	34	4
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.3	110.3		103.5	103.5			8.7			8.7	8.7
Effective Green, g (s)	110.3	110.3		103.5	103.5			8.7			8.7	8.7
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	342	2618		200	2447			94			92	92
v/s Ratio Prot	0.01	c0.52			0.37							
v/s Ratio Perm	0.20			0.00			0.00			c0.03	0.00	
v/c Ratio	0.23	0.60		0.01	0.45		0.06			0.37	0.04	
Uniform Delay, d1	1.8	2.3		2.2	3.4		55.3			56.5	55.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00			1.00	1.00	
Incremental Delay, d2	0.1	1.0		0.0	0.6		0.3			2.5	0.2	
Delay (s)	1.9	3.4		2.2	4.1		55.6			59.0	55.4	
Level of Service	A	A		A	A		E			E	E	
Approach Delay (s)		3.3			4.1		55.6			56.8		
Approach LOS		A			A		E			E		
Intersection Summary												
HCM Average Control Delay			5.8			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			85.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd &

4/23/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1572	24	0	1314	0	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1709	26	0	1428	0	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	396			876		
pX, platoon unblocked			0.53		0.66	0.53
vC, conflicting volume			1735		3150	867
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1499		2921	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	82
cM capacity (veh/h)			235		8	575
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1139	596	101			
Volume Left	0	0	0			
Volume Right	0	26	101			
cSH	1700	1700	575			
Volume to Capacity	0.67	0.35	0.18			
Queue Length 95th (ft)	0	0	16			
Control Delay (s)	0.0	0.0	12.6			
Lane LOS			B			
Approach Delay (s)	0.0		12.6			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

4/23/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	38	103	41	1253	926	91
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	39	105	42	1279	945	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1019		
pX, platoon unblocked	0.71					
vC, conflicting volume	1714	519	1038			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1599	519	1038			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	79	94			
cM capacity (veh/h)	65	502	666			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	144	42	639	639	630	408
Volume Left	39	42	0	0	0	0
Volume Right	105	0	0	0	0	93
cSH	178	666	1700	1700	1700	1700
Volume to Capacity	0.81	0.06	0.38	0.38	0.37	0.24
Queue Length 95th (ft)	138	5	0	0	0	0
Control Delay (s)	78.2	10.8	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	78.2	0.3			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			57.2%		ICU Level of Service	B
Analysis Period (min)			15			

EXISTING PLUS PROJECT CONDITIONS

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2990		1509	2989		1509	3018	1350	1509	2940	
Flt Permitted	0.07	1.00		0.26	1.00		0.30	1.00	1.00	0.31	1.00	
Satd. Flow (perm)	110	2990		418	2989		478	3018	1350	486	2940	
Volume (vph)	109	806	52	167	1633	112	88	468	124	78	393	81
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	110	814	53	169	1649	113	89	473	125	79	397	82
RTOR Reduction (vph)	0	4	0	0	5	0	0	0	96	0	18	0
Lane Group Flow (vph)	110	863	0	169	1757	0	89	473	29	79	461	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			4		
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	63.7	58.0		66.8	59.3		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	63.7	58.0		66.3	59.3		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.64	0.58		0.66	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	150	1734		354	1772		110	694	311	112	676	
v/s Ratio Prot	c0.04	0.29		0.03	c0.59		0.16			0.16		
v/s Ratio Perm	0.43			0.28			c0.19			0.02	0.16	
v/c Ratio	0.73	0.50		0.48	0.99		0.81	0.68	0.09	0.71	0.68	
Uniform Delay, d1	18.2	12.4		7.4	20.1		36.4	35.2	30.3	35.4	35.2	
Progression Factor	1.32	0.76		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	1.0		0.4	19.5		45.4	5.4	0.6	31.2	5.5	
Delay (s)	38.1	10.5		7.8	39.6		81.8	40.5	30.9	66.5	40.7	
Level of Service	D	B		A	D		F	D	C	E	D	
Approach Delay (s)	13.6			36.8			44.1			44.3		
Approach LOS	B			D			D			D		
Intersection Summary												
HCM Average Control Delay			33.6		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			99.0%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Boulevard & Westbourne Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	1.00			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (prot)	1509	3005		1509	3012			1461				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (perm)	1509	3005		1509	3012			1461				1374
Volume (vph)	24	850	25	129	1741	22	69	6	52	0	0	56
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	24	859	25	130	1759	22	70	6	53	0	0	57
RTOR Reduction (vph)	0	2	0	0	1	0	0	26	0	0	0	50
Lane Group Flow (vph)	24	882	0	130	1780	0	0	103	0	0	0	7
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		1 8	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	11.9	40.9		31.4	64.4			11.7				11.9
Effective Green, g (s)	11.9	40.9		31.4	64.4			11.7				11.9
Actuated g/C Ratio	0.12	0.41		0.31	0.64			0.12				0.12
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	180	1229		474	1940			171				164
v/s Ratio Prot	0.02	0.29		c0.09	c0.59							0.00
v/s Ratio Perm								0.07				
v/c Ratio	0.13	0.72		0.27	0.92			0.60				0.04
Uniform Delay, d1	39.4	24.7		25.7	15.5			41.9				39.0
Progression Factor	1.00	1.00		1.39	0.59			1.00				1.00
Incremental Delay, d2	0.3	3.6		0.1	4.0			5.6				0.1
Delay (s)	39.8	28.3		35.8	13.2			47.5				39.1
Level of Service	D	C		D	B			D				D
Approach Delay (s)		28.6			14.7			47.5			39.1	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM Average Control Delay		20.8					HCM Level of Service		C			
HCM Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		79.9%					ICU Level of Service		D			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2967		1509	3012			1514	1350		1483	
Flt Permitted	0.13	1.00		0.11	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	205	2967		182	3012			1514	1350		1483	
Volume (vph)	6	916	117	211	1371	17	231	6	186	11	8	11
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	974	124	224	1459	18	246	6	198	12	9	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	134	0	10	0
Lane Group Flow (vph)	6	1090	0	224	1476	0	0	252	64	0	23	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8	8
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			18.0	31.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			18.0	30.0		16.0	
Actuated g/C Ratio	0.33	0.33		0.51	0.42			0.19	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	68	989		263	1263			293	435		255	
v/s Ratio Prot		0.37		c0.11	c0.49			c0.17	0.02		c0.02	
v/s Ratio Perm	0.03			0.32					0.03			
v/c Ratio	0.09	1.10		0.85	1.17			0.86	0.15		0.09	
Uniform Delay, d1	21.3	31.0		23.0	27.0			36.3	22.4		32.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.6	60.8		21.7	84.9			22.4	0.1		0.7	
Delay (s)	21.9	91.8		44.6	111.9			58.7	22.5		33.1	
Level of Service	C	F		D	F			E	C		C	
Approach Delay (s)		91.4			103.0			42.7			33.1	
Approach LOS		F			F			D			C	
Intersection Summary												
HCM Average Control Delay			90.2		HCM Level of Service			F				
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			93.0		Sum of lost time (s)			16.0				
Intersection Capacity Utilization			102.1%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.98			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1421			3017	1350		3018	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1421			2880	1350		3018	
Volume (vph)	0	0	3	1465	0	79	1	316	589	0	342	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	3	1495	0	81	1	322	601	0	349	0
RTOR Reduction (vph)	0	0	2	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1	828	744	0	0	323	601	0	349	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.0	37.0	37.0			54.0	100.0		54.0	
Effective Green, g (s)			37.0	37.0	37.0			55.0	100.0		55.0	
Actuated g/C Ratio			0.37	0.37	0.37			0.55	1.00		0.55	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			508	530	526			1584	1350		1660	
v/s Ratio Prot				c0.58	0.52						0.12	
v/s Ratio Perm			0.00					0.11	c0.45			
v/c Ratio			0.00	1.56	1.41			0.20	0.45		0.21	
Uniform Delay, d1			19.9	31.5	31.5			11.4	0.0		11.4	
Progression Factor			1.00	1.00	1.00			1.50	1.00		1.00	
Incremental Delay, d2			0.0	262.1	197.2			0.2	0.9		0.3	
Delay (s)			19.9	293.6	228.7			17.3	0.9		11.7	
Level of Service			B	F	F			B	A		B	
Approach Delay (s)		19.9			262.8			6.6			11.7	
Approach LOS		B			F			A			B	
Intersection Summary												
HCM Average Control Delay			148.8									
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0									
Intersection Capacity Utilization			79.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1548		1509	2996		1509	3018	1350
Flt Permitted	0.24	1.00	1.00	0.44	1.00		0.09	1.00		0.37	1.00	1.00
Satd. Flow (perm)	375	1588	1350	694	1548		148	2996		586	3018	1350
Volume (vph)	212	243	160	153	295	60	123	602	31	34	1173	430
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	214	245	162	155	298	61	124	608	31	34	1185	434
RTOR Reduction (vph)	0	0	120	0	8	0	0	3	0	0	0	94
Lane Group Flow (vph)	214	245	42	155	351	0	124	636	0	34	1185	340
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6	5		2	7		4	3		8	
Permitted Phases	6	6		2	4				8		8	
Actuated Green, G (s)	34.2	25.7	25.7	33.9	25.8	54.2		47.4	48.1		44.3	44.3
Effective Green, g (s)	33.7	26.2	26.2	32.9	25.8	54.3		47.9	47.1		44.3	44.3
Actuated g/C Ratio	0.34	0.26	0.26	0.33	0.26	0.54		0.48	0.47		0.44	0.44
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0	3.0		4.5	3.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5	1.0		5.0	1.0		5.0	5.0
Lane Grp Cap (vph)	211	416	354	286	399	167		1435	302		1337	598
v/s Ratio Prot	c0.08	0.15	0.04		0.23	c0.05		0.21	0.00		c0.39	
v/s Ratio Perm	c0.27	0.03		0.14	0.35				0.05		0.25	
v/c Ratio	1.01	0.59	0.12	0.54	0.88	0.74		0.44	0.11		0.89	0.57
Uniform Delay, d1	31.3	32.2	28.1	25.8	35.6	17.7		17.2	14.4		25.5	20.7
Progression Factor	0.88	0.91	1.27	1.17	1.14	1.04		0.48	1.95		1.65	2.08
Incremental Delay, d2	64.4	2.0	0.1	1.0	17.9	10.0		0.7	0.0		0.9	0.4
Delay (s)	92.0	31.2	35.8	31.2	58.5	28.4		8.9	28.1		43.1	43.6
Level of Service	F	C	D	C	E	C		A	C		D	D
Approach Delay (s)	53.4		50.3		12.1		42.9					
Approach LOS	D		D		B		D					
Intersection Summary												
HCM Average Control Delay			39.2		HCM Level of Service			D				
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			16.0				
Intersection Capacity Utilization			95.6%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Boulevard & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2952		2927	3015		2927	2944			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2952		2927	3015		2927	2944			3018	1350
Volume (vph)	274	628	107	257	1079	6	174	514	100	0	865	489
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	285	654	111	268	1124	6	181	535	104	0	901	509
RTOR Reduction (vph)	0	13	0	0	1	0	0	16	0	0	0	132
Lane Group Flow (vph)	285	752	0	268	1129	0	181	623	0	0	901	377
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	8.0	29.9		12.1	34.0		6.0	44.5			33.5	33.5
Effective Green, g (s)	8.0	30.4		12.1	34.5		7.0	45.5			34.5	34.5
Actuated g/C Ratio	0.08	0.30		0.12	0.34		0.07	0.46			0.34	0.34
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	234	897		354	1040		205	1340			1041	466
v/s Ratio Prot	c0.10	0.25		c0.09	c0.37		c0.06	0.21			c0.30	
v/s Ratio Perm												0.28
v/c Ratio	1.22	0.84		0.76	1.09		0.88	0.46			0.87	0.81
Uniform Delay, d1	46.0	32.5		42.5	32.8		46.1	18.8			30.6	29.8
Progression Factor	1.00	1.00		1.19	1.09		1.00	1.00			1.56	2.02
Incremental Delay, d2	130.4	9.2		5.8	50.6		32.2	0.3			4.9	6.6
Delay (s)	176.4	41.7		56.6	86.3		78.3	19.2			52.5	66.7
Level of Service	F	D		E	F		E	B			D	E
Approach Delay (s)		78.3			80.6			32.2			57.6	
Approach LOS		E			F			C			E	
Intersection Summary												
HCM Average Control Delay			64.7			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			91.6%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2950		1509	3018	1350	1509	2932		1509	2973	
Flt Permitted	0.37	1.00		0.31	1.00	1.00	0.10	1.00		0.23	1.00	
Satd. Flow (perm)	592	2950		491	3018	1350	160	2932		361	2973	
Volume (vph)	74	399	70	419	712	74	68	670	157	51	1047	114
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	76	411	72	432	734	76	70	691	162	53	1079	118
RTOR Reduction (vph)	0	16	0	0	0	41	0	23	0	0	9	0
Lane Group Flow (vph)	76	467	0	432	734	35	70	830	0	53	1188	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4	6			2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	171	852		365	1408	630	71	1303		160	1321	
v/s Ratio Prot	0.16			c0.16		0.24	0.28			0.40		
v/s Ratio Perm	0.13			c0.39		0.03	c0.44			0.15		
v/c Ratio	0.44	0.55		1.18	0.52	0.06	0.99	0.64		0.33	0.90	
Uniform Delay, d1	26.1	27.0		20.8	16.9	13.1	24.7	19.4		16.3	23.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.2	2.5		107.1	1.4	0.2	102.9	2.4		5.5	9.9	
Delay (s)	34.3	29.6		127.9	18.3	13.3	127.7	21.8		21.8	33.1	
Level of Service	C	C		F	B	B	F	C		C	C	
Approach Delay (s)	30.2			56.1			29.8			32.6		
Approach LOS	C			E			C			C		
Intersection Summary												
HCM Average Control Delay			39.0		HCM Level of Service				D			
HCM Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				8.0			
Intersection Capacity Utilization			102.6%		ICU Level of Service				G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Boulevard & Holloway Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.93		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1458		1433	1432	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1458		1433	1432	
Volume (vph)	0	741	18	0	1309	260	13	20	40	210	37	21
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	764	19	0	1349	268	13	21	41	216	38	22
RTOR Reduction (vph)	0	1	0	0	0	53	0	39	0	0	7	0
Lane Group Flow (vph)	0	782	0	0	1349	215	0	36	0	137	132	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		62.7			62.7	19.4		5.9		19.4	19.4	
Effective Green, g (s)		62.7			62.7	19.4		5.9		19.4	19.4	
Actuated g/C Ratio		0.63			0.63	0.19		0.06		0.19	0.19	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1885			1892	262		86		278	278	
v/s Ratio Prot		0.26			c0.45	c0.16		c0.02		0.10	0.09	
v/s Ratio Perm												
v/c Ratio		0.41			0.71	0.82		0.42		0.49	0.47	
Uniform Delay, d1		9.4			12.6	38.6		45.4		35.9	35.8	
Progression Factor		0.32			1.00	1.00		1.00		0.73	0.71	
Incremental Delay, d2		0.4			2.3	18.7		3.3		1.7	1.6	
Delay (s)		3.4			14.9	57.3		48.7		27.8	26.8	
Level of Service		A			B	E		D		C	C	
Approach Delay (s)		3.4			21.9			48.7			27.3	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM Average Control Delay		17.9					HCM Level of Service			B		
HCM Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		64.5%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Boulevard & Kings Rd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1509	3016		1509	3006			1442			1521	1350
Flt Permitted	0.16	1.00		0.30	1.00			0.85			0.74	1.00
Satd. Flow (perm)	250	3016		471	3006			1262			1168	1350
Volume (vph)	57	924	4	10	1306	35	11	0	12	21	3	73
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	962	4	10	1360	36	11	0	12	22	3	76
RTOR Reduction (vph)	0	0	0	0	1	0	0	11	0	0	0	70
Lane Group Flow (vph)	59	966	0	10	1395	0	0	12	0	0	25	6
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	84.7	84.7		78.1	78.1			7.3			7.3	7.3
Effective Green, g (s)	84.7	84.7		78.1	78.1			7.3			7.3	7.3
Actuated g/C Ratio	0.85	0.85		0.78	0.78			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	244	2555		368	2348			92			85	99
v/s Ratio Prot	0.01	c0.32			c0.46							
v/s Ratio Perm	0.20			0.02				0.01			c0.02	0.00
v/c Ratio	0.24	0.38		0.03	0.59			0.13			0.29	0.06
Uniform Delay, d1	2.6	1.7		2.5	4.5			43.4			43.9	43.1
Progression Factor	1.00	1.00		0.81	0.45			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.4		0.1	0.9			0.6			1.9	0.2
Delay (s)	2.8	2.1		2.1	2.9			44.0			45.8	43.4
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		2.2			2.9			44.0			44.0	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			4.6			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			65.6%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
10: Santa Monica Boulevard & North West Knoll Drive

7/10/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	907	28	0	1852	0	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	986	30	0	2013	0	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)	575			697		
pX, platoon unblocked			0.78		0.72	0.78
vC, conflicting volume			1016		3014	508
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			741		3027	91
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			673		7	741
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	657	359	80			
Volume Left	0	0	0			
Volume Right	0	30	80			
cSH	1700	1700	741			
Volume to Capacity	0.39	0.21	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	10.4			
Lane LOS			B			
Approach Delay (s)	0.0		10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

