ENVIRONMENTAL IMPACT REPORT FOR A REPLACEMENT AIRLINE PASSENGER TERMINAL AT BURBANK BOB HOPE AIRPORT

VOLUME 3

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VOLUME 3

FINAL
June 2016
Burbank, California

State Clearinghouse No.:
2015121095

Prepared by RS&H, Inc. at the direction of the Burbank-Glendale-Pasadena Airport Authority

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APPENDIX H
GEOLOGY AND SOILS

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GEOTECHNICAL EVALUATION DESIGN PHASE REGIONAL INTERMODAL TRANSPORTATION CENTER

Bob Hope Airport, Burbank, California

July 29, 2010

GEOTECHNICAL EVALUATION
DESIGN PHASE
REGIONAL INTERMODAL TRANSPORTATION CENTER
BOB HOPE AIRPORT, BURBANK, CALIFORNIA
PROJECT NUMBER E09-11

PREPARED FOR:
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July 29, 2010
Project No. 207789002

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Mr. Alberto Cruz
Burbank-Glendale-Pasadena Airport Authority
Engineering and Planning
2800 N. Clybourn
Burbank, California 91505

Subject: Geotechnical Evaluation
Design Phase
Regional Intermodal Transportation Center (RITC)
Bob Hope Airport, Burbank, California
Project Number E09-11

Dear Mr. Cruz:

In accordance with your request, we have performed a geotechnical evaluation for the proposed Regional Intermodal Transportation Center (RITC) located at Bob Hope Airport in Burbank, California. This report summarizes our findings and conclusions regarding the site geotechnical conditions and provides foundation design criteria and geotechnical recommendations for construction of the planned improvements.

Ninyo & Moore appreciates the opportunity to be of service to you on this project.

Respectfully submitted,
NINYO & MOORE

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1. INTRODUCTION

In accordance with your authorization, we have performed a design geotechnical evaluation for the Burbank-Glendale-Pasadena Airport Authority's proposed Regional Intermodal Transportation Center (RITC) at the Bob Hope Airport in Burbank, California (Figure 1). Ninyo & Moore previously performed a preliminary geotechnical evaluation for the site and provided our results in our report dated October 19, 2009. For your convenience, we have incorporated the findings from our previous evaluation in this design geotechnical evaluation.

The RITC project includes construction of a bus terminal, rental car facility, parking structure, a publicly accessible compressed natural gas facility, and elevated walkways. The purpose of our study was to perform a subsurface evaluation and to provide geotechnical earthwork and pavement design recommendations for the proposed improvements. This report presents our findings, conclusions, and recommendations regarding the subject project.

2. SCOPE OF SERVICES

Our scope of services included the following:

- Project coordination and background review, including review of readily available environmental assessment and geotechnical reports, background information provided by the client, geologic maps, and aerial photographs.
- Scheduling of field activities and client consultations.
- Preparation of a Site Health and Safety Plan.
- A field reconnaissance to evaluate the surface conditions on site and to mark proposed boring locations for clearance with site personnel and Underground Service Alert.
- Utility clearance at the boring locations using a private utility locator service.
- Subsurface exploration consisting of the excavation, logging, and sampling of eleven hollow-stem auger borings to depths of approximately 85.5 to 100.7 feet and six cone penetrometer tests (CPTs) to depths of approximately 9 to 50 feet. Two borings (B-1 and B-2) and the six CPTs were excavated during our preliminary evaluation and nine borings (B-3 through B-11) were excavated during our design phase evaluation. The borings were logged by a representative of our firm, and bulk and relatively undisturbed samples were obtained at selected intervals for laboratory testing.

- Waste characterization sampling and disposal of collected material from one subsurface exploration, including the collection of composite samples from the drummed material for each borehole to be analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and Title 22 Metals by United States Environmental Protection Agency (EPA) Methods 8015M, 8260B, and 6000/7000 series, respectively.

- Geotechnical laboratory testing of selected soil samples, including tests to evaluate in-situ moisture and density, percent particles finer than the No. 200 sieve, gradation, Proctor density, shear strength, expansion index, soil corrosivity, and R-value.

- Compilation and geotechnical analysis of field and laboratory data, including analyses to evaluate and provide recommendations pertaining to the following:

    - Description of the geology and soils anticipated at the site.

    - Evaluation of the site seismicity and potential geologic hazards, including liquefaction and dynamic settlement potential.

    - Evaluation of site-specific spectral response acceleration and ground motion time histories in accordance with American Society of Civil Engineers (ASCE) publication ACSE 7-05 (ASCE, 2006).

    - Excavation characteristics of the material at the site, including stability of temporary excavations and trenching conditions.

    - Excavation and compaction requirements, including appropriate building pad preparation, parameters for structural fill, trench backfill, and pavement subgrade.

    - Design and construction of exterior slabs-on-grade.

    - Geotechnical engineering for foundations for shallow footings, and driven pile foundations.

    - Lateral earth pressures for retaining walls, including active, passive, and at-rest pressures, as well as coefficient of friction for soil-concrete interaction.

    - Design of pavement structural sections.

    - Corrosion potential of on-site soils.

- Preparation of this design geotechnical report presenting our findings, conclusions, and recommendations pertaining to the feasibility of the proposed project, as well as recommendations for the design and construction of the proposed project and associated improvements.

Our scope of services for this project also includes providing geotechnical seismic design parameters for the proposed structures in accordance with Chapter 17 of the ASCE 7-05 design guideline. Our geotechnical seismic design parameters for the structures will be provided in a separate report.

3. SITE DESCRIPTION

The relatively level project site consists of an approximately 24-acre site bordered by the terminals and runways of the Bob Hope Airport to the north and west, a shopping center and Hollywood Way to the east, and Empire Avenue to the south (Figures 1 and 2). Currently, the site is paved and is used for passenger parking and valet parking for the airport. Landscaping is present in some areas. We understand that the project site was formerly used for aircraft manufacturing from the 1940's through the 1990's. The underlying soils, as a result, have been contaminated with hydrocarbons, volatile organic compounds, and some metals and the site has been the focus of several site assessments and remedial actions. Based on background information provided by the airport, we understand that the soils below the upper approximately 10 feet at the site may still contain some levels of these contaminants.

4. PROPOSED CONSTRUCTION

The Regional Intermodal Transportation Center (RITC) will include construction of an elevated transportation center, incorporating a bus terminal for local and regional transit buses as well as rental car buses. The transportation center will be connected to both the Bob Hope Airport and the Bob Hope Airport Train Station via a covered, elevated pedestrian walkway. The proposed project will also include a multi-level rental car facility, elevated public parking spaces, and a publicly accessible compressed natural gas facility. Construction of solar panels is also included in the proposed project. Due to previous site contamination, we understand that storm water runoff is not permitted to percolate into the soil and is to be transported off-site through filtered storm drain structures.

It is further our understanding that the proposed RITC will become the regional emergency center immediately following a major earthquake event in the region. Therefore, the facility is to remain operational. To withstand the seismic demand and to accommodate the environmental constraints, a base isolator system to be located at the first floor level for both the RITC and pedestrian walkway is being considered by Miyamoto International, Inc. (MI). Based on the information provided by MI, we understand that preliminary periods of 3.3 and 4.1 seconds for the effective period at design displacement (T_D) and effective period at maximum displacement (T_M), respectively, was assigned to the RITC building. In addition, preliminary periods of 2.0 and 2.6 seconds for the T_D and T_M, respectively, were assigned to the pedestrian walkway.

5. SUBSURFACE EVALUATION AND LABORATORY TESTING

Our subsurface evaluation consisted of drilling, logging, and sampling eleven small-diameter, hollow-stem auger borings to depths of approximately 85.5 to 100.7 feet below the surface. For the preliminary phase of our work at the site, two borings (B-1 and B-2) were drilled to depths of approximately 100.3 and 100.5 feet below the surface in July 2009. Also at that time, six cone penetrometer tests (CPTs) were advanced to depths of approximately 9.5 to 50 feet. Additional borings (B3 through B-11) were performed on May 11 through 14 and 17, 2010, using truck-mounted equipment. The approximate locations of our subsurface exploration are shown on Figure 2.

The purposes of the subsurface exploration were to observe the subsurface soil and geologic conditions, evaluate the depth to groundwater, and collect bulk and relatively undisturbed samples at selected intervals for laboratory testing. Excavated materials were visually classified in the field, and samples were transported to our laboratory. Logs of the exploratory borings and CPTs are presented in Appendices A and B, respectively.

Laboratory testing of representative soil samples included tests to evaluate in-situ moisture and density, percent particles finer than the No. 200 sieve, gradation, Proctor density, shear strength, expansion index, soil corrosivity, and R-value. Due to concerns about the potential for contaminated soils below 10 feet, some laboratory testing during the design phase was performed by

Keantan Laboratories, who are certified to handle and test hazardous soil samples. Laboratory test results are presented on the boring logs in Appendix A and in Appendices C and D.

6. GEOLOGY AND SUBSURFACE CONDITIONS

6.1. Regional Geologic Setting

The subject site is located within the Northwestern Block of the Los Angeles Basin, situated within the northern portion of the Peninsular Ranges Geomorphic Province (Norris and Webb, 1990). The site is situated on a southeast sloping alluvial fan derived from the San Gabriel Mountains to the north. Regional geologic mapping indicates that the site and vicinity are underlain by Holocene and late Pleistocene alluvial fan deposits consisting of unconsolidated gravel, sand, and silt (Yerkes and Campbell, 2005). Site topography consists of relatively level ground at an approximate mean elevation of 680 feet above Mean Sea Level (MSL) (USGS, 1972).

6.2. Site Geology

The materials encountered in our borings and CPT soundings generally consisted of fill and alluvial deposits. A brief description of these deposits is presented below. Detailed information is presented on the boring logs in Appendix A and the CPT logs in Appendix B.

6.2.1. Fill

Fill material was encountered to depths of approximately 2 to 13 feet below the ground surface in our exploratory borings. The fill consisted of light yellowish brown, yellowish brown, and brown, dry to damp, medium dense to very dense, sand, silty sand, and silty sand with gravel. Some scattered cobbles were also encountered in the fill.

6.2.2. Alluvium

Alluvium was encountered beneath the fill materials. The alluvium generally consisted of light yellowish brown to dark yellowish brown and reddish brown, dry to moist, loose to very dense, sand, sand with silt, sand with gravel, sand with silt and gravel,

silty sand, and silty sand with gravel. A layer of reddish brown, moist, stiff to very stiff, fine sandy clay was encountered at a depth of approximately 70 feet in boring B-1. Scattered cobbles and scattered gravel and cobble layers were also encountered in the alluvium.

6.3. Groundwater

Groundwater was not encountered in our exploratory borings to a depth of 100.7 feet at the time of drilling. Historical high groundwater at the site is approximately 60 feet below the ground surface (California Division of Mines and Geology [CDMG], 1998b). It should be noted that fluctuations in groundwater level at the project site may occur due to variations in subsurface stratification, rainfall, irrigation practices, groundwater pumping, and other factors which may not have been evident at the time of our evaluation.

7. FAULTING AND SEISMICITY

The subject site is not located within a State of California Earthquake Fault Zone (formerly known as an Alquist-Priolo Special Studies Zone) (Hart and Bryant, 1997). However, the site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion in the project area is considered significant during the design life of the proposed structures. Figure 3 shows the approximate site location relative to the major faults in the region.

Table 1 lists selected principal known active faults that may affect the subject site and the maximum moment magnitude (M_{max}) as published by the Cao, et al. (2003) for the California Geological Survey (CGS). The approximate fault-to-site distances were calculated using the computer program FRISKSP (Blake, 2001).

Table 1 – Principal Active Faults

Fault	Approximate Fault-to-Site Distance [1] miles (kilometers)	Maximum Moment Magnitude [2] (M_{max})
Verdugo	1.6 (2.5)	6.9
Hollywood	3.0 (4.9)	6.4
Northridge (E. Oak Ridge)	5.5 (8.9)	7.0
Upper Elysian Park Blind Thrust	6.1 (9.8)	6.4
Sierra Madre	6.6 (10.6)	7.2
Raymond	8.0 (12.8)	6.5
Puente Hills Blind Thrust	8.3 (13.4)	7.1
Santa Monica	9.4 (15.2)	6.6
San Gabriel	9.5 (15.3)	7.2
Newport-Inglewood (Los Angeles Basin)	10.7 (17.2)	7.1
Whittier	23.4 (37.6)	6.8
San Andreas (1857 Rupture)	28.1 (45.2)	7.8

Notes:
[1] Blake, 2001; Caltrans, 2010
[2] Cao, et al., 2003

The principal seismic hazards at the subject site are surface fault rupture, ground motion, liquefaction, and dynamic settlement. A brief description of these hazards and the potential for their occurrences on site are discussed below.

7.1. Ground Rupture

Based on our review of the referenced literature and our site reconnaissance, no mapped active faults are known to cross the project site. Therefore, the probability of damage from surface fault rupture is considered to be low. However, cracking of the ground surface as a result of nearby seismic events is possible.

7.2. Ground Motion

The 2007 California Building Code (CBC) recommends that the design of structures be based on the horizontal peak ground acceleration (PGA) having a 2 percent probability of exceedance in 50 years which is defined as the Maximum Considered Earthquake (MCE). The statistical return period for PGA_{MCE} is approximately 2,475 years. The probabilistic PGA_{MCE} for the site was calculated as 0.86 g using the United States Geological Survey

(USGS, 2008) ground motion calculator (web-based). The design PGA was estimated to be 0.58 g using the USGS ground motion calculator. These estimates of ground motion do not include near-source factors that may be applicable to the design of structures on site.

The 2007 CBC seismic parameters have been provided for lightly loaded structures that may require seismic design, and for our geotechnical analysis. Geotechnical seismic design parameters for the proposed seismically isolated structures in accordance with Chapter 17 of the ASCE 7-05 design guideline will be provided in a separate report.

7.3. Liquefaction Potential

Liquefaction is the phenomenon in which loosely deposited granular soils with silt and clay contents of less than approximately 35 percent and non-plastic silts located below the water table undergo rapid loss of shear strength when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure, and causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

The project site is not located in an area mapped as potentially susceptible to liquefaction (CDMG, 1999). Our subsurface exploration and laboratory testing indicate that the site is underlain by relatively dense sands and gravels. Additionally, the historic high groundwater table is located at a depth of approximately 60 feet below the ground surface (CDMG, 1998b). Accordingly, it is our opinion that liquefaction and liquefaction-related seismic hazards (e.g., dynamic settlement, ground subsidence, and/or lateral spreading) are not design considerations for the project.