7/10/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	69	153	805	1166	267
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	73	163	856	1240	284
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1029		
pX, platoon unblocked						
vC, conflicting volume	2136	762	1524			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2136	762	1524			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	79	62			
cM capacity (veh/h)	26	347	433			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	163	428	428	827	698
Volume Left	10	163	0	0	0	0
Volume Right	73	0	0	0	0	284
cSH	144	433	1700	1700	1700	1700
Volume to Capacity	0.58	0.38	0.25	0.25	0.49	0.41
Queue Length 95th (ft)	73	43	0	0	0	0
Control Delay (s)	59.3	18.2	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	59.3	2.9			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			73.3%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2992		1509	2977		1509	3018	1350	1509	2916	
Flt Permitted	0.16	1.00		0.17	1.00		0.19	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	260	2992		276	2977		307	3018	1350	432	2916	
Volume (vph)	135	1139	69	214	1133	111	95	395	217	99	358	104
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	1186	72	223	1180	116	99	411	226	103	373	108
RTOR Reduction (vph)	0	3	0	0	6	0	0	0	143	0	21	0
Lane Group Flow (vph)	141	1255	0	223	1290	0	99	411	83	103	460	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	96.2	90.5		96.3	90.3		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	96.2	90.5		95.8	90.3		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.73	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	245	2067		254	2052		54	530	237	76	512	
v/s Ratio Prot	0.03	0.42		c0.04	0.43		0.14			0.16		
v/s Ratio Perm	0.40			c0.61			c0.32			0.06	0.24	
v/c Ratio	0.58	0.61		0.88	0.63		1.83	0.78	0.35	1.36	0.90	
Uniform Delay, d1	8.0	10.8		10.9	11.2		54.0	51.5	47.4	54.0	52.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	1.3		26.4	1.5		437.8	10.6	4.0	224.3	21.3	
Delay (s)	10.0	12.1		37.3	12.6		491.8	62.2	51.4	278.3	74.2	
Level of Service	B	B		D	B		F	E	D	F	E	
Approach Delay (s)	11.9			16.3			116.7			110.2		
Approach LOS	B			B			F			F		
Intersection Summary												
HCM Average Control Delay			45.2		HCM Level of Service			D				
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			88.4%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (prot)	1509	3003		1509	2997			1452				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (perm)	1509	3003		1509	2997			1452				1374
Volume (vph)	39	1336	44	201	1363	64	60	6	59	0	0	54
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1392	46	209	1420	67	62	6	61	0	0	56
RTOR Reduction (vph)	0	3	0	0	4	0	0	21	0	0	0	48
Lane Group Flow (vph)	41	1435	0	209	1483	0	0	108	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		1	8	6		4				8
Permitted Phases							4					
Actuated Green, G (s)	19.6	69.1		25.2	78.7			21.7				19.6
Effective Green, g (s)	19.6	69.1		25.2	78.7			21.7				19.6
Actuated g/C Ratio	0.15	0.52		0.19	0.60			0.16				0.15
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	224	1572		288	1787			239				204
v/s Ratio Prot	0.03	c0.48		c0.14	c0.49							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.18	0.91		0.73	0.83			0.45				0.04
Uniform Delay, d1	49.2	28.7		50.2	21.3			49.8				48.1
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.4	9.6		8.8	4.6			1.4				0.1
Delay (s)	49.6	38.3		58.9	25.9			51.1				48.2
Level of Service	D	D		E	C			D				D
Approach Delay (s)		38.7			30.0			51.1			48.2	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM Average Control Delay			34.9			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			76.5%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2964		1509	3008			1514	1350		1464	
Flt Permitted	0.23	1.00		0.09	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	362	2964		138	3008			1514	1350		1464	
Volume (vph)	8	1088	146	229	970	21	224	6	292	9	8	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1122	151	236	1000	22	231	6	301	9	8	16
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	226	0	14	0
Lane Group Flow (vph)	8	1266	0	236	1021	0	0	237	75	0	19	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	56.7	56.7		72.8	64.8			17.2	30.3		16.2	
Effective Green, g (s)	56.7	56.7		72.8	64.8			17.2	29.3		16.2	
Actuated g/C Ratio	0.48	0.48		0.62	0.55			0.15	0.25		0.14	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	174	1422		225	1649			220	335		201	
v/s Ratio Prot		0.43		c0.11	0.34			c0.16	0.02		c0.01	
v/s Ratio Perm	0.02			c0.54					0.03			
v/c Ratio	0.05	0.89		1.05	0.62			1.08	0.22		0.10	
Uniform Delay, d1	16.4	27.9		33.0	18.3			50.5	35.4		44.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	7.4		73.4	0.7			82.7	0.1		0.9	
Delay (s)	16.5	35.3		106.4	19.0			133.2	35.5		45.5	
Level of Service	B	D		F	B			F	D		D	
Approach Delay (s)		35.2			35.4			78.6			45.5	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM Average Control Delay		42.9			HCM Level of Service			D				
HCM Volume to Capacity ratio		0.89										
Actuated Cycle Length (s)		118.2			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		88.8%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1408			3017	1350		3015	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1408			2877	1350		3015	
Volume (vph)	0	0	12	943	1	99	2	482	738	0	459	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	12	962	1	101	2	492	753	0	468	3
RTOR Reduction (vph)	0	0	5	0	6	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	7	556	502	0	0	494	753	0	470	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			17.5	63.8		17.5	
Effective Green, g (s)			37.3	37.3	37.3			18.5	63.8		18.5	
Actuated g/C Ratio			0.58	0.58	0.58			0.29	1.00		0.29	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			803	838	823			834	1350		874	
v/s Ratio Prot				c0.39	0.36						0.16	
v/s Ratio Perm			0.01					0.17	c0.56			
v/c Ratio			0.01	0.66	0.61			0.59	0.56		0.54	
Uniform Delay, d1			5.5	9.0	8.6			19.4	0.0		19.1	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	3.6	1.3			1.1	1.7		0.6	
Delay (s)			5.5	12.6	9.9			20.6	1.7		19.7	
Level of Service			A	B	A			C	A		B	
Approach Delay (s)		5.5			11.3			9.1			19.7	
Approach LOS		A			B			A			B	
Intersection Summary												
HCM Average Control Delay			11.7			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			63.8			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			67.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1533		1509	2989		1509	3018	1350
Flt Permitted	0.28	1.00	1.00	0.59	1.00		0.18	1.00		0.21	1.00	1.00
Satd. Flow (perm)	452	1588	1350	937	1533		290	2989		337	3018	1350
Volume (vph)	303	268	162	57	181	55	103	820	56	53	874	283
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	312	276	167	59	187	57	106	845	58	55	901	292
RTOR Reduction (vph)	0	0	109	0	12	0	0	4	0	0	0	80
Lane Group Flow (vph)	312	276	58	59	232	0	106	899	0	55	901	212
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	39.3	31.2	31.2	24.8	19.7		50.8	43.9		47.1	42.3	42.3
Effective Green, g (s)	39.8	31.7	31.7	23.8	19.7		50.3	44.4		46.1	42.3	42.3
Actuated g/C Ratio	0.40	0.32	0.32	0.24	0.20		0.50	0.44		0.46	0.42	0.42
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	350	503	428	246	302		218	1327		200	1277	571
v/s Ratio Prot	c0.14	0.17		0.01	0.15		c0.03	c0.30		0.01	0.30	
v/s Ratio Perm	c0.21		0.04	0.05			0.22			0.12		0.16
v/c Ratio	0.89	0.55	0.13	0.24	0.77		0.49	0.68		0.28	0.71	0.37
Uniform Delay, d1	24.0	28.2	24.4	30.2	38.0		15.5	22.1		16.2	23.7	19.8
Progression Factor	0.90	0.85	1.26	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.0	0.5	0.1	0.2	10.7		0.6	2.8		0.3	3.3	1.9
Delay (s)	33.6	24.5	30.8	30.4	48.7		16.1	24.9		16.4	27.0	21.6
Level of Service	C	C	C	C	D		B	C		B	C	C
Approach Delay (s)		29.7			45.1			24.0			25.3	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM Average Control Delay			27.7			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			83.1%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2952		2927	3013		2927	2915			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2952		2927	3013		2927	2915			3018	1350
Volume (vph)	420	831	141	208	823	9	236	564	166	0	703	432
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	433	857	145	214	848	9	243	581	171	0	725	445
RTOR Reduction (vph)	0	14	0	0	1	0	0	11	0	0	0	215
Lane Group Flow (vph)	433	988	0	214	856	0	243	741	0	0	725	230
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	67.8		4.0	51.3		33.0	76.2			38.2	38.2
Effective Green, g (s)	20.5	68.3		4.0	51.8		34.0	77.2			39.2	39.2
Actuated g/C Ratio	0.13	0.42		0.02	0.32		0.21	0.48			0.24	0.24
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1248		72	966		616	1393			733	328
v/s Ratio Prot	c0.15	0.33		c0.07	c0.28		0.08	c0.25			c0.24	
v/s Ratio Perm												0.17
v/c Ratio	1.16	0.79		2.97	0.89		0.39	0.53			0.99	0.70
Uniform Delay, d1	70.5	40.4		78.8	52.1		54.9	29.5			60.9	55.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	99.3	5.2		923.7	11.8		0.2	0.5			30.2	7.1
Delay (s)	169.8	45.6		1002.4	63.9		55.0	30.0			91.2	62.9
Level of Service	F	D		F	E		E	C			F	E
Approach Delay (s)		83.1			251.4			36.1			80.4	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM Average Control Delay			111.0			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			161.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			85.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2958		1509	3018	1350	1509	2924		1509	2965	
Flt Permitted	0.44	1.00		0.21	1.00	1.00	0.16	1.00		0.12	1.00	
Satd. Flow (perm)	699	2958		327	3018	1350	255	2924		198	2965	
Volume (vph)	98	553	84	245	554	60	94	871	227	93	881	117
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	100	564	86	250	565	61	96	889	232	95	899	119
RTOR Reduction (vph)	0	13	0	0	0	33	0	26	0	0	12	0
Lane Group Flow (vph)	100	637	0	250	565	28	96	1095	0	95	1006	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4	4		6	2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.4	25.4		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.4	26.4		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	868		305	1408	630	113	1300		88	1318	
v/s Ratio Prot		0.22		c0.11	0.19			0.37			0.34	
v/s Ratio Perm	0.14			c0.28		0.02	0.38			c0.48		
v/c Ratio	0.49	0.73		0.82	0.40	0.05	0.85	0.84		1.08	0.76	
Uniform Delay, d1	26.2	28.6		17.4	15.7	13.1	22.3	22.2		25.0	21.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.1	5.5		15.7	0.9	0.1	51.2	6.7		119.2	4.2	
Delay (s)	34.3	34.1		33.0	16.6	13.2	73.5	28.9		144.2	25.3	
Level of Service	C	C		C	B	B	E	C		F	C	
Approach Delay (s)		34.1			21.1			32.5			35.4	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM Average Control Delay			31.1			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			95.4%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3011			3018	1350		1472		1433	1444	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3011			3018	1350		1472		1433	1444	
Volume (vph)	0	1086	15	0	1036	213	22	23	36	245	41	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1155	16	0	1102	227	23	24	38	261	44	13
RTOR Reduction (vph)	0	1	0	0	0	41	0	22	0	0	3	0
Lane Group Flow (vph)	0	1170	0	0	1102	186	0	63	0	157	158	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		91.5			91.5	20.8		7.7		20.8	20.8	
Effective Green, g (s)		91.5			91.5	20.8		7.7		20.8	20.8	
Actuated g/C Ratio		0.69			0.69	0.16		0.06		0.16	0.16	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2087			2092	213		86		226	228	
v/s Ratio Prot		c0.39			0.37	c0.14		c0.04		0.11	0.11	
v/s Ratio Perm												
v/c Ratio		0.56			0.53	0.87		0.74		0.69	0.70	
Uniform Delay, d1		10.2			9.8	54.3		61.2		52.6	52.6	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.1			1.0	30.7		27.6		9.6	9.5	
Delay (s)		11.3			10.7	85.0		88.8		62.2	62.1	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		11.3			23.4			88.8			62.2	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		24.7					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		58.8%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1509	3013		1509	3000			1427			1519	1350
Flt Permitted	0.16	1.00		0.19	1.00			0.94			0.85	1.00
Satd. Flow (perm)	252	3013		303	3000			1354			1355	1350
Volume (vph)	63	1341	15	12	1324	55	6	3	18	32	3	72
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	1382	15	12	1365	57	6	3	19	33	3	74
RTOR Reduction (vph)	0	0	0	0	1	0	0	18	0	0	0	69
Lane Group Flow (vph)	65	1397	0	12	1421	0	0	10	0	0	36	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.2	110.2		103.5	103.5			8.8			8.8	8.8
Effective Green, g (s)	110.2	110.2		103.5	103.5			8.8			8.8	8.8
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	245	2614		247	2445			94			94	94
v/s Ratio Prot	0.01	c0.46			c0.47							
v/s Ratio Perm	0.22			0.04				0.01			c0.03	0.00
v/c Ratio	0.27	0.53		0.05	0.58			0.11			0.38	0.05
Uniform Delay, d1	2.6	2.1		2.3	4.1			55.4			56.5	55.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.8		0.4	1.0			0.5			2.6	0.2
Delay (s)	2.8	2.9		2.6	5.1			55.9			59.1	55.5
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		2.9			5.1			55.9			56.6	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM Average Control Delay			6.4			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			76.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1358	50	0	1509	0	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1476	54	0	1640	0	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	553			720		
pX, platoon unblocked			0.57		0.73	0.57
vC, conflicting volume			1530		3143	765
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1178		2710	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			336		12	619
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	984	546	67			
Volume Left	0	0	0			
Volume Right	0	54	67			
cSH	1700	1700	619			
Volume to Capacity	0.58	0.32	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	11.5			
Lane LOS			B			
Approach Delay (s)	0.0		11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	3003		1509	2980		1509	3018	1350	1509	2927	
Flt Permitted	0.19	1.00		0.12	1.00		0.21	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	300	3003		190	2980		335	3018	1350	276	2927	
Volume (vph)	94	1396	47	174	1056	96	96	563	234	89	357	89
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	98	1454	49	181	1100	100	100	586	244	93	372	93
RTOR Reduction (vph)	0	2	0	0	5	0	0	0	107	0	16	0
Lane Group Flow (vph)	98	1501	0	181	1195	0	100	586	137	93	449	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	95.8	90.5		96.7	90.7		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	95.8	90.5		96.2	90.7		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.73	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	268	2075		195	2063		59	530	237	48	514	
v/s Ratio Prot	0.01	0.50		c0.04	0.40		0.19			0.15		
v/s Ratio Perm	0.25			c0.64			0.30			0.10	c0.34	
v/c Ratio	0.37	0.72		0.93	0.58		1.69	1.11	0.58	1.94	0.87	
Uniform Delay, d1	6.7	12.5		14.0	10.3		54.0	54.0	49.5	54.0	52.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	2.2		43.5	1.2		374.8	71.3	9.9	488.8	18.2	
Delay (s)	7.0	14.7		57.5	11.5		428.8	125.3	59.4	542.8	70.8	
Level of Service	A	B		E	B		F	F	E	F	E	
Approach Delay (s)	14.3			17.6			140.6			149.4		
Approach LOS	B			B			F			F		
Intersection Summary												
HCM Average Control Delay			58.5	HCM Level of Service			E					
HCM Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			131.0	Sum of lost time (s)			8.0					
Intersection Capacity Utilization			95.7%	ICU Level of Service			F					
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.92				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (prot)	1509	3004		1509	2999			1434				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (perm)	1509	3004		1509	2999			1434				1374
Volume (vph)	28	1522	48	243	1207	53	47	13	100	0	0	41
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1585	50	253	1257	55	49	14	104	0	0	43
RTOR Reduction (vph)	0	2	0	0	3	0	0	43	0	0	0	35
Lane Group Flow (vph)	29	1633	0	253	1309	0	0	124	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		1 8	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	23.2	79.0		27.2	87.0			9.8				23.2
Effective Green, g (s)	23.2	79.0		27.2	87.0			9.8				23.2
Actuated g/C Ratio	0.18	0.60		0.21	0.66			0.07				0.18
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	265	1798		311	1977			106				241
v/s Ratio Prot	0.02	c0.54		c0.17	c0.44							0.01
v/s Ratio Perm								0.09				
v/c Ratio	0.11	0.91		0.81	0.66			1.17				0.03
Uniform Delay, d1	45.7	23.3		50.0	13.6			61.1				45.1
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.2	8.3		14.9	1.8			141.5				0.1
Delay (s)	45.9	31.6		64.9	15.4			202.6				45.1
Level of Service	D	C		E	B			F				D
Approach Delay (s)		31.8			23.4			202.6			45.1	
Approach LOS		C			C			F			D	
Intersection Summary												
HCM Average Control Delay			36.4			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			88.0%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2967		1509	3009			1517	1350		1486	
Flt Permitted	0.25	1.00		0.05	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	396	2967		83	3009			1517	1350		1486	
Volume (vph)	18	1458	183	232	967	18	230	14	308	11	9	11
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	19	1503	189	239	997	19	237	14	318	11	9	11
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	229	0	10	0
Lane Group Flow (vph)	19	1687	0	239	1015	0	0	251	89	0	21	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	90.0	90.0		106.0	98.0			17.0	30.0		16.0	
Effective Green, g (s)	90.0	90.0		106.0	98.0			17.0	29.0		16.0	
Actuated g/C Ratio	0.60	0.60		0.70	0.65			0.11	0.19		0.11	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	236	1768		172	1953			171	259		157	
v/s Ratio Prot		0.57		c0.11	0.34			c0.17	0.03		c0.01	
v/s Ratio Perm	0.05			c0.87					0.04			
v/c Ratio	0.08	0.95		1.39	0.52			1.47	0.34		0.13	
Uniform Delay, d1	12.9	28.6		49.2	14.0			67.0	52.8		61.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	12.3		206.9	0.2			239.6	0.3		1.8	
Delay (s)	13.1	40.8		256.1	14.3			306.6	53.1		63.0	
Level of Service	B	D		F	B			F	D		E	
Approach Delay (s)		40.5			60.3			164.9			63.0	
Approach LOS		D			E			F			E	
Intersection Summary												
HCM Average Control Delay	67.5			HCM Level of Service			E					
HCM Volume to Capacity ratio	1.24											
Actuated Cycle Length (s)	151.0			Sum of lost time (s)			12.0					
Intersection Capacity Utilization	101.7%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1403			3017	1350		3017	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1403			2874	1350		3017	
Volume (vph)	0	0	13	880	4	111	3	474	1228	0	444	1
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	13	898	4	113	3	484	1253	0	453	1
RTOR Reduction (vph)	0	0	6	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	7	528	480	0	0	487	1253	0	454	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			35.2	35.2	35.2			17.1	61.3		17.1	
Effective Green, g (s)			35.2	35.2	35.2			18.1	61.3		18.1	
Actuated g/C Ratio			0.57	0.57	0.57			0.30	1.00		0.30	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			789	823	806			849	1350		891	
v/s Ratio Prot				0.37	0.34						0.15	
v/s Ratio Perm			0.01					0.17	c0.93			
v/c Ratio			0.01	0.64	0.60			0.57	0.93		0.51	
Uniform Delay, d1			5.6	8.8	8.4			18.3	0.0		17.9	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	3.3	1.2			0.9	12.4		0.5	
Delay (s)			5.6	12.1	9.6			19.3	12.4		18.4	
Level of Service			A	B	A			B	B		B	
Approach Delay (s)		5.6			10.9			14.4			18.4	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			13.8									
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			61.3									
Intersection Capacity Utilization			65.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1502		1509	2985		1509	3018	1350
Flt Permitted	0.28	1.00	1.00	0.45	1.00		0.13	1.00		0.11	1.00	1.00
Satd. Flow (perm)	441	1588	1350	713	1502		213	2985		170	3018	1350
Volume (vph)	434	427	133	44	174	99	132	1082	84	92	917	287
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	447	440	137	45	179	102	136	1115	87	95	945	296
RTOR Reduction (vph)	0	0	52	0	22	0	0	5	0	0	0	83
Lane Group Flow (vph)	447	440	85	45	259	0	136	1197	0	95	945	213
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	43.0	36.3	36.3	26.7	23.0		47.1	39.0		43.4	37.4	37.4
Effective Green, g (s)	43.5	36.8	36.8	25.7	23.0		46.6	39.5		42.4	37.4	37.4
Actuated g/C Ratio	0.44	0.37	0.37	0.26	0.23		0.47	0.40		0.42	0.37	0.37
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	368	584	497	205	345		191	1179		139	1129	505
v/s Ratio Prot	c0.20	0.28		0.01	0.17		c0.05	c0.40		0.03	0.31	
v/s Ratio Perm	c0.33		0.06	0.05			0.28			0.26		0.16
v/c Ratio	1.21	0.75	0.17	0.22	0.75		0.71	1.02		0.68	0.84	0.42
Uniform Delay, d1	24.1	27.6	21.3	28.5	35.8		19.0	30.2		21.9	28.5	23.3
Progression Factor	0.96	0.88	0.93	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	107.3	2.4	0.1	0.2	8.5		10.0	30.1		10.5	7.4	2.6
Delay (s)	130.3	26.8	19.9	28.7	44.4		29.0	60.4		32.5	36.0	25.8
Level of Service	F	C	B	C	D		C	E		C	D	C
Approach Delay (s)		71.1			42.2			57.2			33.5	
Approach LOS		E			D			E			C	
Intersection Summary												
HCM Average Control Delay			51.6			HCM Level of Service				D		
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			103.5%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2959		2927	3006		2927	2956			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2959		2927	3006		2927	2956			3018	1350
Volume (vph)	513	967	144	194	676	18	192	808	128	0	662	406
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	529	997	148	200	697	19	198	833	132	0	682	419
RTOR Reduction (vph)	0	12	0	0	2	0	0	5	0	0	0	248
Lane Group Flow (vph)	529	1133	0	200	714	0	198	960	0	0	682	171
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	71.0		4.0	54.5		26.5	73.0			41.5	41.5
Effective Green, g (s)	20.5	71.5		4.0	55.0		27.5	74.0			42.5	42.5
Actuated g/C Ratio	0.13	0.44		0.02	0.34		0.17	0.46			0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1310		72	1024		498	1354			794	355
v/s Ratio Prot	c0.18	c0.38		c0.07	0.24		0.07	c0.32			c0.23	
v/s Ratio Perm												0.13
v/c Ratio	1.42	0.87		2.78	0.70		0.40	0.71			0.86	0.48
Uniform Delay, d1	70.5	40.6		78.8	46.1		59.6	35.1			56.6	50.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	205.0	7.8		837.3	3.9		0.2	1.8			9.5	1.4
Delay (s)	275.5	48.5		916.1	50.0		59.8	37.0			66.1	51.6
Level of Service	F	D		F	D		E	D			E	D
Approach Delay (s)	120.2			239.1			40.8				60.6	
Approach LOS	F			F			D				E	
Intersection Summary												
HCM Average Control Delay			110.1		HCM Level of Service			F				
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			161.5		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			84.4%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2995		1509	3018	1350	1509	2906		1509	2974	
Flt Permitted	0.45	1.00		0.13	1.00	1.00	0.17	1.00		0.10	1.00	
Satd. Flow (perm)	710	2995		210	3018	1350	263	2906		159	2974	
Volume (vph)	105	882	46	235	537	71	82	1073	350	85	889	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	107	900	47	240	548	72	84	1095	357	87	907	97
RTOR Reduction (vph)	0	4	0	0	0	21	0	35	0	0	9	0
Lane Group Flow (vph)	107	943	0	240	548	51	84	1417	0	87	995	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.2	25.2		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.2	26.2		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	872		268	1408	630	117	1292		71	1322	
v/s Ratio Prot	c0.31		c0.12		0.18		0.49		0.33			
v/s Ratio Perm	0.15		0.30		0.04		0.32		c0.55			
v/c Ratio	0.52	1.08		0.90	0.39	0.08	0.72	1.10		1.23	0.75	
Uniform Delay, d1	26.6	31.9		21.8	15.6	13.3	20.4	25.0		25.0	20.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	54.8		29.2	0.8	0.2	31.4	55.8		179.4	4.0	
Delay (s)	35.6	86.7		51.1	16.5	13.5	51.8	80.8		204.4	24.9	
Level of Service	D	F		D	B	B	D	F		F	C	
Approach Delay (s)	81.5		25.9		79.3		39.2					
Approach LOS	F		C		E		D					
Intersection Summary												
HCM Average Control Delay			60.0		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			115.1%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.95		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1488		1433	1446	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1488		1433	1446	
Volume (vph)	0	1222	30	0	948	254	25	42	43	278	64	19
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1300	32	0	1009	270	27	45	46	296	68	20
RTOR Reduction (vph)	0	1	0	0	0	53	0	18	0	0	3	0
Lane Group Flow (vph)	0	1331	0	0	1009	218	0	100	0	189	192	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		90.0			90.0	22.0		8.0		22.0	22.0	
Effective Green, g (s)		90.0			90.0	22.0		8.0		22.0	22.0	
Actuated g/C Ratio		0.68			0.68	0.17		0.06		0.17	0.17	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2050			2058	225		90		239	241	
v/s Ratio Prot		c0.44			0.33	c0.16		c0.07		0.13	0.13	
v/s Ratio Perm												
v/c Ratio		0.65			0.49	0.97		1.11		0.79	0.80	
Uniform Delay, d1		12.0			10.0	54.6		62.0		52.8	52.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.6			0.8	50.3		128.6		17.0	17.3	
Delay (s)		13.6			10.9	104.9		190.6		69.8	70.1	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		13.6			30.7			190.6			70.0	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		34.3					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		65.8%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	1509	3014		1509	3002			1396			1515	1350
Flt Permitted	0.23	1.00		0.15	1.00			0.98			0.85	1.00
Satd. Flow (perm)	358	3014		240	3002			1378			1343	1350
Volume (vph)	78	1537	14	1	1057	37	2	2	27	32	1	51
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	80	1585	14	1	1090	38	2	2	28	33	1	53
RTOR Reduction (vph)	0	0	0	0	1	0	0	26	0	0	0	49
Lane Group Flow (vph)	80	1599	0	1	1127	0	0	6	0	0	34	4
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.3	110.3		103.5	103.5			8.7			8.7	8.7
Effective Green, g (s)	110.3	110.3		103.5	103.5			8.7			8.7	8.7
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	336	2618		196	2447			94			92	92
v/s Ratio Prot	0.01	c0.53			0.38							
v/s Ratio Perm	0.20			0.00				0.00			c0.03	0.00
v/c Ratio	0.24	0.61		0.01	0.46			0.06			0.37	0.04
Uniform Delay, d1	1.8	2.3		2.2	3.5			55.3			56.5	55.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.1	1.1		0.0	0.6			0.3			2.5	0.2
Delay (s)	2.0	3.4		2.2	4.1			55.6			59.0	55.4
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		3.3			4.1			55.6			56.8	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM Average Control Delay			5.8			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			85.8%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1640	45	0	1368	0	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1783	49	0	1487	0	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	396			876		
pX, platoon unblocked			0.52		0.66	0.52
vC, conflicting volume			1832		3294	916
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1676		3142	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	82
cM capacity (veh/h)			197		6	564
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1188	643	101			
Volume Left	0	0	0			
Volume Right	0	49	101			
cSH	1700	1700	564			
Volume to Capacity	0.70	0.38	0.18			
Queue Length 95th (ft)	0	0	16			
Control Delay (s)	0.0	0.0	12.8			
Lane LOS			B			
Approach Delay (s)	0.0		12.8			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

6/16/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	38	103	46	1265	950	91
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	39	105	47	1291	969	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	1019					
pX, platoon unblocked	0.71					
vC, conflicting volume	1755	531	1062			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1654	531	1062			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	34	79	93			
cM capacity (veh/h)	59	493	652			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	144	47	645	645	646	416
Volume Left	39	47	0	0	0	0
Volume Right	105	0	0	0	0	93
cSH	164	652	1700	1700	1700	1700
Volume to Capacity	0.88	0.07	0.38	0.38	0.38	0.24
Queue Length 95th (ft)	154	6	0	0	0	0
Control Delay (s)	96.0	11.0	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	96.0	0.4			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			5.6			
Intersection Capacity Utilization			57.6%		ICU Level of Service	B
Analysis Period (min)			15			

EXISTING PLUS PROJECT WITH MITIGATIONS CONDITIONS

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2990		1509	2989		1509	3018	1350	1509	2940	
Flt Permitted	0.07	1.00		0.26	1.00		0.30	1.00	1.00	0.31	1.00	
Satd. Flow (perm)	110	2990		418	2989		478	3018	1350	486	2940	
Volume (vph)	109	806	52	167	1633	112	88	468	124	78	393	81
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	110	814	53	169	1649	113	89	473	125	79	397	82
RTOR Reduction (vph)	0	4	0	0	5	0	0	0	96	0	18	0
Lane Group Flow (vph)	110	863	0	169	1757	0	89	473	29	79	461	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	63.7	58.0		66.8	59.3		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	63.7	58.0		66.3	59.3		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.64	0.58		0.66	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	150	1734		354	1772		110	694	311	112	676	
v/s Ratio Prot	c0.04	0.29		0.03	c0.59		0.16			0.16		
v/s Ratio Perm	0.43			0.28			c0.19			0.02	0.16	
v/c Ratio	0.73	0.50		0.48	0.99		0.81	0.68	0.09	0.71	0.68	
Uniform Delay, d1	18.2	12.4		7.4	20.1		36.4	35.2	30.3	35.4	35.2	
Progression Factor	1.32	0.76		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	1.0		0.4	19.5		45.4	5.4	0.6	31.2	5.5	
Delay (s)	38.1	10.5		7.8	39.6		81.8	40.5	30.9	66.5	40.7	
Level of Service	D	B		A	D		F	D	C	E	D	
Approach Delay (s)	13.6			36.8			44.1			44.3		
Approach LOS	B			D			D			D		
Intersection Summary												
HCM Average Control Delay			33.6		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			99.0%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Boulevard & Westbourne Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	1.00			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (prot)	1509	3005		1509	3012			1460				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (perm)	1509	3005		1509	3012			1460				1374
Volume (vph)	24	849	25	131	1743	22	67	6	51	0	0	56
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	24	858	25	132	1761	22	68	6	52	0	0	57
RTOR Reduction (vph)	0	2	0	0	1	0	0	27	0	0	0	50
Lane Group Flow (vph)	24	881	0	132	1782	0	0	99	0	0	0	7
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		1 8	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	11.9	41.0		31.5	64.6			11.5				11.9
Effective Green, g (s)	11.9	41.0		31.5	64.6			11.5				11.9
Actuated g/C Ratio	0.12	0.41		0.32	0.65			0.12				0.12
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	180	1232		475	1946			168				164
v/s Ratio Prot	0.02	0.29		c0.09	c0.59							0.00
v/s Ratio Perm								0.07				
v/c Ratio	0.13	0.72		0.28	0.92			0.59				0.04
Uniform Delay, d1	39.4	24.6		25.7	15.3			42.0				39.0
Progression Factor	1.00	1.00		1.38	0.59			1.00				1.00
Incremental Delay, d2	0.3	3.6		0.1	3.9			5.5				0.1
Delay (s)	39.8	28.2		35.7	12.9			47.5				39.1
Level of Service	D	C		D	B			D				D
Approach Delay (s)		28.5			14.5			47.5			39.1	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM Average Control Delay			20.6			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2967		1509	3012			1514	1350		1483	
Flt Permitted	0.13	1.00		0.11	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	205	2967		182	3012			1514	1350		1483	
Volume (vph)	6	916	117	211	1371	17	231	6	186	11	8	11
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	974	124	224	1459	18	246	6	198	12	9	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	134	0	10	0
Lane Group Flow (vph)	6	1090	0	224	1476	0	0	252	64	0	23	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			18.0	31.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			18.0	30.0		16.0	
Actuated g/C Ratio	0.33	0.33		0.51	0.42			0.19	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	68	989		263	1263			293	435		255	
v/s Ratio Prot		0.37		c0.11	c0.49			c0.17	0.02		c0.02	
v/s Ratio Perm	0.03			0.32					0.03			
v/c Ratio	0.09	1.10		0.85	1.17			0.86	0.15		0.09	
Uniform Delay, d1	21.3	31.0		23.0	27.0			36.3	22.4		32.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.6	60.8		21.7	84.9			22.4	0.1		0.7	
Delay (s)	21.9	91.8		44.6	111.9			58.7	22.5		33.1	
Level of Service	C	F		D	F			E	C		C	
Approach Delay (s)		91.4			103.0			42.7			33.1	
Approach LOS		F			F			D			C	
Intersection Summary												
HCM Average Control Delay	90.2			HCM Level of Service			F					
HCM Volume to Capacity ratio	0.87											
Actuated Cycle Length (s)	93.0			Sum of lost time (s)			16.0					
Intersection Capacity Utilization	102.1%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.98			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1421			3017	1350		3018	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1421			2880	1350		3018	
Volume (vph)	0	0	3	1465	0	79	1	316	589	0	342	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	3	1495	0	81	1	322	601	0	349	0
RTOR Reduction (vph)	0	0	2	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1	828	744	0	0	323	601	0	349	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.0	37.0	37.0			54.0	100.0		54.0	
Effective Green, g (s)			37.0	37.0	37.0			55.0	100.0		55.0	
Actuated g/C Ratio			0.37	0.37	0.37			0.55	1.00		0.55	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			508	530	526			1584	1350		1660	
v/s Ratio Prot				c0.58	0.52						0.12	
v/s Ratio Perm			0.00					0.11	c0.45			
v/c Ratio			0.00	1.56	1.41			0.20	0.45		0.21	
Uniform Delay, d1			19.9	31.5	31.5			11.4	0.0		11.4	
Progression Factor			1.00	1.00	1.00			1.50	1.00		1.00	
Incremental Delay, d2			0.0	262.1	197.2			0.2	0.9		0.3	
Delay (s)			19.9	293.6	228.7			17.3	0.9		11.7	
Level of Service			B	F	F			B	A		B	
Approach Delay (s)		19.9			262.8			6.6			11.7	
Approach LOS		B			F			A			B	
Intersection Summary												
HCM Average Control Delay			148.8									
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0									
Intersection Capacity Utilization			79.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1548		1509	2996		1509	3018	1350
Flt Permitted	0.24	1.00	1.00	0.44	1.00		0.09	1.00		0.37	1.00	1.00
Satd. Flow (perm)	375	1588	1350	694	1548		148	2996		586	3018	1350
Volume (vph)	212	243	160	153	295	60	123	602	31	34	1173	430
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	214	245	162	155	298	61	124	608	31	34	1185	434
RTOR Reduction (vph)	0	0	120	0	8	0	0	3	0	0	0	94
Lane Group Flow (vph)	214	245	42	155	351	0	124	636	0	34	1185	340
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6	5		2	7		4	3		8	
Permitted Phases	6	6		2	4				8		8	
Actuated Green, G (s)	34.2	25.7	25.7	33.9	25.8	54.2		47.4	48.1		44.3	44.3
Effective Green, g (s)	33.7	26.2	26.2	32.9	25.8	54.3		47.9	47.1		44.3	44.3
Actuated g/C Ratio	0.34	0.26	0.26	0.33	0.26	0.54		0.48	0.47		0.44	0.44
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0	3.0		4.5	3.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5	1.0		5.0	1.0		5.0	5.0
Lane Grp Cap (vph)	211	416	354	286	399	167		1435	302		1337	598
v/s Ratio Prot	c0.08	0.15	0.04		0.23	c0.05		0.21	0.00		c0.39	
v/s Ratio Perm	c0.27	0.03		0.14	0.35				0.05		0.25	
v/c Ratio	1.01	0.59	0.12	0.54	0.88	0.74		0.44	0.11		0.89	0.57
Uniform Delay, d1	31.3	32.2	28.1	25.8	35.6	17.7		17.2	14.4		25.5	20.7
Progression Factor	0.88	0.91	1.27	1.17	1.14	1.05		0.48	1.95		1.65	2.08
Incremental Delay, d2	64.4	2.0	0.1	1.0	17.9	9.9		0.7	0.0		0.9	0.4
Delay (s)	92.0	31.2	35.8	31.2	58.5	28.5		8.9	28.1		43.1	43.6
Level of Service	F	C	D	C	E	C		A	C		D	D
Approach Delay (s)	53.4		50.3		12.1		42.9					
Approach LOS	D		D		B		D					
Intersection Summary												
HCM Average Control Delay			39.2		HCM Level of Service			D				
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			16.0				
Intersection Capacity Utilization			95.6%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Boulevard & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2952		2927	3015		2927	2944			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2952		2927	3015		2927	2944			3018	1350
Volume (vph)	276	628	107	257	1079	6	176	514	100	0	865	489
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	288	654	111	268	1124	6	183	535	104	0	901	509
RTOR Reduction (vph)	0	13	0	0	1	0	0	16	0	0	0	132
Lane Group Flow (vph)	288	752	0	268	1129	0	183	623	0	0	901	377
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	8.0	29.9		12.1	34.0		6.0	44.5			33.5	33.5
Effective Green, g (s)	8.0	30.4		12.1	34.5		7.0	45.5			34.5	34.5
Actuated g/C Ratio	0.08	0.30		0.12	0.34		0.07	0.46			0.34	0.34
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	234	897		354	1040		205	1340			1041	466
v/s Ratio Prot	c0.10	0.25		c0.09	c0.37		c0.06	0.21			c0.30	
v/s Ratio Perm												0.28
v/c Ratio	1.23	0.84		0.76	1.09		0.89	0.46			0.87	0.81
Uniform Delay, d1	46.0	32.5		42.5	32.8		46.1	18.8			30.6	29.8
Progression Factor	1.00	1.00		1.19	1.09		1.00	1.00			1.56	2.02
Incremental Delay, d2	135.3	9.2		5.8	50.6		34.3	0.3			4.9	6.6
Delay (s)	181.3	41.7		56.6	86.3		80.4	19.2			52.5	66.7
Level of Service	F	D		E	F		F	B			D	E
Approach Delay (s)		79.9			80.6			32.8			57.6	
Approach LOS		E			F			C			E	
Intersection Summary												
HCM Average Control Delay			65.1			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			91.7%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2950		1509	3018	1350	1509	2932		1509	2973	
Flt Permitted	0.37	1.00		0.31	1.00	1.00	0.10	1.00		0.23	1.00	
Satd. Flow (perm)	592	2950		491	3018	1350	160	2932		359	2973	
Volume (vph)	74	399	70	419	712	74	66	672	157	51	1047	114
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	76	411	72	432	734	76	68	693	162	53	1079	118
RTOR Reduction (vph)	0	16	0	0	0	41	0	22	0	0	9	0
Lane Group Flow (vph)	76	467	0	432	734	35	68	833	0	53	1188	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4			6	2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	171	852		365	1408	630	71	1303		160	1321	
v/s Ratio Prot		0.16		c0.16	0.24			0.28			0.40	
v/s Ratio Perm	0.13			c0.39		0.03	c0.43			0.15		
v/c Ratio	0.44	0.55		1.18	0.52	0.06	0.96	0.64		0.33	0.90	
Uniform Delay, d1	26.1	27.0		20.8	16.9	13.1	24.2	19.4		16.3	23.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.2	2.5		107.1	1.4	0.2	95.5	2.4		5.5	9.9	
Delay (s)	34.3	29.6		127.9	18.3	13.3	119.6	21.8		21.8	33.1	
Level of Service	C	C		F	B	B	F	C		C	C	
Approach Delay (s)		30.2			56.1			29.0			32.6	
Approach LOS		C			E			C			C	
Intersection Summary												
HCM Average Control Delay			38.8			HCM Level of Service				D		
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			102.6%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Boulevard & Holloway Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑		↑	↑	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.93		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1458		1433	1432	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1458		1433	1432	
Volume (vph)	0	741	18	0	1309	260	13	20	40	210	37	21
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	764	19	0	1349	268	13	21	41	216	38	22
RTOR Reduction (vph)	0	1	0	0	0	53	0	39	0	0	7	0
Lane Group Flow (vph)	0	782	0	0	1349	215	0	36	0	137	132	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		62.7			62.7	19.4		5.9		19.4	19.4	
Effective Green, g (s)		62.7			62.7	19.4		5.9		19.4	19.4	
Actuated g/C Ratio		0.63			0.63	0.19		0.06		0.19	0.19	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1885			1892	262		86		278	278	
v/s Ratio Prot		0.26			c0.45	c0.16		c0.02		0.10	0.09	
v/s Ratio Perm												
v/c Ratio		0.41			0.71	0.82		0.42		0.49	0.47	
Uniform Delay, d1		9.4			12.6	38.6		45.4		35.9	35.8	
Progression Factor		0.32			1.00	1.00		1.00		0.73	0.71	
Incremental Delay, d2		0.4			2.3	18.7		3.3		1.7	1.6	
Delay (s)		3.4			14.9	57.3		48.7		27.8	26.8	
Level of Service		A			B	E		D		C	C	
Approach Delay (s)		3.4			21.9			48.7			27.3	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM Average Control Delay		17.9			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		64.5%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Boulevard & Kings Rd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1509	3016		1509	3006			1442			1521	1350
Flt Permitted	0.16	1.00		0.30	1.00			0.85			0.74	1.00
Satd. Flow (perm)	250	3016		471	3006			1262			1168	1350
Volume (vph)	57	924	4	10	1306	35	11	0	12	21	3	73
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	962	4	10	1360	36	11	0	12	22	3	76
RTOR Reduction (vph)	0	0	0	0	1	0	0	11	0	0	0	70
Lane Group Flow (vph)	59	966	0	10	1395	0	0	12	0	0	25	6
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	84.7	84.7		78.1	78.1			7.3			7.3	7.3
Effective Green, g (s)	84.7	84.7		78.1	78.1			7.3			7.3	7.3
Actuated g/C Ratio	0.85	0.85		0.78	0.78			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	244	2555		368	2348			92			85	99
v/s Ratio Prot	0.01	c0.32			c0.46							
v/s Ratio Perm	0.20			0.02				0.01			c0.02	0.00
v/c Ratio	0.24	0.38		0.03	0.59			0.13			0.29	0.06
Uniform Delay, d1	2.6	1.7		2.5	4.5			43.4			43.9	43.1
Progression Factor	1.00	1.00		0.81	0.45			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.4		0.1	0.9			0.6			1.9	0.2
Delay (s)	2.8	2.1		2.1	2.9			44.0			45.8	43.4
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		2.2			2.9			44.0			44.0	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			4.6			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			65.6%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
10: Santa Monica Boulevard & North West Knoll Drive

7/10/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	909	26	0	1856	0	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	988	28	0	2017	0	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)	575			697		
pX, platoon unblocked			0.78		0.72	0.78
vC, conflicting volume			1016		3020	508
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			743		3039	93
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			673		7	740
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	659	358	80			
Volume Left	0	0	0			
Volume Right	0	28	80			
cSH	1700	1700	740			
Volume to Capacity	0.39	0.21	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	10.5			
Lane LOS			B			
Approach Delay (s)	0.0		10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

7/10/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	69	153	807	1166	267
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	73	163	859	1240	284
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1029		
pX, platoon unblocked						
vC, conflicting volume	2137	762	1524			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2137	762	1524			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	79	62			
cM capacity (veh/h)	26	347	433			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	163	429	429	827	698
Volume Left	10	163	0	0	0	0
Volume Right	73	0	0	0	0	284
cSH	144	433	1700	1700	1700	1700
Volume to Capacity	0.58	0.38	0.25	0.25	0.49	0.41
Queue Length 95th (ft)	74	43	0	0	0	0
Control Delay (s)	59.4	18.2	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	59.4	2.9			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay		3.0				
Intersection Capacity Utilization		73.3%		ICU Level of Service		D
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2992		1509	2977		1509	3018	1350	1509	2916	
Flt Permitted	0.16	1.00		0.17	1.00		0.19	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	260	2992		276	2977		307	3018	1350	432	2916	
Volume (vph)	135	1139	69	214	1133	111	95	395	217	99	358	104
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	1186	72	223	1180	116	99	411	226	103	373	108
RTOR Reduction (vph)	0	3	0	0	6	0	0	0	143	0	21	0
Lane Group Flow (vph)	141	1255	0	223	1290	0	99	411	83	103	460	0
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		
Protected Phases	5	2		1	6		8		8		4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	96.2	90.5		96.3	90.3		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	96.2	90.5		95.8	90.3		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.73	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	245	2067		254	2052		54	530	237	76	512	
v/s Ratio Prot	0.03	0.42		c0.04	0.43		0.14			0.16		
v/s Ratio Perm	0.40			c0.61			c0.32		0.06	0.24		
v/c Ratio	0.58	0.61		0.88	0.63		1.83	0.78	0.35	1.36	0.90	
Uniform Delay, d1	8.0	10.8		10.9	11.2		54.0	51.5	47.4	54.0	52.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	1.3		26.4	1.5		437.8	10.6	4.0	224.3	21.3	
Delay (s)	10.0	12.1		37.3	12.6		491.8	62.2	51.4	278.3	74.2	
Level of Service	B	B		D	B		F	E	D	F	E	
Approach Delay (s)	11.9			16.3			116.7			110.2		
Approach LOS	B			B			F			F		
Intersection Summary												
HCM Average Control Delay			45.2		HCM Level of Service			D				
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			88.4%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (prot)	1509	3003		1509	2997			1451				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (perm)	1509	3003		1509	2997			1451				1374
Volume (vph)	39	1336	44	204	1368	64	55	6	56	0	0	54
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1392	46	212	1425	67	57	6	58	0	0	56
RTOR Reduction (vph)	0	3	0	0	4	0	0	22	0	0	0	48
Lane Group Flow (vph)	41	1435	0	212	1488	0	0	99	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		1 8	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	19.9	69.0		26.7	79.8			20.3				19.9
Effective Green, g (s)	19.9	69.0		26.7	79.8			20.3				19.9
Actuated g/C Ratio	0.15	0.52		0.20	0.60			0.15				0.15
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	227	1570		305	1812			223				207
v/s Ratio Prot	0.03	c0.48		c0.14	c0.50							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.18	0.91		0.70	0.82			0.44				0.04
Uniform Delay, d1	48.9	28.8		48.9	20.5			50.7				47.9
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.4	9.7		6.7	4.3			1.4				0.1
Delay (s)	49.3	38.5		55.6	24.8			52.1				48.0
Level of Service	D	D		E	C			D				D
Approach Delay (s)		38.8			28.7			52.1			48.0	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM Average Control Delay			34.3			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			76.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2964		1509	3008			1514	1350		1464	
Flt Permitted	0.23	1.00		0.09	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	362	2964		138	3008			1514	1350		1464	
Volume (vph)	8	1088	146	229	970	21	224	6	292	9	8	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1122	151	236	1000	22	231	6	301	9	8	16
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	226	0	14	0
Lane Group Flow (vph)	8	1266	0	236	1021	0	0	237	75	0	19	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	56.7	56.7		72.8	64.8			17.2	30.3		16.2	
Effective Green, g (s)	56.7	56.7		72.8	64.8			17.2	29.3		16.2	
Actuated g/C Ratio	0.48	0.48		0.62	0.55			0.15	0.25		0.14	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	174	1422		225	1649			220	335		201	
v/s Ratio Prot		0.43		c0.11	0.34			c0.16	0.02		c0.01	
v/s Ratio Perm	0.02			c0.54					0.03			
v/c Ratio	0.05	0.89		1.05	0.62			1.08	0.22		0.10	
Uniform Delay, d1	16.4	27.9		33.0	18.3			50.5	35.4		44.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	7.4		73.4	0.7			82.7	0.1		0.9	
Delay (s)	16.5	35.3		106.4	19.0			133.2	35.5		45.5	
Level of Service	B	D		F	B			F	D		D	
Approach Delay (s)		35.2			35.4			78.6			45.5	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM Average Control Delay			42.9			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			118.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			88.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1408			3017	1350		3015	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1408			2877	1350		3015	
Volume (vph)	0	0	12	943	1	99	2	482	738	0	459	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	12	962	1	101	2	492	753	0	468	3
RTOR Reduction (vph)	0	0	5	0	6	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	7	556	502	0	0	494	753	0	470	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			17.5	63.8		17.5	
Effective Green, g (s)			37.3	37.3	37.3			18.5	63.8		18.5	
Actuated g/C Ratio			0.58	0.58	0.58			0.29	1.00		0.29	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			803	838	823			834	1350		874	
v/s Ratio Prot				c0.39	0.36						0.16	
v/s Ratio Perm			0.01					0.17	c0.56			
v/c Ratio			0.01	0.66	0.61			0.59	0.56		0.54	
Uniform Delay, d1			5.5	9.0	8.6			19.4	0.0		19.1	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	3.6	1.3			1.1	1.7		0.6	
Delay (s)			5.5	12.6	9.9			20.6	1.7		19.7	
Level of Service			A	B	A			C	A		B	
Approach Delay (s)		5.5			11.3			9.1			19.7	
Approach LOS		A			B			A			B	
Intersection Summary												
HCM Average Control Delay			11.7			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			63.8			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			67.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1533		1509	2989		1509	3018	1350
Flt Permitted	0.28	1.00	1.00	0.59	1.00		0.18	1.00		0.21	1.00	1.00
Satd. Flow (perm)	452	1588	1350	937	1533		290	2989		337	3018	1350
Volume (vph)	303	268	162	57	181	55	103	820	56	53	874	283
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	312	276	167	59	187	57	106	845	58	55	901	292
RTOR Reduction (vph)	0	0	109	0	12	0	0	4	0	0	0	80
Lane Group Flow (vph)	312	276	58	59	232	0	106	899	0	55	901	212
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1		6		5		2		7		4	
Permitted Phases	6		6		2		4		8		8	
Actuated Green, G (s)	39.3	31.2	31.2	24.8	19.7		50.8	43.9		47.1	42.3	42.3
Effective Green, g (s)	39.8	31.7	31.7	23.8	19.7		50.3	44.4		46.1	42.3	42.3
Actuated g/C Ratio	0.40	0.32	0.32	0.24	0.20		0.50	0.44		0.46	0.42	0.42
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	350	503	428	246	302		218	1327		200	1277	571
v/s Ratio Prot	c0.14	0.17		0.01	0.15		c0.03	c0.30		0.01	0.30	
v/s Ratio Perm	c0.21		0.04	0.05			0.22			0.12		0.16
v/c Ratio	0.89	0.55	0.13	0.24	0.77		0.49	0.68		0.28	0.71	0.37
Uniform Delay, d1	24.0	28.2	24.4	30.2	38.0		15.5	22.1		16.2	23.7	19.8
Progression Factor	0.90	0.85	1.26	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.0	0.5	0.1	0.2	10.7		0.6	2.8		0.3	3.3	1.9
Delay (s)	33.6	24.5	30.8	30.4	48.7		16.1	24.9		16.4	27.0	21.6
Level of Service	C	C	C	C	D		B	C		B	C	C
Approach Delay (s)	29.7				45.1		24.0		25.3			
Approach LOS	C				D		C		C			
Intersection Summary												
HCM Average Control Delay			27.7		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			83.1%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2952		2927	3013		2927	2915			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2952		2927	3013		2927	2915			3018	1350
Volume (vph)	425	831	141	208	823	9	240	564	166	0	703	432
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	438	857	145	214	848	9	247	581	171	0	725	445
RTOR Reduction (vph)	0	14	0	0	1	0	0	11	0	0	0	216
Lane Group Flow (vph)	438	988	0	214	856	0	247	741	0	0	725	229
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	67.8		4.0	51.3		33.4	76.2			37.8	37.8
Effective Green, g (s)	20.5	68.3		4.0	51.8		34.4	77.2			38.8	38.8
Actuated g/C Ratio	0.13	0.42		0.02	0.32		0.21	0.48			0.24	0.24
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1248		72	966		623	1393			725	324
v/s Ratio Prot	c0.15	0.33		c0.07	c0.28		0.08	c0.25			c0.24	
v/s Ratio Perm												0.17
v/c Ratio	1.18	0.79		2.97	0.89		0.40	0.53			1.00	0.71
Uniform Delay, d1	70.5	40.4		78.8	52.1		54.6	29.5			61.4	56.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	104.4	5.2		923.7	11.8		0.2	0.5			33.4	7.4
Delay (s)	174.9	45.6		1002.4	63.9		54.8	30.0			94.8	63.5
Level of Service	F	D		F	E		D	C			F	E
Approach Delay (s)		84.9			251.4			36.1			82.9	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM Average Control Delay			112.1			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			161.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			85.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2958		1509	3018	1350	1509	2924		1509	2965	
Flt Permitted	0.44	1.00		0.21	1.00	1.00	0.16	1.00		0.12	1.00	
Satd. Flow (perm)	699	2958		327	3018	1350	255	2924		196	2965	
Volume (vph)	98	553	84	245	554	60	91	875	227	93	881	117
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	100	564	86	250	565	61	93	893	232	95	899	119
RTOR Reduction (vph)	0	13	0	0	0	33	0	26	0	0	12	0
Lane Group Flow (vph)	100	637	0	250	565	28	93	1099	0	95	1006	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.4	25.4	41.0		41.0	41.0	39.0	39.0	39.0		39.0	
Effective Green, g (s)	26.4	26.4	42.0		42.0	42.0	40.0	40.0	40.0		40.0	
Actuated g/C Ratio	0.29	0.29	0.47		0.47	0.47	0.44	0.44	0.44		0.44	
Clearance Time (s)	5.0	5.0	3.0		5.0	5.0	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	205	868	305		1408	630	113	1300	87		1318	
v/s Ratio Prot	0.22		c0.11		0.19	0.38		0.34				
v/s Ratio Perm	0.14	c0.28		0.02		0.36	c0.49					
v/c Ratio	0.49	0.73	0.82		0.40	0.05	0.82	0.85	1.09		0.76	
Uniform Delay, d1	26.2	28.6	17.4		15.7	13.1	21.9	22.3	25.0		21.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	8.1	5.5	15.7		0.9	0.1	46.7	6.9	123.6		4.2	
Delay (s)	34.3	34.1	33.0		16.6	13.2	68.6	29.2	148.6		25.3	
Level of Service	C	C	C		B	B	E	C	F		C	
Approach Delay (s)	34.1		21.1		32.2		35.8					
Approach LOS	C		C		C		D					
Intersection Summary												
HCM Average Control Delay			31.1		HCM Level of Service				C			
HCM Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				8.0			
Intersection Capacity Utilization			95.5%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3011			3018	1350		1472		1433	1444	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3011			3018	1350		1472		1433	1444	
Volume (vph)	0	1086	15	0	1036	213	22	23	36	245	41	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1155	16	0	1102	227	23	24	38	261	44	13
RTOR Reduction (vph)	0	1	0	0	0	41	0	22	0	0	3	0
Lane Group Flow (vph)	0	1170	0	0	1102	186	0	63	0	157	158	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		91.5			91.5	20.8		7.7		20.8	20.8	
Effective Green, g (s)		91.5			91.5	20.8		7.7		20.8	20.8	
Actuated g/C Ratio		0.69			0.69	0.16		0.06		0.16	0.16	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2087			2092	213		86		226	228	
v/s Ratio Prot		c0.39			0.37	c0.14		c0.04		0.11	0.11	
v/s Ratio Perm												
v/c Ratio		0.56			0.53	0.87		0.74		0.69	0.70	
Uniform Delay, d1		10.2			9.8	54.3		61.2		52.6	52.6	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.1			1.0	30.7		27.6		9.6	9.5	
Delay (s)		11.3			10.7	85.0		88.8		62.2	62.1	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		11.3			23.4			88.8			62.2	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		24.7					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		58.8%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1509	3013		1509	3000			1427			1519	1350
Flt Permitted	0.16	1.00		0.19	1.00			0.94			0.85	1.00
Satd. Flow (perm)	252	3013		303	3000			1354			1355	1350
Volume (vph)	63	1341	15	12	1324	55	6	3	18	32	3	72
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	1382	15	12	1365	57	6	3	19	33	3	74
RTOR Reduction (vph)	0	0	0	0	1	0	0	18	0	0	0	69
Lane Group Flow (vph)	65	1397	0	12	1421	0	0	10	0	0	36	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.2	110.2		103.5	103.5			8.8			8.8	8.8
Effective Green, g (s)	110.2	110.2		103.5	103.5			8.8			8.8	8.8
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	245	2614		247	2445			94			94	94
v/s Ratio Prot	0.01	c0.46			c0.47							
v/s Ratio Perm	0.22			0.04				0.01			c0.03	0.00
v/c Ratio	0.27	0.53		0.05	0.58			0.11			0.38	0.05
Uniform Delay, d1	2.6	2.1		2.3	4.1			55.4			56.5	55.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.8		0.4	1.0			0.5			2.6	0.2
Delay (s)	2.8	2.9		2.6	5.1			55.9			59.1	55.5
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		2.9			5.1			55.9			56.6	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM Average Control Delay			6.4			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			76.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1364	44	0	1518	0	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1483	48	0	1650	0	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	553			720		
pX, platoon unblocked			0.57		0.73	0.57
vC, conflicting volume			1530		3157	765
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1177		2729	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			336		12	618
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	988	542	67			
Volume Left	0	0	0			
Volume Right	0	48	67			
cSH	1700	1700	618			
Volume to Capacity	0.58	0.32	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	11.5			
Lane LOS			B			
Approach Delay (s)	0.0		11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	3003		1509	2980		1509	3018	1350	1509	2927	
Flt Permitted	0.19	1.00		0.12	1.00		0.21	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	300	3003		190	2980		335	3018	1350	276	2927	
Volume (vph)	94	1396	47	174	1056	96	96	563	234	89	357	89
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	98	1454	49	181	1100	100	100	586	244	93	372	93
RTOR Reduction (vph)	0	2	0	0	5	0	0	0	107	0	16	0
Lane Group Flow (vph)	98	1501	0	181	1195	0	100	586	137	93	449	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	95.8	90.5		96.7	90.7		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	95.8	90.5		96.2	90.7		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.73	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	268	2075		195	2063		59	530	237	48	514	
v/s Ratio Prot	0.01	0.50		c0.04	0.40		0.19			0.15		
v/s Ratio Perm	0.25			c0.64			0.30			0.10	c0.34	
v/c Ratio	0.37	0.72		0.93	0.58		1.69	1.11	0.58	1.94	0.87	
Uniform Delay, d1	6.7	12.5		14.0	10.3		54.0	54.0	49.5	54.0	52.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	2.2		43.5	1.2		374.8	71.3	9.9	488.8	18.2	
Delay (s)	7.0	14.7		57.5	11.5		428.8	125.3	59.4	542.8	70.8	
Level of Service	A	B		E	B		F	F	E	F	E	
Approach Delay (s)	14.3			17.6			140.6			149.4		
Approach LOS	B			B			F			F		
Intersection Summary												
HCM Average Control Delay			58.5		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			95.7%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.91				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (prot)	1509	3004		1509	2999			1432				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (perm)	1509	3004		1509	2999			1432				1374
Volume (vph)	28	1521	48	247	1214	53	41	13	97	0	0	41
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1584	50	257	1265	55	43	14	101	0	0	43
RTOR Reduction (vph)	0	2	0	0	3	0	0	46	0	0	0	35
Lane Group Flow (vph)	29	1632	0	257	1317	0	0	112	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	23.9	79.0		27.9	87.0			9.1				23.9
Effective Green, g (s)	23.9	79.0		27.9	87.0			9.1				23.9
Actuated g/C Ratio	0.18	0.60		0.21	0.66			0.07				0.18
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	273	1798		319	1977			99				249
v/s Ratio Prot	0.02	c0.54		c0.17	c0.44							0.01
v/s Ratio Perm								0.08				
v/c Ratio	0.11	0.91		0.81	0.67			1.14				0.03
Uniform Delay, d1	45.1	23.3		49.5	13.7			61.5				44.5
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.2	8.2		13.7	1.8			131.5				0.1
Delay (s)	45.3	31.5		63.2	15.5			192.9				44.6
Level of Service	D	C		E	B			F				D
Approach Delay (s)		31.8			23.3			192.9			44.6	
Approach LOS		C			C			F			D	
Intersection Summary												
HCM Average Control Delay			35.4			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			87.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2967		1509	3009			1517	1350		1486	
Flt Permitted	0.25	1.00		0.05	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	396	2967		83	3009			1517	1350		1486	
Volume (vph)	18	1458	183	232	967	18	230	14	308	11	9	11
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	19	1503	189	239	997	19	237	14	318	11	9	11
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	229	0	10	0
Lane Group Flow (vph)	19	1687	0	239	1015	0	0	251	89	0	21	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	90.0	90.0		106.0	98.0			17.0	30.0		16.0	
Effective Green, g (s)	90.0	90.0		106.0	98.0			17.0	29.0		16.0	
Actuated g/C Ratio	0.60	0.60		0.70	0.65			0.11	0.19		0.11	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	236	1768		172	1953			171	259		157	
v/s Ratio Prot		0.57		c0.11	0.34			c0.17	0.03		c0.01	
v/s Ratio Perm	0.05			c0.87					0.04			
v/c Ratio	0.08	0.95		1.39	0.52			1.47	0.34		0.13	
Uniform Delay, d1	12.9	28.6		49.2	14.0			67.0	52.8		61.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	12.3		206.9	0.2			239.6	0.3		1.8	
Delay (s)	13.1	40.8		256.1	14.3			306.6	53.1		63.0	
Level of Service	B	D		F	B			F	D		E	
Approach Delay (s)		40.5			60.3			164.9			63.0	
Approach LOS		D			E			F			E	
Intersection Summary												
HCM Average Control Delay		67.5				HCM Level of Service		E				
HCM Volume to Capacity ratio		1.24										
Actuated Cycle Length (s)		151.0				Sum of lost time (s)		12.0				
Intersection Capacity Utilization		101.7%				ICU Level of Service		G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↰	↰	↻			↻	↰		↻	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1403			3017	1350		3017	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1403			2874	1350		3017	
Volume (vph)	0	0	13	880	4	111	3	474	1228	0	444	1
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	13	898	4	113	3	484	1253	0	453	1
RTOR Reduction (vph)	0	0	6	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	7	529	479	0	0	487	1253	0	454	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			35.3	35.3	35.3			17.1	61.4		17.1	
Effective Green, g (s)			35.3	35.3	35.3			18.1	61.4		18.1	
Actuated g/C Ratio			0.57	0.57	0.57			0.29	1.00		0.29	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			790	824	807			847	1350		889	
v/s Ratio Prot				0.37	0.34						0.15	
v/s Ratio Perm			0.01					0.17	c0.93			
v/c Ratio			0.01	0.64	0.59			0.57	0.93		0.51	
Uniform Delay, d1			5.6	8.8	8.4			18.4	0.0		18.0	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	3.3	1.2			0.9	12.4		0.5	
Delay (s)			5.6	12.0	9.6			19.3	12.4		18.5	
Level of Service			A	B	A			B	B		B	
Approach Delay (s)		5.6			10.9			14.4			18.5	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			13.8									
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			61.4									
Intersection Capacity Utilization			65.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1502		1509	2985		1509	3018	1350
Flt Permitted	0.28	1.00	1.00	0.45	1.00		0.13	1.00		0.11	1.00	1.00
Satd. Flow (perm)	441	1588	1350	713	1502		213	2985		170	3018	1350
Volume (vph)	434	427	133	44	174	99	132	1082	84	92	917	287
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	447	440	137	45	179	102	136	1115	87	95	945	296
RTOR Reduction (vph)	0	0	52	0	22	0	0	5	0	0	0	83
Lane Group Flow (vph)	447	440	85	45	259	0	136	1197	0	95	945	213
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1		6		5		2		7		4	
Permitted Phases	6		6		2		4		8		8	
Actuated Green, G (s)	43.0	36.3	36.3	26.7	23.0		47.1	39.0		43.4	37.4	37.4
Effective Green, g (s)	43.5	36.8	36.8	25.7	23.0		46.6	39.5		42.4	37.4	37.4
Actuated g/C Ratio	0.44	0.37	0.37	0.26	0.23		0.47	0.40		0.42	0.37	0.37
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	368	584	497	205	345		191	1179		139	1129	505
v/s Ratio Prot	c0.20	0.28		0.01	0.17		c0.05	c0.40		0.03	0.31	
v/s Ratio Perm	c0.33		0.06	0.05			0.28			0.26		0.16
v/c Ratio	1.21	0.75	0.17	0.22	0.75		0.71	1.02		0.68	0.84	0.42
Uniform Delay, d1	24.1	27.6	21.3	28.5	35.8		19.0	30.2		21.9	28.5	23.3
Progression Factor	0.96	0.88	0.93	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	107.3	2.4	0.1	0.2	8.5		10.0	30.1		10.5	7.4	2.6
Delay (s)	130.3	26.8	19.9	28.7	44.4		29.0	60.4		32.5	36.0	25.8
Level of Service	F	C	B	C	D		C	E		C	D	C
Approach Delay (s)	71.1				42.2		57.2				33.5	
Approach LOS	E				D		E				C	
Intersection Summary												
HCM Average Control Delay			51.6		HCM Level of Service			D				
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			103.5%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2959		2927	3006		2927	2956			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2959		2927	3006		2927	2956			3018	1350
Volume (vph)	519	967	144	194	676	18	195	808	128	0	662	406
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	535	997	148	200	697	19	201	833	132	0	682	419
RTOR Reduction (vph)	0	12	0	0	2	0	0	5	0	0	0	249
Lane Group Flow (vph)	535	1133	0	200	714	0	201	960	0	0	682	170
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	71.0		4.0	54.5		26.9	73.0			41.1	41.1
Effective Green, g (s)	20.5	71.5		4.0	55.0		27.9	74.0			42.1	42.1
Actuated g/C Ratio	0.13	0.44		0.02	0.34		0.17	0.46			0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1310		72	1024		506	1354			787	352
v/s Ratio Prot	c0.18	c0.38		c0.07	0.24		0.07	c0.32			c0.23	
v/s Ratio Perm												0.13
v/c Ratio	1.44	0.87		2.78	0.70		0.40	0.71			0.87	0.48
Uniform Delay, d1	70.5	40.6		78.8	46.1		59.3	35.1			57.0	50.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	212.0	7.8		837.3	3.9		0.2	1.8			10.2	1.4
Delay (s)	282.5	48.5		916.1	50.0		59.5	37.0			67.2	51.9
Level of Service	F	D		F	D		E	D			E	D
Approach Delay (s)	123.0			239.1			40.8				61.4	
Approach LOS	F			F			D				E	
Intersection Summary												
HCM Average Control Delay			111.2		HCM Level of Service			F				
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			161.5		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			84.5%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2995		1509	3018	1350	1509	2907		1509	2974	
Flt Permitted	0.45	1.00		0.13	1.00	1.00	0.17	1.00		0.10	1.00	
Satd. Flow (perm)	710	2995		210	3018	1350	263	2907		159	2974	
Volume (vph)	105	882	46	235	537	71	78	1077	350	85	889	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	107	900	47	240	548	72	80	1099	357	87	907	97
RTOR Reduction (vph)	0	4	0	0	0	21	0	35	0	0	9	0
Lane Group Flow (vph)	107	943	0	240	548	51	80	1421	0	87	995	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.2	25.2	41.0		41.0	41.0	39.0	39.0	39.0		39.0	
Effective Green, g (s)	26.2	26.2	42.0		42.0	42.0	40.0	40.0	40.0		40.0	
Actuated g/C Ratio	0.29	0.29	0.47		0.47	0.47	0.44	0.44	0.44		0.44	
Clearance Time (s)	5.0	5.0	3.0		5.0	5.0	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	207	872	268		1408	630	117	1292	71		1322	
v/s Ratio Prot	c0.31		c0.12		0.18	0.49		0.33				
v/s Ratio Perm	0.15		0.30		0.04	0.30	c0.55					
v/c Ratio	0.52	1.08	0.90		0.39	0.08	0.68	1.10	1.23		0.75	
Uniform Delay, d1	26.6	31.9	21.8		15.6	13.3	20.0	25.0	25.0		20.9	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	8.9	54.8	29.2		0.8	0.3	27.8	57.0	179.4		4.0	
Delay (s)	35.6	86.7	51.1		16.5	13.6	47.8	82.0	204.4		24.9	
Level of Service	D	F	D		B	B	D	F	F		C	
Approach Delay (s)	81.5		25.9		80.2		39.2					
Approach LOS	F		C		F		D					
Intersection Summary												
HCM Average Control Delay			60.4		HCM Level of Service				E			
HCM Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			115.3%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.95		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1488		1433	1446	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1488		1433	1446	
Volume (vph)	0	1222	30	0	948	254	25	42	43	278	64	19
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1300	32	0	1009	270	27	45	46	296	68	20
RTOR Reduction (vph)	0	1	0	0	0	53	0	18	0	0	3	0
Lane Group Flow (vph)	0	1331	0	0	1009	218	0	100	0	189	192	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		90.0			90.0	22.0		8.0		22.0	22.0	
Effective Green, g (s)		90.0			90.0	22.0		8.0		22.0	22.0	
Actuated g/C Ratio		0.68			0.68	0.17		0.06		0.17	0.17	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2050			2058	225		90		239	241	
v/s Ratio Prot		c0.44			0.33	c0.16		c0.07		0.13	0.13	
v/s Ratio Perm												
v/c Ratio		0.65			0.49	0.97		1.11		0.79	0.80	
Uniform Delay, d1		12.0			10.0	54.6		62.0		52.8	52.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.6			0.8	50.3		128.6		17.0	17.3	
Delay (s)		13.6			10.9	104.9		190.6		69.8	70.1	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		13.6			30.7			190.6			70.0	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		34.3					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		65.8%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	1509	3014		1509	3002			1396			1515	1350
Flt Permitted	0.23	1.00		0.15	1.00			0.98			0.85	1.00
Satd. Flow (perm)	358	3014		240	3002			1378			1343	1350
Volume (vph)	78	1537	14	1	1057	37	2	2	27	32	1	51
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	80	1585	14	1	1090	38	2	2	28	33	1	53
RTOR Reduction (vph)	0	0	0	0	1	0	0	26	0	0	0	49
Lane Group Flow (vph)	80	1599	0	1	1127	0	0	6	0	0	34	4
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.3	110.3		103.5	103.5			8.7			8.7	8.7
Effective Green, g (s)	110.3	110.3		103.5	103.5			8.7			8.7	8.7
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	336	2618		196	2447			94			92	92
v/s Ratio Prot	0.01	c0.53			0.38							
v/s Ratio Perm	0.20			0.00				0.00			c0.03	0.00
v/c Ratio	0.24	0.61		0.01	0.46			0.06			0.37	0.04
Uniform Delay, d1	1.8	2.3		2.2	3.5			55.3			56.5	55.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.1	1.1		0.0	0.6			0.3			2.5	0.2
Delay (s)	2.0	3.4		2.2	4.1			55.6			59.0	55.4
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		3.3			4.1			55.6			56.8	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM Average Control Delay			5.8			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			85.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1646	39	0	1379	0	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1789	42	0	1499	0	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	553			720		
pX, platoon unblocked			0.52		0.65	0.52
vC, conflicting volume			1832		3309	916
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1677		3217	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	82
cM capacity (veh/h)			197		5	565
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1193	639	101			
Volume Left	0	0	0			
Volume Right	0	42	101			
cSH	1700	1700	565			
Volume to Capacity	0.70	0.38	0.18			
Queue Length 95th (ft)	0	0	16			
Control Delay (s)	0.0	0.0	12.8			
Lane LOS			B			
Approach Delay (s)	0.0		12.8			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

6/16/2014

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	W	W	W
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	38	103	47	1268	950	91
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	39	105	48	1294	969	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1019		
pX, platoon unblocked	0.71					
vC, conflicting volume	1759	531	1062			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1659	531	1062			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	33	79	93			
cM capacity (veh/h)	58	493	652			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	144	48	647	647	646	416
Volume Left	39	48	0	0	0	0
Volume Right	105	0	0	0	0	93
cSH	163	652	1700	1700	1700	1700
Volume to Capacity	0.88	0.07	0.38	0.38	0.38	0.24
Queue Length 95th (ft)	156	6	0	0	0	0
Control Delay (s)	98.0	11.0	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	98.0	0.4			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay		5.7				
Intersection Capacity Utilization		57.7%		ICU Level of Service		B
Analysis Period (min)		15				