7.4. Dynamic Compaction of Dry Soils

Relatively dry soils (e.g., soils above the groundwater table) with low density or softer consistency tend to undergo a degree of compaction during a seismic event. Earthquake shaking often induces significant cyclic shear strain in a soil mass, which responds to the vibration by undergoing volumetric changes. Volumetric changes in dry soils take place primarily through changes in the void ratio (usually contraction in loose or normally consolidated soft soils, and dilation in dense or overconsolidated stiff soils) and secondarily through particle reorientation. Such volumetric changes are generally non-recoverable.

The potential settlement induced by dynamic compaction of relatively dry soil layers above the historic high groundwater level (i.e., within the upper approximately 60 feet) was calculated using the method proposed by Tokimatsu and Seed (1987) using the boring logs and CPT soundings. Under the current conditions during using the design PGA (0.58 g), the site soils up to a depth of approximately 60 feet are estimated to undergo a total post-earthquake settlement of approximately 1 inch and differential settlement on the order of ½ inch over a horizontal distance of 40 feet. Under the current conditions during using the PGA_{MCE} (0.86 g), the site soils up to a depth of approximately 60 feet are estimated to undergo a total post-earthquake settlement of approximately 3 inches and differential settlement on the order of 1½ inches over a horizontal distance of 40 feet.

8. CONCLUSIONS

Based on our review of geotechnical literature, the results of our subsurface evaluation, and our experience in the area, it is our opinion that construction of the proposed Regional Intermodal Transportation Center is feasible from a geotechnical standpoint, provided the following recommendations are incorporated into the design and construction of the planned project. In general, the following conclusions were made:

- We anticipate that earth materials generated from excavations in the upper 2 to10 feet should be generally suitable for use as compacted fill provided they are not contaminated. Contaminated materials should be removed from the site.

- Excavations into the fill and alluvial deposits should generally be feasible with grading equipment in good working order.
- The expansion index of near-surface soil at the boring locations is considered to be very low.
- Groundwater was not encountered in our borings to depths of approximately 100 feet. The historic high groundwater level is mapped at a depth of approximately 60 feet below the surface. However, seepage into excavations should be anticipated during construction.
- The subject site is not located within a State of California Earthquake Fault Zone (formerly known as Alquist-Priolo Special Studies Zone). The probability of surface fault rupture is considered to be low at this site.
- The site is not located in a mapped liquefaction hazard zone. In addition, due to the lack of groundwater encountered in our borings and the historic high groundwater level of approximately 60 feet, liquefaction is not a design consideration.
- Due to strong ground motion during a seismic event, there is potential for settlement induced by dynamic compaction of relatively dry soil layers above the historic high groundwater. Our analysis indicates that under the current conditions, the site soils up to a depth of approximately 60 feet are estimated to undergo a total post-earthquake (design PGA) settlement of approximately 1 inch and a total post-earthquake (PGA_{MCE}) settlement of approximately 3 inches.
- Our laboratory corrosion testing indicates that the near-surface site soils can be classified as non-corrosive based on California Department of Transportation (Caltrans, 2003) corrosion guidelines.

9. RECOMMENDATIONS

The following sections include our geotechnical recommendations for construction of the proposed Regional Intermodal Transportation Center. The proposed site improvements should be constructed in accordance with applicable governing agencies. The following recommendations are also based on near-surface soil conditions with an anticipated low expansion potential.

9.1. Earthwork

The quantity and type of earthwork operations performed during construction will depend upon the type of foundation system chosen to support the proposed structures. Consequently, earthwork at the site may include removal of existing site improvements, overexcavation,

grade beam and retaining wall construction, infilling of depressions created by the removal of existing improvements that extend below grade, and grading associated with installation of associated improvements including utilities, driveways, and concrete flatwork. Earthwork recommendations presented in the following sections are based on the assumption that the finish grades at the site will not be changed significantly.

We anticipate that the on-site soils will be excavatable utilizing heavy excavation equipment in good working order. Existing buried utility lines as well as vapor extraction lines associated with prior site remediation work may be present below the subject site. Care should be taken during earthwork and construction operations not to damage existing utility lines. Abandoned utility and site remediation lines should be removed or filled with cement slurry materials if not in the construction zone. Earthwork operations should be performed in accordance with the requirements of applicable governing agencies and the recommendations presented in the following sections of this report.

9.1.1. Pre-Construction Conference

We recommend that a pre-construction conference be held. The owner and/or their representative, the governing agencies' representatives, the civil engineer, Ninyo & Moore, and the contractor should attend to discuss the work plan and project schedule, and earthwork requirements.

9.1.2. Site Preparation

Prior to the placement of fill, the surface areas should be cleared of vegetation, surface obstructions and other deleterious materials. The removed vegetation and debris from the clearing operations should be removed from the site and disposed of at a legal dump site. Existing utilities within the project limits should be re-routed or protected from damage by construction activities. Abandoned utility and site remediation lines should be removed or filled with cement slurry materials if not in the construction zone. Obstructions that extend below finish grade should be removed and the resulting holes

filled with compacted soil. The need for, and limits of, excavation should be evaluated in the field by the geotechnical consultant.

9.1.3. Excavation

After the site has been cleared of surface improvements, vegetation, and subsurface obstructions, remedial grading operations can be performed to support the construction of the site improvements. Due to the site history, it is possible that prior improvements including, but not limited to, concrete, underground vaults, underground tanks, pipelines, utilities, voids, and contaminated soils will be encountered at depths below approximately 10 feet during grading activities.

We anticipate the new buildings will be supported on deep foundations. Due to the potential for dynamic settlement of soils at the site, we recommend that the grade beams be designed as structural beams that are design to span between piles without utilizing the bearing capacity of the underlying soils. This will limit the potential for damage of the grade beams and floor slabs during seismic events due to differential settlement. In areas below associated site improvements, such as sidewalks and pavement areas, the on-site soils should be removed to a depth of 12 inches. The bottom of the excavation should be scarified to a depth of about 6 inches, moisture conditioned, and recompacted to a relative compaction of 90 percent as evaluated by ASTM 1557 prior to placing fill. The lateral limits of overexcavation should extend to a distance equal to the depth of excavation below the finish grade. The overexcavation limits should be evaluated by Ninyo & Moore during construction.

Since some of the new non-occupied structures such as trash closures and low garden retaining walls are anticipated to be supported on spread footings, we anticipate that the fill soils beneath the proposed buildings and associated site improvements may not need to be overexcavated, moisture conditioned and re-compacted. Fill encountered in our exploratory borings in the vicinity of the proposed buildings ranges in depth from approximately 2 to 13 feet. Based on the borings, CPT's, and laboratory testing, the fill was observed to be relatively dense and is anticipated to be suitable for supporting

spread footings for non-occupied structures in accordance with our foundation recommendations. It is our understanding the fill cap was placed during the site remediation and compaction testing was performed during fill placement. Ninyo & Moore should review any as-graded reports documenting the fill placement, when available. If unsuitable soils are encountered during foundation excavation, overexcavation and recompaction should be anticipated. If overexcavation is recommended based on the observations during construction, then the depth of overexcavation should be relatively uniform in thickness and should be anticipated to be on the order of 3 feet below the base of the footing. In areas to receive fill or other improvements, the exposed subgrade should be scarified to a depth of 12 inches, moisture conditioned to slightly above optimum moisture content, and compacted to 90 percent or more of the laboratory maximum dry density as evaluated by ASTM D1557.

9.1.4. Temporary Excavations

We recommend that trenches and excavations be designed and constructed in accordance with Occupational Safety and Health Administration (OSHA) regulations. These regulations provide trench sloping and shoring design parameters for trenches up to 20 feet deep based on the soil types encountered. Trenches over 20 feet deep should be designed by the contractor's engineer based on site-specific geotechnical analyses. For planning purposes, we recommend that on-site fill and alluvial soils be considered as OSHA soil Type C.

In our opinion, temporary slopes should be stable at an inclination of approximately 1:1 (horizontal to vertical) up to a depth of about 4 feet. Excavations deeper than 4 feet should either be sloped at an inclination no steeper than 1½:1 (horizontal to vertical) or shored. Some surficial sloughing may occur. Temporary excavations that encounter seepage may need to be supported by shoring or may be stabilized by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis. On-site safety of personnel is the responsibility of the contractor. The bottom of the excavations should be located outside the zone of in-

fluence of the foundations of adjacent buildings, which is defined as the area outside the 1:1 (horizontal to vertical) projection from the bottom of the existing footing.

9.1.5. Fill Material

Our laboratory testing indicates that the near-surface site soils have a very low expansion potential and should be suitable for re-use as fill material, provided they are free of trash, debris, roots, vegetation, contaminated material, or other deleterious materials. Fill should generally be free of rocks or lumps of material in excess of 4 inches in diameter. Rocks or hard lumps larger than approximately 4 inches in diameter should be broken into smaller pieces or should be removed from the site.

Fill material imported to the site, if any, should consist of clean, granular material that generally meets Standard Specifications for Public Works Construction (Greenbook) criteria for structure backfill. Import material should consist of clean, granular soils with an expansion index (EI) of 50 or less. Soil should also be tested for corrosive properties prior to importing. We recommend that the imported materials satisfy the Caltrans (2003) criteria for non-corrosive soils (i.e., soils having a chloride concentration of 500 parts per million [ppm] or less, a soluble sulfate content of approximately 0.20 percent (2,000 ppm) or less, and a pH value of 5.5 or higher). Materials for use as fill should be evaluated by Ninyo & Moore prior to importing. The contractor should be responsible for the uniformity of import material brought to the site.

9.1.6. Fill Placement and Compaction

Fill soils placed should be compacted in horizontal lifts to a relative compaction of 90 percent as evaluated by ASTM D 1557. The lift thickness for fill soils will vary depending on the type of compaction equipment used, but should generally be placed in lifts not exceeding 8 inches in loose thickness. Fill soils should be placed at slightly above the optimum moisture content as evaluated by ASTM D 1557. Depending on the time of the year and seasonal precipitation, moisture conditioning of the near-surface soils may involve adding moisture to dry soil conditions or aerating the soil to reduce

the moisture content. Special care should be taken to avoid damage to existing wet and dry utility lines when compacting fill and subgrade materials.

9.2. Shored Excavations

Based on our understanding, this project will include construction of below-grade improvements. We anticipate that deep excavations may be shored during construction. We also anticipate that temporary excavations may be performed for the new sewer lines and other utilities.

Temporary excavations up to approximately 4 feet in depth should be generally stable at a slope inclination no steeper than 1:1 (horizontal to vertical). Excavations that expose friable, relatively dry sands, however, may be subject to caving. Excavations that are unstable or deeper than 4 feet, may need to be laid back at a slope inclination of approximately 1½:1 (horizontal to vertical) or flatter. In areas with limited space for construction where temporary excavations can not be laid back at the recommended slope inclination, a shoring system should be incorporated to stabilize the excavation sidewalls during construction.

The shoring system will be constructed through fill and alluvium. Appropriate shoring systems may include cantilevered shoring or an internal bracing shoring system. We recommend that temporary cantilevered shoring and braced shoring systems be designed utilizing the parameters presented on Figures 4 and 5, respectively. The design lateral earth pressures recommended on Figures 4 and 5 do not include the loads imposed on the shoring system from raising the ground surface elevation behind the wall, soil stockpiles, construction materials, construction equipment, and other loads acting above a 1:1 (horizontal to vertical) plane extending up and back from the base of the wall. For walls subjected to the above-mentioned surcharge loads, the contractor should include the effect of these loads on the lateral pressures against the wall.

Groundwater was not encountered in our borings to depths of approximately 100 feet below the existing ground surface. However, seepage should be anticipated during construction. Caving should be expected in excavations that are not shored. We recommend that the con-

tractor take appropriate measures to protect workers. Occupational Safety and Health Administration (OSHA) requirements pertaining to worker safety should be observed.

We anticipate that settlement of the ground surface will occur behind the shoring wall during excavation. The amount of settlement depends heavily on the type of shoring system, the contractor's workmanship, and the soil conditions. To reduce the potential for distress to adjacent structures, we recommend that the shoring system be designed to limit the ground settlement behind the shoring system to ½ inch or less. Possible causes of settlement that should be addressed include settlement during installation of the shoring, excavation for the construction of the planned below-grade structures, construction vibrations, dewatering, and removal of the bracing system. Should sheet piles be selected as the shoring system, the vibrations from the driving of sheet piles may result in settlement of soils to a significant distance from the site, and may affect the adjacent structures. This adverse condition should be evaluated carefully by the contractor prior to selection of the shoring system.

The contractor should retain a qualified and experienced engineer to design the shoring system. The contractor and their engineer should evaluate the adequacy of the parameters provided herein and make the appropriate modifications for their design.

9.3. Seismic Design Considerations

Design of the proposed improvements should comply with design for structures located in seismically active areas and should be designed in accordance with the requirements of governing jurisdictions and applicable building codes. Table 2 presents the seismic design parameters for the site in accordance with CBC (2007) guidelines and mapped spectral acceleration parameters (United States Geological Survey [USGS], 2008).

Table 2 – 2007 California Building Code Seismic Design Criteria

Seismic Design Factors	Value
Site Class	D
Site Coefficient, F_a	1.0
Site Coefficient, F_v	1.5
Mapped Spectral Acceleration at 0.2-second Period, S_s	2.157 g
Mapped Spectral Acceleration at 1.0-second Period, S_1	0.719 g
Spectral Acceleration at 0.2-second Period Adjusted for Site Class, S_{MS}	2.157 g
Spectral Acceleration at 1.0-second Period Adjusted for Site Class, S_{M1}	1.078 g
Design Spectral Response Acceleration at 0.2-second Period, S_{DS}	1.438 g
Design Spectral Response Acceleration at 1.0-second Period, S_{D1}	0.719 g

9.4. Foundations

Due to the anticipated loads and potential for dynamic settlement, we recommend supporting the proposed parking structure, transit center, and elevated walkway on deep foundations. When compared to conventional spread footings (i.e., isolated column and continuous wall footings), deep foundations are known to perform well in reducing the impact of differential settlements on the superstructure. We also recommend that the grade beams and floor slabs be designed to span between piles to limit the potential for damage resulting in differential settlement.

Due to the presence of very dense layers of sand and gravel and the potential for contaminated soils below approximately 2 to 13 feet, we recommend the use of driven H-piles as the preferred deep foundation alternative (driven concrete piles may encounter refusal within shallow dense layers).