CUMULATIVE BASE CONDITIONS

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2970		1509	2984		1509	3018	1350	1509	2925	
Flt Permitted	0.07	1.00		0.20	1.00		0.17	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	113	2970		319	2984		276	3018	1350	401	2925	
Volume (vph)	150	860	101	212	1745	139	106	506	137	97	496	128
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	905	106	223	1837	146	112	533	144	102	522	135
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	111	0	23	0
Lane Group Flow (vph)	158	1003	0	223	1977	0	112	533	33	102	634	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			4		
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	62.2	56.2		68.3	59.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	62.2	56.2		67.8	59.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.62	0.56		0.68	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	154	1669		321	1761		63	694	311	92	673	
v/s Ratio Prot	c0.06	0.34		c0.06	c0.66		0.18			0.22		
v/s Ratio Perm	0.58			0.41			c0.41			0.02	0.25	
v/c Ratio	1.03	0.60		0.69	1.12		1.78	0.77	0.11	1.11	0.94	
Uniform Delay, d1	28.8	14.5		9.0	20.5		38.5	36.0	30.4	38.5	37.8	
Progression Factor	1.10	0.77		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	78.5	1.6		5.2	63.4		406.3	8.0	0.7	126.2	23.0	
Delay (s)	110.3	12.7		14.2	83.9		444.8	44.0	31.1	164.7	60.9	
Level of Service	F	B		B	F		F	D	C	F	E	
Approach Delay (s)	25.9			76.9			98.5			74.8		
Approach LOS	C			E			F			E		
Intersection Summary												
HCM Average Control Delay			67.9		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.29									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			112.6%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Boulevard & Westbourne Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	1.00			0.95				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (prot)	1509	3005		1509	3012			1463				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (perm)	1509	3005		1509	3012			1463				1374
Volume (vph)	28	927	26	140	1929	26	66	6	47	0	0	58
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	976	27	147	2031	27	69	6	49	0	0	61
RTOR Reduction (vph)	0	2	0	0	1	0	0	25	0	0	0	53
Lane Group Flow (vph)	29	1001	0	147	2057	0	0	99	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	12.5	41.0		31.5	64.0			11.5				12.5
Effective Green, g (s)	12.5	41.0		31.5	64.0			11.5				12.5
Actuated g/C Ratio	0.12	0.41		0.32	0.64			0.12				0.12
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	189	1232		475	1928			168				172
v/s Ratio Prot	0.02	0.33		c0.10	c0.68							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.15	0.81		0.31	1.07			0.59				0.04
Uniform Delay, d1	39.0	26.1		26.0	18.0			42.0				38.5
Progression Factor	1.00	1.00		1.40	0.59			1.00				1.00
Incremental Delay, d2	0.4	5.9		0.1	33.2			5.5				0.1
Delay (s)	39.4	32.0		36.4	43.8			47.5				38.6
Level of Service	D	C		D	D			D				D
Approach Delay (s)		32.2			43.3			47.5			38.6	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM Average Control Delay			40.0			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			85.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2966		1509	3012			1515	1350		1483	
Flt Permitted	0.13	1.00		0.11	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	205	2966		182	3012			1515	1350		1483	
Volume (vph)	6	991	128	276	1481	18	250	8	249	11	9	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	1043	135	291	1559	19	263	8	262	12	9	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	177	0	10	0
Lane Group Flow (vph)	6	1170	0	291	1577	0	0	271	85	0	23	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			18.0	31.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			18.0	30.0		16.0	
Actuated g/C Ratio	0.33	0.33		0.51	0.42			0.19	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	68	989		263	1263			293	435		255	
v/s Ratio Prot		0.39		c0.14	c0.52			c0.18	0.03		c0.02	
v/s Ratio Perm	0.03			0.42					0.04			
v/c Ratio	0.09	1.18		1.11	1.25			0.92	0.19		0.09	
Uniform Delay, d1	21.3	31.0		26.7	27.0			36.8	22.8		32.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.6	92.8		87.1	118.8			33.7	0.1		0.7	
Delay (s)	21.9	123.8		113.7	145.8			70.5	22.8		33.1	
Level of Service	C	F		F	F			E	C		C	
Approach Delay (s)		123.3			140.8			47.1			33.1	
Approach LOS		F			F			D			C	
Intersection Summary												
HCM Average Control Delay		120.3			HCM Level of Service			F				
HCM Volume to Capacity ratio		0.91										
Actuated Cycle Length (s)		93.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		107.1%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.98			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1420			3017	1350		3018	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1420			2880	1350		3018	
Volume (vph)	0	0	3	1509	0	88	1	392	606	0	420	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	3	1588	0	93	1	413	638	0	442	0
RTOR Reduction (vph)	0	0	2	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1	883	793	0	0	414	638	0	442	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.0	37.0	37.0			54.0	100.0		54.0	
Effective Green, g (s)			37.0	37.0	37.0			55.0	100.0		55.0	
Actuated g/C Ratio			0.37	0.37	0.37			0.55	1.00		0.55	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			508	530	525			1584	1350		1660	
v/s Ratio Prot				c0.62	0.56						0.15	
v/s Ratio Perm			0.00					0.14	c0.47			
v/c Ratio			0.00	1.67	1.51			0.26	0.47		0.27	
Uniform Delay, d1			19.9	31.5	31.5			11.8	0.0		11.9	
Progression Factor			1.00	1.00	1.00			1.56	1.00		1.00	
Incremental Delay, d2			0.0	308.0	239.4			0.3	0.9		0.4	
Delay (s)			19.9	339.5	270.9			18.8	0.9		12.3	
Level of Service			B	F	F			B	A		B	
Approach Delay (s)		19.9			306.9			8.0			12.3	
Approach LOS		B			F			A			B	
Intersection Summary												
HCM Average Control Delay			166.7			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			84.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1551		1509	2997		1509	3018	1350
Flt Permitted	0.21	1.00	1.00	0.40	1.00		0.09	1.00		0.30	1.00	1.00
Satd. Flow (perm)	330	1588	1350	633	1551		141	2997		475	3018	1350
Volume (vph)	221	270	168	156	327	61	134	684	32	36	1277	443
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	233	284	177	164	344	64	141	720	34	38	1344	466
RTOR Reduction (vph)	0	0	117	0	7	0	0	3	0	0	0	93
Lane Group Flow (vph)	233	284	60	164	401	0	141	751	0	38	1344	373
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	36.7	28.2	28.2	36.6	28.4		51.6	44.7		45.1	41.2	41.2
Effective Green, g (s)	36.2	28.7	28.7	35.6	28.4		52.1	45.2		44.1	41.2	41.2
Actuated g/C Ratio	0.36	0.29	0.29	0.36	0.28		0.52	0.45		0.44	0.41	0.41
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	208	456	387	288	440		168	1355		239	1243	556
v/s Ratio Prot	c0.08	0.18		0.04	0.26		c0.06	0.25		0.00	c0.45	
v/s Ratio Perm	c0.32		0.04	0.16			0.38			0.07		0.28
v/c Ratio	1.12	0.62	0.16	0.57	0.91		0.84	0.55		0.16	1.08	0.67
Uniform Delay, d1	29.7	31.0	26.6	24.4	34.6		21.3	20.0		16.3	29.4	23.9
Progression Factor	0.90	0.91	1.06	1.20	1.16		0.97	0.51		1.88	1.57	1.91
Incremental Delay, d2	97.5	2.6	0.2	1.4	20.9		17.1	0.9		0.0	38.2	0.6
Delay (s)	124.2	30.9	28.3	30.6	61.1		37.9	11.1		30.6	84.3	46.3
Level of Service	F	C	C	C	E		D	B		C	F	D
Approach Delay (s)		61.5			52.4			15.3			73.6	
Approach LOS		E			D			B			E	
Intersection Summary												
HCM Average Control Delay			55.5			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			102.3%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Boulevard & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2939		2927	3015		2927	2940			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2939		2927	3015		2927	2940			3018	1350
Volume (vph)	286	677	142	285	1184	8	218	589	123	0	961	505
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	301	713	149	300	1246	8	229	620	129	0	1012	532
RTOR Reduction (vph)	0	17	0	0	1	0	0	17	0	0	0	127
Lane Group Flow (vph)	301	845	0	300	1253	0	229	732	0	0	1012	405
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	7.5	28.6		12.9	34.0		6.0	45.0			34.0	34.0
Effective Green, g (s)	7.5	29.1		12.9	34.5		7.0	46.0			35.0	35.0
Actuated g/C Ratio	0.08	0.29		0.13	0.34		0.07	0.46			0.35	0.35
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	220	855		378	1040		205	1352			1056	473
v/s Ratio Prot	c0.10	0.29		0.10	c0.42		c0.08	0.25			c0.34	
v/s Ratio Perm												0.30
v/c Ratio	1.37	0.99		0.79	1.21		1.12	0.54			0.96	0.86
Uniform Delay, d1	46.2	35.3		42.3	32.8		46.5	19.4			31.8	30.2
Progression Factor	1.00	1.00		1.17	1.17		1.00	1.00			1.62	2.09
Incremental Delay, d2	191.9	28.1		5.9	97.7		97.8	0.6			8.2	5.4
Delay (s)	238.2	63.4		55.4	136.1		144.3	20.0			59.9	68.5
Level of Service	F	E		E	F		F	B			E	E
Approach Delay (s)	108.6			120.5			49.1				62.8	
Approach LOS	F			F			D				E	
Intersection Summary												
HCM Average Control Delay			87.5		HCM Level of Service			F				
HCM Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			16.0				
Intersection Capacity Utilization			100.0%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2937		1509	3018	1350	1509	2934		1509	2965	
Flt Permitted	0.34	1.00		0.27	1.00	1.00	0.10	1.00		0.18	1.00	
Satd. Flow (perm)	547	2937		427	3018	1350	159	2934		283	2965	
Volume (vph)	98	423	92	444	773	108	78	752	171	73	1150	153
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	103	445	97	467	814	114	82	792	180	77	1211	161
RTOR Reduction (vph)	0	21	0	0	0	55	0	22	0	0	12	0
Lane Group Flow (vph)	103	521	0	467	814	59	82	950	0	77	1360	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4	4		6	2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	848		344	1408	630	71	1304		126	1318	
v/s Ratio Prot		0.18		c0.18	0.27			0.32			0.46	
v/s Ratio Perm	0.19			c0.45		0.04	c0.52			0.27		
v/c Ratio	0.65	0.61		1.36	0.58	0.09	1.15	0.73		0.61	1.03	
Uniform Delay, d1	28.0	27.7		20.2	17.5	13.4	25.0	20.5		19.1	25.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.0	3.3		178.8	1.7	0.3	154.8	3.6		20.1	33.4	
Delay (s)	47.1	31.0		199.0	19.3	13.7	179.8	24.1		39.2	58.4	
Level of Service	D	C		F	B	B	F	C		D	E	
Approach Delay (s)		33.6			79.0			36.3			57.4	
Approach LOS		C			E			D			E	
Intersection Summary												
HCM Average Control Delay			55.7				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.24									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			110.7%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Boulevard & Holloway Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.93		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1458		1433	1433	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1458		1433	1433	
Volume (vph)	0	809	19	0	1447	291	13	21	42	237	38	22
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	852	20	0	1523	306	14	22	44	249	40	23
RTOR Reduction (vph)	0	2	0	0	0	53	0	41	0	0	6	0
Lane Group Flow (vph)	0	870	0	0	1523	253	0	39	0	155	151	0
Turn Type						Over	Split				Split	
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		60.9			60.9	21.1		6.0		21.1	21.1	
Effective Green, g (s)		60.9			60.9	21.1		6.0		21.1	21.1	
Actuated g/C Ratio		0.61			0.61	0.21		0.06		0.21	0.21	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1831			1838	285		87		302	302	
v/s Ratio Prot		0.29			c0.50	c0.19		c0.03		0.11	0.11	
v/s Ratio Perm												
v/c Ratio		0.48			0.83	0.89		0.44		0.51	0.50	
Uniform Delay, d1		10.8			15.4	38.3		45.4		34.9	34.8	
Progression Factor		0.36			1.00	1.00		1.00		0.73	0.71	
Incremental Delay, d2		0.4			4.5	27.1		3.6		1.7	1.5	
Delay (s)		4.3			19.9	65.4		49.0		27.1	26.3	
Level of Service		A			B	E		D		C	C	
Approach Delay (s)		4.3			27.5			49.0			26.7	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM Average Control Delay		21.4					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		69.9%					ICU Level of Service		C			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Boulevard & Kings Rd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1509	3016		1509	3007			1442			1520	1350
Flt Permitted	0.12	1.00		0.27	1.00			0.85			0.73	1.00
Satd. Flow (perm)	194	3016		422	3007			1257			1161	1350
Volume (vph)	58	1019	4	10	1469	36	11	0	12	24	3	75
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	1073	4	11	1546	38	12	0	13	25	3	79
RTOR Reduction (vph)	0	0	0	0	1	0	0	12	0	0	0	73
Lane Group Flow (vph)	61	1077	0	11	1583	0	0	13	0	0	28	6
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	84.6	84.6		78.0	78.0			7.4			7.4	7.4
Effective Green, g (s)	84.6	84.6		78.0	78.0			7.4			7.4	7.4
Actuated g/C Ratio	0.85	0.85		0.78	0.78			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	198	2552		329	2345			93			86	100
v/s Ratio Prot	0.01	c0.36			c0.53							
v/s Ratio Perm	0.25			0.03			0.01				c0.02	0.00
v/c Ratio	0.31	0.42		0.03	0.68		0.14				0.33	0.06
Uniform Delay, d1	3.6	1.8		2.5	5.1		43.3				43.9	43.1
Progression Factor	1.00	1.00		0.78	0.35		1.00				1.00	1.00
Incremental Delay, d2	0.3	0.5		0.1	1.2		0.7				2.2	0.2
Delay (s)	3.9	2.4		2.1	3.0		44.0				46.1	43.3
Level of Service	A	A		A	A		D				D	D
Approach Delay (s)		2.4			3.0		44.0				44.0	
Approach LOS		A			A		D				D	
Intersection Summary												
HCM Average Control Delay			4.7			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Boulevard & North West Knoll Drive

4/22/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1001	22	0	2036	0	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1088	24	0	2213	0	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	525			747		
pX, platoon unblocked			0.73		0.75	0.73
vC, conflicting volume			1112		3313	556
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			779		3179	14
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			606		6	772
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	725	387	82			
Volume Left	0	0	0			
Volume Right	0	24	82			
cSH	1700	1700	772			
Volume to Capacity	0.43	0.23	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS			B			
Approach Delay (s)	0.0		10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

4/22/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	70	153	947	1327	272
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	74	161	997	1397	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1029		
pX, platoon unblocked						
vC, conflicting volume	2361	842	1683			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2361	842	1683			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	44	76	57			
cM capacity (veh/h)	17	308	376			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	161	498	498	931	752
Volume Left	9	161	0	0	0	0
Volume Right	74	0	0	0	0	286
cSH	104	376	1700	1700	1700	1700
Volume to Capacity	0.80	0.43	0.29	0.29	0.55	0.44
Queue Length 95th (ft)	111	52	0	0	0	0
Control Delay (s)	115.0	21.5	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	115.0	3.0			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			4.5			
Intersection Capacity Utilization		78.8%			ICU Level of Service	D
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2977		1509	2970		1509	3018	1350	1509	2896	
Flt Permitted	0.13	1.00		0.14	1.00		0.17	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	201	2977		220	2970		276	3018	1350	276	2896	
Volume (vph)	209	1236	121	246	1254	147	152	505	262	128	468	172
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	218	1288	126	256	1306	153	158	526	273	133	488	179
RTOR Reduction (vph)	0	6	0	0	7	0	0	0	127	0	29	0
Lane Group Flow (vph)	218	1408	0	256	1452	0	158	526	146	133	638	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			4		
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	96.5	90.5		96.0	90.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	96.5	90.5		95.5	90.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.74	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	208	2057		215	2040		48	530	237	48	508	
v/s Ratio Prot	0.05	0.47		c0.05	0.49		0.17			0.22		
v/s Ratio Perm	0.72			c0.82			c0.57			0.11	0.48	
v/c Ratio	1.05	0.68		1.19	0.71		3.29	0.99	0.62	2.77	1.26	
Uniform Delay, d1	16.2	11.9		15.0	12.6		54.0	53.9	49.9	54.0	54.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	75.6	1.9		122.4	2.1		1082.6	37.3	11.4	851.8	130.6	
Delay (s)	91.8	13.8		137.4	14.7		1136.6	91.2	61.4	905.8	184.6	
Level of Service	F	B		F	B		F	F	E	F	F	
Approach Delay (s)	24.2			33.0			255.3			304.5		
Approach LOS	C			C			F			F		
Intersection Summary												
HCM Average Control Delay			114.4		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.59									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			105.4%		ICU Level of Service				G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (prot)	1509	3004		1509	2999			1453				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (perm)	1509	3004		1509	2999			1453				1374
Volume (vph)	46	1496	45	203	1566	69	50	6	49	0	0	56
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	48	1558	47	211	1631	72	52	6	51	0	0	58
RTOR Reduction (vph)	0	2	0	0	3	0	0	22	0	0	0	49
Lane Group Flow (vph)	48	1603	0	211	1700	0	0	87	0	0	0	9
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	18.8	77.7		23.5	86.4			14.8				18.8
Effective Green, g (s)	18.8	77.7		23.5	86.4			14.8				18.8
Actuated g/C Ratio	0.14	0.59		0.18	0.65			0.11				0.14
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	215	1768		269	1963			163				196
v/s Ratio Prot	0.03	c0.53		c0.14	c0.57							0.01
v/s Ratio Perm								0.06				
v/c Ratio	0.22	0.91		0.78	0.87			0.53				0.05
Uniform Delay, d1	50.1	24.0		51.8	18.2			55.3				48.9
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.5	8.3		13.9	5.4			3.3				0.1
Delay (s)	50.7	32.2		65.7	23.6			58.7				49.0
Level of Service	D	C		E	C			E				D
Approach Delay (s)		32.7			28.3			58.7			49.0	
Approach LOS		C			C			E			D	
Intersection Summary												
HCM Average Control Delay			31.5			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			80.5%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2966		1509	3009			1515	1350		1475	
Flt Permitted	0.19	1.00		0.08	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	294	2966		120	3009			1515	1350		1475	
Volume (vph)	8	1229	158	339	1121	22	249	10	411	9	11	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1267	163	349	1156	23	257	10	424	9	11	16
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	234	0	14	0
Lane Group Flow (vph)	8	1424	0	349	1178	0	0	267	190	0	22	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7			4		4 5 7		8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	70.6	70.6		86.7	78.7			17.2	30.3		16.2	
Effective Green, g (s)	70.6	70.6		86.7	78.7			17.2	29.3		16.2	
Actuated g/C Ratio	0.53	0.53		0.66	0.60			0.13	0.22		0.12	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	157	1585		206	1793			197	299		181	
v/s Ratio Prot		0.48		c0.16	0.39			c0.18	0.06		c0.01	
v/s Ratio Perm	0.03			c0.95					0.08			
v/c Ratio	0.05	0.90		1.69	0.66			1.36	0.63		0.12	
Uniform Delay, d1	14.7	27.5		38.0	17.7			57.4	46.6		51.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	7.2		332.4	0.9			189.3	3.2		1.4	
Delay (s)	14.9	34.7		370.4	18.6			246.8	49.8		53.0	
Level of Service	B	C		F	B			F	D		D	
Approach Delay (s)		34.6			99.0			125.9			53.0	
Approach LOS		C			F			F			D	
Intersection Summary												
HCM Average Control Delay			78.5			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.41									
Actuated Cycle Length (s)			132.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			101.2%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1406			3017	1350		3015	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1406			2878	1350		3015	
Volume (vph)	0	0	12	976	1	109	2	622	757	0	585	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	12	996	1	111	2	635	772	0	597	3
RTOR Reduction (vph)	0	0	6	0	7	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	6	579	522	0	0	637	772	0	599	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			23.1	69.4		23.1	
Effective Green, g (s)			37.3	37.3	37.3			24.1	69.4		24.1	
Actuated g/C Ratio			0.54	0.54	0.54			0.35	1.00		0.35	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			738	770	756			999	1350		1047	
v/s Ratio Prot				c0.40	0.37						0.20	
v/s Ratio Perm			0.00					0.22	c0.57			
v/c Ratio			0.01	0.75	0.69			0.64	0.57		0.57	
Uniform Delay, d1			7.5	12.5	11.8			19.0	0.0		18.5	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	6.0	2.7			1.3	1.8		0.8	
Delay (s)			7.5	18.4	14.5			20.3	1.8		19.2	
Level of Service			A	B	B			C	A		B	
Approach Delay (s)		7.5			16.6			10.2			19.2	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			14.2			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			69.4			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			73.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1540		1509	2992		1509	3018	1350
Flt Permitted	0.25	1.00	1.00	0.57	1.00		0.11	1.00		0.14	1.00	1.00
Satd. Flow (perm)	402	1588	1350	901	1540		170	2992		218	3018	1350
Volume (vph)	314	308	171	58	222	56	114	965	57	57	1015	292
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	324	318	176	60	229	58	118	995	59	59	1046	301
RTOR Reduction (vph)	0	0	97	0	9	0	0	3	0	0	0	74
Lane Group Flow (vph)	324	318	79	60	278	0	118	1051	0	59	1046	227
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	41.8	33.7	33.7	27.2	22.1		48.8	41.2		44.1	39.1	39.1
Effective Green, g (s)	42.3	34.2	34.2	26.2	22.1		48.3	41.7		43.1	39.1	39.1
Actuated g/C Ratio	0.42	0.34	0.34	0.26	0.22		0.48	0.42		0.43	0.39	0.39
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	349	543	462	261	340		170	1248		146	1180	528
v/s Ratio Prot	c0.15	0.20		0.01	0.18		c0.05	c0.35		0.02	0.35	
v/s Ratio Perm	c0.24		0.06	0.05			0.29			0.16		0.17
v/c Ratio	0.93	0.59	0.17	0.23	0.82		0.69	0.84		0.40	0.89	0.43
Uniform Delay, d1	22.9	27.1	23.0	28.4	37.0		18.9	26.2		19.0	28.4	22.3
Progression Factor	0.95	0.86	1.09	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	16.6	0.7	0.1	0.2	13.7		9.5	7.0		0.7	10.0	2.5
Delay (s)	38.4	23.9	25.2	28.5	50.7		28.4	33.2		19.7	38.3	24.8
Level of Service	D	C	C	C	D		C	C		B	D	C
Approach Delay (s)		29.9			46.9			32.7			34.7	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM Average Control Delay			34.1			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			91.7%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2945		2927	3012		2927	2910			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2945		2927	3012		2927	2910			3018	1350
Volume (vph)	430	944	180	255	920	13	303	696	217	0	836	452
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	443	973	186	263	948	13	312	718	224	0	862	466
RTOR Reduction (vph)	0	15	0	0	1	0	0	14	0	0	0	209
Lane Group Flow (vph)	443	1144	0	263	960	0	312	928	0	0	862	257
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	74.7		4.0	58.2		35.3	69.3			29.0	29.0
Effective Green, g (s)	20.5	75.2		4.0	58.7		36.3	70.3			30.0	30.0
Actuated g/C Ratio	0.13	0.47		0.02	0.36		0.22	0.44			0.19	0.19
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1371		72	1095		658	1267			561	251
v/s Ratio Prot	c0.15	0.39		c0.09	c0.32		0.11	c0.32			c0.29	
v/s Ratio Perm												0.19
v/c Ratio	1.19	0.83		3.65	0.88		0.47	0.73			1.54	1.02
Uniform Delay, d1	70.5	37.7		78.8	48.0		54.3	37.8			65.8	65.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	109.6	6.1		1227.2	9.9		0.2	2.4			250.3	62.8
Delay (s)	180.1	43.8		1306.0	58.0		54.5	40.2			316.1	128.6
Level of Service	F	D		F	E		D	D			F	F
Approach Delay (s)		81.5			326.1			43.8			250.3	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM Average Control Delay			169.6			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			161.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			96.4%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2941		1509	3018	1350	1509	2927		1509	2937	
Flt Permitted	0.41	1.00		0.14	1.00	1.00	0.10	1.00		0.10	1.00	
Satd. Flow (perm)	656	2941		229	3018	1350	159	2927		159	2937	
Volume (vph)	170	615	125	268	616	101	126	1004	250	125	992	216
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	173	628	128	273	629	103	129	1024	255	128	1012	220
RTOR Reduction (vph)	0	19	0	0	0	27	0	24	0	0	21	0
Lane Group Flow (vph)	173	737	0	273	629	76	129	1255	0	128	1211	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4			6		2	
Permitted Phases	8			4			4	6			2	
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	850		278	1408	630	71	1301		71	1305	
v/s Ratio Prot		0.25		c0.13	0.21			0.43			0.41	
v/s Ratio Perm	0.26			c0.33		0.06	c0.81			0.81		
v/c Ratio	0.91	0.87		0.98	0.45	0.12	1.82	0.96		1.80	0.93	
Uniform Delay, d1	30.9	30.4		22.2	16.2	13.6	25.0	24.3		25.0	23.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	45.3	11.6		48.7	1.0	0.4	417.3	17.8		411.3	12.8	
Delay (s)	76.2	41.9		70.9	17.2	14.0	442.3	42.1		436.3	36.4	
Level of Service	E	D		E	B	B	F	D		F	D	
Approach Delay (s)		48.3			31.5			78.7			74.1	
Approach LOS		D			C			E			E	
Intersection Summary												
HCM Average Control Delay			61.3				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.38									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			105.6%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3012			3018	1350		1473		1433	1443	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3012			3018	1350		1473		1433	1443	
Volume (vph)	0	1229	15	0	1188	255	23	24	38	287	42	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1307	16	0	1264	271	24	26	40	305	45	13
RTOR Reduction (vph)	0	1	0	0	0	42	0	22	0	0	2	0
Lane Group Flow (vph)	0	1322	0	0	1264	229	0	68	0	179	182	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		90.0			90.0	22.2		7.8		22.2	22.2	
Effective Green, g (s)		90.0			90.0	22.2		7.8		22.2	22.2	
Actuated g/C Ratio		0.68			0.68	0.17		0.06		0.17	0.17	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2054			2058	227		87		241	243	
v/s Ratio Prot		c0.44			0.42	c0.17		c0.05		0.12	0.13	
v/s Ratio Perm												
v/c Ratio		0.64			0.61	1.01		0.79		0.74	0.75	
Uniform Delay, d1		11.9			11.5	54.9		61.3		52.2	52.3	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.6			1.4	61.5		36.0		12.4	13.0	
Delay (s)		13.5			12.9	116.4		97.3		64.6	65.2	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		13.5			31.2			97.3			64.9	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		29.6					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		64.8%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1509	3013		1509	3001			1426			1518	1350
Flt Permitted	0.12	1.00		0.15	1.00			0.94			0.85	1.00
Satd. Flow (perm)	194	3013		242	3001			1354			1351	1350
Volume (vph)	64	1527	15	12	1519	56	6	3	19	35	3	74
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	1574	15	12	1566	58	6	3	20	36	3	76
RTOR Reduction (vph)	0	0	0	0	1	0	0	19	0	0	0	71
Lane Group Flow (vph)	66	1589	0	12	1623	0	0	10	0	0	39	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.1	110.1		103.4	103.4			8.9			8.9	8.9
Effective Green, g (s)	110.1	110.1		103.4	103.4			8.9			8.9	8.9
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	196	2612		197	2443			95			95	95
v/s Ratio Prot	0.01	c0.53			c0.54							
v/s Ratio Perm	0.28			0.05				0.01			c0.03	0.00
v/c Ratio	0.34	0.61		0.06	0.66			0.11			0.41	0.06
Uniform Delay, d1	3.6	2.4		2.3	4.8			55.3			56.5	55.1
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.4	1.1		0.6	1.4			0.5			2.9	0.2
Delay (s)	4.0	3.4		2.9	6.2			55.8			59.4	55.4
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		3.5			6.2			55.8			56.7	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM Average Control Delay			7.0			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			77.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