Based on our project understanding, some smaller, non-occupied structures may be founded on conventional spread footings. We are providing recommendations for both deep and shallow foundations. Recommendations for driven piles, conventional spread footings and slab-on-grade are provided in the following sections.

Foundations should be designed in accordance with structural considerations and the geotechnical recommendations. In addition, requirements of the governing jurisdictions, practices of the Structural Engineers Association of California, and applicable building codes should be considered in the design of these structural elements.

9.4.1. Driven H Pile Foundation

We evaluated the load carrying capacities of driven H piles in consideration for total allowable static settlement of approximately ¾ inch and differential settlement of approximately ½ inch between columns. The length of pile is referenced from 10 feet below the existing ground surface elevation, which has been assumed as the approximate elevation of the bottom of the pile cap.

9.4.1.1. Axial Pile Capacities

The preliminary axial capacities for HP 12x53 and HP 14x89 H piles were evaluated and are based on frictional and end bearing capacity. Our analysis included evaluation of the ultimate vertical downward and uplift capacities for the H piles. The uplift capacities, except for seismic loads, represent 40 percent of the ultimate downward frictional capacity. Pile weight could be added to these uplift capacities. The service load can be utilized for the design PGA seismic event and the ultimate load can be utilized for the $PGA_{MCE.}$ Table 3 presents the vertical downward and uplift H pile capacities.

Table 3 – Summary of H Pile Capacity Evaluation

Pile Type	Estimated Length of Pile[1] (feet)	Ultimate Load (kips)	Service Load[2] (kips)	Uplift Capacity[3] (kips)
HP 12x53	65	550	275	220
HP 14x89	65	750	375	300

Notes:
[1] Length of pile is measured from the bottom of pile cap (top of the pile, 10 feet below grade)
[2] With a factor of safety of 2.0, service load = ultimate load/2.0
[3] The uplift capacity does not include the weight of the pile and is based on the service load.

To avoid the group action of the pile foundation, we recommend that piles be spaced no closer than three times the effective pile diameter. The axial pile capacities may be increased by one-third when considering loads of short duration such as wind or seismic forces associated with the design PGA. No increase can be made

when considering the PGA_{MCE} event. The uplift capacity should not be increased by one-third when considering loads of short duration such as wind or seismic forces since no end bearing capacity is available during uplift condition.

9.4.1.2. Lateral Capacity

The lateral pile capacities were evaluated for the free-head and fixed-head conditions at lateral head deflections of 0.25- and 0.5-inch using the computer program LPILE Plus version 4.0 (Ensoft, Inc., 2000). This program models a free-head condition as a pined connection that is free to rotate and will not develop a moment at the top of the pile and a fixed-head condition as a connection that will not rotate and develop a moment at the top of the pile. During the design PGA event loads associated with 0.25-inch deflection should be utilized and during the PGA_{MCE} event loads associated with 0.5-inch deflection should be utilized, provided that such deflections up to 0.5 inch at the top of the pile are tolerable in the structural design. We assumed that the dynamic loads would not be higher than the allowable lateral capacities for each pile. Maximum moments generated by the indicated deflections are based on geotechnical considerations. We recommend that the maximum moment capacities of the piles be evaluated by the structural engineer. Lateral capacities for pile lengths and embedment conditions that are different from those assumed in our analyses may be different from those indicated. Results of our lateral pile capacity evaluation for HP 12x53 and HP 14x89 H piles are summarized in Tables 4 and 5, respectively. Lateral pile capacities along both the strong axis and weak axis of the H piles are also included in Tables 4 and 5.

Table 4 – Single Pile Lateral Load Capacity of HP 12x53 H Pile

Design Condition	Free-Head				Fixed-Head			
Depth (feet)*	65				65			
Allowable Deflection, inches	0.25		0.5		0.25		0.5	
Loading Direction	**Strong Axis**	**Weak Axis**	**Strong Axis**	**Weak Axis**	**Strong Axis**	**Weak Axis**	**Strong Axis**	**Weak Axis**
Lateral Capacity, kips	9	6	15	9	23	14	39	24
Max. Positive Moment, ft-kip	33	20	60	30	33	20	61	30
Max. Negative Moment, ft-kip	2	1	3	1	96	47	174	84
Depth to Max. Positive Moment, ft	6	5	7	5	9	7	9	8
Depth to Max. Negative Moment, ft	18	14	18	15	0	0	0	0
Depth to 1st Point of Zero Deflection, ft	10	8	10	8	12	10	13	10

Note:
*Depth is measured from the bottom of pile cap (top of the pile).

Table 5 – Single Pile Lateral Load Capacity of 14x89 H Pile

Design Condition	Free-Head				Fixed-Head			
Depth (feet)*	65				65			
Allowable Deflection, inches	0.25		0.5		0.25		0.5	
Loading Direction	**Strong Axis**	**Weak Axis**	**Strong Axis**	**Weak Axis**	**Strong Axis**	**Weak Axis**	**Strong Axis**	**Weak Axis**
Lateral Capacity, kips	14	9	22	15	34	22	57	37
Max. Positive Moment, ft-kip	56	30	102	50	55	30	102	50
Max. Negative Moment, ft-kip	3	1	5	2	163	87	294	154
Depth to Max. Positive Moment, ft	7	5	7	6	10	8	11	9
Depth to Max. Negative Moment, ft	21	17	21	18	0	0	0	0
Depth to 1st Point of Zero Deflection, ft	11	9.5	12	10	14	11.5	15	12

Note:
*Depth is measured from the bottom of pile cap (top of the pile).

For lateral loading, piles in a pile group may be considered to act individually when the center-to-center spacing is greater than 3D (where, D is the diameter of the pile) in the direction normal to loading and greater than 8D in the direction parallel to loading. Table 6 presents the lateral load reduction factors to be applied for various pile spacing for in-line loading.

Table 6 – Lateral Load Group Reduction Factors

Center-to-Center Pile Spacing for In-Line Loading	Group Efficiency (Ratio of Lateral Resistance of Pile in a Group to Single Pile)
8D	1.00
7D	0.94
6D	0.88
5D	0.82
4D	0.76
3D	0.70

9.4.2. Pile Cap and Grade Beam Lateral Resistance

Resistance to lateral loads by the pile cap and grade beams can be combined with the lateral pile capacity for the total lateral resistance for the structures. The pile cap and grade beam lateral resistance is assumed to be provided by passive earth pressure in permanent contact with subgrade soils. Passive earth pressure on the sides of pile caps can be designed in accordance with Figure 6. The upper 3 feet of soil should be neglected to contribute passive resistance unless the soil is confined by a slab or pavement. The static passive earth pressure value may be increased by one-third when considering loads of short duration such as wind or seismic forces.

9.4.3. Pile Installation and Pile Driving

Steel H-piles should be constructed and driven in accordance with the following recommendations or the applicable subsection of Section 49 of the Caltrans Standard Specifications (Caltrans, 2002). Piles should be checked for alignment and plumbness. The amount of acceptable misalignment of a pile is approximately 2 to 3 inches horizontally and one percent vertically. Piles should be spaced no closer than 3 times the nominal diameter or dimension (center-to-center).

Since pre-drilling may be limited or not allowed due to potential site contamination, pile driving may be facilitated by using a pile tip. If driven piles are allowed to be pre-drilled, it should be done in accordance with Section 49 of the Caltrans Standard Speci-

fications (Caltrans, 2002). The pre-drilled holes should have a diameter no greater than the minimum dimension of the pile, as per Caltrans Standard Specifications. Pre-drilling should not extend below 5 feet above the specified pile tip elevations. Upon request, we can evaluate the minimum blows required to achieve the desired pile capacity based on the size of the pile driving hammer and other pile driving criteria, when that information is available.

Prior to ordering production piles, we recommend that a test program of indicator piles be performed. This should consist of driving 10 percent of the total number of piles as indicator piles for each structure. This is typically done by the contractor after grading has been completed and will include driving piles at representative locations to evaluate the pile capacities. Further, we recommend that a Pile Driving Analyzer (PDA) and Case Pile Wave Analysis Program (CAPWAP) be used for each of the indicator piles to evaluate the design, to evaluate the appropriate size of hammer, and to establish refusal criteria for the project. Indicator piles should be 10 feet longer than the design length. Upon completion of the indicator pile program, Ninyo & Moore can provide pile driving recommendations for the project. The indicator piles are typically driven to design capacity or cut if refusal is reached and are typically included in the foundation system.

The effect of the pile driving operations on structures within approximately 50 feet of the site should be evaluated. A pre-construction survey of structures in the site vicinity that may be affected by pile driving operations should be performed. Vibration monitoring should be performed during the indicator pile program and during installation of production piles to evaluate peak particle velocities at adjacent structures. Ninyo & Moore should review these data as they are obtained.

9.4.4. Spread Footings

We understand that conventional spread footings may be used for the some of the non-occupied structures. Spread footings bearing on low-expansion potential documented compacted fill should extend 18 inches or more below the lowest adjacent finished grade. Continuous wall footings should have a width of 18 inches or greater. Isolated

footings should have a width of 24 inches or greater. In addition, the footings constructed near existing footings or underground utility lines should be located or deepened such that the existing footing or utility line is located above a 1:1 (horizontal to vertical) plane projected downward from the base of the footing. Surcharge from adjacent, existing footings should be considered by the structural engineer. Spread footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top and two placed near the bottom of the footings, and further detailed in accordance with the recommendations of the structural engineer.

Spread footings, as described above and bearing on existing compacted fill, may be designed using an allowable bearing capacity of 3,000 psf. The allowable bearing capacity may be increased by 250 psf for every foot of increase in width or depth up to a value of 4,000 psf. The bearing capacity may be increased by one-third when considering loads of short duration such as wind or seismic forces associated with the design PGA and may be increased by 100 percent when considering the PGA_{MCE} event up to a value of 6,000 psf.

Total and differential settlements for footings designed in accordance with the above recommendations are estimated to be less than approximately ½ inch and ¼ inch, respectively.

Spread footings and bearing in documented compacted fill may be designed using a coefficient of friction of 0.35, where the total frictional resistance equals the coefficient of friction times the dead load. Foundations may be designed using a passive resistance of 350 psf per foot of depth up to a value of 3,500 psf. The allowable lateral resistance can be taken as the sum of the frictional resistance and passive resistance provided the passive resistance does not exceed one-half of the total allowable resistance. The passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces associated with the design earthquake or MCE event.

9.4.5. Slabs-on-Grade

Building floor slabs may be supported on low-expansion potential compacted fill and should have a thickness of 5 inches or more. The slabs should be reinforced with No. 4 steel reinforcing bars placed 24 inches on-center (each way) in the middle one-third of the slab height. The proper placement of the reinforcement in the slab is vital for satisfactory performance. The floor slab and foundations should be tied together by extending the slab reinforcement into the footings. Due to the potential for encountering contaminated soils at the site and the potential for dynamic settlement, consideration should be given to utilizing a structural slab. Floor slabs should be underlain by a 2-inch-thick layer of clean sand overlying a polyethylene vapor retarder (10 mil or thicker) further underlain by a 4-inch-thick layer of gravel or crushed rock with an approximate $^{3}/_{8}$-inch particle size or less. The vapor retarder is recommended in areas where moisture-sensitive floor coverings are anticipated. Soils underlying the slabs should be compacted and maintained in a moist condition in accordance with the recommendations contained in this report, prior to concrete placement. Joints should be constructed at intervals designed by the structural engineer to help reduce random cracking of the slab. Floor slabs subject to heavy wheel or equipment loads should be evaluated on a case-by-case basis by the structural engineer.

9.5. Retaining Walls and Underground Tanks

Retaining walls less than 12 feet in height can be supported by spread footings designed in accordance with the recommendations presented in Section 9.4.4 of this report. Retaining walls 12 feet in height or higher should be supported on driven piles. In addition, cantilever (yielding) and restrained retaining walls should be designed to resist lateral earth pressures as illustrated on Figures 7 and 8, respectively. Measures should be taken to reduce the potential for build-up of moisture behind the retaining walls. Drainage design should include free-draining backfill materials and perforated drains as shown on Figure 9. Water proofing of the retaining walls should be specified by the design architect as appropriate.

Underground tanks, if needed, can be supported by spread footings designed in accordance with the recommendations presented in Section 9.4.4 of this report. In addition, walls should be designed to resist lateral earth pressures as illustrated on Figure 10.

9.6. Underground Utilities

Details regarding proposed underground utilities were not available at the time of our geotechnical evaluation. The following recommendations are presented based on anticipated shallow utilities for the project. In the event deep underground utilities are proposed, additional recommendations may be appropriate. Our office should be provided underground utility plans for review when available.

9.6.1. Pipe Bedding

We recommend that bedding material be placed around pipe zones 1 foot or more above the top of the pipe. The bedding material should be classified as sand, be free of organic material, and have a sand equivalent of 30 or more. We do not recommend gravel be used for bedding material because of the fine-grained nature of the subsurface materials. It has been our experience that the voids within gravel material are sufficiently large to allow fines to migrate into the voids, thereby creating the potential for sinkholes and depressions to develop at the ground surface. Where soft, wet soil conditions are encountered, the trench excavation should be excavated approximately 1 foot or more below the pipe invert and should be backfilled with gravel wrapped in filter fabric. The actual depth of removal should be evaluated in the field during construction. Special care should be taken not to allow voids beneath and around the pipe. Compaction of the bedding material and backfill should proceed up both sides of the pipe. Trench backfill, including bedding material, should be placed in accordance with the recommendations presented in this report.

9.6.2. Modulus of Soil Reaction

The modulus of soil reaction is used to characterize the stiffness of soil backfill placed at the sides of buried flexible pipelines for evaluating deflection caused by the weight of

the backfill above the pipe (Hartley and Duncan, 1987). A soil reaction modulus of 1,000 pounds per square inch (psi) may be used for an excavation depth of up to about 5 feet when backfilled with granular soil and compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557. A soil reaction modulus of 1,200 psi may be used for trenches deeper than 5 feet.

9.7. Pavement Design

Based on our understanding of the project, new pavements will be needed for new driveway and parking areas. Due to the presence of dense granular soils near the surface of our borings and our laboratory results, we used an R-value of 60 for the purpose of developing pavement sections.

No specific traffic loading information was available for our design at the time of preparation of this report. We have assumed that the anticipated traffic will consist of mostly passenger vehicles with occasional large trucks and emergency vehicles. Accordingly, we have assumed a traffic index (TI) of 6.0, 8.0 and 10.0 for the design of pavement sections. Based on our design R-value and assumed traffic indices, we have developed the following structural sections for the project as shown in Table 7. We recommend that these pavement sections be re-evaluated once detailed traffic indices are developed for the project and the as-graded near-surface earth materials are further evaluated during construction.

Table 7 –Pavement Structural Sections

Traffic Index	Recommended Pavement Section	
	AC/CMB (inches)	PCC (inches)
6	3/5	6
8	5/6	8
10	6/8	11

Notes:
AC – Asphalt Concrete
CMB – Crushed Miscellaneous Base
PCC – Portland Cement Concrete

We recommend that the top 12 inches of subgrade be scarified and recompacted to a relative compaction no less than 90 percent of the maximum dry density in accordance with the latest edition of ASTM D1557. Crushed miscellaneous base should conform to the latest edition of the Standard Specifications for Public Works Construction "Greenbook," Section 200. The crushed miscellaneous base material should be placed at a relative compaction of 95 percent or more in accordance with the latest edition of ASTM D1557. Asphalt concrete materials should conform to "Greenbook," Section 203 and should be compacted to a relative compaction of 95 percent or more in accordance with "Greenbook" Section 302. Final pavement sections should be based on actual anticipated traffic loading conditions and evaluation of the subgrade materials at the time of construction. The on-site recycled base materials may be suitable for reuse as CMB provided they meet the requirements of the Greenbook.

We recommend that mix designs be made for the asphalt concrete by an engineering company specialized in this type of work. We further recommend that the paving operations be observed and tested by a qualified testing laboratory.

9.8. Corrosivity

The results of the corrosivity testing indicated an electrical resistivity of materials at the sites ranged from approximately 2,545 to 19,134 ohm-centimeters (Ninyo & Moore, 2009). The soil pH of the samples varied from approximately 6.7 and 8.6. The chloride content of the tested samples ranged from approximately 21 to 104 parts per million (ppm). The sulfate content of the samples ranged from approximately 50 to 150 parts per million (ppm). Based on the laboratory test results and Caltrans (2003) corrosion criteria, the project site can be classified as a non-corrosive site, which is defined as having earth materials with less than 500 ppm chlorides, less than 0.20 percent sulfates (i.e., 2,000 ppm), or a pH of 5.5 or more.

9.9. Concrete Placement

In order to reduce the potential for shrinkage cracks in the concrete during curing, we recommend that the concrete for proposed structures, be placed with a slump of 4 inches based

on ASTM C 143. The slump should be checked periodically at the site prior to concrete placement. We also recommend that crack control joints be provided in slabs in accordance with the recommendations of the structural engineer to reduce the potential for distress due to minor soil movement and concrete shrinkage. We further recommend that concrete cover over reinforcing steel for foundations be provided in accordance with Section 1907.7 of CBC (2007). The structural engineer should be consulted for additional concrete specifications.

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. The soil sample tested during this evaluation indicated a water-soluble sulfate content of approximately 50 to 63 ppm. According to the American Concrete Institute (ACI) 318-05 building code, the potential for sulfate attack is negligible for water-soluble sulfate contents in soils ranging from 0 ppm to 1000 ppm). Therefore, the site soils are considered to have a negligible potential for sulfate attack, and based on ACI criteria (ACI, 2005), Type II cement may be used for concrete construction. However, due to the potential variability of the on-site soils, we recommend that the use of Type V cement be considered.

9.10. Drainage

Positive surface drainage is imperative for satisfactory site performance. Positive drainage should be provided and maintained to transport surface water away from foundations and off-site. Positive drainage is defined as a slope of 2 percent or more for a distance of 5 feet or more away from foundations. Runoff should then be transported by the use of swales or pipes into a collective drainage system. Surface waters should not be allowed to pond adjacent to footings. We recommend that structures have roof drains and downspouts installed to collect runoff. Area drains for landscaped and paved areas are highly recommended.

9.11. Landscaping

Project landscaping should consist of drought tolerant plants. Landscape irrigation should be kept to a level just sufficient to maintain plant vigor. Overwatering should not be permitted.

10. CONSTRUCTION OBSERVATION

The recommendations provided in this report are based on our understanding of the proposed project and on our evaluation of the data collected based on subsurface conditions disclosed by widely spaced exploratory borings. It is imperative that the interpolated subsurface conditions be checked by the geotechnical consultant during construction. Observation and testing of compacted fill and backfill should also be performed by the Ninyo & Moore during construction. We further recommend that the project plans and specifications be reviewed by Ninyo & Moore prior to construction. It should be noted that, upon review of these documents, some recommendations presented in this report might be revised or modified.

During construction we recommend that services provided by Ninyo & Moore include, but not be limited to, the following:

- Observing clearing, grubbing, and removals.
- Observing excavation, placement, and compaction of fill.
- Evaluating imported materials prior to their use as fill.
- Performing field tests to evaluate fill compaction.
- Observing foundation excavations for bearing materials and cleaning prior to placement of reinforcing steel or concrete.

The recommendations provided in this report assume that Ninyo & Moore will be retained as the geotechnical consultant during the construction phase of this project. If another geotechnical consultant is selected, we request that the selected consultant indicate to the owner and to our firm in writing that our recommendations are understood and that they are in full agreement with our recommendations.

11. LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this report have been conducted in accordance with current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and professional

opinions expressed in this report. Variations may exist and conditions not observed or described in this report may be encountered during construction.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

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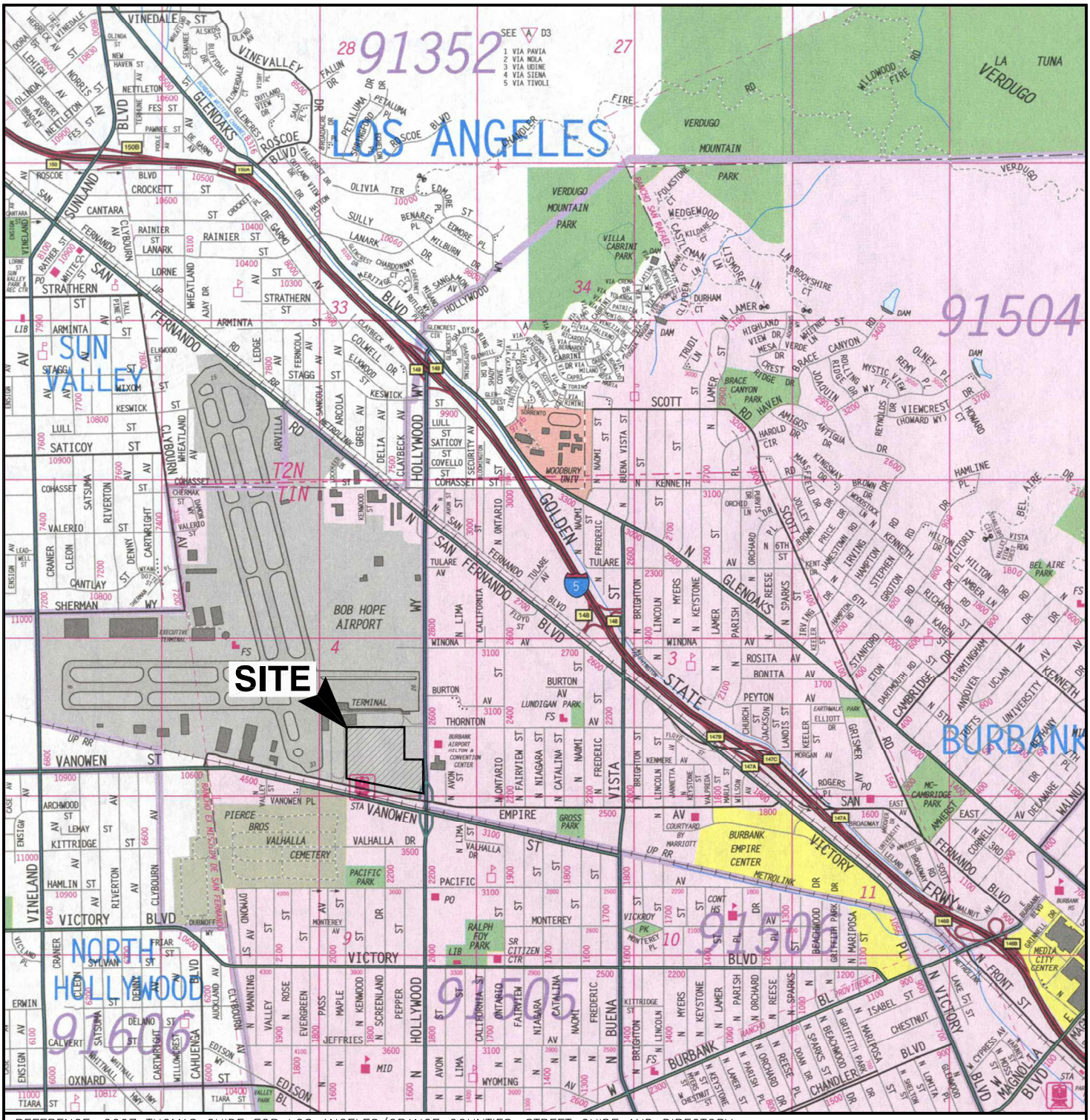
AERIAL PHOTOGRAPHS

Source	Scale	Date	Flight	Numbers
USDA	1:20,000	10-27-24	AXJ-20K	39 and 40



REFERENCE: 2007 THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY

APPROXIMATE SCALE IN FEET

0 2400 4800

N

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Map © Rand McNally, R.L.07-S-129

207789_A1.DWG

Ninyo & Moore

PROJECT NO.	DATE
207789002	7/10

SITE LOCATION MAP

REGIONAL INTERMODAL TRANSPORTATION CENTER
BOB HOPE AIRPORT
BURBANK, CALIFORNIA

FIGURE

1

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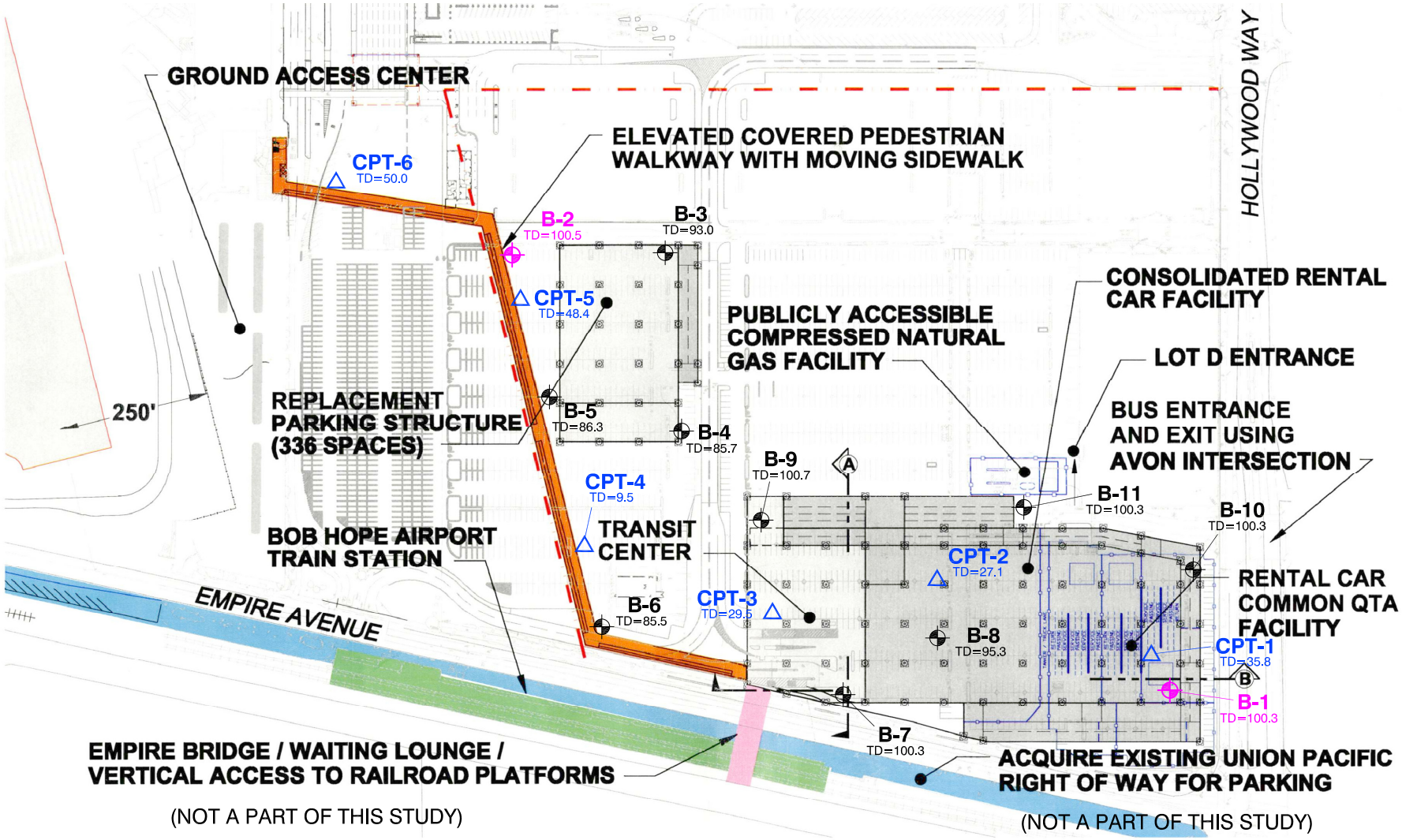


REFERENCE: BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY, 2009,TRANSIT CENTER CONCEPTUAL SITE PLAN, DATED JULY 27.