4/22/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1518	33	0	1701	0	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1650	36	0	1849	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	472			800		
pX, platoon unblocked			0.53		0.71	0.53
vC, conflicting volume			1686		3517	843
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1407		3130	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			255		6	574
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1100	586	68			
Volume Left	0	0	0			
Volume Right	0	36	68			
cSH	1700	1700	574			
Volume to Capacity	0.65	0.34	0.12			
Queue Length 95th (ft)	0	0	10			
Control Delay (s)	0.0	0.0	12.1			
Lane LOS			B			
Approach Delay (s)	0.0		12.1			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2996		1509	2970		1509	3018	1350	1509	2899	
Flt Permitted	0.13	1.00		0.07	1.00		0.20	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	202	2996		107	2970		321	3018	1350	276	2899	
Volume (vph)	161	1500	76	186	1135	133	144	667	281	117	415	148
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	169	1579	80	196	1195	140	152	702	296	123	437	156
RTOR Reduction (vph)	0	4	0	0	9	0	0	0	99	0	36	0
Lane Group Flow (vph)	169	1655	0	196	1326	0	152	702	197	123	557	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8		4
Actuated Green, G (s)	65.4	59.5		65.1	59.1		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	65.4	59.5		64.6	59.1		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.65	0.60		0.65	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	209	1783		146	1755		74	694	311	63	667	
v/s Ratio Prot	0.05	0.55		c0.07	0.45		0.23			0.19		
v/s Ratio Perm	0.48			c0.79			c0.47			0.15	0.45	
v/c Ratio	0.81	0.93		1.34	0.76		2.05	1.01	0.63	1.95	0.83	
Uniform Delay, d1	12.0	18.3		25.1	15.1		38.5	38.5	34.7	38.5	36.7	
Progression Factor	1.85	0.70		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	1.1		192.7	3.1		517.7	37.1	9.5	480.8	11.8	
Delay (s)	24.4	13.9		217.9	18.2		556.2	75.6	44.2	519.3	48.5	
Level of Service	C	B		F	B		F	E	D	F	D	
Approach Delay (s)	14.9			43.8			131.0			129.3		
Approach LOS	B			D			F			F		
Intersection Summary												
HCM Average Control Delay			64.6		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.52									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			106.1%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.91				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (prot)	1509	3005		1509	3000			1431				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (perm)	1509	3005		1509	3000			1431				1374
Volume (vph)	39	1685	49	220	1347	56	35	13	90	0	0	42
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	1774	52	232	1418	59	37	14	95	0	0	44
RTOR Reduction (vph)	0	2	0	0	3	0	0	65	0	0	0	37
Lane Group Flow (vph)	41	1824	0	232	1474	0	0	81	0	0	0	7
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	16.6	58.0		20.6	66.0			5.4				16.6
Effective Green, g (s)	16.6	58.0		20.6	66.0			5.4				16.6
Actuated g/C Ratio	0.17	0.58		0.21	0.66			0.05				0.17
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	250	1743		311	1980			77				228
v/s Ratio Prot	0.03	c0.61		c0.15	c0.49							0.01
v/s Ratio Perm								0.06				
v/c Ratio	0.16	1.05		0.75	0.74			1.05				0.03
Uniform Delay, d1	35.8	21.0		37.2	11.4			47.3				35.0
Progression Factor	1.00	1.00		0.66	1.26			1.00				1.00
Incremental Delay, d2	0.3	34.8		5.1	1.4			116.5				0.1
Delay (s)	36.1	55.8		29.6	15.7			163.8				35.0
Level of Service	D	E		C	B			F				D
Approach Delay (s)		55.4			17.6			163.8			35.0	
Approach LOS		E			B			F			D	
Intersection Summary												
HCM Average Control Delay			42.2			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			90.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1509	2968		1509	3010			1518	1350		1499	
Flt Permitted	0.13	1.00		0.11	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	205	2968		182	3010			1518	1350		1499	
Volume (vph)	19	1604	196	318	1090	19	244	19	407	11	14	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	20	1688	206	335	1147	20	257	20	428	12	15	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	293	0	10	0
Lane Group Flow (vph)	20	1886	0	335	1166	0	0	277	135	0	29	0
Turn Type	Perm			pm+pt			Split			pm+ov		Split
Protected Phases	6			5 7		2	4		4	5 7		8 8
Permitted Phases	6			2						4		
Actuated Green, G (s)	31.0	31.0		47.0	39.0			17.0	30.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			17.0	29.0		16.0	
Actuated g/C Ratio	0.34	0.34		0.51	0.42			0.18	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	69	1000		266	1276			281	426		261	
v/s Ratio Prot		c0.64		c0.16	0.39			c0.18	0.04		c0.02	
v/s Ratio Perm	0.10			0.48					0.06			
v/c Ratio	0.29	1.89		1.26	0.91			0.99	0.32		0.11	
Uniform Delay, d1	22.4	30.5		42.2	24.9			37.4	24.0		32.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	2.3	402.5		143.5	10.1			49.4	0.2		0.9	
Delay (s)	24.7	433.0		185.7	35.1			86.8	24.1		32.9	
Level of Service	C	F		F	D			F	C		C	
Approach Delay (s)		428.7			68.7			48.8			32.9	
Approach LOS		F			E			D			C	
Intersection Summary												
HCM Average Control Delay	230.6			HCM Level of Service			F					
HCM Volume to Capacity ratio	1.22											
Actuated Cycle Length (s)	92.0			Sum of lost time (s)			16.0					
Intersection Capacity Utilization	113.7%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.96			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1402			3017	1350		3017	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1402			2875	1350		3017	
Volume (vph)	0	0	13	903	4	117	3	586	1265	0	550	1
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	14	951	4	123	3	617	1332	0	579	1
RTOR Reduction (vph)	0	0	6	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	8	561	509	0	0	620	1332	0	580	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			22.3	68.6		22.3	
Effective Green, g (s)			37.3	37.3	37.3			23.3	68.6		23.3	
Actuated g/C Ratio			0.54	0.54	0.54			0.34	1.00		0.34	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			747	779	762			976	1350		1025	
v/s Ratio Prot				0.39	0.36						0.19	
v/s Ratio Perm			0.01					0.22	c0.99			
v/c Ratio			0.01	0.72	0.67			0.64	0.99		0.57	
Uniform Delay, d1			7.2	11.7	11.2			19.1	0.0		18.5	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	5.2	2.2			1.4	21.5		0.7	
Delay (s)			7.2	16.9	13.4			20.4	21.5		19.2	
Level of Service			A	B	B			C	C		B	
Approach Delay (s)		7.2			15.3			21.2			19.2	
Approach LOS		A			B			C			B	
Intersection Summary												
HCM Average Control Delay			19.0			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			68.6			Sum of lost time (s)			0.0			
Intersection Capacity Utilization			69.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1513		1509	2988		1509	3018	1350
Flt Permitted	0.23	1.00	1.00	0.35	1.00		0.11	1.00		0.11	1.00	1.00
Satd. Flow (perm)	368	1588	1350	564	1513		172	2988		179	3018	1350
Volume (vph)	448	471	144	45	218	101	141	1214	85	99	1029	296
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	472	496	152	47	229	106	148	1278	89	104	1083	312
RTOR Reduction (vph)	0	0	50	0	17	0	0	5	0	0	0	79
Lane Group Flow (vph)	472	496	102	47	318	0	148	1362	0	104	1083	233
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	45.2	37.6	37.6	29.8	25.2		44.4	36.5		41.7	35.4	35.4
Effective Green, g (s)	45.7	38.1	38.1	28.8	25.2		43.9	37.0		40.7	35.4	35.4
Actuated g/C Ratio	0.46	0.38	0.38	0.29	0.25		0.44	0.37		0.41	0.35	0.35
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	356	605	514	196	381		168	1106		143	1068	478
v/s Ratio Prot	c0.22	0.31		0.01	0.21		c0.06	c0.46		0.04	0.36	
v/s Ratio Perm	c0.39		0.08	0.06			0.33			0.26		0.17
v/c Ratio	1.33	0.82	0.20	0.24	0.83		0.88	1.23		0.73	1.01	0.49
Uniform Delay, d1	22.0	27.9	20.7	26.4	35.4		22.3	31.5		25.1	32.3	25.2
Progression Factor	1.12	0.91	0.91	1.31	1.34		0.95	0.46		1.00	1.00	1.00
Incremental Delay, d2	155.0	3.9	0.1	0.1	8.6		15.8	106.9		14.4	31.1	3.5
Delay (s)	179.5	29.1	18.8	34.7	56.2		37.1	121.5		39.6	63.4	28.7
Level of Service	F	C	B	C	E		D	F		D	E	C
Approach Delay (s)		91.1			53.6			113.3			54.5	
Approach LOS		F			D			F			D	
Intersection Summary												
HCM Average Control Delay			83.2			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.26									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			112.1%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2953		2927	3003		2927	2951			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2953		2927	3003		2927	2951			3018	1350
Volume (vph)	517	1073	178	234	735	24	253	928	161	0	769	423
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	539	1118	185	244	766	25	264	967	168	0	801	441
RTOR Reduction (vph)	0	13	0	0	2	0	0	14	0	0	0	272
Lane Group Flow (vph)	539	1290	0	244	789	0	264	1121	0	0	801	169
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	19.7	44.5		4.0	28.8		4.0	38.0			29.0	29.0
Effective Green, g (s)	19.7	45.0		4.0	29.3		5.0	39.0			30.0	30.0
Actuated g/C Ratio	0.20	0.45		0.04	0.29		0.05	0.39			0.30	0.30
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	577	1329		117	880		146	1151			905	405
v/s Ratio Prot	c0.18	c0.44		c0.08	0.26		c0.09	c0.38			0.27	
v/s Ratio Perm												0.13
v/c Ratio	0.93	0.97		2.09	0.90		1.81	0.97			0.89	0.42
Uniform Delay, d1	39.5	26.9		48.0	33.9		47.5	30.0			33.4	28.0
Progression Factor	1.00	1.00		1.04	0.79		1.00	1.00			1.62	5.25
Incremental Delay, d2	22.1	18.6		510.6	11.2		389.5	20.4			5.4	0.4
Delay (s)	61.6	45.4		560.7	38.1		437.0	50.4			59.4	147.6
Level of Service	E	D		F	D		F	D			E	F
Approach Delay (s)		50.2			161.3			123.4			90.7	
Approach LOS		D			F			F			F	
Intersection Summary												
HCM Average Control Delay			98.7			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			96.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2986		1509	3018	1350	1509	2910		1509	2956	
Flt Permitted	0.42	1.00		0.13	1.00	1.00	0.10	1.00		0.10	1.00	
Satd. Flow (perm)	674	2986		212	3018	1350	159	2910		159	2956	
Volume (vph)	159	947	71	255	572	102	95	1199	372	121	988	155
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	997	75	268	602	107	100	1262	392	127	1040	163
RTOR Reduction (vph)	0	6	0	0	0	12	0	33	0	0	14	0
Lane Group Flow (vph)	167	1066	0	268	602	95	100	1621	0	127	1189	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4			6		2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	195	863		272	1408	630	71	1293		71	1314	
v/s Ratio Prot	c0.36			c0.13		0.20		0.56		0.40		
v/s Ratio Perm	0.25			0.33		0.07	0.63			c0.80		
v/c Ratio	0.86	1.23		0.99	0.43	0.15	1.41	1.25		1.79	0.90	
Uniform Delay, d1	30.2	32.0		24.6	16.0	13.8	25.0	25.0		25.0	23.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.5	115.7		50.1	1.0	0.5	248.5	120.7		405.3	10.5	
Delay (s)	65.8	147.7		74.7	16.9	14.3	273.5	145.7		430.3	33.7	
Level of Service	E	F		E	B	B	F	F		F	C	
Approach Delay (s)	136.6			32.5			153.0			71.6		
Approach LOS	F			C			F			E		
Intersection Summary												
HCM Average Control Delay			106.5		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.49									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			124.4%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1485		1433	1444	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1485		1433	1444	
Volume (vph)	0	1351	31	0	1054	300	26	43	47	323	65	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1422	33	0	1109	316	27	45	49	340	68	21
RTOR Reduction (vph)	0	2	0	0	0	76	0	25	0	0	4	0
Lane Group Flow (vph)	0	1453	0	0	1109	240	0	96	0	211	214	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		59.6			59.6	20.4		8.0		20.4	20.4	
Effective Green, g (s)		59.6			59.6	20.4		8.0		20.4	20.4	
Actuated g/C Ratio		0.60			0.60	0.20		0.08		0.20	0.20	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1792			1799	275		119		292	295	
v/s Ratio Prot		c0.48			0.37	c0.18		c0.06		0.15	0.15	
v/s Ratio Perm												
v/c Ratio		0.81			0.62	0.87		0.81		0.72	0.73	
Uniform Delay, d1		15.8			12.9	38.6		45.2		37.2	37.2	
Progression Factor		0.27			1.00	1.00		1.00		0.81	0.81	
Incremental Delay, d2		2.0			1.6	25.6		31.7		5.1	5.1	
Delay (s)		6.3			14.5	64.2		76.9		35.3	35.1	
Level of Service		A			B	E		E		D	D	
Approach Delay (s)		6.3			25.5			76.9			35.2	
Approach LOS		A			C			E			D	
Intersection Summary												
HCM Average Control Delay		20.4										
HCM Volume to Capacity ratio		0.83										
Actuated Cycle Length (s)		100.0								12.0		
Intersection Capacity Utilization		71.5%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

4/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	1509	3014		1509	3003			1396			1515	1350
Flt Permitted	0.17	1.00		0.11	1.00			0.98			0.88	1.00
Satd. Flow (perm)	274	3014		179	3003			1378			1401	1350
Volume (vph)	80	1714	14	1	1206	39	2	2	28	34	1	53
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	1804	15	1	1269	41	2	2	29	36	1	56
RTOR Reduction (vph)	0	0	0	0	1	0	0	27	0	0	0	51
Lane Group Flow (vph)	84	1819	0	1	1309	0	0	6	0	0	37	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	83.7	83.7		76.8	76.8			8.3			8.3	8.3
Effective Green, g (s)	83.7	83.7		76.8	76.8			8.3			8.3	8.3
Actuated g/C Ratio	0.84	0.84		0.77	0.77			0.08			0.08	0.08
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	265	2523		137	2306			114			116	112
v/s Ratio Prot	0.01	c0.60			0.44							
v/s Ratio Perm	0.26			0.01				0.00			c0.03	0.00
v/c Ratio	0.32	0.72		0.01	0.57			0.06			0.32	0.04
Uniform Delay, d1	2.8	3.3		2.7	4.8			42.2			43.2	42.2
Progression Factor	1.00	1.00		0.36	0.40			1.00			1.00	1.00
Incremental Delay, d2	0.3	1.8		0.1	0.9			0.2			1.6	0.2
Delay (s)	3.0	5.2		1.1	2.8			42.4			44.8	42.3
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		5.1			2.8			42.4			43.3	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay		5.6										
HCM Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		91.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

4/22/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1785	25	0	1490	0	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1940	27	0	1620	0	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	475			798		
pX, platoon unblocked			0.45		0.60	0.45
vC, conflicting volume			1967		3573	984
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1927		3606	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			135		2	486
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1293	674	103			
Volume Left	0	0	0			
Volume Right	0	27	103			
cSH	1700	1700	486			
Volume to Capacity	0.76	0.40	0.21			
Queue Length 95th (ft)	0	0	20			
Control Delay (s)	0.0	0.0	14.4			
Lane LOS			B			
Approach Delay (s)	0.0		14.4			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

4/22/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	39	105	42	1481	1142	93
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	111	44	1559	1202	98
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1019		
pX, platoon unblocked	0.64					
vC, conflicting volume	2119	650	1300			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2185	650	1300			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	73	92			
cM capacity (veh/h)	23	412	529			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	152	44	779	779	801	499
Volume Left	41	44	0	0	0	0
Volume Right	111	0	0	0	0	98
cSH	74	529	1700	1700	1700	1700
Volume to Capacity	2.05	0.08	0.46	0.46	0.47	0.29
Queue Length 95th (ft)	345	7	0	0	0	0
Control Delay (s)	607.1	12.4	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	607.1	0.3			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			30.3			
Intersection Capacity Utilization			64.8%		ICU Level of Service	C
Analysis Period (min)			15			

CUMULATIVE PLUS PROJECT CONDITIONS

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2971		1509	2984		1509	3018	1350	1509	2925	
Flt Permitted	0.07	1.00		0.20	1.00		0.17	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	113	2971		313	2984		276	3018	1350	401	2925	
Volume (vph)	150	871	101	212	1751	141	106	506	140	101	496	128
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	917	106	223	1843	148	112	533	147	106	522	135
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	113	0	23	0
Lane Group Flow (vph)	158	1015	0	223	1985	0	112	533	34	106	634	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	62.2	56.2		68.3	59.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	62.2	56.2		67.8	59.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.62	0.56		0.68	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	154	1670		317	1761		63	694	311	92	673	
v/s Ratio Prot	c0.06	0.34		c0.06	c0.67		0.18			0.22		
v/s Ratio Perm	0.58			0.41			c0.41			0.03	0.26	
v/c Ratio	1.03	0.61		0.70	1.13		1.78	0.77	0.11	1.15	0.94	
Uniform Delay, d1	29.0	14.6		9.2	20.5		38.5	36.0	30.4	38.5	37.8	
Progression Factor	1.09	0.77		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	78.5	1.6		5.7	65.3		406.3	8.0	0.7	140.6	23.0	
Delay (s)	110.2	12.8		14.8	85.8		444.8	44.0	31.1	179.1	60.9	
Level of Service	F	B		B	F		F	D	C	F	E	
Approach Delay (s)	25.9			78.6			98.3			77.3		
Approach LOS	C			E			F			E		
Intersection Summary												
HCM Average Control Delay			69.0		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.29									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			112.9%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Boulevard & Westbourne Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	1.00			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (prot)	1509	3006		1509	3012			1460				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (perm)	1509	3006		1509	3012			1460				1374
Volume (vph)	28	947	26	162	1933	26	70	6	53	0	0	58
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	997	27	171	2035	27	74	6	56	0	0	61
RTOR Reduction (vph)	0	2	0	0	1	0	0	26	0	0	0	53
Lane Group Flow (vph)	29	1022	0	171	2061	0	0	110	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		1 8	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	13.4	41.0		31.0	62.6			12.0				13.4
Effective Green, g (s)	13.4	41.0		31.0	62.6			12.0				13.4
Actuated g/C Ratio	0.13	0.41		0.31	0.63			0.12				0.13
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	202	1232		468	1886			175				184
v/s Ratio Prot	0.02	0.34		c0.11	c0.68							0.01
v/s Ratio Perm								0.08				
v/c Ratio	0.14	0.83		0.37	1.09			0.63				0.04
Uniform Delay, d1	38.2	26.4		26.8	18.7			41.9				37.7
Progression Factor	1.00	1.00		1.39	0.60			1.00				1.00
Incremental Delay, d2	0.3	6.6		0.0	42.8			6.8				0.1
Delay (s)	38.6	32.9		37.3	53.9			48.7				37.8
Level of Service	D	C		D	D			D				D
Approach Delay (s)		33.1			52.7			48.7			37.8	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM Average Control Delay			46.3			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			86.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2966		1509	3012			1515	1350		1483	
Flt Permitted	0.13	1.00		0.11	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	205	2966		182	3012			1515	1350		1483	
Volume (vph)	6	991	128	280	1481	18	251	8	252	11	9	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	1043	135	295	1559	19	264	8	265	12	9	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	180	0	10	0
Lane Group Flow (vph)	6	1170	0	295	1577	0	0	272	85	0	23	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			18.0	31.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			18.0	30.0		16.0	
Actuated g/C Ratio	0.33	0.33		0.51	0.42			0.19	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	68	989		263	1263			293	435		255	
v/s Ratio Prot		0.39		c0.14	c0.52			c0.18	0.03		c0.02	
v/s Ratio Perm	0.03			0.42					0.04			
v/c Ratio	0.09	1.18		1.12	1.25			0.93	0.20		0.09	
Uniform Delay, d1	21.3	31.0		26.7	27.0			36.9	22.8		32.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.6	92.8		92.2	118.8			34.3	0.1		0.7	
Delay (s)	21.9	123.8		118.9	145.8			71.1	22.9		33.1	
Level of Service	C	F		F	F			E	C		C	
Approach Delay (s)		123.3			141.5			47.3			33.1	
Approach LOS		F			F			D			C	
Intersection Summary												
HCM Average Control Delay		120.6			HCM Level of Service			F				
HCM Volume to Capacity ratio		0.91										
Actuated Cycle Length (s)		93.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		107.2%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.98			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1420			3017	1350		3018	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1420			2880	1350		3018	
Volume (vph)	0	0	3	1511	0	88	1	395	607	0	424	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	3	1591	0	93	1	416	639	0	446	0
RTOR Reduction (vph)	0	0	2	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1	885	794	0	0	417	639	0	446	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.0	37.0	37.0			54.0	100.0		54.0	
Effective Green, g (s)			37.0	37.0	37.0			55.0	100.0		55.0	
Actuated g/C Ratio			0.37	0.37	0.37			0.55	1.00		0.55	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			508	530	525			1584	1350		1660	
v/s Ratio Prot				c0.62	0.56							0.15
v/s Ratio Perm			0.00					0.14	c0.47			
v/c Ratio			0.00	1.67	1.51			0.26	0.47		0.27	
Uniform Delay, d1			19.9	31.5	31.5			11.8	0.0		11.9	
Progression Factor			1.00	1.00	1.00			1.56	1.00		1.00	
Incremental Delay, d2			0.0	309.7	240.2			0.3	0.9		0.4	
Delay (s)			19.9	341.2	271.7			18.8	0.9		12.3	
Level of Service			B	F	F			B	A		B	
Approach Delay (s)		19.9			308.2			8.0			12.3	
Approach LOS		B			F			A			B	
Intersection Summary												
HCM Average Control Delay			167.1			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			84.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1551		1509	2997		1509	3018	1350
Flt Permitted	0.21	1.00	1.00	0.40	1.00		0.09	1.00		0.30	1.00	1.00
Satd. Flow (perm)	330	1588	1350	633	1551		141	2997		471	3018	1350
Volume (vph)	221	270	168	156	327	61	134	689	32	36	1284	443
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	233	284	177	164	344	64	141	725	34	38	1352	466
RTOR Reduction (vph)	0	0	117	0	7	0	0	3	0	0	0	93
Lane Group Flow (vph)	233	284	60	164	401	0	141	756	0	38	1352	373
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	36.7	28.2	28.2	36.6	28.4		51.6	44.7		45.1	41.2	41.2
Effective Green, g (s)	36.2	28.7	28.7	35.6	28.4		52.1	45.2		44.1	41.2	41.2
Actuated g/C Ratio	0.36	0.29	0.29	0.36	0.28		0.52	0.45		0.44	0.41	0.41
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	208	456	387	288	440		168	1355		238	1243	556
v/s Ratio Prot	c0.08	0.18		0.04	0.26		c0.06	0.25		0.00	c0.45	
v/s Ratio Perm	c0.32		0.04	0.16			0.38			0.07		0.28
v/c Ratio	1.12	0.62	0.16	0.57	0.91		0.84	0.56		0.16	1.09	0.67
Uniform Delay, d1	29.7	31.0	26.6	24.4	34.6		21.4	20.1		16.3	29.4	23.9
Progression Factor	0.90	0.91	1.06	1.20	1.16		1.00	0.50		1.88	1.56	1.91
Incremental Delay, d2	97.5	2.6	0.2	1.4	20.9		16.3	0.9		0.0	41.0	0.6
Delay (s)	124.2	30.9	28.3	30.6	61.1		37.7	11.0		30.7	87.0	46.2
Level of Service	F	C	C	C	E		D	B		C	F	D
Approach Delay (s)		61.5			52.4			15.1			75.6	
Approach LOS		E			D			B			E	
Intersection Summary												
HCM Average Control Delay			56.3			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			102.6%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Boulevard & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2936		2927	3015		2927	2940			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2936		2927	3015		2927	2940			3018	1350
Volume (vph)	295	683	150	285	1193	8	224	589	123	0	961	512
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	311	719	158	300	1256	8	236	620	129	0	1012	539
RTOR Reduction (vph)	0	18	0	0	1	0	0	17	0	0	0	126
Lane Group Flow (vph)	311	859	0	300	1263	0	236	732	0	0	1012	413
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	7.5	28.6		12.9	34.0		6.0	45.0			34.0	34.0
Effective Green, g (s)	7.5	29.1		12.9	34.5		7.0	46.0			35.0	35.0
Actuated g/C Ratio	0.08	0.29		0.13	0.34		0.07	0.46			0.35	0.35
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	220	854		378	1040		205	1352			1056	473
v/s Ratio Prot	c0.11	0.29		0.10	c0.42		c0.08	0.25			c0.34	
v/s Ratio Perm												0.31
v/c Ratio	1.41	1.01		0.79	1.21		1.15	0.54			0.96	0.87
Uniform Delay, d1	46.2	35.5		42.3	32.8		46.5	19.4			31.8	30.4
Progression Factor	1.00	1.00		1.17	1.17		1.00	1.00			1.63	2.08
Incremental Delay, d2	210.8	32.1		5.9	101.8		109.6	0.6			8.0	6.0
Delay (s)	257.1	67.6		55.3	140.2		156.1	20.0			59.6	69.3
Level of Service	F	E		E	F		F	B			E	E
Approach Delay (s)		117.2			123.9			52.6			63.0	
Approach LOS		F			F			D			E	
Intersection Summary												
HCM Average Control Delay			91.2			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			100.8%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2937		1509	3018	1350	1509	2934		1509	2965	
Flt Permitted	0.34	1.00		0.27	1.00	1.00	0.10	1.00		0.18	1.00	
Satd. Flow (perm)	547	2937		427	3018	1350	159	2934		279	2965	
Volume (vph)	98	423	92	444	773	111	82	757	171	75	1156	153
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	103	445	97	467	814	117	86	797	180	79	1217	161
RTOR Reduction (vph)	0	21	0	0	0	54	0	22	0	0	12	0
Lane Group Flow (vph)	103	521	0	467	814	63	86	955	0	79	1366	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4	4		6	2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	848		344	1408	630	71	1304		124	1318	
v/s Ratio Prot	0.18			c0.18		0.27	0.33			0.46		
v/s Ratio Perm	0.19			c0.45		0.05	c0.54			0.28		
v/c Ratio	0.65	0.61		1.36	0.58	0.10	1.21	0.73		0.64	1.04	
Uniform Delay, d1	28.0	27.7		20.2	17.5	13.4	25.0	20.6		19.4	25.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.0	3.3		178.8	1.7	0.3	174.3	3.7		22.4	34.8	
Delay (s)	47.1	31.0		199.0	19.3	13.7	199.3	24.3		41.8	59.8	
Level of Service	D	C		F	B	B	F	C		D	E	
Approach Delay (s)	33.6			78.8			38.4			58.8		
Approach LOS	C			E			D			E		
Intersection Summary												
HCM Average Control Delay			56.6		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.27									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			110.9%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Boulevard & Holloway Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.93		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1458		1433	1433	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1458		1433	1433	
Volume (vph)	0	815	19	0	1456	291	13	21	42	237	38	22
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	858	20	0	1533	306	14	22	44	249	40	23
RTOR Reduction (vph)	0	2	0	0	0	53	0	41	0	0	6	0
Lane Group Flow (vph)	0	876	0	0	1533	253	0	39	0	155	151	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		60.9			60.9	21.1		6.0		21.1	21.1	
Effective Green, g (s)		60.9			60.9	21.1		6.0		21.1	21.1	
Actuated g/C Ratio		0.61			0.61	0.21		0.06		0.21	0.21	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1831			1838	285		87		302	302	
v/s Ratio Prot		0.29			c0.51	c0.19		c0.03		0.11	0.11	
v/s Ratio Perm												
v/c Ratio		0.48			0.83	0.89		0.44		0.51	0.50	
Uniform Delay, d1		10.8			15.5	38.3		45.4		34.9	34.8	
Progression Factor		0.36			1.00	1.00		1.00		0.73	0.71	
Incremental Delay, d2		0.4			4.6	27.1		3.6		1.7	1.5	
Delay (s)		4.2			20.2	65.4		49.0		27.1	26.3	
Level of Service		A			C	E		D		C	C	
Approach Delay (s)		4.2			27.7			49.0			26.7	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM Average Control Delay		21.5			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		70.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Boulevard & Kings Rd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1509	3016		1509	3007			1442			1520	1350
Flt Permitted	0.12	1.00		0.26	1.00			0.85			0.73	1.00
Satd. Flow (perm)	192	3016		419	3007			1257			1161	1350
Volume (vph)	58	1025	4	10	1478	36	11	0	12	24	3	75
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	1079	4	11	1556	38	12	0	13	25	3	79
RTOR Reduction (vph)	0	0	0	0	1	0	0	12	0	0	0	73
Lane Group Flow (vph)	61	1083	0	11	1593	0	0	13	0	0	28	6
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	84.6	84.6		78.0	78.0			7.4			7.4	7.4
Effective Green, g (s)	84.6	84.6		78.0	78.0			7.4			7.4	7.4
Actuated g/C Ratio	0.85	0.85		0.78	0.78			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	197	2552		327	2345			93			86	100
v/s Ratio Prot	0.01	c0.36			c0.53							
v/s Ratio Perm	0.25			0.03				0.01			c0.02	0.00
v/c Ratio	0.31	0.42		0.03	0.68			0.14			0.33	0.06
Uniform Delay, d1	3.7	1.8		2.5	5.1			43.3			43.9	43.1
Progression Factor	1.00	1.00		0.78	0.34			1.00			1.00	1.00
Incremental Delay, d2	0.3	0.5		0.1	1.2			0.7			2.2	0.2
Delay (s)	4.0	2.4		2.1	3.0			44.0			46.1	43.3
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		2.5			3.0			44.0			44.0	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			4.7			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			71.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
10: Santa Monica Boulevard & North West Knoll Drive

7/10/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1023	29	0	2062	0	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1112	32	0	2241	0	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)	525			747		
pX, platoon unblocked			0.72		0.75	0.72
vC, conflicting volume			1143		3369	572
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			806		3206	9
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			584		6	768
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	741	402	82			
Volume Left	0	0	0			
Volume Right	0	32	82			
cSH	1700	1700	768			
Volume to Capacity	0.44	0.24	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS			B			
Approach Delay (s)	0.0		10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

7/10/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	70	156	953	1335	272
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	74	164	1003	1405	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1029		
pX, platoon unblocked						
vC, conflicting volume	2378	846	1692			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2378	846	1692			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	41	76	56			
cM capacity (veh/h)	16	306	373			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	164	502	502	937	755
Volume Left	9	164	0	0	0	0
Volume Right	74	0	0	0	0	286
cSH	100	373	1700	1700	1700	1700
Volume to Capacity	0.83	0.44	0.30	0.30	0.55	0.44
Queue Length 95th (ft)	115	54	0	0	0	0
Control Delay (s)	124.5	22.0	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	124.5	3.1			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			79.2%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2978		1509	2969		1509	3018	1350	1509	2896	
Flt Permitted	0.12	1.00		0.13	1.00		0.17	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	194	2978		214	2969		276	3018	1350	276	2896	
Volume (vph)	209	1255	121	247	1270	152	152	505	268	135	468	172
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	218	1307	126	257	1323	158	158	526	279	141	488	179
RTOR Reduction (vph)	0	6	0	0	7	0	0	0	124	0	29	0
Lane Group Flow (vph)	218	1427	0	257	1474	0	158	526	155	141	638	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			4		
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	96.5	90.5		96.0	90.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	96.5	90.5		95.5	90.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.74	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	203	2057		210	2040		48	530	237	48	508	
v/s Ratio Prot	0.05	0.48		c0.05	0.50		0.17			0.22		
v/s Ratio Perm	0.74			c0.84			c0.57		0.11	0.51		
v/c Ratio	1.07	0.69		1.22	0.72		3.29	0.99	0.65	2.94	1.26	
Uniform Delay, d1	16.9	12.0		14.7	12.7		54.0	53.9	50.3	54.0	54.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	84.2	2.0		135.5	2.3		1082.6	37.3	13.1	925.4	130.6	
Delay (s)	101.1	14.0		150.2	15.0		1136.6	91.2	63.4	979.4	184.6	
Level of Service	F	B		F	B		F	F	E	F	F	
Approach Delay (s)	25.5			35.0			254.7			323.3		
Approach LOS	C			C			F			F		
Intersection Summary												
HCM Average Control Delay			118.1		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.61									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			106.1%		ICU Level of Service				G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (prot)	1509	3005		1509	2999			1452				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (perm)	1509	3005		1509	2999			1452				1374
Volume (vph)	46	1530	45	241	1577	69	61	6	60	0	0	56
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	48	1594	47	251	1643	72	64	6	62	0	0	58
RTOR Reduction (vph)	0	2	0	0	3	0	0	23	0	0	0	46
Lane Group Flow (vph)	48	1639	0	251	1712	0	0	109	0	0	0	13
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	22.8	79.2		26.8	87.2			10.0				22.8
Effective Green, g (s)	22.8	79.2		26.8	87.2			10.0				22.8
Actuated g/C Ratio	0.17	0.60		0.20	0.66			0.08				0.17
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	261	1803		306	1981			110				237
v/s Ratio Prot	0.03	c0.55		c0.17	c0.57							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.18	0.91		0.82	0.86			0.99				0.05
Uniform Delay, d1	46.7	23.2		50.3	17.7			60.9				45.6
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.3	8.3		16.0	5.3			81.8				0.1
Delay (s)	47.0	31.5		66.3	23.0			142.7				45.7
Level of Service	D	C		E	C			F				D
Approach Delay (s)		32.0			28.6			142.7			45.7	
Approach LOS		C			C			F			D	
Intersection Summary												
HCM Average Control Delay			34.2			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			85.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2966		1509	3009			1515	1350		1475	
Flt Permitted	0.19	1.00		0.08	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	294	2966		120	3009			1515	1350		1475	
Volume (vph)	8	1229	158	346	1121	22	251	10	418	9	11	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1267	163	357	1156	23	259	10	431	9	11	16
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	234	0	14	0
Lane Group Flow (vph)	8	1424	0	357	1178	0	0	269	197	0	22	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	70.6	70.6		86.7	78.7			17.2	30.3		16.2	
Effective Green, g (s)	70.6	70.6		86.7	78.7			17.2	29.3		16.2	
Actuated g/C Ratio	0.53	0.53		0.66	0.60			0.13	0.22		0.12	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	157	1585		206	1793			197	299		181	
v/s Ratio Prot		0.48		c0.16	0.39			c0.18	0.06		c0.01	
v/s Ratio Perm	0.03			c0.97					0.09			
v/c Ratio	0.05	0.90		1.73	0.66			1.37	0.66		0.12	
Uniform Delay, d1	14.7	27.5		38.0	17.7			57.4	46.8		51.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	7.2		349.4	0.9			193.5	4.0		1.4	
Delay (s)	14.9	34.7		387.3	18.6			250.9	50.8		53.0	
Level of Service	B	C		F	B			F	D		D	
Approach Delay (s)		34.6			104.3			127.7			53.0	
Approach LOS		C			F			F			D	
Intersection Summary												
HCM Average Control Delay		81.2			HCM Level of Service			F				
HCM Volume to Capacity ratio		1.44										
Actuated Cycle Length (s)		132.1			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		101.8%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1406			3017	1350		3015	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1406			2878	1350		3015	
Volume (vph)	0	0	12	980	1	109	2	630	761	0	592	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	12	1000	1	111	2	643	777	0	604	3
RTOR Reduction (vph)	0	0	6	0	7	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	6	581	524	0	0	645	777	0	606	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.4	37.4	37.4			23.3	69.7		23.3	
Effective Green, g (s)			37.4	37.4	37.4			24.3	69.7		24.3	
Actuated g/C Ratio			0.54	0.54	0.54			0.35	1.00		0.35	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			737	769	754			1003	1350		1051	
v/s Ratio Prot				c0.41	0.37						0.20	
v/s Ratio Perm			0.00					0.22	c0.58			
v/c Ratio			0.01	0.76	0.70			0.64	0.58		0.58	
Uniform Delay, d1			7.5	12.6	11.9			19.1	0.0		18.5	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	6.1	2.8			1.4	1.8		0.8	
Delay (s)			7.5	18.7	14.7			20.5	1.8		19.3	
Level of Service			A	B	B			C	A		B	
Approach Delay (s)		7.5			16.8			10.3			19.3	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			14.3									
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			69.7									
Intersection Capacity Utilization			73.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1540		1509	2993		1509	3018	1350
Flt Permitted	0.25	1.00	1.00	0.57	1.00		0.10	1.00		0.13	1.00	1.00
Satd. Flow (perm)	402	1588	1350	901	1540		162	2993		210	3018	1350
Volume (vph)	314	308	171	58	222	56	114	977	57	57	1027	292
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	324	318	176	60	229	58	118	1007	59	59	1059	301
RTOR Reduction (vph)	0	0	97	0	9	0	0	3	0	0	0	74
Lane Group Flow (vph)	324	318	79	60	278	0	118	1063	0	59	1059	227
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6	5		2	7		4	3		8	
Permitted Phases	6	6		2	4				8		8	
Actuated Green, G (s)	41.8	33.7	33.7	27.2	22.1	48.8		41.2	44.1		39.1	39.1
Effective Green, g (s)	42.3	34.2	34.2	26.2	22.1	48.3		41.7	43.1		39.1	39.1
Actuated g/C Ratio	0.42	0.34	0.34	0.26	0.22	0.48		0.42	0.43		0.39	0.39
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0	3.0		4.5	3.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5	1.0		5.0	1.0		5.0	5.0
Lane Grp Cap (vph)	349	543	462	261	340	167		1248	142		1180	528
v/s Ratio Prot	c0.15	0.20	0.01		0.18	c0.05		c0.36	0.02		0.35	
v/s Ratio Perm	c0.24	0.06		0.05	0.29				0.16		0.17	
v/c Ratio	0.93	0.59	0.17	0.23	0.82	0.71		0.85	0.42		0.90	0.43
Uniform Delay, d1	22.9	27.1	23.0	28.4	37.0	19.1		26.3	19.1		28.6	22.3
Progression Factor	0.95	0.86	1.09	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.7	0.1	0.2	13.7	10.6		7.4	0.7		10.8	2.6
Delay (s)	38.4	23.9	25.2	28.5	50.7	29.7		33.8	19.8		39.4	24.8
Level of Service	D	C	C	C	D	C		C	B		D	C
Approach Delay (s)	29.9				46.9		33.4				35.5	
Approach LOS	C				D		C				D	
Intersection Summary												
HCM Average Control Delay			34.7		HCM Level of Service				C			
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			92.1%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2940		2927	3012		2927	2910			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2940		2927	3012		2927	2910			3018	1350
Volume (vph)	453	958	200	255	936	13	313	696	217	0	836	464
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	467	988	206	263	965	13	323	718	224	0	862	478
RTOR Reduction (vph)	0	17	0	0	1	0	0	14	0	0	0	206
Lane Group Flow (vph)	467	1177	0	263	977	0	323	928	0	0	862	272
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	75.8		4.0	59.3		34.2	68.2			29.0	29.0
Effective Green, g (s)	20.5	76.3		4.0	59.8		35.2	69.2			30.0	30.0
Actuated g/C Ratio	0.13	0.47		0.02	0.37		0.22	0.43			0.19	0.19
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1389		72	1115		638	1247			561	251
v/s Ratio Prot	c0.16	c0.40		c0.09	0.32		0.11	c0.32			c0.29	
v/s Ratio Perm												0.20
v/c Ratio	1.26	0.85		3.65	0.88		0.51	0.74			1.54	1.08
Uniform Delay, d1	70.5	37.5		78.8	47.4		55.5	38.7			65.8	65.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	135.1	6.6		1227.2	9.8		0.2	2.6			250.3	80.9
Delay (s)	205.6	44.1		1306.0	57.2		55.7	41.3			316.1	146.6
Level of Service	F	D		F	E		E	D			F	F
Approach Delay (s)		89.5			321.8			45.0			255.6	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM Average Control Delay			172.1			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			161.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			98.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2941		1509	3018	1350	1509	2928		1509	2938	
Flt Permitted	0.41	1.00		0.14	1.00	1.00	0.10	1.00		0.10	1.00	
Satd. Flow (perm)	656	2941		229	3018	1350	159	2928		159	2938	
Volume (vph)	170	615	125	268	616	107	133	1013	250	130	1008	216
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	173	628	128	273	629	109	136	1034	255	133	1029	220
RTOR Reduction (vph)	0	19	0	0	0	26	0	24	0	0	20	0
Lane Group Flow (vph)	173	737	0	273	629	83	136	1265	0	133	1229	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.0	25.0	41.0		41.0	41.0	39.0	39.0	39.0		39.0	
Effective Green, g (s)	26.0	26.0	42.0		42.0	42.0	40.0	40.0	40.0		40.0	
Actuated g/C Ratio	0.29	0.29	0.47		0.47	0.47	0.44	0.44	0.44		0.44	
Clearance Time (s)	5.0	5.0	3.0		5.0	5.0	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	850	278		1408	630	71	1301	71		1306	
v/s Ratio Prot	0.25		c0.13		0.21	0.43		0.42				
v/s Ratio Perm	0.26		c0.33		0.06	c0.86		0.84				
v/c Ratio	0.91	0.87	0.98		0.45	0.13	1.92	0.97	1.87		0.94	
Uniform Delay, d1	30.9	30.4	22.2		16.2	13.6	25.0	24.5	25.0		23.9	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	45.3	11.6	48.7		1.0	0.4	459.5	19.2	441.4		14.3	
Delay (s)	76.2	41.9	70.9		17.2	14.1	484.5	43.6	466.4		38.2	
Level of Service	E	D	E		B	B	F	D	F		D	
Approach Delay (s)	48.3		31.4		85.7		79.4					
Approach LOS	D		C		F		E					
Intersection Summary												
HCM Average Control Delay			65.0		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.43									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			106.0%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑		↑	↑	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3012			3018	1350		1473		1433	1443	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3012			3018	1350		1473		1433	1443	
Volume (vph)	0	1243	15	0	1204	255	23	24	38	287	42	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1322	16	0	1281	271	24	26	40	305	45	13
RTOR Reduction (vph)	0	1	0	0	0	42	0	22	0	0	2	0
Lane Group Flow (vph)	0	1337	0	0	1281	229	0	68	0	179	182	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		90.0			90.0	22.2		7.8		22.2	22.2	
Effective Green, g (s)		90.0			90.0	22.2		7.8		22.2	22.2	
Actuated g/C Ratio		0.68			0.68	0.17		0.06		0.17	0.17	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2054			2058	227		87		241	243	
v/s Ratio Prot		c0.44			0.42	c0.17		c0.05		0.12	0.13	
v/s Ratio Perm												
v/c Ratio		0.65			0.62	1.01		0.79		0.74	0.75	
Uniform Delay, d1		12.0			11.6	54.9		61.3		52.2	52.3	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.6			1.4	62.5		36.0		12.4	13.0	
Delay (s)		13.6			13.0	117.4		97.3		64.6	65.2	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		13.6			31.3			97.3			64.9	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		29.6			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		132.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		65.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1509	3013		1509	3002			1426			1518	1350
Flt Permitted	0.12	1.00		0.15	1.00			0.94			0.85	1.00
Satd. Flow (perm)	190	3013		238	3002			1354			1351	1350
Volume (vph)	64	1541	15	12	1535	56	6	3	19	35	3	74
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	1589	15	12	1582	58	6	3	20	36	3	76
RTOR Reduction (vph)	0	0	0	0	1	0	0	19	0	0	0	71
Lane Group Flow (vph)	66	1604	0	12	1639	0	0	10	0	0	39	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.1	110.1		103.4	103.4			8.9			8.9	8.9
Effective Green, g (s)	110.1	110.1		103.4	103.4			8.9			8.9	8.9
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	193	2612		194	2444			95			95	95
v/s Ratio Prot	0.01	c0.53			c0.55							
v/s Ratio Perm	0.29			0.05			0.01				c0.03	0.00
v/c Ratio	0.34	0.61		0.06	0.67		0.11				0.41	0.06
Uniform Delay, d1	3.7	2.4		2.3	4.8		55.3				56.5	55.1
Progression Factor	1.00	1.00		1.00	1.00		1.00				1.00	1.00
Incremental Delay, d2	0.4	1.1		0.6	1.5		0.5				2.9	0.2
Delay (s)	4.1	3.5		2.9	6.3		55.8				59.4	55.4
Level of Service	A	A		A	A		E				E	E
Approach Delay (s)		3.5			6.3		55.8				56.7	
Approach LOS		A			A		E				E	
Intersection Summary												
HCM Average Control Delay			7.0			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			77.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1575	51	0	1749	0	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1712	55	0	1901	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	472			800		
pX, platoon unblocked			0.52		0.70	0.52
vC, conflicting volume			1767		3641	884
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1551		3304	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			219		5	562
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1141	626	68			
Volume Left	0	0	0			
Volume Right	0	55	68			
cSH	1700	1700	562			
Volume to Capacity	0.67	0.37	0.12			
Queue Length 95th (ft)	0	0	10			
Control Delay (s)	0.0	0.0	12.3			
Lane LOS			B			
Approach Delay (s)	0.0		12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2996		1509	2969		1509	3018	1350	1509	2899	
Flt Permitted	0.12	1.00		0.07	1.00		0.20	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	192	2996		107	2969		321	3018	1350	276	2899	
Volume (vph)	161	1521	76	187	1154	139	144	667	287	125	415	148
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	169	1601	80	197	1215	146	152	702	302	132	437	156
RTOR Reduction (vph)	0	4	0	0	9	0	0	0	98	0	36	0
Lane Group Flow (vph)	169	1677	0	197	1352	0	152	702	204	132	557	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			4		
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	65.4	59.5		65.1	59.1		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	65.4	59.5		64.6	59.1		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.65	0.60		0.65	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	203	1783		146	1755		74	694	311	63	667	
v/s Ratio Prot	0.05	0.56		c0.07	0.46		0.23			0.19		
v/s Ratio Perm	0.49			c0.79			0.47		0.15	c0.48		
v/c Ratio	0.83	0.94		1.35	0.77		2.05	1.01	0.66	2.10	0.83	
Uniform Delay, d1	12.6	18.6		25.3	15.4		38.5	38.5	34.9	38.5	36.7	
Progression Factor	1.88	0.70		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	1.4		195.5	3.3		517.7	37.1	10.4	542.5	11.8	
Delay (s)	26.4	14.5		220.8	18.7		556.2	75.6	45.3	581.0	48.5	
Level of Service	C	B		F	B		F	E	D	F	D	
Approach Delay (s)	15.5			44.2			130.9			145.4		
Approach LOS	B			D			F			F		
Intersection Summary												
HCM Average Control Delay			67.0		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.53									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			107.4%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.92				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (prot)	1509	3005		1509	3000			1434				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (perm)	1509	3005		1509	3000			1434				1374
Volume (vph)	39	1723	49	262	1359	56	48	13	102	0	0	42
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	1814	52	276	1431	59	51	14	107	0	0	44
RTOR Reduction (vph)	0	2	0	0	3	0	0	59	0	0	0	36
Lane Group Flow (vph)	41	1864	0	276	1487	0	0	113	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	18.1	58.0		22.1	66.0			3.9				18.1
Effective Green, g (s)	18.1	58.0		22.1	66.0			3.9				18.1
Actuated g/C Ratio	0.18	0.58		0.22	0.66			0.04				0.18
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	273	1743		333	1980			56				249
v/s Ratio Prot	0.03	c0.62		c0.18	c0.50							0.01
v/s Ratio Perm								0.08				
v/c Ratio	0.15	1.07		0.83	0.75			2.02				0.03
Uniform Delay, d1	34.5	21.0		37.1	11.5			48.0				33.7
Progression Factor	1.00	1.00		0.66	1.28			1.00				1.00
Incremental Delay, d2	0.3	42.8		7.9	1.3			517.7				0.1
Delay (s)	34.7	63.8		32.4	15.9			565.7				33.8
Level of Service	C	E		C	B			F				C
Approach Delay (s)		63.2			18.5			565.7			33.8	
Approach LOS		E			B			F			C	
Intersection Summary												
HCM Average Control Delay			64.8			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			96.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1509	2968		1509	3010			1518	1350		1499	
Flt Permitted	0.13	1.00		0.11	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	205	2968		182	3010			1518	1350		1499	
Volume (vph)	19	1604	196	326	1090	19	246	19	415	11	14	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	20	1688	206	343	1147	20	259	20	437	12	15	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	299	0	10	0
Lane Group Flow (vph)	20	1886	0	343	1166	0	0	279	138	0	29	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			17.0	30.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			17.0	29.0		16.0	
Actuated g/C Ratio	0.34	0.34		0.51	0.42			0.18	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	69	1000		266	1276			281	426		261	
v/s Ratio Prot	c0.64			c0.17		0.39	c0.18		0.04		c0.02	
v/s Ratio Perm	0.10			0.49					0.06			
v/c Ratio	0.29	1.89		1.29	0.91			0.99	0.32		0.11	
Uniform Delay, d1	22.4	30.5		42.2	24.9			37.4	24.0		32.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	2.3	402.5		155.5	10.1			51.5	0.2		0.9	
Delay (s)	24.7	433.0		197.7	35.1			89.0	24.2		32.9	
Level of Service	C	F		F	D			F	C		C	
Approach Delay (s)	428.7			72.0			49.4				32.9	
Approach LOS	F			E			D				C	
Intersection Summary												
HCM Average Control Delay			231.2		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.22									
Actuated Cycle Length (s)			92.0		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			114.3%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.96			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1402			3017	1350		3017	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1402			2875	1350		3017	
Volume (vph)	0	0	13	908	4	117	3	596	1269	0	558	1
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	14	956	4	123	3	627	1336	0	587	1
RTOR Reduction (vph)	0	0	6	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	8	563	512	0	0	630	1336	0	588	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			23.0	69.3		23.0	
Effective Green, g (s)			37.3	37.3	37.3			24.0	69.3		24.0	
Actuated g/C Ratio			0.54	0.54	0.54			0.35	1.00		0.35	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			740	771	755			996	1350		1045	
v/s Ratio Prot				0.39	0.36						0.19	
v/s Ratio Perm			0.01					0.22	c0.99			
v/c Ratio			0.01	0.73	0.68			0.63	0.99		0.56	
Uniform Delay, d1			7.4	12.2	11.6			19.0	0.0		18.4	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	5.5	2.4			1.3	22.1		0.7	
Delay (s)			7.4	17.6	14.1			20.3	22.1		19.1	
Level of Service			A	B	B			C	C		B	
Approach Delay (s)		7.4			15.9			21.5			19.1	
Approach LOS		A			B			C			B	
Intersection Summary												
HCM Average Control Delay			19.4			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			69.3			Sum of lost time (s)			0.0			
Intersection Capacity Utilization			70.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1513		1509	2988		1509	3018	1350
Flt Permitted	0.23	1.00	1.00	0.35	1.00		0.11	1.00		0.11	1.00	1.00
Satd. Flow (perm)	368	1588	1350	564	1513		172	2988		179	3018	1350
Volume (vph)	448	471	144	45	218	101	141	1228	85	99	1042	296
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	472	496	152	47	229	106	148	1293	89	104	1097	312
RTOR Reduction (vph)	0	0	50	0	17	0	0	4	0	0	0	78
Lane Group Flow (vph)	472	496	102	47	318	0	148	1378	0	104	1097	234
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	45.2	37.6	37.6	29.8	25.2		44.4	36.5		41.7	35.4	35.4
Effective Green, g (s)	45.7	38.1	38.1	28.8	25.2		43.9	37.0		40.7	35.4	35.4
Actuated g/C Ratio	0.46	0.38	0.38	0.29	0.25		0.44	0.37		0.41	0.35	0.35
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	356	605	514	196	381		168	1106		143	1068	478
v/s Ratio Prot	c0.22	0.31		0.01	0.21		c0.06	c0.46		0.04	0.36	
v/s Ratio Perm	c0.39		0.08	0.06			0.33			0.26		0.17
v/c Ratio	1.33	0.82	0.20	0.24	0.83		0.88	1.25		0.73	1.03	0.49
Uniform Delay, d1	22.0	27.9	20.7	26.4	35.4		22.4	31.5		25.1	32.3	25.2
Progression Factor	1.12	0.91	0.91	1.31	1.34		0.97	0.47		1.00	1.00	1.00
Incremental Delay, d2	155.0	3.9	0.1	0.1	8.6		14.6	112.9		14.4	34.7	3.6
Delay (s)	179.5	29.1	18.8	34.8	56.2		36.3	127.6		39.6	67.0	28.8
Level of Service	F	C	B	C	E		D	F		D	E	C
Approach Delay (s)		91.1			53.5			118.8			57.2	
Approach LOS		F			D			F			E	
Intersection Summary												
HCM Average Control Delay			86.0			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.26									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			112.5%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2947		2927	3004		2927	2951			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2947		2927	3004		2927	2951			3018	1350
Volume (vph)	544	1090	202	234	752	24	265	928	161	0	769	436
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	567	1135	210	244	783	25	276	967	168	0	801	454
RTOR Reduction (vph)	0	15	0	0	2	0	0	14	0	0	0	270
Lane Group Flow (vph)	567	1330	0	244	806	0	276	1121	0	0	801	184
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.2	44.5		4.0	28.3		4.0	38.0			29.0	29.0
Effective Green, g (s)	20.2	45.0		4.0	28.8		5.0	39.0			30.0	30.0
Actuated g/C Ratio	0.20	0.45		0.04	0.29		0.05	0.39			0.30	0.30
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	591	1326		117	865		146	1151			905	405
v/s Ratio Prot	c0.19	c0.45		c0.08	0.27		c0.09	c0.38			0.27	
v/s Ratio Perm												0.14
v/c Ratio	0.96	1.00		2.09	0.93		1.89	0.97			0.89	0.45
Uniform Delay, d1	39.5	27.5		48.0	34.6		47.5	30.0			33.4	28.4
Progression Factor	1.00	1.00		1.04	0.81		1.00	1.00			1.62	4.89
Incremental Delay, d2	26.6	25.4		510.3	14.8		425.3	20.4			5.2	0.5
Delay (s)	66.1	52.9		560.2	42.8		472.8	50.4			59.2	139.2
Level of Service	E	D		F	D		F	D			E	F
Approach Delay (s)		56.8			162.8			133.0			88.1	
Approach LOS		E			F			F			F	
Intersection Summary												
HCM Average Control Delay			102.7			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			97.9%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2986		1509	3018	1350	1509	2911		1509	2957	
Flt Permitted	0.42	1.00		0.13	1.00	1.00	0.10	1.00		0.10	1.00	
Satd. Flow (perm)	674	2986		212	3018	1350	159	2911		159	2957	
Volume (vph)	159	947	71	255	572	108	103	1209	372	126	1007	155
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	997	75	268	602	114	108	1273	392	133	1060	163
RTOR Reduction (vph)	0	6	0	0	0	12	0	32	0	0	13	0
Lane Group Flow (vph)	167	1066	0	268	602	102	108	1633	0	133	1210	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.0	25.0	41.0		41.0	41.0	39.0	39.0	39.0		39.0	
Effective Green, g (s)	26.0	26.0	42.0		42.0	42.0	40.0	40.0	40.0		40.0	
Actuated g/C Ratio	0.29	0.29	0.47		0.47	0.47	0.44	0.44	0.44		0.44	
Clearance Time (s)	5.0	5.0	3.0		5.0	5.0	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	195	863	272		1408	630	71	1294	71		1314	
v/s Ratio Prot	c0.36		c0.13		0.20	0.56		0.41				
v/s Ratio Perm	0.25		0.33		0.08	0.68	c0.84					
v/c Ratio	0.86	1.23	0.99		0.43	0.16	1.52	1.26	1.87		0.92	
Uniform Delay, d1	30.2	32.0	24.6		16.0	13.8	25.0	25.0	25.0		23.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	35.5	115.7	50.1		1.0	0.6	293.6	124.2	441.4		11.9	
Delay (s)	65.8	147.7	74.7		16.9	14.4	318.6	149.2	466.4		35.4	
Level of Service	E	F	E		B	B	F	F	F		D	
Approach Delay (s)	136.6		32.4		159.5		77.7					
Approach LOS	F		C		F		E					
Intersection Summary												
HCM Average Control Delay			110.1		HCM Level of Service			F				
HCM Volume to Capacity ratio			1.53									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			124.7%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3008			3018	1350		1485		1433	1444	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3008			3018	1350		1485		1433	1444	
Volume (vph)	0	1368	31	0	1071	300	26	43	47	323	65	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1440	33	0	1127	316	27	45	49	340	68	21
RTOR Reduction (vph)	0	2	0	0	0	74	0	25	0	0	4	0
Lane Group Flow (vph)	0	1471	0	0	1127	242	0	96	0	211	214	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		59.6			59.6	20.4		8.0		20.4	20.4	
Effective Green, g (s)		59.6			59.6	20.4		8.0		20.4	20.4	
Actuated g/C Ratio		0.60			0.60	0.20		0.08		0.20	0.20	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1793			1799	275		119		292	295	
v/s Ratio Prot		c0.49			0.37	c0.18		c0.06		0.15	0.15	
v/s Ratio Perm												
v/c Ratio		0.82			0.63	0.88		0.81		0.72	0.73	
Uniform Delay, d1		16.0			13.0	38.6		45.2		37.2	37.2	
Progression Factor		0.27			1.00	1.00		1.00		0.81	0.81	
Incremental Delay, d2		2.0			1.7	26.4		31.7		5.0	5.0	
Delay (s)		6.2			14.7	65.0		76.9		35.3	35.1	
Level of Service		A			B	E		E		D	D	
Approach Delay (s)		6.2			25.7			76.9			35.2	
Approach LOS		A			C			E			D	
Intersection Summary												
HCM Average Control Delay		20.4										
HCM Volume to Capacity ratio		0.83										
Actuated Cycle Length (s)		100.0								12.0		
Intersection Capacity Utilization		72.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	1509	3014		1509	3004			1396			1515	1350
Flt Permitted	0.17	1.00		0.11	1.00			0.98			0.88	1.00
Satd. Flow (perm)	268	3014		175	3004			1378			1401	1350
Volume (vph)	80	1731	14	1	1223	39	2	2	28	34	1	53
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	1822	15	1	1287	41	2	2	29	36	1	56
RTOR Reduction (vph)	0	0	0	0	1	0	0	27	0	0	0	51
Lane Group Flow (vph)	84	1837	0	1	1327	0	0	6	0	0	37	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	83.7	83.7		76.8	76.8			8.3			8.3	8.3
Effective Green, g (s)	83.7	83.7		76.8	76.8			8.3			8.3	8.3
Actuated g/C Ratio	0.84	0.84		0.77	0.77			0.08			0.08	0.08
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	260	2523		134	2307			114			116	112
v/s Ratio Prot	0.01	c0.61			0.44							
v/s Ratio Perm	0.26			0.01			0.00				c0.03	0.00
v/c Ratio	0.32	0.73		0.01	0.58		0.06				0.32	0.04
Uniform Delay, d1	2.9	3.4		2.7	4.8		42.2				43.2	42.2
Progression Factor	1.00	1.00		0.36	0.40		1.00				1.00	1.00
Incremental Delay, d2	0.3	1.9		0.1	0.9		0.2				1.6	0.2
Delay (s)	3.1	5.3		1.1	2.8		42.4				44.8	42.3
Level of Service	A	A		A	A		D				D	D
Approach Delay (s)		5.2			2.8		42.4				43.3	
Approach LOS		A			A		D				D	
Intersection Summary												
HCM Average Control Delay		5.7					HCM Level of Service		A			
HCM Volume to Capacity ratio		0.69										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		8.0			
Intersection Capacity Utilization		92.2%					ICU Level of Service		F			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1853	46	0	1544	0	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2014	50	0	1678	0	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	475			798		
pX, platoon unblocked			0.45		0.60	0.45
vC, conflicting volume			2064		3717	1032
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2143		3821	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			111		2	486
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1343	721	103			
Volume Left	0	0	0			
Volume Right	0	50	103			
cSH	1700	1700	486			
Volume to Capacity	0.79	0.42	0.21			
Queue Length 95th (ft)	0	0	20			
Control Delay (s)	0.0	0.0	14.4			
Lane LOS			B			
Approach Delay (s)	0.0		14.4			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

6/16/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	39	105	47	1493	1166	93
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	111	49	1572	1227	98
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1019		
pX, platoon unblocked	0.64					
vC, conflicting volume	2161	663	1325			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2251	663	1325			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	73	90			
cM capacity (veh/h)	20	404	517			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	152	49	786	786	818	507
Volume Left	41	49	0	0	0	0
Volume Right	111	0	0	0	0	98
cSH	66	517	1700	1700	1700	1700
Volume to Capacity	2.28	0.10	0.46	0.46	0.48	0.30
Queue Length 95th (ft)	364	8	0	0	0	0
Control Delay (s)	720.5	12.7	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	720.5	0.4			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay		35.5				
Intersection Capacity Utilization		65.2%		ICU Level of Service		C
Analysis Period (min)		15				