LEGEND

B-2 TD=100.5	BORING; (2009) TD=TOTAL DEPTH IN FEET
B-11 TD=100.3	BORING; (2010) TD=TOTAL DEPTH IN FEET
CPT-6 TD=50.0	CONE PENETROMETER TEST (2009) TD=TOTAL DEPTH IN FEET

N

APPROXIMATE SCALE IN FEET

0 250 500

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

PROJECT NO.	DATE
207789002	7/10

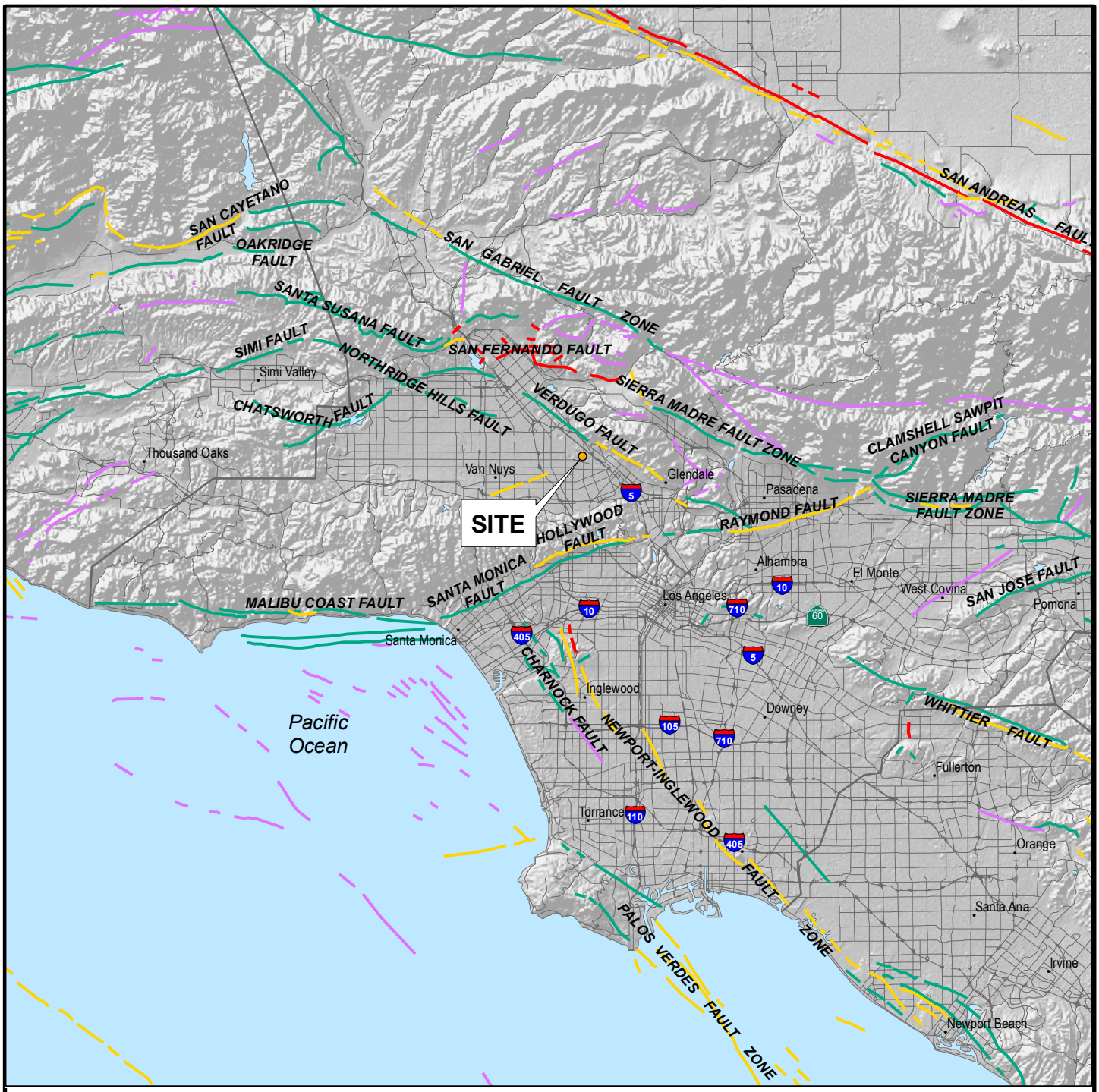
BORING LOCATION MAP

REGIONAL INTERMODAL TRANSPORTATION CENTER
BOB HOPE AIRPORT
BURBANK, CALIFORNIA

FIGURE

2

207789_A2.DWG



GIS DATA SOURCE: CALIFORNIA GEOLOGICAL SURVEY (CGS); ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI)
REFERENCE: JENNINGS, 1994, FAULT ACTIVITY MAP OF CALIFORNIA AND ADJACENT AREAS

LEGEND

FAULT ACTIVITY:

- HISTORICALLY ACTIVE
- HOLOCENE ACTIVE
- COUNTY BOUNDARIES
- LATE QUATERNARY
- QUATERNARY

N

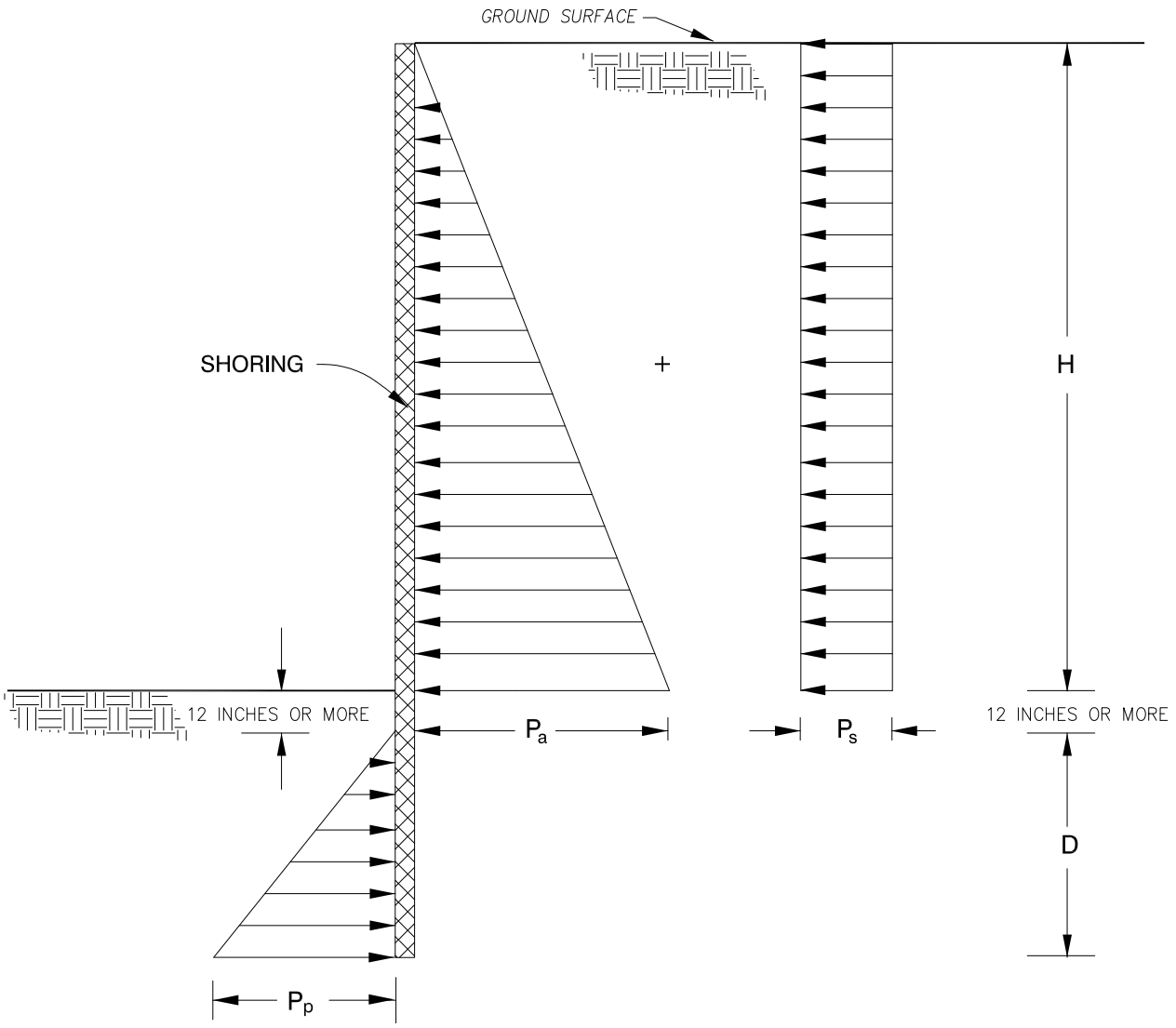
10 0 10

Miles

NOTE: ALL DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore	FAULT LOCATION MAP	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	3
207789002 / 7/10		

207789002_Fault loc.gis



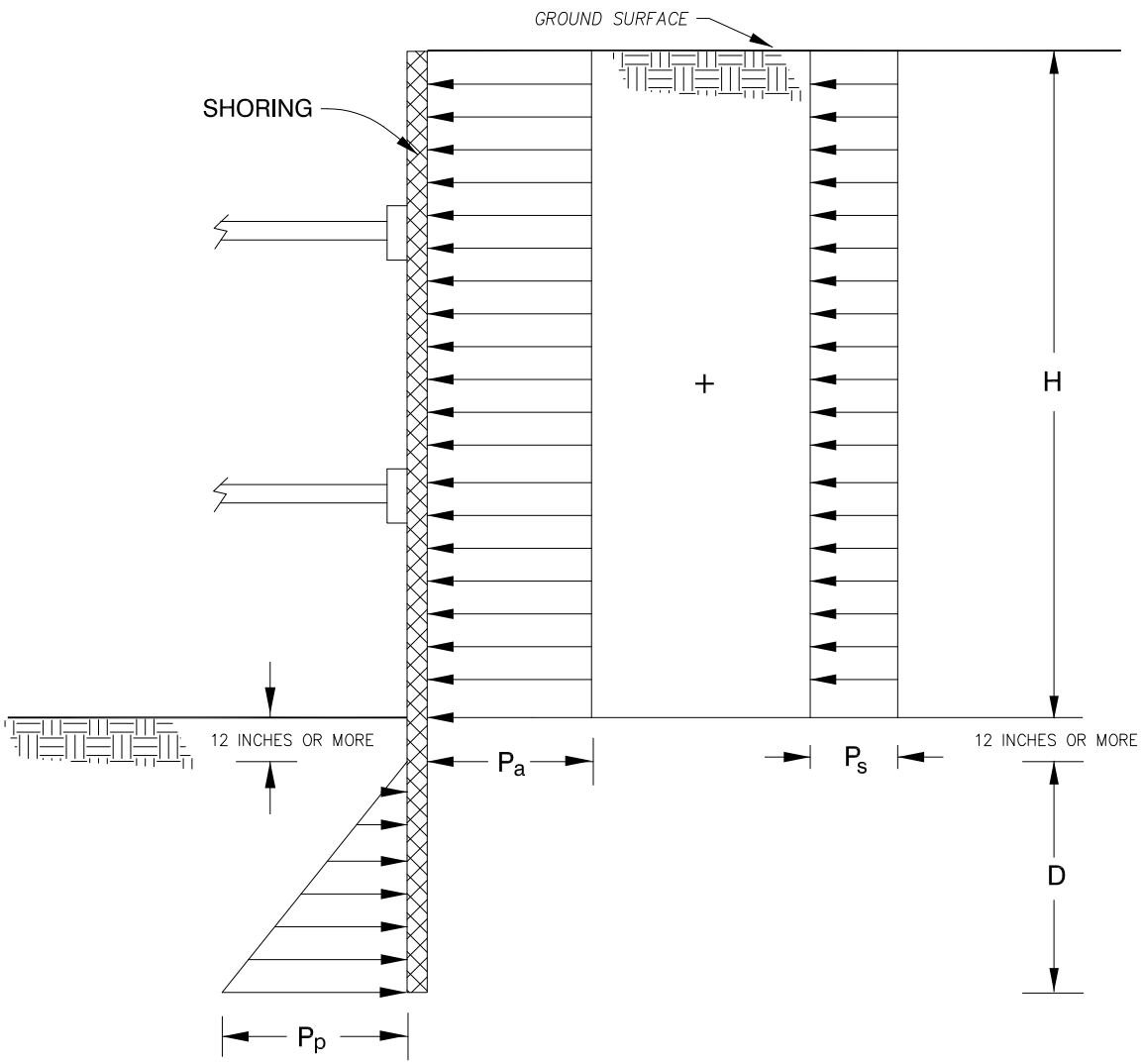
NOTES:

1. ACTIVE LATERAL EARTH PRESSURE, P_a
   P_a = 37 H psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
   P_s = 120 psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
   P_p = 350 D psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. H AND D ARE IN FEET

NOT TO SCALE

207789_A3.DWG

Ninyo & Moore	LATERAL EARTH PRESSURES FOR TEMPORARY CANTILEVERED SHORING	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	4
207789002 / 7/10		



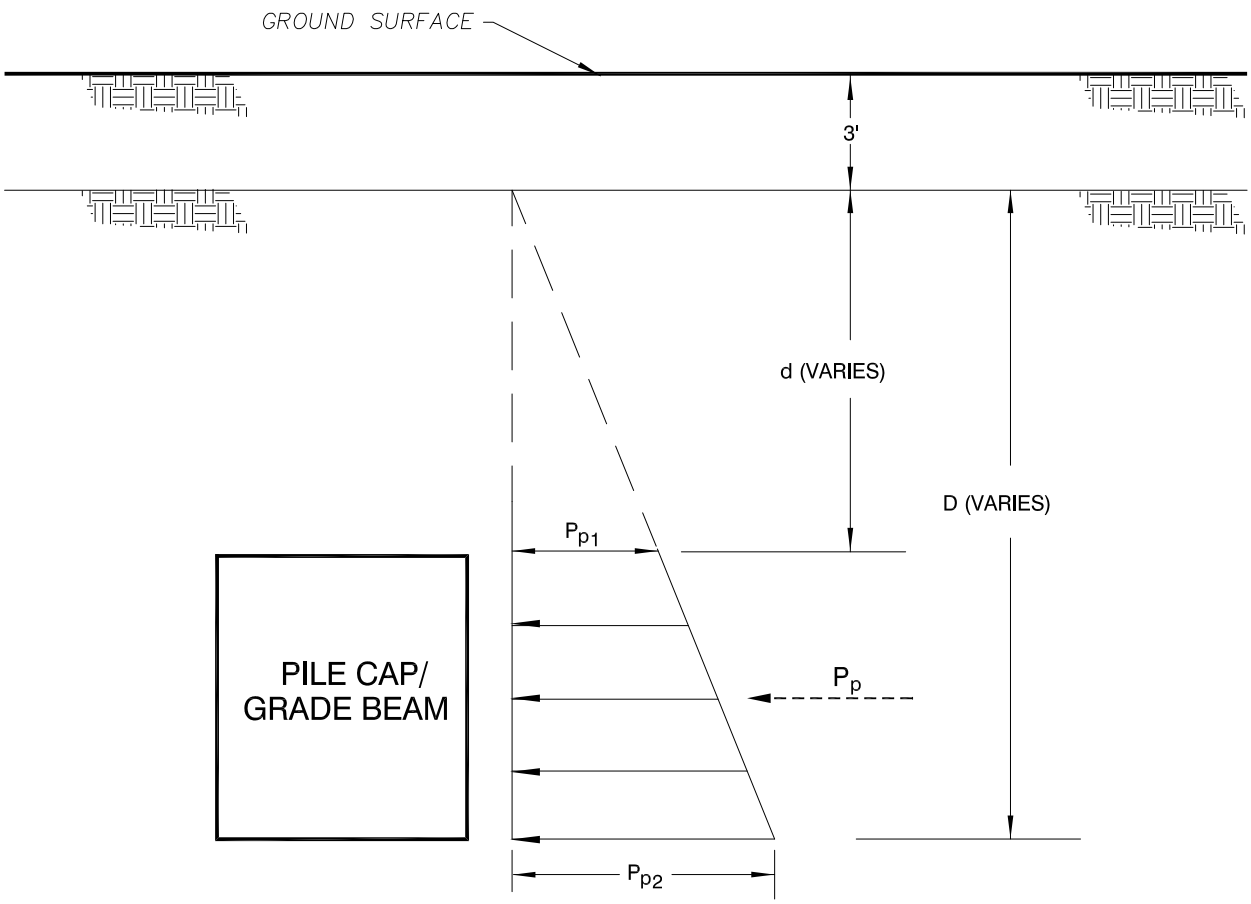
NOTES:

1. ACTIVE LATERAL EARTH PRESSURE, P_a
   P_a = 24 H psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
   P_s = 120 psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
   P_p = 350 D psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

NOT TO SCALE

207789_A4.DWG

Ninyo & Moore	LATERAL EARTH PRESSURES FOR BRACED EXCAVATION (GRANULAR SOIL)	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	5
207789002 / 7/10		



NOTES:

1. GROUNDWATER BELOW BLOCK

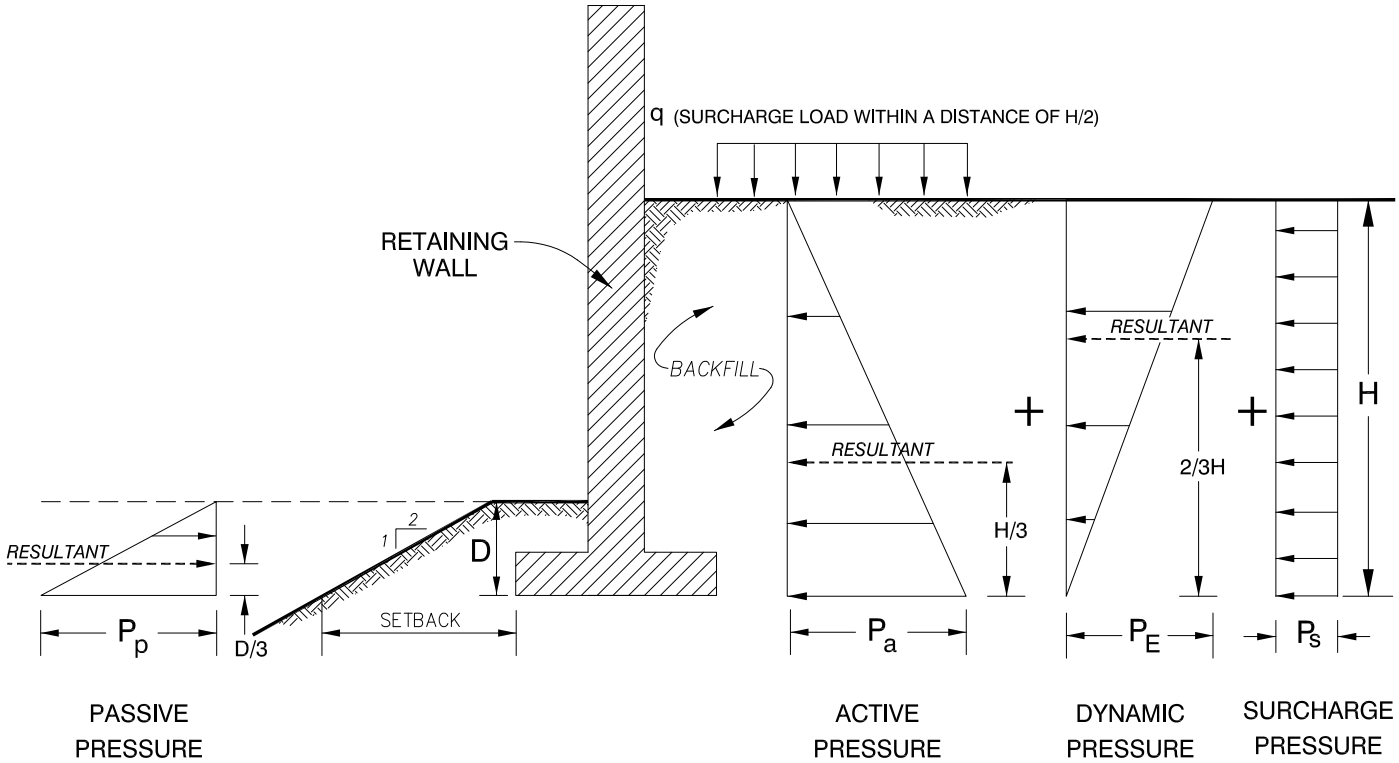
   $P_p = (1/2)Kp\ \gamma_t\ (D^2-d^2) = 175\ (D^2-d^2)$ lb/ft

2. D, d AND h ARE IN FEET
3. ASSUMES BACKFILL IS GRANULAR MATERIAL
4. ASSUMES PILE CAP OR GRADE BEAM IS ADJACENT TO COMPETENT MATERIAL
5. NEGLECT THE UPPER 3 FEET SOIL FOR PASSIVE RESISTANCE, UNLESS THE SOIL IS CONFINED BY A SLAB OR PAVEMENT

NOT TO SCALE

207789_A5.DWG

Ninyo & Moore	PILE CAP/GRADE BEAM LATERAL EARTH PRESSURE DIAGRAM	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	6
207789002 / 7/10		



NOTES:

1. ASSUMES NO HYDROSTATIC PRESSURE BUILD-UP BEHIND THE RETAINING WALL
2. STRUCTURAL, GRANULAR BACKFILL MATERIALS AS SPECIFIED IN GREENBOOK SHOULD BE USED FOR RETAINING WALL BACKFILL
3. DRAINS AS RECOMMENDED IN THE RETAINING WALL DRAINAGE DETAIL SHOULD BE INSTALLED BEHIND THE RETAINING WALL
4. DYNAMIC LATERAL EARTH PRESSURE IS BASED ON A PEAK GROUND ACCELERATION OF 0.58g
5. DYNAMIC LATERAL EARTH PRESSURE SHOULD BE APPLIED FOR WALLS WITH H GREATER THAN 12 FEET, BUT IS NOT REQUIRED FOR WALLS WITH H LESS THAN OR EQUAL TO 12 FEET
6. H AND D ARE IN FEET
7. SETBACK SHOULD BE IN ACCORDANCE WITH FIGURE 1805.3.1 OF THE CBC (2007)

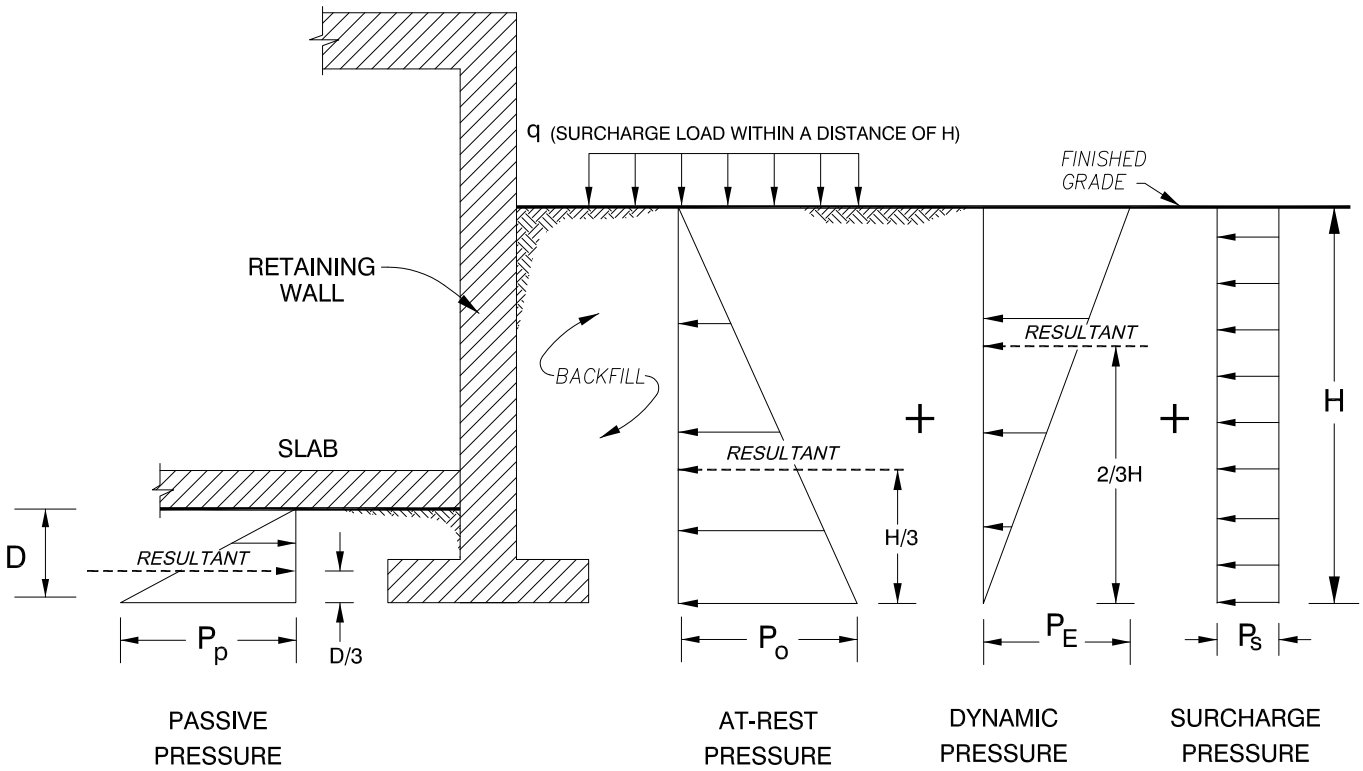
RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS

Lateral Earth Pressure	Equivalent Fluid Pressure ($lb/ft^2/ft$)(1)	
P_a	Level Backfill with Granular Soils (2)	2H:1V Sloping Backfill with Granular Soils (2)
	37 H	57 H
P_E	26 H	42 H
P_p	Level Ground	2H:1V Descending Ground
	350 D	150 D
P_S	0.3 q	

NOT TO SCALE

207789_A6.DWG

Ninyo & Moore	LATERAL EARTH PRESSURES FOR YIELDING RETAINING WALLS	FIGURE
PROJECT NO. 207789002 / DATE 7/10	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	7



NOTES:

1. ASSUMES NO HYDROSTATIC PRESSURE BUILD-UP BEHIND THE RETAINING WALL
2. STRUCTURAL, GRANULAR BACKFILL MATERIALS AS SPECIFIED IN GREENBOOK SHOULD BE USED FOR RETAINING WALL BACKFILL
3. DRAINS AS RECOMMENDED IN THE RETAINING WALL DRAINAGE DETAIL SHOULD BE INSTALLED BEHIND THE RETAINING WALL
4. DYNAMIC LATERAL EARTH PRESSURE IS BASED ON A PEAK GROUND ACCELERATION OF 0.58g
5. DYNAMIC LATERAL EARTH PRESSURE SHOULD BE APPLIED FOR WALLS WITH H GREATER THAN 12 FEET, BUT IS NOT REQUIRED FOR WALLS WITH H LESS THAN OR EQUAL TO 12 FEET
6. H AND D ARE IN FEET

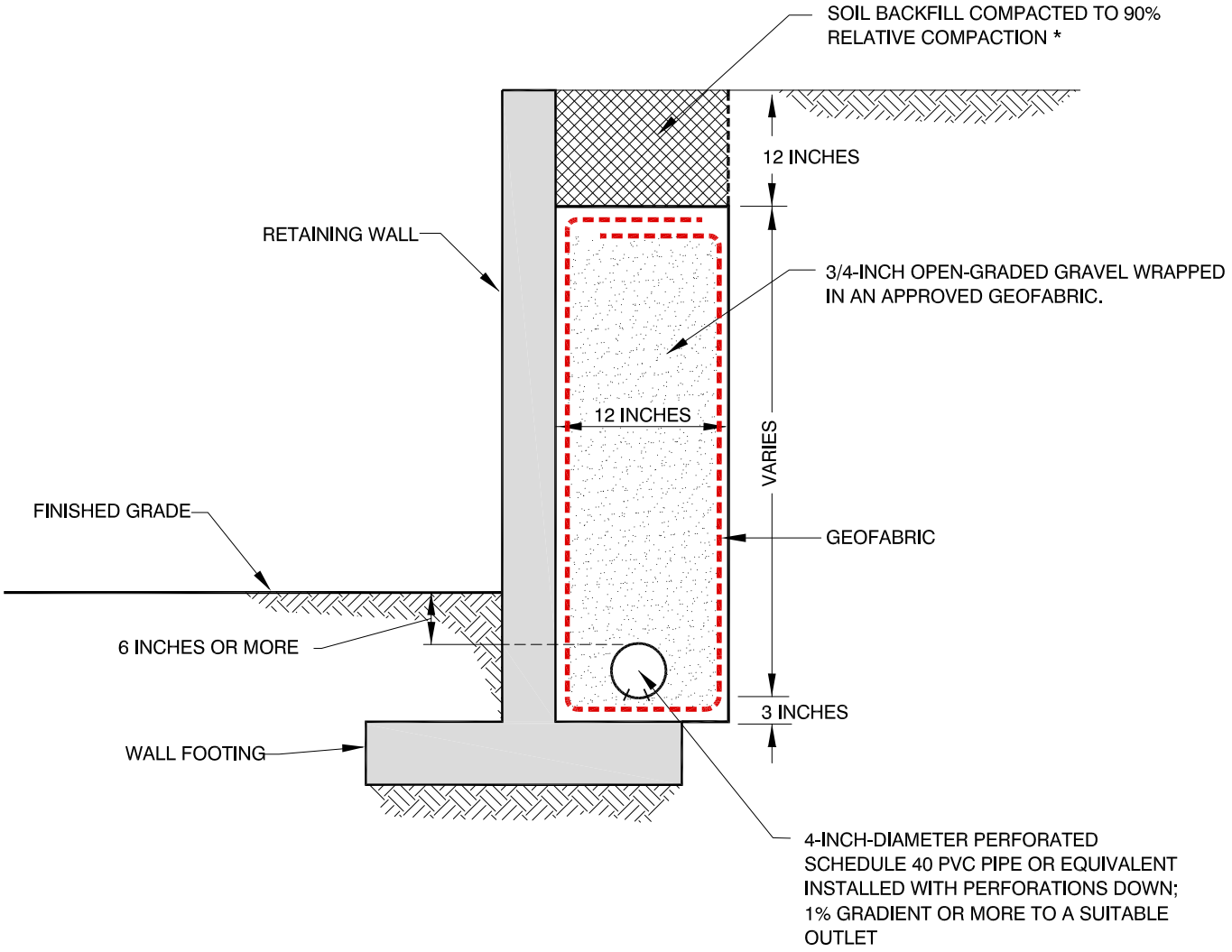
RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS

Lateral Earth Pressure	Equivalent Fluid Pressure (lb/ft^2/ft)(1)	
P_O	Level Backfill with Granular Soils (2)	2H:1V Sloping Backfill with Granular Soils (2)
	57 H	88 H
P_E	26 H	42 H
P_p	Level Ground	2H:1V Descending Ground
	350 D	150 D
P_S	0.5 q	

NOT TO SCALE

207789_A7.DWG

Ninyo & Moore	LATERAL EARTH PRESSURES FOR RESTRAINED RETAINING WALLS	FIGURE
PROJECT NO. 207789002 / DATE 7/10	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	8



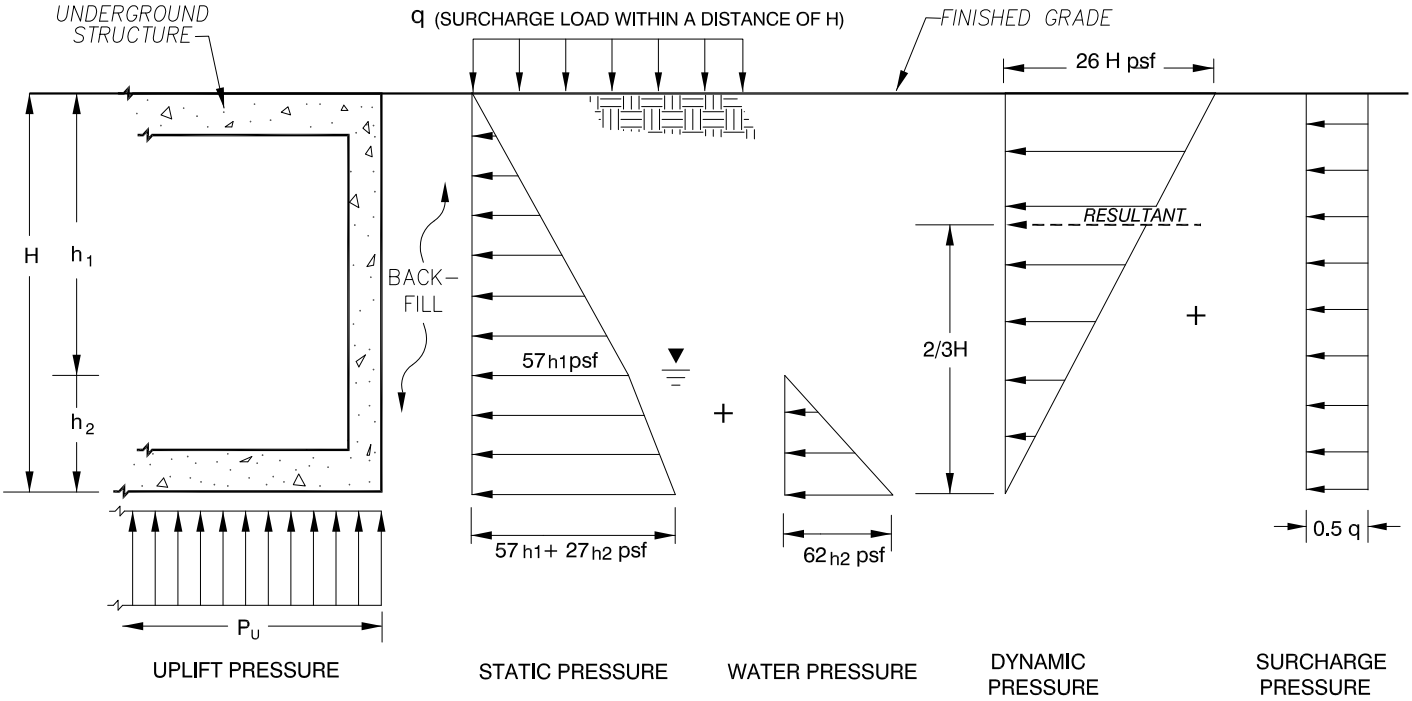
*BASED ON ASTM D1557

NOT TO SCALE

NOTE: AS AN ALTERNATIVE, AN APPROVED GEOCOMPOSITE DRAIN SYSTEM MAY BE USED.

207789_A8.DWG

Ninyo & Moore		RETAINING WALL DRAINAGE DETAIL	FIGURE
PROJECT NO.	DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	9
207789002	7/10		



NOTES:

1. ▼ GROUNDWATER TABLE
2. DOES NOT INCLUDE SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES
3. DYNAMIC LATERAL EARTH PRESSURE, P_E, IS BASED ON A PEAK GROUND ACCELERATION, OF 0.58 g
4. H, h_1 AND h_2 ARE IN FEET

NOT TO SCALE

207789_a9.dwg

Ninyo & Moore	LATERAL EARTH PRESSURES FOR UNDERGROUND STRUCTURES	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	10
207789002 / 7/10		

APPENDIX A

BORING LOGS

Field Procedure for the Collection of Disturbed Samples

Disturbed soil samples were obtained in the field using the following methods.

Bulk Samples

Bulk samples of representative earth materials were obtained from the exploratory borings. The samples were bagged and transported to the laboratory for testing.

The Standard Penetration Test (SPT) Sampler

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of $1^3/_8$ inches. The sampler was driven into the ground 18 inches with a 140-pound hammer free-falling from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

Field Procedure for the Collection of Relatively Undisturbed Samples

Relatively undisturbed soil samples were obtained in the field using the following method.

The Modified Split-Barrel Drive Sampler

The sampler, with an external diameter of 3 inches, was lined with 1-inch-long, thin brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a hammer of the drill rig in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

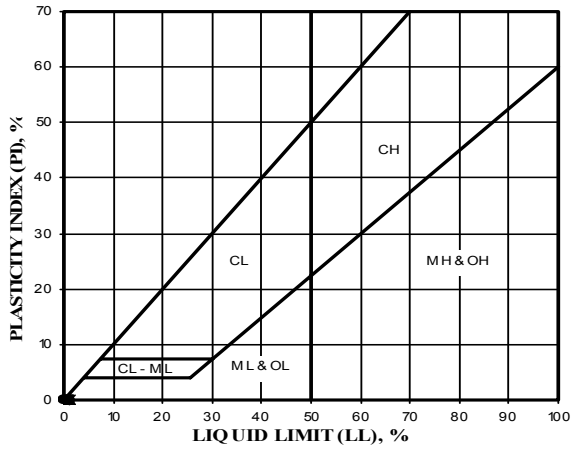
U.S.C.S. METHOD OF SOIL CLASSIFICATION

MAJOR DIVISIONS		SYMBOL	TYPICAL NAMES
COARSE-GRAINED SOILS (More than 1/2 of soil >No. 200 sieve size)	**GRAVELS (More than 1/2 of coarse fraction > No. 4 sieve size)**	GW	Well graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than 1/2 of coarse fraction <No. 4 sieve size)	SW	Well graded sands or gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (More than 1/2 of soil <No. 200 sieve size)	**SILTS & CLAYS Liquid Limit <50**	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean
		OL	Organic silts and organic silty clays of low plasticity
	SILTS & CLAYS Liquid Limit >50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils

GRAIN SIZE CHART

CLASSIFICATION	RANGE OF GRAIN SIZE	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL	3" to No. 4	76.2 to 4.76
Coarse	3" to 3/4"	76.2 to 19.1
Fine	3/4" to No. 4	19.1 to 4.76
SAND	No. 4 to No. 200	4.76 to 0.075
Coarse	No. 4 to No. 10	4.76 to 2.00
Medium	No. 10 to No. 40	2.00 to 0.420
Fine	No. 40 to No. 200	0.420 to 0.075
SILT & CLAY	Below No. 200	Below 0.075

PLASTICITY CHART



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U.S.C.S. METHOD OF SOIL CLASSIFICATION

BORING LOG EXPLANATION SHEET

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0	■							Bulk sample.
		■						Modified split-barrel drive sampler.
		☒						No recovery with modified split-barrel drive sampler.
		▮						Sample retained by others.
		◤						Standard Penetration Test (SPT).
5		◥						No recovery with a SPT.
		▯	XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
		◥						No recovery with Shelby tube sampler.
		▯						Continuous Push Sample.
				♀				Seepage.
10				▽				Groundwater encountered during drilling.
				▼				Groundwater measured after drilling.
						▦	SM	ALLUVIUM: Solid line denotes unit change.
								Dashed line denotes material change.
15								Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Sheared Bedding Surface
20								The total depth line is a solid line that is drawn at the bottom of the boring.

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BORING LOG

EXPLANATION OF BORING LOG SYMBOLS

PROJECT NO.	DATE	FIGURE
	Rev. 01/03	

DATE DRILLED 9/10/09 BORING NO. B-1

GROUND ELEVATION 675' ± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0									ASPHALT CONCRETE: Approximately 7 inches thick; no base material.
								SP	FILL: Light yellowish brown, dry to damp, dense, fine to medium SAND; few gravel up to approximately 1-inch.
5			59	7.2	109.6	10.5			Fine to coarse sand; brick fragment.
								SP	ALLUVIUM: Light yellowish brown, dry to damp, medium dense, medium SAND.
10			12			3.2			
15			32	1.5	107.8	12.5			Fine to coarse sand; trace gravel.
20			17			2.9		SP	ALLUVIUM: (Continued) Light yellowish brown, damp, medium dense, fine to coarse SAND; trace gravel up to

Ninyo & Moore

BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-1

DATE DRILLED 9/10/09 BORING NO. B-1

GROUND ELEVATION 675' ± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
									approximately 1-1/4 inches.
								SM	Reddish brown, damp, medium dense, silty fine SAND; rock fragments; hard drilling through scattered cobbles.
25			15	7.8	106.4	4.0			
									Scattered gravel and cobbles.
30									Silty sand.
			16			3.3		SW	Yellowish brown, damp, medium dense, fine to coarse SAND.
								SM	Yellowish brown, damp, dense, silty fine SAND.
35			48	6.4	111.1	2.3			
									Silty sand.
40			46			4.5		SP-SM	ALLUVIUM: Yellowish brown, damp, very dense, fine to coarse SAND with silt; scattered gravel and cobbles.

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-2

DATE DRILLED 9/10/09 BORING NO. B-1

GROUND ELEVATION 675' ± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45			38			93.2			Few gravel; red oxidation staining.
50			31			3.2			Dense.
55			55			2.6			Very dense; increase in coarse sand.
60			50/4"			8.9		SP	ALLUVIUM: (Continued) Yellowish brown, damp, very dense, fine to coarse SAND; scattered gravel and cobbles.

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-3

DATE DRILLED 9/10/09 BORING NO. B-1

GROUND ELEVATION 675' ± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65		20			1.5			Medium dense to dense.
								Fine sand.
70								Fine to medium sand.
		10			2.0		CL	Reddish brown, moist, stiff to very stiff, fine sandy CLAY.
							SP-SM	Yellowish brown, dry to damp, very dense, silty fine to coarse SAND with gravel; little gravel; scattered cobbles up to approximately 4 inches.
75		50/5"			2.6			
80		50/5"			1.8		SP-SM	ALLUVIUM: (Continued) Yellowish brown, dry to damp, very dense, silty fine to coarse SAND with gravel; little gravel; scattered cobbles up to approximately 4 inches.
							SP	Yellowish brown, dry to damp, very dense, fine to coarse SAND with gravel; little gravel;

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-4

DATE DRILLED 9/10/09 BORING NO. B-1

GROUND ELEVATION 675' ± (MSL) SHEET 5 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
									scattered cobbles up to approximately 4 inches.
85		■	50/3"			2.5			
90		■	50/3"			1.8			
95		■	50/3"			1.6			
100		■	50/3"			2.3		SP	ALLUVIUM: (Continued) Yellowish brown, dry to damp, very dense, fine to coarse SAND with gravel; little gravel; scattered cobbles.

Total Depth = 100.3 feet.
No groundwater encountered.
Backfilled with bentonite grout and patched with concrete on 9/10/09.

Note:
Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-5

DATE DRILLED 9/10/09 BORING NO. B-2

GROUND ELEVATION 692' ± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0									ASPHALT CONCRETE: Approximately 4 inches thick.
								SM	
								SP-SM	AGGREGATE BASE: Grayish brown, dry to damp, medium dense, silty SAND with gravel; approximately 5 inches thick.
									FILL: Light yellowish brown, dry to damp, very dense, fine to medium SAND with silt and gravel; few gravel up to approximately 1-1/4 inches thick.
5			40			1.5			
10			90/11"	8.3	121.5	3.2			Damp; rock fragments.
								SP	ALLUVIUM: Yellowish brown, moist, medium dense, fine to coarse SAND with gravel; little gravel.
15			16			32.9			
20			27	2.0	117.5	1.8		SP	ALLUVIUM: (Continued) Yellowish brown, damp, medium dense, coarse SAND with gravel; little gravel; 2-inch cobble.

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-7

DATE DRILLED 9/10/09 BORING NO. B-2

GROUND ELEVATION 692' ± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
									@ 23': Layer of gravel and cobbles.
25			16			2.2			Fine to medium sand; few gravel.
30			64	3.27	119.6	2.1			Dense.
35			18			2.0			@ 35': Approximately 4-inch layer of reddish brown, moist, very stiff, fine sandy CLAY.
40			68	4.5	111.8	2.5		SP	ALLUVIUM: (Continued) Yellowish brown, damp, dense, fine to medium SAND; few gravel; approximately 2-inch rock fragment.