CUMULATIVE PLUS PROJECT WITH MITIGATIONS CONDITIONS

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2971		1509	2984		1509	3018	1350	1509	2925	
Flt Permitted	0.07	1.00		0.20	1.00		0.17	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	113	2971		313	2984		276	3018	1350	401	2925	
Volume (vph)	150	871	101	212	1751	141	106	506	140	101	496	128
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	917	106	223	1843	148	112	533	147	106	522	135
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	113	0	23	0
Lane Group Flow (vph)	158	1015	0	223	1985	0	112	533	34	106	634	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	62.2	56.2		68.3	59.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	62.2	56.2		67.8	59.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.62	0.56		0.68	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	154	1670		317	1761		63	694	311	92	673	
v/s Ratio Prot	c0.06	0.34		c0.06	c0.67		0.18			0.22		
v/s Ratio Perm	0.58			0.41			c0.41		0.03	0.26		
v/c Ratio	1.03	0.61		0.70	1.13		1.78	0.77	0.11	1.15	0.94	
Uniform Delay, d1	29.0	14.6		9.2	20.5		38.5	36.0	30.4	38.5	37.8	
Progression Factor	1.09	0.77		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	78.5	1.6		5.7	65.3		406.3	8.0	0.7	140.6	23.0	
Delay (s)	110.2	12.8		14.8	85.8		444.8	44.0	31.1	179.1	60.9	
Level of Service	F	B		B	F		F	D	C	F	E	
Approach Delay (s)	25.9			78.6			98.3			77.3		
Approach LOS	C			E			F			E		
Intersection Summary												
HCM Average Control Delay			69.0		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.29									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			112.9%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Boulevard & Westbourne Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	1.00			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (prot)	1509	3006		1509	3012			1460				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.97				1.00
Satd. Flow (perm)	1509	3006		1509	3012			1460				1374
Volume (vph)	28	946	26	164	1935	26	68	6	52	0	0	58
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	996	27	173	2037	27	72	6	55	0	0	61
RTOR Reduction (vph)	0	2	0	0	1	0	0	26	0	0	0	53
Lane Group Flow (vph)	29	1021	0	173	2063	0	0	107	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	13.6	40.9		31.3	62.6			11.8				13.6
Effective Green, g (s)	13.6	40.9		31.3	62.6			11.8				13.6
Actuated g/C Ratio	0.14	0.41		0.31	0.63			0.12				0.14
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	205	1229		472	1886			172				187
v/s Ratio Prot	0.02	0.34		c0.11	c0.69							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.14	0.83		0.37	1.09			0.62				0.04
Uniform Delay, d1	38.1	26.5		26.7	18.7			42.0				37.6
Progression Factor	1.00	1.00		1.39	0.59			1.00				1.00
Incremental Delay, d2	0.3	6.6		0.0	43.3			6.5				0.1
Delay (s)	38.4	33.1		37.1	54.4			48.5				37.6
Level of Service	D	C		D	D			D				D
Approach Delay (s)		33.2			53.1			48.5			37.6	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM Average Control Delay			46.6			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			86.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1509	2966		1509	3012			1515	1350		1483	
Flt Permitted	0.13	1.00		0.11	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	205	2966		182	3012			1515	1350		1483	
Volume (vph)	6	991	128	280	1481	18	251	8	252	11	9	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	1043	135	295	1559	19	264	8	265	12	9	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	180	0	10	0
Lane Group Flow (vph)	6	1170	0	295	1577	0	0	272	85	0	23	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4	5 7	8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			18.0	31.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			18.0	30.0		16.0	
Actuated g/C Ratio	0.33	0.33		0.51	0.42			0.19	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	68	989		263	1263			293	435		255	
v/s Ratio Prot		0.39		c0.14	c0.52			c0.18	0.03		c0.02	
v/s Ratio Perm	0.03			0.42					0.04			
v/c Ratio	0.09	1.18		1.12	1.25			0.93	0.20		0.09	
Uniform Delay, d1	21.3	31.0		26.7	27.0			36.9	22.8		32.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.6	92.8		92.2	118.8			34.3	0.1		0.7	
Delay (s)	21.9	123.8		118.9	145.8			71.1	22.9		33.1	
Level of Service	C	F		F	F			E	C		C	
Approach Delay (s)		123.3			141.5			47.3			33.1	
Approach LOS		F			F			D			C	
Intersection Summary												
HCM Average Control Delay		120.6			HCM Level of Service			F				
HCM Volume to Capacity ratio		0.91										
Actuated Cycle Length (s)		93.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		107.2%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.98			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1420			3017	1350		3018	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1420			2880	1350		3018	
Volume (vph)	0	0	3	1511	0	88	1	395	607	0	424	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	3	1591	0	93	1	416	639	0	446	0
RTOR Reduction (vph)	0	0	2	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1	885	794	0	0	417	639	0	446	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.0	37.0	37.0			54.0	100.0		54.0	
Effective Green, g (s)			37.0	37.0	37.0			55.0	100.0		55.0	
Actuated g/C Ratio			0.37	0.37	0.37			0.55	1.00		0.55	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			508	530	525			1584	1350		1660	
v/s Ratio Prot				c0.62	0.56						0.15	
v/s Ratio Perm			0.00					0.14	c0.47			
v/c Ratio			0.00	1.67	1.51			0.26	0.47		0.27	
Uniform Delay, d1			19.9	31.5	31.5			11.8	0.0		11.9	
Progression Factor			1.00	1.00	1.00			1.56	1.00		1.00	
Incremental Delay, d2			0.0	309.7	240.2			0.3	0.9		0.4	
Delay (s)			19.9	341.2	271.7			18.8	0.9		12.3	
Level of Service			B	F	F			B	A		B	
Approach Delay (s)		19.9			308.2			8.0			12.3	
Approach LOS		B			F			A			B	
Intersection Summary												
HCM Average Control Delay			167.1			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			84.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1551		1509	2997		1509	3018	1350
Flt Permitted	0.21	1.00	1.00	0.40	1.00		0.09	1.00		0.30	1.00	1.00
Satd. Flow (perm)	330	1588	1350	633	1551		141	2997		472	3018	1350
Volume (vph)	221	270	168	156	327	61	134	689	32	36	1284	443
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	233	284	177	164	344	64	141	725	34	38	1352	466
RTOR Reduction (vph)	0	0	117	0	7	0	0	3	0	0	0	93
Lane Group Flow (vph)	233	284	60	164	401	0	141	756	0	38	1352	373
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	36.7	28.2	28.2	36.6	28.4		51.6	44.7		45.0	41.1	41.1
Effective Green, g (s)	36.2	28.7	28.7	35.6	28.4		52.1	45.2		44.0	41.1	41.1
Actuated g/C Ratio	0.36	0.29	0.29	0.36	0.28		0.52	0.45		0.44	0.41	0.41
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	208	456	387	288	440		169	1355		238	1240	555
v/s Ratio Prot	c0.08	0.18		0.04	0.26		c0.06	0.25		0.00	c0.45	
v/s Ratio Perm	c0.32		0.04	0.16			0.38			0.07		0.28
v/c Ratio	1.12	0.62	0.16	0.57	0.91		0.83	0.56		0.16	1.09	0.67
Uniform Delay, d1	29.7	31.0	26.6	24.4	34.6		21.4	20.1		16.4	29.4	24.0
Progression Factor	0.90	0.91	1.06	1.20	1.16		1.00	0.50		1.88	1.56	1.91
Incremental Delay, d2	97.5	2.6	0.2	1.4	20.9		15.6	0.8		0.0	42.2	0.6
Delay (s)	124.2	30.9	28.3	30.6	61.1		37.0	10.9		30.8	88.2	46.3
Level of Service	F	C	C	C	E		D	B		C	F	D
Approach Delay (s)		61.5			52.4			15.0			76.5	
Approach LOS		E			D			B			E	
Intersection Summary												
HCM Average Control Delay			56.7			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			102.6%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Boulevard & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2936		2927	3015		2927	2940			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2936		2927	3015		2927	2940			3018	1350
Volume (vph)	297	683	150	285	1193	8	226	589	123	0	961	512
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	313	719	158	300	1256	8	238	620	129	0	1012	539
RTOR Reduction (vph)	0	18	0	0	1	0	0	17	0	0	0	126
Lane Group Flow (vph)	313	859	0	300	1263	0	238	732	0	0	1012	413
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	7.5	28.6		12.9	34.0		6.0	45.0			34.0	34.0
Effective Green, g (s)	7.5	29.1		12.9	34.5		7.0	46.0			35.0	35.0
Actuated g/C Ratio	0.08	0.29		0.13	0.34		0.07	0.46			0.35	0.35
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	220	854		378	1040		205	1352			1056	473
v/s Ratio Prot	c0.11	0.29		0.10	c0.42		c0.08	0.25			c0.34	
v/s Ratio Perm												0.31
v/c Ratio	1.42	1.01		0.79	1.21		1.16	0.54			0.96	0.87
Uniform Delay, d1	46.2	35.5		42.3	32.8		46.5	19.4			31.8	30.4
Progression Factor	1.00	1.00		1.17	1.17		1.00	1.00			1.63	2.08
Incremental Delay, d2	214.6	32.1		5.9	101.8		113.0	0.6			8.0	6.0
Delay (s)	260.9	67.6		55.3	140.2		159.5	20.0			59.6	69.3
Level of Service	F	E		E	F		F	B			E	E
Approach Delay (s)	118.4			123.9			53.6				63.0	
Approach LOS	F			F			D				E	
Intersection Summary												
HCM Average Control Delay			91.7		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			101.0%		ICU Level of Service				G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2937		1509	3018	1350	1509	2934		1509	2965	
Flt Permitted	0.34	1.00		0.27	1.00	1.00	0.10	1.00		0.18	1.00	
Satd. Flow (perm)	547	2937		427	3018	1350	159	2934		278	2965	
Volume (vph)	98	423	92	444	773	111	80	759	171	75	1156	153
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	103	445	97	467	814	117	84	799	180	79	1217	161
RTOR Reduction (vph)	0	21	0	0	0	54	0	22	0	0	12	0
Lane Group Flow (vph)	103	521	0	467	814	63	84	957	0	79	1366	0
Turn Type	Perm			pm+pt			Perm	Perm		Perm		
Protected Phases	8			7		4	4		6	2		
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	25.0	25.0		41.0	41.0	41.0	39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		42.0	42.0	42.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.47	0.47	0.47	0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	848		344	1408	630	71	1304		124	1318	
v/s Ratio Prot		0.18		c0.18	0.27			0.33			0.46	
v/s Ratio Perm	0.19			c0.45		0.05	c0.53			0.28		
v/c Ratio	0.65	0.61		1.36	0.58	0.10	1.18	0.73		0.64	1.04	
Uniform Delay, d1	28.0	27.7		20.2	17.5	13.4	25.0	20.6		19.4	25.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.0	3.3		178.8	1.7	0.3	164.5	3.7		22.4	34.8	
Delay (s)	47.1	31.0		199.0	19.3	13.7	189.5	24.3		41.8	59.8	
Level of Service	D	C		F	B	B	F	C		D	E	
Approach Delay (s)		33.6			78.8			37.4			58.8	
Approach LOS		C			E			D			E	
Intersection Summary												
HCM Average Control Delay			56.4				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.26									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			110.9%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Boulevard & Holloway Dr

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.93		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3007			3018	1350		1458		1433	1433	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3007			3018	1350		1458		1433	1433	
Volume (vph)	0	815	19	0	1456	291	13	21	42	237	38	22
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	858	20	0	1533	306	14	22	44	249	40	23
RTOR Reduction (vph)	0	2	0	0	0	53	0	41	0	0	6	0
Lane Group Flow (vph)	0	876	0	0	1533	253	0	39	0	155	151	0
Turn Type						Over	Split				Split	
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		60.9			60.9	21.1		6.0		21.1	21.1	
Effective Green, g (s)		60.9			60.9	21.1		6.0		21.1	21.1	
Actuated g/C Ratio		0.61			0.61	0.21		0.06		0.21	0.21	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1831			1838	285		87		302	302	
v/s Ratio Prot		0.29			c0.51	c0.19		c0.03		0.11	0.11	
v/s Ratio Perm												
v/c Ratio		0.48			0.83	0.89		0.44		0.51	0.50	
Uniform Delay, d1		10.8			15.5	38.3		45.4		34.9	34.8	
Progression Factor		0.36			1.00	1.00		1.00		0.73	0.71	
Incremental Delay, d2		0.4			4.6	27.1		3.6		1.7	1.5	
Delay (s)		4.2			20.2	65.4		49.0		27.1	26.3	
Level of Service		A			C	E		D		C	C	
Approach Delay (s)		4.2			27.7			49.0			26.7	
Approach LOS		A			C			D			C	
Intersection Summary												
HCM Average Control Delay		21.5			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		70.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Boulevard & Kings Rd

7/10/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1509	3016		1509	3007			1442			1520	1350
Flt Permitted	0.12	1.00		0.26	1.00			0.85			0.73	1.00
Satd. Flow (perm)	192	3016		419	3007			1257			1161	1350
Volume (vph)	58	1025	4	10	1478	36	11	0	12	24	3	75
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	1079	4	11	1556	38	12	0	13	25	3	79
RTOR Reduction (vph)	0	0	0	0	1	0	0	12	0	0	0	73
Lane Group Flow (vph)	61	1083	0	11	1593	0	0	13	0	0	28	6
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	84.6	84.6		78.0	78.0			7.4			7.4	7.4
Effective Green, g (s)	84.6	84.6		78.0	78.0			7.4			7.4	7.4
Actuated g/C Ratio	0.85	0.85		0.78	0.78			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	197	2552		327	2345			93			86	100
v/s Ratio Prot	0.01	c0.36			c0.53							
v/s Ratio Perm	0.25			0.03				0.01			c0.02	0.00
v/c Ratio	0.31	0.42		0.03	0.68			0.14			0.33	0.06
Uniform Delay, d1	3.7	1.8		2.5	5.1			43.3			43.9	43.1
Progression Factor	1.00	1.00		0.78	0.34			1.00			1.00	1.00
Incremental Delay, d2	0.3	0.5		0.1	1.2			0.7			2.2	0.2
Delay (s)	4.0	2.4		2.1	3.0			44.0			46.1	43.3
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		2.5			3.0			44.0			44.0	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			4.7			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			71.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 10: Santa Monica Boulevard & North West Knoll Drive

7/10/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1025	27	0	2066	0	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1114	29	0	2246	0	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	525			747		
pX, platoon unblocked			0.72		0.75	0.72
vC, conflicting volume			1143		3374	572
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			806		3213	9
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			584		6	768
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	743	401	82			
Volume Left	0	0	0			
Volume Right	0	29	82			
cSH	1700	1700	768			
Volume to Capacity	0.44	0.24	0.11			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS			B			
Approach Delay (s)	0.0		10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

7/10/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	70	156	955	1335	272
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	74	164	1005	1405	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	1029					
pX, platoon unblocked						
vC, conflicting volume	2379	846	1692			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2379	846	1692			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	41	76	56			
cM capacity (veh/h)	16	306	373			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	164	503	503	937	755
Volume Left	9	164	0	0	0	0
Volume Right	74	0	0	0	0	286
cSH	100	373	1700	1700	1700	1700
Volume to Capacity	0.83	0.44	0.30	0.30	0.55	0.44
Queue Length 95th (ft)	116	54	0	0	0	0
Control Delay (s)	124.9	22.0	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	124.9	3.1			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay		4.8				
Intersection Capacity Utilization		79.2%		ICU Level of Service		D
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2978		1509	2969		1509	3018	1350	1509	2896	
Flt Permitted	0.12	1.00		0.13	1.00		0.17	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	194	2978		214	2969		276	3018	1350	276	2896	
Volume (vph)	209	1255	121	247	1270	152	152	505	268	135	468	172
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	218	1307	126	257	1323	158	158	526	279	141	488	179
RTOR Reduction (vph)	0	6	0	0	7	0	0	0	124	0	29	0
Lane Group Flow (vph)	218	1427	0	257	1474	0	158	526	155	141	638	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	96.5	90.5		96.0	90.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	96.5	90.5		95.5	90.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.74	0.69		0.73	0.69		0.18	0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	203	2057		210	2040		48	530	237	48	508	
v/s Ratio Prot	0.05	0.48		c0.05	0.50		0.17			0.22		
v/s Ratio Perm	0.74			c0.84			c0.57			0.11	0.51	
v/c Ratio	1.07	0.69		1.22	0.72		3.29	0.99	0.65	2.94	1.26	
Uniform Delay, d1	16.9	12.0		14.7	12.7		54.0	53.9	50.3	54.0	54.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	84.2	2.0		135.5	2.3		1082.6	37.3	13.1	925.4	130.6	
Delay (s)	101.1	14.0		150.2	15.0		1136.6	91.2	63.4	979.4	184.6	
Level of Service	F	B		F	B		F	F	E	F	F	
Approach Delay (s)	25.5			35.0			254.7			323.3		
Approach LOS	C			C			F			F		
Intersection Summary												
HCM Average Control Delay			118.1		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.61									
Actuated Cycle Length (s)			131.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			106.1%		ICU Level of Service				G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.94				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (prot)	1509	3005		1509	2999			1451				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.98				1.00
Satd. Flow (perm)	1509	3005		1509	2999			1451				1374
Volume (vph)	46	1530	45	244	1582	69	56	6	57	0	0	56
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	48	1594	47	254	1648	72	58	6	59	0	0	58
RTOR Reduction (vph)	0	2	0	0	3	0	0	24	0	0	0	45
Lane Group Flow (vph)	48	1639	0	254	1717	0	0	99	0	0	0	13
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	23.4	79.2		27.4	87.2			9.4				23.4
Effective Green, g (s)	23.4	79.2		27.4	87.2			9.4				23.4
Actuated g/C Ratio	0.18	0.60		0.21	0.66			0.07				0.18
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	268	1803		313	1981			103				244
v/s Ratio Prot	0.03	c0.55		c0.17	c0.57							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.18	0.91		0.81	0.87			0.96				0.05
Uniform Delay, d1	46.1	23.2		49.8	17.8			61.1				45.1
Progression Factor	1.00	1.00		1.00	1.00			1.00				1.00
Incremental Delay, d2	0.3	8.3		14.7	5.4			74.8				0.1
Delay (s)	46.5	31.5		64.5	23.2			135.9				45.2
Level of Service	D	C		E	C			F				D
Approach Delay (s)		32.0			28.5			135.9			45.2	
Approach LOS		C			C			F			D	
Intersection Summary												
HCM Average Control Delay			33.7			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			132.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			85.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2966		1509	3009			1515	1350		1475	
Flt Permitted	0.19	1.00		0.08	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	294	2966		120	3009			1515	1350		1475	
Volume (vph)	8	1229	158	346	1121	22	251	10	418	9	11	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1267	163	357	1156	23	259	10	431	9	11	16
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	234	0	14	0
Lane Group Flow (vph)	8	1424	0	357	1178	0	0	269	197	0	22	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	70.6	70.6		86.7	78.7			17.2	30.3		16.2	
Effective Green, g (s)	70.6	70.6		86.7	78.7			17.2	29.3		16.2	
Actuated g/C Ratio	0.53	0.53		0.66	0.60			0.13	0.22		0.12	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	157	1585		206	1793			197	299		181	
v/s Ratio Prot		0.48		c0.16	0.39			c0.18	0.06		c0.01	
v/s Ratio Perm	0.03			c0.97					0.09			
v/c Ratio	0.05	0.90		1.73	0.66			1.37	0.66		0.12	
Uniform Delay, d1	14.7	27.5		38.0	17.7			57.4	46.8		51.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	7.2		349.4	0.9			193.5	4.0		1.4	
Delay (s)	14.9	34.7		387.3	18.6			250.9	50.8		53.0	
Level of Service	B	C		F	B			F	D		D	
Approach Delay (s)		34.6			104.3			127.7			53.0	
Approach LOS		C			F			F			D	
Intersection Summary												
HCM Average Control Delay			81.2			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.44									
Actuated Cycle Length (s)			132.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			101.8%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1406			3017	1350		3015	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1406			2878	1350		3015	
Volume (vph)	0	0	12	980	1	109	2	630	761	0	592	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	12	1000	1	111	2	643	777	0	604	3
RTOR Reduction (vph)	0	0	6	0	7	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	6	581	524	0	0	645	777	0	606	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.4	37.4	37.4			23.3	69.7		23.3	
Effective Green, g (s)			37.4	37.4	37.4			24.3	69.7		24.3	
Actuated g/C Ratio			0.54	0.54	0.54			0.35	1.00		0.35	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			737	769	754			1003	1350		1051	
v/s Ratio Prot				c0.41	0.37						0.20	
v/s Ratio Perm			0.00					0.22	c0.58			
v/c Ratio			0.01	0.76	0.70			0.64	0.58		0.58	
Uniform Delay, d1			7.5	12.6	11.9			19.1	0.0		18.5	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	6.1	2.8			1.4	1.8		0.8	
Delay (s)			7.5	18.7	14.7			20.5	1.8		19.3	
Level of Service			A	B	B			C	A		B	
Approach Delay (s)		7.5			16.8			10.3			19.3	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			14.3									
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			69.7									
Intersection Capacity Utilization			73.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1540		1509	2993		1509	3018	1350
Flt Permitted	0.25	1.00	1.00	0.57	1.00		0.10	1.00		0.13	1.00	1.00
Satd. Flow (perm)	402	1588	1350	901	1540		162	2993		210	3018	1350
Volume (vph)	314	308	171	58	222	56	114	977	57	57	1027	292
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	324	318	176	60	229	58	118	1007	59	59	1059	301
RTOR Reduction (vph)	0	0	97	0	9	0	0	3	0	0	0	74
Lane Group Flow (vph)	324	318	79	60	278	0	118	1063	0	59	1059	227
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	41.8	33.7	33.7	27.2	22.1		48.8	41.2		44.1	39.1	39.1
Effective Green, g (s)	42.3	34.2	34.2	26.2	22.1		48.3	41.7		43.1	39.1	39.1
Actuated g/C Ratio	0.42	0.34	0.34	0.26	0.22		0.48	0.42		0.43	0.39	0.39
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	349	543	462	261	340		167	1248		142	1180	528
v/s Ratio Prot	c0.15	0.20		0.01	0.18		c0.05	c0.36		0.02	0.35	
v/s Ratio Perm	c0.24		0.06	0.05			0.29			0.16		0.17
v/c Ratio	0.93	0.59	0.17	0.23	0.82		0.71	0.85		0.42	0.90	0.43
Uniform Delay, d1	22.9	27.1	23.0	28.4	37.0		19.1	26.3		19.1	28.6	22.3
Progression Factor	0.95	0.86	1.09	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	16.6	0.7	0.1	0.2	13.7		10.6	7.4		0.7	10.8	2.6
Delay (s)	38.4	23.9	25.2	28.5	50.7		29.7	33.8		19.8	39.4	24.8
Level of Service	D	C	C	C	D		C	C		B	D	C
Approach Delay (s)		29.9			46.9			33.4			35.5	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM Average Control Delay			34.7			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			92.1%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2940		2927	3012		2927	2910			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2940		2927	3012		2927	2910			3018	1350
Volume (vph)	458	958	200	255	936	13	317	696	217	0	836	464
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	472	988	206	263	965	13	327	718	224	0	862	478
RTOR Reduction (vph)	0	17	0	0	1	0	0	14	0	0	0	206
Lane Group Flow (vph)	472	1177	0	263	977	0	327	928	0	0	862	272
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	75.8		4.0	59.3		34.2	68.2			29.0	29.0
Effective Green, g (s)	20.5	76.3		4.0	59.8		35.2	69.2			30.0	30.0
Actuated g/C Ratio	0.13	0.47		0.02	0.37		0.22	0.43			0.19	0.19
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	372	1389		72	1115		638	1247			561	251
v/s Ratio Prot	c0.16	c0.40		c0.09	0.32		0.11	c0.32			c0.29	
v/s Ratio Perm												0.20
v/c Ratio	1.27	0.85		3.65	0.88		0.51	0.74			1.54	1.08
Uniform Delay, d1	70.5	37.5		78.8	47.4		55.6	38.7			65.8	65.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	140.6	6.6		1227.2	9.8		0.3	2.6			250.3	80.9
Delay (s)	211.1	44.1		1306.0	57.2		55.9	41.3			316.1	146.6
Level of Service	F	D		F	E		E	D			F	F
Approach Delay (s)		91.4			321.8			45.1			255.6	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM Average Control Delay			172.5			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			161.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			98.1%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2941		1509	3018	1350	1509	2928		1509	2938	
Flt Permitted	0.41	1.00		0.14	1.00	1.00	0.10	1.00		0.10	1.00	
Satd. Flow (perm)	656	2941		229	3018	1350	159	2928		159	2938	
Volume (vph)	170	615	125	268	616	107	130	1017	250	130	1008	216
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	173	628	128	273	629	109	133	1038	255	133	1029	220
RTOR Reduction (vph)	0	19	0	0	0	25	0	24	0	0	20	0
Lane Group Flow (vph)	173	737	0	273	629	84	133	1269	0	133	1229	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.0	25.0	41.0		41.0	41.0	39.0	39.0	39.0		39.0	
Effective Green, g (s)	26.0	26.0	42.0		42.0	42.0	40.0	40.0	40.0		40.0	
Actuated g/C Ratio	0.29	0.29	0.47		0.47	0.47	0.44	0.44	0.44		0.44	
Clearance Time (s)	5.0	5.0	3.0		5.0	5.0	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	850	278		1408	630	71	1301	71		1306	
v/s Ratio Prot	0.25		c0.13		0.21	0.43				0.42		
v/s Ratio Perm	0.26	c0.33		0.06		c0.84			0.84			
v/c Ratio	0.91	0.87	0.98		0.45	0.13	1.87	0.98	1.87		0.94	
Uniform Delay, d1	30.9	30.4	22.2		16.2	13.6	25.0	24.5	25.0		23.9	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	45.3	11.6	48.7		1.0	0.4	441.4	19.7	441.4		14.3	
Delay (s)	76.2	41.9	70.9		17.2	14.1	466.4	44.3	466.4		38.2	
Level of Service	E	D	E		B	B	F	D	F		D	
Approach Delay (s)	48.3		31.4		83.6		79.4					
Approach LOS	D		C		F		E					
Intersection Summary												
HCM Average Control Delay			64.4		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.41									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			106.1%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑		↑	↑	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3012			3018	1350		1473		1433	1443	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3012			3018	1350		1473		1433	1443	
Volume (vph)	0	1243	15	0	1204	255	23	24	38	287	42	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1322	16	0	1281	271	24	26	40	305	45	13
RTOR Reduction (vph)	0	1	0	0	0	42	0	22	0	0	2	0
Lane Group Flow (vph)	0	1337	0	0	1281	229	0	68	0	179	182	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		90.0			90.0	22.2		7.8		22.2	22.2	
Effective Green, g (s)		90.0			90.0	22.2		7.8		22.2	22.2	
Actuated g/C Ratio		0.68			0.68	0.17		0.06		0.17	0.17	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		2054			2058	227		87		241	243	
v/s Ratio Prot		c0.44			0.42	c0.17		c0.05		0.12	0.13	
v/s Ratio Perm												
v/c Ratio		0.65			0.62	1.01		0.79		0.74	0.75	
Uniform Delay, d1		12.0			11.6	54.9		61.3		52.2	52.3	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.6			1.4	62.5		36.0		12.4	13.0	
Delay (s)		13.6			13.0	117.4		97.3		64.6	65.2	
Level of Service		B			B	F		F		E	E	
Approach Delay (s)		13.6			31.3			97.3			64.9	
Approach LOS		B			C			F			E	
Intersection Summary												
HCM Average Control Delay		29.6					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		132.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		65.2%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1509	3013		1509	3002			1426			1518	1350
Flt Permitted	0.12	1.00		0.15	1.00			0.94			0.85	1.00
Satd. Flow (perm)	190	3013		238	3002			1354			1351	1350
Volume (vph)	64	1541	15	12	1535	56	6	3	19	35	3	74
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	1589	15	12	1582	58	6	3	20	36	3	76
RTOR Reduction (vph)	0	0	0	0	1	0	0	19	0	0	0	71
Lane Group Flow (vph)	66	1604	0	12	1639	0	0	10	0	0	39	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.1	110.1		103.4	103.4			8.9			8.9	8.9
Effective Green, g (s)	110.1	110.1		103.4	103.4			8.9			8.9	8.9
Actuated g/C Ratio	0.87	0.87		0.81	0.81			0.07			0.07	0.07
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	193	2612		194	2444			95			95	95
v/s Ratio Prot	0.01	c0.53			c0.55							
v/s Ratio Perm	0.29			0.05			0.01				c0.03	0.00
v/c Ratio	0.34	0.61		0.06	0.67		0.11				0.41	0.06
Uniform Delay, d1	3.7	2.4		2.3	4.8		55.3				56.5	55.1
Progression Factor	1.00	1.00		1.00	1.00		1.00				1.00	1.00
Incremental Delay, d2	0.4	1.1		0.6	1.5		0.5				2.9	0.2
Delay (s)	4.1	3.5		2.9	6.3		55.8				59.4	55.4
Level of Service	A	A		A	A		E				E	E
Approach Delay (s)		3.5			6.3		55.8				56.7	
Approach LOS		A			A		E				E	
Intersection Summary												
HCM Average Control Delay			7.0			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			127.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			77.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1581	45	0	1758	0	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1718	49	0	1911	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	472			800		
pX, platoon unblocked			0.52		0.70	0.52
vC, conflicting volume			1767		3654	884
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1551		3323	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			219		4	562
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1146	622	68			
Volume Left	0	0	0			
Volume Right	0	49	68			
cSH	1700	1700	562			
Volume to Capacity	0.67	0.37	0.12			
Queue Length 95th (ft)	0	0	10			
Control Delay (s)	0.0	0.0	12.3			
Lane LOS			B			
Approach Delay (s)	0.0		12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

1: Santa Monica Blvd & San Vicente Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2996		1509	2969		1509	3018	1350	1509	2899	
Flt Permitted	0.12	1.00		0.07	1.00		0.20	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	192	2996		107	2969		321	3018	1350	276	2899	
Volume (vph)	161	1521	76	187	1154	139	144	667	287	125	415	148
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	169	1601	80	197	1215	146	152	702	302	132	437	156
RTOR Reduction (vph)	0	4	0	0	9	0	0	0	98	0	36	0
Lane Group Flow (vph)	169	1677	0	197	1352	0	152	702	204	132	557	0
Turn Type	pm+pt			pm+pt			Perm			Perm	Perm	
Protected Phases	5	2		1	6		8			8		4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	65.4	59.5		65.1	59.1		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	65.4	59.5		64.6	59.1		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.65	0.60		0.65	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	203	1783		146	1755		74	694	311	63	667	
v/s Ratio Prot	0.05	0.56		c0.07	0.46		0.23			0.19		
v/s Ratio Perm	0.49			c0.79			0.47		0.15	c0.48		
v/c Ratio	0.83	0.94		1.35	0.77		2.05	1.01	0.66	2.10	0.83	
Uniform Delay, d1	12.6	18.6		25.3	15.4		38.5	38.5	34.9	38.5	36.7	
Progression Factor	1.88	0.70		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	1.4		195.5	3.3		517.7	37.1	10.4	542.5	11.8	
Delay (s)	26.4	14.5		220.8	18.7		556.2	75.6	45.3	581.0	48.5	
Level of Service	C	B		F	B		F	E	D	F	D	
Approach Delay (s)	15.5			44.2			130.9			145.4		
Approach LOS	B			D			F			F		
Intersection Summary												
HCM Average Control Delay			67.0		HCM Level of Service			E				
HCM Volume to Capacity ratio			1.53									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			107.4%		ICU Level of Service			G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Santa Monica Blvd & Westbourne Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				1.00
Frt	1.00	1.00		1.00	0.99			0.91				0.86
Flt Protected	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (prot)	1509	3005		1509	3000			1431				1374
Flt Permitted	0.95	1.00		0.95	1.00			0.99				1.00
Satd. Flow (perm)	1509	3005		1509	3000			1431				1374
Volume (vph)	39	1722	49	266	1366	56	42	13	99	0	0	42
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	1813	52	280	1438	59	44	14	104	0	0	44
RTOR Reduction (vph)	0	2	0	0	3	0	0	64	0	0	0	36
Lane Group Flow (vph)	41	1863	0	280	1494	0	0	98	0	0	0	8
Turn Type	Prot			Prot			Perm					Over
Protected Phases	8	2		18	6			4				8
Permitted Phases							4					
Actuated Green, G (s)	18.2	58.0		22.2	66.0			3.8				18.2
Effective Green, g (s)	18.2	58.0		22.2	66.0			3.8				18.2
Actuated g/C Ratio	0.18	0.58		0.22	0.66			0.04				0.18
Clearance Time (s)	4.0	4.0			4.0			4.0				4.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0				3.0
Lane Grp Cap (vph)	275	1743		335	1980			54				250
v/s Ratio Prot	0.03	c0.62		c0.19	c0.50							0.01
v/s Ratio Perm								0.07				
v/c Ratio	0.15	1.07		0.84	0.75			1.81				0.03
Uniform Delay, d1	34.4	21.0		37.2	11.5			48.1				33.7
Progression Factor	1.00	1.00		0.66	1.27			1.00				1.00
Incremental Delay, d2	0.3	42.6		8.3	1.3			426.4				0.1
Delay (s)	34.6	63.6		32.9	16.0			474.5				33.7
Level of Service	C	E		C	B			F				C
Approach Delay (s)		63.0			18.6			474.5			33.7	
Approach LOS		E			B			F			C	
Intersection Summary												
HCM Average Control Delay			59.5			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			95.6%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Sunset Blvd & Miller Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1509	2968		1509	3010			1518	1350		1499	
Flt Permitted	0.13	1.00		0.11	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	205	2968		182	3010			1518	1350		1499	
Volume (vph)	19	1604	196	326	1090	19	246	19	415	11	14	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	20	1688	206	343	1147	20	259	20	437	12	15	12
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	299	0	10	0
Lane Group Flow (vph)	20	1886	0	343	1166	0	0	279	138	0	29	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases	6			5 7		2	4		4 5 7		8 8	
Permitted Phases	6			2					4			
Actuated Green, G (s)	31.0	31.0		47.0	39.0			17.0	30.0		16.0	
Effective Green, g (s)	31.0	31.0		47.0	39.0			17.0	29.0		16.0	
Actuated g/C Ratio	0.34	0.34		0.51	0.42			0.18	0.32		0.17	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	69	1000		266	1276			281	426		261	
v/s Ratio Prot	c0.64			c0.17		0.39	c0.18		0.04		c0.02	
v/s Ratio Perm	0.10			0.49					0.06			
v/c Ratio	0.29	1.89		1.29	0.91			0.99	0.32		0.11	
Uniform Delay, d1	22.4	30.5		42.2	24.9			37.4	24.0		32.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	2.3	402.5		155.5	10.1			51.5	0.2		0.9	
Delay (s)	24.7	433.0		197.7	35.1			89.0	24.2		32.9	
Level of Service	C	F		F	D			F	C		C	
Approach Delay (s)	428.7			72.0			49.4				32.9	
Approach LOS	F			E			D				C	
Intersection Summary												
HCM Average Control Delay			231.2		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.22									
Actuated Cycle Length (s)			92.0		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			114.3%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Fountain Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frt			0.86	1.00	0.96			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1402			3017	1350		3017	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1402			2875	1350		3017	
Volume (vph)	0	0	13	908	4	117	3	596	1269	0	558	1
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	14	956	4	123	3	627	1336	0	587	1
RTOR Reduction (vph)	0	0	6	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	8	563	512	0	0	630	1336	0	588	0
Turn Type			custom	Prot			Perm		Free			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		Free			
Actuated Green, G (s)			37.3	37.3	37.3			23.0	69.3		23.0	
Effective Green, g (s)			37.3	37.3	37.3			24.0	69.3		24.0	
Actuated g/C Ratio			0.54	0.54	0.54			0.35	1.00		0.35	
Clearance Time (s)			4.0	4.0	4.0			5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			740	771	755			996	1350		1045	
v/s Ratio Prot				0.39	0.36						0.19	
v/s Ratio Perm			0.01					0.22	c0.99			
v/c Ratio			0.01	0.73	0.68			0.63	0.99		0.56	
Uniform Delay, d1			7.4	12.2	11.6			19.0	0.0		18.4	
Progression Factor			1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2			0.0	5.5	2.4			1.3	22.1		0.7	
Delay (s)			7.4	17.6	14.1			20.3	22.1		19.1	
Level of Service			A	B	B			C	C		B	
Approach Delay (s)		7.4			15.9			21.5			19.1	
Approach LOS		A			B			C			B	
Intersection Summary												
HCM Average Control Delay			19.4			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			69.3			Sum of lost time (s)			0.0			
Intersection Capacity Utilization			70.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Hollway Dr & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1350	1509	1513		1509	2988		1509	3018	1350
Flt Permitted	0.23	1.00	1.00	0.35	1.00		0.11	1.00		0.11	1.00	1.00
Satd. Flow (perm)	368	1588	1350	564	1513		172	2988		179	3018	1350
Volume (vph)	448	471	144	45	218	101	141	1228	85	99	1042	296
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	472	496	152	47	229	106	148	1293	89	104	1097	312
RTOR Reduction (vph)	0	0	50	0	17	0	0	4	0	0	0	78
Lane Group Flow (vph)	472	496	102	47	318	0	148	1378	0	104	1097	234
Turn Type	pm+pt		Perm		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	45.2	37.6	37.6	29.8	25.2		44.4	36.5		41.7	35.4	35.4
Effective Green, g (s)	45.7	38.1	38.1	28.8	25.2		43.9	37.0		40.7	35.4	35.4
Actuated g/C Ratio	0.46	0.38	0.38	0.29	0.25		0.44	0.37		0.41	0.35	0.35
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	356	605	514	196	381		168	1106		143	1068	478
v/s Ratio Prot	c0.22	0.31		0.01	0.21		c0.06	c0.46		0.04	0.36	
v/s Ratio Perm	c0.39		0.08	0.06			0.33			0.26		0.17
v/c Ratio	1.33	0.82	0.20	0.24	0.83		0.88	1.25		0.73	1.03	0.49
Uniform Delay, d1	22.0	27.9	20.7	26.4	35.4		22.4	31.5		25.1	32.3	25.2
Progression Factor	1.12	0.91	0.91	1.31	1.34		0.97	0.47		1.00	1.00	1.00
Incremental Delay, d2	155.0	3.9	0.1	0.1	8.6		14.3	112.9		14.4	34.7	3.6
Delay (s)	179.5	29.1	18.8	34.8	56.2		36.0	127.6		39.6	67.0	28.8
Level of Service	F	C	B	C	E		D	F		D	E	C
Approach Delay (s)		91.1			53.5			118.7			57.2	
Approach LOS		F			D			F			E	
Intersection Summary												
HCM Average Control Delay			86.0			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.26									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			112.5%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Santa Monica Blvd & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2947		2927	3004		2927	2951			3018	1350
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2947		2927	3004		2927	2951			3018	1350
Volume (vph)	550	1090	202	234	752	24	268	928	161	0	769	436
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	573	1135	210	244	783	25	279	967	168	0	801	454
RTOR Reduction (vph)	0	15	0	0	2	0	0	14	0	0	0	270
Lane Group Flow (vph)	573	1330	0	244	806	0	279	1121	0	0	801	184
Turn Type	Prot			Prot			Prot				Perm	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.3	44.5		4.0	28.2		4.0	38.0			29.0	29.0
Effective Green, g (s)	20.3	45.0		4.0	28.7		5.0	39.0			30.0	30.0
Actuated g/C Ratio	0.20	0.45		0.04	0.29		0.05	0.39			0.30	0.30
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	594	1326		117	862		146	1151			905	405
v/s Ratio Prot	c0.20	c0.45		c0.08	0.27		c0.10	c0.38			0.27	
v/s Ratio Perm												0.14
v/c Ratio	0.96	1.00		2.09	0.93		1.91	0.97			0.89	0.45
Uniform Delay, d1	39.5	27.5		48.0	34.7		47.5	30.0			33.4	28.4
Progression Factor	1.00	1.00		1.04	0.81		1.00	1.00			1.62	4.89
Incremental Delay, d2	27.9	25.4		510.3	15.2		434.3	20.4			5.2	0.5
Delay (s)	67.4	52.9		560.2	43.3		481.8	50.4			59.2	139.2
Level of Service	E	D		F	D		F	D			E	F
Approach Delay (s)		57.2			163.2			135.5			88.1	
Approach LOS		E			F			F			F	
Intersection Summary												
HCM Average Control Delay			103.5			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			98.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Melrose Ave & La Cienega Blvd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2986		1509	3018	1350	1509	2911		1509	2957	
Flt Permitted	0.42	1.00		0.13	1.00	1.00	0.10	1.00		0.10	1.00	
Satd. Flow (perm)	674	2986		212	3018	1350	159	2911		159	2957	
Volume (vph)	159	947	71	255	572	108	99	1213	372	126	1007	155
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	997	75	268	602	114	104	1277	392	133	1060	163
RTOR Reduction (vph)	0	6	0	0	0	12	0	32	0	0	13	0
Lane Group Flow (vph)	167	1066	0	268	602	102	104	1637	0	133	1210	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8		4		4		6		2			
Actuated Green, G (s)	25.0	25.0	41.0		41.0	41.0	39.0	39.0	39.0		39.0	
Effective Green, g (s)	26.0	26.0	42.0		42.0	42.0	40.0	40.0	40.0		40.0	
Actuated g/C Ratio	0.29	0.29	0.47		0.47	0.47	0.44	0.44	0.44		0.44	
Clearance Time (s)	5.0	5.0	3.0		5.0	5.0	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	195	863	272		1408	630	71	1294	71		1314	
v/s Ratio Prot	c0.36		c0.13		0.20	0.56		0.41				
v/s Ratio Perm	0.25		0.33		0.08	0.65	c0.84					
v/c Ratio	0.86	1.23	0.99		0.43	0.16	1.46	1.26	1.87		0.92	
Uniform Delay, d1	30.2	32.0	24.6		16.0	13.8	25.0	25.0	25.0		23.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	35.5	115.7	50.1		1.0	0.6	270.9	125.5	441.4		11.9	
Delay (s)	65.8	147.7	74.7		16.9	14.4	295.9	150.5	466.4		35.4	
Level of Service	E	F	E		B	B	F	F	F		D	
Approach Delay (s)	136.6		32.4		159.0		77.7					
Approach LOS	F		C		F		E					
Intersection Summary												
HCM Average Control Delay			109.9		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.53									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			124.9%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Santa Monica Blvd & Holloway Dr

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3008			3018	1350		1485		1433	1444	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3008			3018	1350		1485		1433	1444	
Volume (vph)	0	1368	31	0	1071	300	26	43	47	323	65	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1440	33	0	1127	316	27	45	49	340	68	21
RTOR Reduction (vph)	0	2	0	0	0	74	0	25	0	0	4	0
Lane Group Flow (vph)	0	1471	0	0	1127	242	0	96	0	211	214	0
Turn Type						Over	Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		59.6			59.6	20.4		8.0		20.4	20.4	
Effective Green, g (s)		59.6			59.6	20.4		8.0		20.4	20.4	
Actuated g/C Ratio		0.60			0.60	0.20		0.08		0.20	0.20	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1793			1799	275		119		292	295	
v/s Ratio Prot		c0.49			0.37	c0.18		c0.06		0.15	0.15	
v/s Ratio Perm												
v/c Ratio		0.82			0.63	0.88		0.81		0.72	0.73	
Uniform Delay, d1		16.0			13.0	38.6		45.2		37.2	37.2	
Progression Factor		0.27			1.00	1.00		1.00		0.81	0.81	
Incremental Delay, d2		2.0			1.7	26.4		31.7		5.0	5.0	
Delay (s)		6.2			14.7	65.0		76.9		35.3	35.1	
Level of Service		A			B	E		E		D	D	
Approach Delay (s)		6.2			25.7			76.9			35.2	
Approach LOS		A			C			E			D	
Intersection Summary												
HCM Average Control Delay		20.4					HCM Level of Service			C		
HCM Volume to Capacity ratio		0.83										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		72.0%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Santa Monica Blvd & Kings Rd

6/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	1509	3014		1509	3004			1396			1515	1350
Flt Permitted	0.17	1.00		0.11	1.00			0.98			0.88	1.00
Satd. Flow (perm)	268	3014		175	3004			1378			1401	1350
Volume (vph)	80	1731	14	1	1223	39	2	2	28	34	1	53
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	1822	15	1	1287	41	2	2	29	36	1	56
RTOR Reduction (vph)	0	0	0	0	1	0	0	27	0	0	0	51
Lane Group Flow (vph)	84	1837	0	1	1327	0	0	6	0	0	37	5
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	83.7	83.7		76.8	76.8			8.3			8.3	8.3
Effective Green, g (s)	83.7	83.7		76.8	76.8			8.3			8.3	8.3
Actuated g/C Ratio	0.84	0.84		0.77	0.77			0.08			0.08	0.08
Clearance Time (s)	3.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	1.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	260	2523		134	2307			114			116	112
v/s Ratio Prot	0.01	c0.61			0.44							
v/s Ratio Perm	0.26			0.01				0.00			c0.03	0.00
v/c Ratio	0.32	0.73		0.01	0.58			0.06			0.32	0.04
Uniform Delay, d1	2.9	3.4		2.7	4.8			42.2			43.2	42.2
Progression Factor	1.00	1.00		0.36	0.40			1.00			1.00	1.00
Incremental Delay, d2	0.3	1.9		0.1	0.9			0.2			1.6	0.2
Delay (s)	3.1	5.3		1.1	2.8			42.4			44.8	42.3
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		5.2			2.8			42.4			43.3	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			5.7			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			92.2%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Santa Monica Blvd & North West Knoll Drive

6/16/2014

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1859	40	0	1555	0	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2021	43	0	1690	0	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	475			798		
pX, platoon unblocked			0.45		0.60	0.45
vC, conflicting volume			2064		3733	1032
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2143		3847	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			111		2	486
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	1347	717	103			
Volume Left	0	0	0			
Volume Right	0	43	103			
cSH	1700	1700	486			
Volume to Capacity	0.79	0.42	0.21			
Queue Length 95th (ft)	0	0	20			
Control Delay (s)	0.0	0.0	14.4			
Lane LOS			B			
Approach Delay (s)	0.0		14.4			
Approach LOS			B			
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Sherwood Dr & La Cienega Blvd

6/16/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	39	105	48	1496	1166	93
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	111	51	1575	1227	98
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				1019		
pX, platoon unblocked	0.64					
vC, conflicting volume	2165	663	1325			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2257	663	1325			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	73	90			
cM capacity (veh/h)	20	404	517			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	152	51	787	787	818	507
Volume Left	41	51	0	0	0	0
Volume Right	111	0	0	0	0	98
cSH	66	517	1700	1700	1700	1700
Volume to Capacity	2.31	0.10	0.46	0.46	0.48	0.30
Queue Length 95th (ft)	366	8	0	0	0	0
Control Delay (s)	733.1	12.7	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	733.1	0.4			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay		36.0				
Intersection Capacity Utilization		65.3%		ICU Level of Service		C
Analysis Period (min)		15				

APPENDIX C:
SIGNAL WARRANT ANALYSIS

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Existing AM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	YES	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Existing MD

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Existing PM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Existing + Project AM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	YES	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Existing + Project MD

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Existing + Project PM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Cumulative AM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	YES	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Cumulative MD

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Cumulative PM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Cumulative + Project AM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	YES	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Cumulative + Project MD

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: La Cienega Bl
 Minor Street: Sherwood Dr
 Scenario: Cumulative + Project PM

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			YES	NO	Daily
Interruption of Continuous Traffic			YES	NO	Daily
80% Combination			YES	NO	Daily

APPENDIX D:
WEST HOLLYWOOD MIXED-USE PROJECT TRAVEL CHARACTERISTICS
STUDY



WEST HOLLYWOOD MIXED-USE PROJECT TRAVEL CHARACTERISTICS

BACKGROUND

Fehr & Peers was asked to assist in estimating the travel characteristics of the proposed mixed-use project at 8550 Santa Monica Boulevard during typical weekday peak travel periods. Following a review of the project elements, local conditions, and a field visit to similar uses in West Hollywood, a data collection effort was conducted and the results are reported in this memorandum. The purpose of the data collection effort was to capture the travel characteristics of similar uses with a focus on the portion of trips made by active modes.

DATA COLLECTION METHODOLOGY

Based on the proposed project elements, two similar and nearby land uses were selected for trip generation data collection: Trader Joe's and 24-Hour Fitness. Both businesses, as well as the proposed project, are located along a two-block stretch of Santa Monica Boulevard between West Knoll Drive and Westbourne Drive in West Hollywood. The proximity and similarity of the selected uses to the proposed project made them good candidates for assessing overall travel characteristics and capturing the share of trips that are made by active modes, such as biking and walking.

To be consistent with the typical peak periods analyzed by the City of West Hollywood in traffic impact studies, data was collected during the following time periods:

- Morning (7:00 – 10:00 AM)
- Midday (11:00 AM – 2:00 PM)
- Afternoon (4:00 -7:00 PM)

The data collection effort occurred on Tuesday, November 26. Weather conditions were sunny and clear (during daylight hours) with a high temperature of 76 degrees. It should be noted that data was collected during the week of Thanksgiving. Therefore, total trip generation of the grocery uses may be higher than on a typical Tuesday afternoon. However, since the main purpose of this data collection effort was to determine the travel characteristics of those visiting the store and not the total trip generation, the date of the data collection was found to be reasonable.

DATA COLLECTION RESULTS

The results of the data collection effort are presented below.

24-Hour Fitness

The vehicle and pedestrian entrances for 24-Hour Fitness are both located on Santa Monica Boulevard. The vehicle entrance is to the adjacent structure, which is shared with other retail establishments. Gym patrons who park in the structure enter the gym by walking onto Santa Monica Boulevard and accessing the pedestrian entrance/sidewalk that leads to the front door of the gym.

To estimate the travel characteristics of 24-Hour Fitness and the mode share of patrons, the following data was collected:

- Driving trips were tabulated by counting the number of individuals (or parties) who were observed to enter 24-Hour Fitness from the parking structure. Parties arriving together were counted under the assumption that they arrived in a single vehicle. Both individual (i.e., "person trips") and vehicle trips (accounting for multiple people in one car) were recorded. The vehicle data collection effort also included gym patrons who were observed parking on Santa Monica Boulevard and walking in/out of 24-Hour Fitness.
- Walking trips were tabulated by counting the number of people who entered 24-Hour Fitness and were not observed to enter/exit the structure or to park on the street.
- Bicycling trips were tabulated by counting the number of people who entered the 24-Hour Fitness and arrived by bike (bicycle parking is provided at the front entrance of the gym).

Table 1 shows the results of the data collected at 24-Hour Fitness.

Table 1				
24-Hour Fitness: Total Trip Generation during Weekday Peak Travel Periods				
Peak Period	Vehicles	Pedestrians	Bicyclists	Total Trips
AM Peak Period (7:00 – 10:00 AM)	48	153	4	205
Midday Peak Period (11:00 AM – 2:00 PM)	50	82	2	134
PM Peak Period (4:00 – 7:00 PM)	76	134	2	212

Table 2 below shows the modal split between active modes (walking and biking) and vehicle trips.

Table 2 24-Hour Fitness: Summary of Trip Generation by Mode			
Peak Period	Vehicles	Pedestrians	Bicyclists
AM Peak Period (7:00 – 10:00 AM)	23%	75%	2%
Midday Peak Period (11:00 AM – 2:00 PM)	37%	61%	2%
PM Peak Period (4:00 -7:00 PM)	36%	63%	1%

The modal split indicates that the majority of visitors to 24-Hour Fitness in West Hollywood are walking. The AM peak period has the highest percentage of walking trips at 75%. It should be noted that more walk and bike trips may be expected during the PM peak period during the Spring, Summer and Fall months when daylight hours extend longer into the evening.

Trader Joe's

The vehicle entrance for Trader Joe's is located on Westmount Drive. The Trader Joe's parking lot is shared with adjacent businesses. The store entrances are both located on the northern face of the Trader Joe's building, and are oriented towards the parking lot. To estimate the peak period trip generation of Trader Joe's and the mode share of patrons, the following data was collected:

- Driving trips were tabulated by counting the number of individuals (and parties) who were observed to park in the adjacent lot and enter Trader Joe's. Parties arriving together were counted under the assumption that they arrived in a single vehicle and this was confirmed in visual observations.
- Patrons who park on street are most likely to park on Westmount Drive or Santa Monica Boulevard. However, those who parked on Santa Monica Boulevard were not visible to the data collectors located near the front door entrances to Trader Joes; therefore, those who were observed to walk into the store and not park in the adjacent lot or on Westmount Drive were asked if they drove, walked or biked to the site.

Table 3 shows the results of the data collection. The AM peak trip generation is considerably lower than the midday and PM peak periods with approximately one-fourth of the total trips generated, which is to be expected from a grocery store use.

Table 3 Trader Joe's: Total Trip Generation during Weekday Peak Travel Periods				
Peak Period	Vehicles	Pedestrians	Bicyclists	Total Trips
AM Peak Period (7:00 – 10:00 AM)	65	37	2	104
Midday Peak Period (11:00 AM – 2:00 PM)	270	174	3	447
PM Peak Period (4:00 – 7:00 PM)	304	170	3	477

Table 4 shows the modal split between active modes (walking and biking) and vehicle trips.

Table 4 Trader Joe's: Summary of Trip Generation by Mode			
Peak Period	Vehicles	Pedestrians	Bicyclists
AM Peak Period (7:00 – 10:00 AM)	62%	36%	2%
Midday Peak Period (11:00 AM – 2:00 PM)	60%	39%	1%
PM Peak Period (4:00 – 7:00 PM)	64%	35%	1%

The modal split indicates that approximately 60 percent of visitors to Trader Joe's are driving and approximately 40 percent of the trips are walking or biking to the store during typical weekday peak travel hours.

CONCLUSION

The results of the data collection effort indicate that a substantial portion of trips generated by the 24-Hour Workout and Trader Joe's in West Hollywood occur as walking trips during typical weekday peak travel periods.

- At 24-Hour Workout, between 61 and 75 percent of the trips generated by the facility occur as walking trips with an additional one to two percent as bike trips.
- At Trader Joe's, between 35 and 39 percent of the trips generated by the store occur as walking trips with an additional one to two percent as bike trips.

These findings are consistent with the City's goals and policies that aim to create a pedestrian friendly and walkable community for residents, workers and visitors in West Hollywood. The results of this study will be used to inform the trip generation estimates for the proposed mixed-use project at 8550 Santa Monica Boulevard.

**APPENDIX E:
RELATED PROJECTS**

APPENDIX E
RELATED PROJECTS
SPROUTS - 8550 SANTA MONICA BOULEVARD PROJECT

#	Location	Land Use	Intensity	Units	Weekday									
					Daily Total	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
					Total	Total	In	Out	Total	In	Out	Total	In	Out
	City of West Hollywood [1]													
1	612 Croft Ave	Condominiums	11	du	64	5	1	4	5	1	4	6	4	2
2	920 Fairfax Ave	Retail/Office			86	8	1	9	8	1	9	2	7	9
3	937 Fairfax Ave	Condominiums	17	du	100	7	1	6	7	1	6	9	6	3
4	1240 Fairfax Ave	Condominiums	23	du	135	10	2	8	10	2	8	12	8	4
5	1216 Flores St	Condominiums	14	du	82	6	1	5	6	1	5	7	5	2
6	8210 Fountain Ave	Condominiums	9	du	53	4	1	3	4	1	3	5	3	2
7	1264 Harper Ave	Condominiums	16	du	94	7	1	6	7	1	6	8	5	3
8	1345 Havenhurst Dr	Condominiums	16	du	94	7	1	6	7	1	6	8	5	3
9	1342 Hayworth Ave	Condominiums	16	du	94	7	1	6	7	1	6	8	5	3
10	1211 Horn Ave	Condominiums	16	du	94	7	1	6	7	1	6	8	6	3
11	1217 Horn Ave	Condominiums	7	du	41	3	1	3	3	1	3	4	2	1
12	1125 Kings Rd	Condominiums	10	du	59	4	1	4	4	1	4	5	3	2
13	1232 Kings Rd	Apartments	25	du	168	13	3	10	14	4	10	16	10	5
14	623 La Peer Dr	La Peer Hotel			876	52	28	24	68	36	32	68	36	32
15	1223 Larrabee St	Condominiums	8	du	47	4	1	3	4	1	3	4	3	1
16	8551 Melrose Ave	Retail	6,500	sf	288	9	5	4	44	21	23	18	8	10
17	8564 Melrose Ave	Retail/Commercial	28,474	sf	765	23	14	9	114	55	59	49	22	27
18	8583 Melrose Ave	Retail/Commercial	9,545	sf	561	28	16	12	74	38	36	44	22	22
19	8612 Melrose Ave	Restaurant	9,998	sf	899	8	4	4	56	35	21	75	50	25
20	8650 Melrose Ave	Retail	14,571	sf	646	19	11	8	100	48	52	39	17	22
		Apartments	7	du	47	4	1	3	4	1	3	4	3	1
		Subtotal			693	23	12	11	104	49	55	43	20	23
21	8687 Melrose Ave	Office	400,000	sf	4,404	620	546	74	620	310	310	548	93	455
22	8711 Melrose Ave	Commercial	21,565	sf	567	17	10	7	80	39	41	17	8	9
23	8008 Norton Ave	Condominiums	8	du	47	4	1	3	4	1	3	4	3	1
24	500 Orlando Ave	Apartments	4	du	27	2	0	2	2	1	1	2	1	1
25	507 Orlando Ave	Apartments	9	du	60	5	1	4	5	1	4	6	4	2
26	611 Orlando Ave	Condominiums	5	du	29	2	0	2	2	0	2	3	2	1
		Apartments	184	du	1,236	94	19	75	101	29	72	114	74	40
		Convenience Store	3,300	sf	146	4	2	2	23	11	12	9	4	5
		Restaurant	4,800	sf	610	55	29	26	65	33	32	52	26	26
		Subtotal			2,021	155	50	105	191	73	118	178	106	72
27	8120 Santa Monica Blvd	Mixed-use Project (Walgreens)			1,018	15	8	7	48	21	27	118	61	57
28	8350 Santa Monica Blvd	Kings Rd Mixed-use			432	18	7	11	58	26	32	29	15	14
29	8555 Santa Monica Blvd	Mixed-use Project			797	61	14	47	86	30	56	67	44	23
30	9001 Santa Monica Blvd	Mixed-use Project			829	8	16	-8	58	49	9	47	31	16
31	9040-9098 Santa Monica Blvd	Melrose Triangle			3,578	260	193	67	431	218	212	303	123	180
32	1040 Spaulding Ave	Condominiums	5	du	29	2	0	2	2	0	2	3	2	1
33	944 Stanley Ave	Condominiums	5	du	29	2	0	2	2	0	2	3	2	1
34	8240 Sunset Blvd	Condominiums	27	du	158	12	2	10	12	2	10	14	9	5
35	8305 Sunset Blvd	Retail/Restaurant			1,137	0	0	0	70	57	13	95	64	31
36	8418 Sunset Blvd	Sunset Time			2,226	122	67	55	150	82	68	190	114	76
37	8490 Sunset Blvd	Sunset Millennium			5,496	333	160	173	542	249	293	412	214	198
38	8497 Sunset Blvd	Mixed-use Project			898	16	8	8	86	50	36	55	39	16
39	8873 Sunset Blvd	Retail	9,995	sf	443	13	8	5	68	33	35	27	12	15
40	8950 Sunset Blvd	Hotel	196	or	1,748	131	76	55	125	69	56	137	67	70
		Apartments	4	du	27	2	0	2	2	1	1	2	1	1
		Subtotal			2,218	146	84	62	195	103	92	166	80	86
		Hotel			2,986	126	71	55	112	63	49	234	126	108
42	1253 Sweetzer Ave	Condominiums	8	du	47	4	1	3	4	1	3	4	3	1
43	8565 West Knoll Dr	Condominiums	6	du	35	3	1	2	3	1	2	3	2	1
44	916 Westbourne Dr	Condominiums	8	du	47	4	1	3	4	1	3	4	3	1
	City of Beverly Hills [3]													
45	460-50 N. Palm Dr	Condominiums	35	du	205	15	3	12	15	3	12	18	12	6
46	432 N. Oakhurst Dr	Condominiums	34	du	205	15	3	12	15	3	12	18	12	6
	City of Los Angeles [2]													
48	300 S Wetherly Dr	Condominiums	140	du	270	20	3	17	62	12	50	22	15	7
49	8723 W Alden Dr	Medical Office	100	beds	1,181	113	81	32	145	100	45	130	43	87
50	7901 W Beverly Blvd	Apartments	71	du	472	36	7	29	39	11	28	44	29	15
		Retail	11,454	sf	493	36	22	14	78	37	41	46	20	26
		Subtotal			965	72	29	43	117	48	69	90	49	41
		Apartments	125	du	831	64	61	3	69	20	49	78	51	27
51	375 N La Cienega Blvd	Retail	7,900	sf	168	4	2	2	54	26	28	15	7	8
		Subtotal			999	68	63	5	123	46	77	93	58	35
		Specialty Retail	3,680	sf	140	5	3	2	22	11	11	9	4	5

APPENDIX E
RELATED PROJECTS
SPROUTS - 8550 SANTA MONICA BOULEVARD PROJECT

#	Location	Land Use	Intensity	Units	Weekday									
					Daily Total	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
						Total	In	Out	Total	In	Out	Total	In	Out
52	316 N La Cienega Blvd	Café	800	sf	288	71	36	35	44	22	22	24	12	12
		Apartments	45	du	299	23	5	18	25	7	18	28	18	10
		Specialty Retail (Existing)	3,153	sf	(126)	(5)	(3)	(2)	(19)	(9)	(10)	(8)	(4)	(4)
		Subtotal				601	94	41	53	72	31	41	53	30
Total					39,248	2,580	1,568	1,016	3,935	1,906	2,032	3,352	1,608	1,757