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-8

DATE DRILLED 9/10/09 BORING NO. B-2

GROUND ELEVATION 692' ± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45			28			1.8			Fine to coarse sand.
									Gravel and cobble layer.
50			39		0.6				Very dense.
55			49			0.7			Trace gravel.
									Gravel and cobble layer.
60			45			0.9		SP	ALLUVIUM: (Continued) Yellowish brown, damp to moist, very dense, fine to coarse SAND; trace gravel.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-9

DATE DRILLED 9/10/09 BORING NO. B-2

GROUND ELEVATION 692' ± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65		■	56			3.4			
70		■	50/6"			1.2			
75		■	77/10"			1.6			Gravel and cobble layer.
80		■	50/5"			1.1		SP	ALLUVIUM: (Continued) Yellowish brown, damp to moist, very dense, fine to medium SAND with gravel; few gravel. Gravel and cobble layer.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-10

DATE DRILLED	9/10/09	BORING NO.	B-2
GROUND ELEVATION	692' ± (MSL)	SHEET 5	OF 5
METHOD OF DRILLING	8" Hollow-Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs.	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85		■	50/3"			1.7			
90		■	50/6"			1.9			Dark yellowish brown.
									Gravel and cobble layer.
95		■	50/4"			0.7			
100		■	50/6"			2.6		SP	ALLUVIUM: (Continued) Dark yellowish brown, damp to moist, very dense, fine to coarse SAND with gravel; few gravel.

Total Depth = 100.5 feet.
No groundwater encountered.
Backfilled with bentonite grout and capped with concrete on 9/10/09.

Note:
Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-11

DATE DRILLED 5/11/10 BORING NO. B-3

GROUND ELEVATION 688'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							GP	ASPHALT CONCRETE: Approximately 3 inches thick.
							SM	AGGREGATE BASE: Brown, damp, medium dense, sandy GRAVEL.
								FILL: Yellowish brown, damp, very dense, silty SAND with gravel; concrete debris up to approximately 4 inches in diameter.
5			75/12"	8.2	112.2			
							SP	ALLUVIUM: Light yellowish brown, damp, medium dense, SAND with gravel; trace silt.
10			26	1.7	114.9			
15			23					Dense.
20			28				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, coarse SAND with gravel.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-13

DATE DRILLED 5/11/10 BORING NO. B-3

GROUND ELEVATION 688'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
25			20					Medium dense to dense; fine to coarse SAND; trace to few gravel.
30			45					Very dense; coarse SAND with gravel; trace silt.
								Gravel and cobble layer.
35			28					Dense.
40			44				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, coarse SAND with gravel; scattered cobbles.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-14

DATE DRILLED 5/11/10 BORING NO. B-3

GROUND ELEVATION 688'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
								Gravel and cobble layer.
							SM	Yellowish brown, damp, medium dense, silty fine SAND.
45		■	18					
							SP	Light yellowish brown, damp, very dense, coarse SAND with gravel; scattered cobbles.
								Gravel and cobble layer.
50		▱	50/1"					
55								Gravel and cobble layer.
60		■	71				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, coarse SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-15

DATE DRILLED 5/11/10 BORING NO. B-3

GROUND ELEVATION 688'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65								
70		■	99/8"					SAND with gravel; hard drilling; gravel and cobble layer. Hard drilling; gravel and cobble layer.
75								Hard drilling; scattered gravel and cobbles.
80		■	85/10"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; trace silt; few to little gravel; scattered cobbles.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-16

DATE DRILLED 5/11/10 BORING NO. B-3

GROUND ELEVATION 688'± (MSL) SHEET 5 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85								Hard drilling; gravel and cobble layer.
							SP-SM	Light yellowish brown, damp, very dense, SAND with silt and gravel.
90		■	90/10"					
								Gravel and cobble layer; refusal.
								Total Depth = 93 feet (Refusal). No groundwater encountered during drilling. Backfilled with grout and capped with concrete on 5/11/10.
95								Note: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
100								

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-17

DATE DRILLED 5/11/10 BORING NO. B-4

GROUND ELEVATION 686'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							GP	ASPHALT CONCRETE: Approximately 3 inches thick.
							SM	AGGREGATE BASE: Brown, damp, sandy GRAVEL with silt; approximately 4 inches thick.
								FILL: Brown, damp, very dense, silty SAND; little gravel; concrete fragments.
5		■	61					Gravel layer.
							SM	ALLUVIUM: Yellowish brown, damp, loose, silty SAND; trace gravel.
10		■	9					
15		◣	6					Gravel layer.
20		◣	18				SP-SM	ALLUVIUM: (Continued) Light yellowish brown, damp, SAND with silt; trace gravel.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-18

DATE DRILLED 5/11/10 BORING NO. B-4

GROUND ELEVATION 686'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
							SP	Light yellowish brown, damp, SAND; trace silt; trace gravel.
25			29					Dense.
30			37					Very dense; SAND with gravel.
35			53					Coarse SAND with gravel.
40			36				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, fine to medium SAND; trace gravel; trace silt.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-19

DATE DRILLED 5/11/10 BORING NO. B-4

GROUND ELEVATION 686'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	19					Medium dense; trace to few gravel; trace silt.
50								Very dense; scattered cobbles; very hard drilling.
							SM	Yellowish brown, damp, dense, silty fine SAND; trace gravel.
55		■	25					
60							SP	ALLUVIUM: (Continued) Light yellowish brown, moist, very dense, SAND with gravel; trace silt.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-20

DATE DRILLED 5/11/10 BORING NO. B-4

GROUND ELEVATION 686'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65		■	38					Gravel and cobble layer.
70								Gravel and cobble layer.
75		■	83/11"					Cobble.
								Gravel and cobble layer.
								Gravel and cobble layer.
80							SP	ALLUVIUM: (Continued) Yellowish brown, damp, very dense, SAND with gravel; few to little gravel; trace silt.

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BORING LOG

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BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-21

DATE DRILLED	5/11/10	BORING NO.	B-4
GROUND ELEVATION	686'± (MSL)	SHEET 5 OF 5	
METHOD OF DRILLING	8" Hollow Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
								Gravel and cobble layer.
85		◤	97/8"					Yellowish to reddish brown; cobble.
								Total Depth = 85.7 feet. No groundwater encountered during drilling. Backfilled with grout and capped with concrete on 5/12/10. <u>Note</u>: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
90								
95								
100								

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-22

DATE DRILLED 5/12/10 BORING NO. B-5

GROUND ELEVATION 690'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							GP	ASPHALT CONCRETE: Approximately 3 inches thick.
							SM	AGGREGATE BASE: Brown, damp, medium dense, sandy GRAVEL; approximately 4 inches thick.
								FILL: Yellowish brown, damp, very dense, silty SAND; few to little gravel; concrete fragments.
5			74/10"					
							SW-SM	ALLUVIUM: Yellowish brown, damp, dense, silty SAND with gravel.
10			55					
								Light yellowish brown.
15			23					
20			26				SP	ALLUVIUM: (Continued) Yellowish brown, damp, dense, SAND; few gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-23

DATE DRILLED 5/12/10 BORING NO. B-5

GROUND ELEVATION 690'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
		■						
25		■	28					
30		■	25					
35		■	34					Very dense; trace silt.
40		■	25				SP	ALLUVIUM: (Continued) Light yellowish brown, dense, SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-24

DATE DRILLED 5/12/10 BORING NO. B-5

GROUND ELEVATION 690'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	48					Very dense.
								Gravel and cobble layer.
50		■	40					Trace silt.
								Gravel and cobble layer.
55								Scattered gravel and cobbles.
60		■	56				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel.

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BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-25

DATE DRILLED 5/12/10 BORING NO. B-5

GROUND ELEVATION 690'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65								Scattered gravel and cobbles.
70		■	37					
75								
80		▱	50/5"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; scattered cobbles.

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-26

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85		▲	97/10"					
								Total Depth = 86.3 feet. No groundwater encountered during drilling. Backfilled with grout and capped with concrete on 5/12/10. <u>Note</u>: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
90								
95								
100								

DATE DRILLED 5/12/10 BORING NO. B-5

GROUND ELEVATION 690'± (MSL) SHEET 5 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

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BORING LOG

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-27

DATE DRILLED 5/12/10 BORING NO. B-6

GROUND ELEVATION 687'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								ASPHALT CONCRETE: Approximately 3½ inches thick.
							GP	AGGREGATE BASE: Brown, moist, dense, sandy GRAVEL; approximately 5 inches thick.
							SM	FILL: Brown, moist, damp, silty SAND with gravel; concrete fragments.
5			91/10"	9.9	121.8			Dark brown; wet; trash.
							SW-SM	ALLUVIUM: Light yellowish brown, damp, very dense, well-graded SAND with silt and gravel.
10			37	4.8	111.1			
15			24					Dense.
20			25				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-28

DATE DRILLED 5/12/10 BORING NO. B-6

GROUND ELEVATION 687'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
								Gravel and cobble layer.
25			36					Very dense; coarse SAND with gravel.
30			28					Dense; medium SAND with gravel.
								Gravel and cobble layer.
35			23					Fine to coarse SAND with gravel.
40			30				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, fine to coarse SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-29

DATE DRILLED 5/12/10 BORING NO. B-6

GROUND ELEVATION 687'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	33					Dense to very dense.
50								
55		■	35					Very dense.
								Gravel and cobble layer.
60							SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-30

DATE DRILLED 5/12/10 BORING NO. B-6

GROUND ELEVATION 687'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65		■	55					
70								Gravel and cobble layer.
75		■	50/5"					Scattered gravel and cobbles.
80							SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-31

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85		◣	50/5"					
								Total Depth = 85.5 feet. No groundwater encountered during drilling. Backfilled with grout on 5/12/10 and capped with concrete on 5/13/10. <u>Note</u>: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
90								
95								
100								

DATE DRILLED 5/12/10 BORING NO. B-6

GROUND ELEVATION 687'± (MSL) SHEET 5 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-32

DATE DRILLED 5/13/10 BORING NO. B-7

GROUND ELEVATION 682'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								ASPHALT CONCRETE:
							GP	Approximately 4 inches thick.
							SM	AGGREGATE BASE: Brown, moist, medium dense, sandy GRAVEL; approximately 4½ inches thick.
								FILL: Brown, damp, very dense, silty SAND with gravel, scattered cobbles.
5		■	59/9"					Gravel and cobble layer.
								Gravel and cobble layer.
							SP	ALLUVIUM: Light yellowish brown, damp, very dense, SAND with gravel; trace silt.
10		■	85					
							SP-SM	Light yellowish brown, damp, dense, poorly graded SAND with silt; few gravel.
15		◥	29					
20		◥	20				SM	ALLUVIUM: (Continued) Light yellowish brown, moist, medium dense to dense, silty SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-33

DATE DRILLED 5/13/10 BORING NO. B-7

GROUND ELEVATION 682'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
							SP	Light yellowish brown, damp, dense, coarse SAND with gravel.
25			21					
30			50					Very dense; trace silt.
35			36					
40			36				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; trace silt.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-34

DATE DRILLED 5/13/10 BORING NO. B-7

GROUND ELEVATION 682'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	34					
50		■	35					Fine to medium SAND with gravel.
55								
60		■	38				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, fine to coarse SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-35

DATE DRILLED 5/13/10 BORING NO. B-7

GROUND ELEVATION 682'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65								
70		■	83					
75								
80		■	50/4"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel. Gravel and cobble layer.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-36

DATE DRILLED	5/13/10	BORING NO.	B-7
GROUND ELEVATION	682'± (MSL)	SHEET 5 OF 5	
METHOD OF DRILLING	8" Hollow Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85							Scattered gravel and cobbles.
90		50/4"					Trace silt. Very hard drilling; gravel and cobble layer.
							Gravel and cobble layer.
95							
100		50/3"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel.

Total Depth = 100.3 feet.
No groundwater encountered during drilling.
Backfilled with grout and capped with concrete on 5/13/10.

Note:
Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-37

DATE DRILLED 5/13/10 BORING NO. B-8

GROUND ELEVATION 680'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								ASPHALT CONCRETE: Approximately 4 inches thick.
							GP	AGGREGATE BASE: Brown, medium dense, moist, sandy GRAVEL; approximately 4½ inches thick.
							SM	FILL: Brown, moist, very dense, silty SAND with gravel; concrete fragments; trash.
5			30				SP	ALLUVIUM: Light yellowish brown, damp, medium dense, fine to coarse SAND with gravel.
10			22					Coarse SAND with gravel.
15			36					Very dense; fine to medium SAND; trace gravel.
20			25				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, coarse SAND; trace gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-39

DATE DRILLED 5/13/10 BORING NO. B-8

GROUND ELEVATION 680'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
25			18					Medium dense.
30			25					Dense.
35			45					Very dense.
40			36				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, coarse SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-40

DATE DRILLED 5/13/10 BORING NO. B-8

GROUND ELEVATION 680'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	43					
								Gravel and cobble layer.
								Gravel and cobble layer.
50								
								Gravel and cobble layer.
55		■	52					
60							SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, coarse SAND; trace silt; trace to few gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-41

DATE DRILLED 5/13/10 BORING NO. B-8

GROUND ELEVATION 680'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65		■	37					
70								
75		■	81/11"					Coarse SAND with gravel; trace silt.
								Gravel and cobble layer.
80							SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; scattered cobbles.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-42

DATE DRILLED	5/13/10	BORING NO.	B-8
GROUND ELEVATION	680'± (MSL)	SHEET 5 OF 5	
METHOD OF DRILLING	8" Hollow Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85		64/8"					
90							Gravel and cobble layer.
95		50/4"					
							Total Depth = 95.3 feet. No groundwater encountered during drilling. Backfilled with grout on 5/13/10 and capped with concrete on 5/14/10. <u>Note</u>: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
100							

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-43

DATE DRILLED 5/14/10 BORING NO. B-9

GROUND ELEVATION 685'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0						GP	ASPHALT CONCRETE: Approximately 3½ inches thick.
						SM	AGGREGATE BASE: Yellowish brown, damp, medium dense, sandy GRAVEL; approximately 4 inches thick.
							FILL: Yellowish brown, damp, dense, silty SAND with gravel.
						SP	ALLUVIUM: Light yellowish brown, damp, medium dense, SAND with silt and gravel.
5		19					
10		17					Coarse SAND with gravel.
						SM	Light yellowish brown, damp, medium dense, silty fine to medium SAND with gravel.
15		14					
20		21				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, SAND with gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-44

DATE DRILLED 5/14/10 BORING NO. B-9

GROUND ELEVATION 685'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
		■						
25		■	23					
								Gravel and cobble layer.
30		■	26					Scattered gravel and cobbles.
35		■	34					Very dense.
40		■	38				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; few gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-45

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	27					Dense.
50		■	43					Very dense.
55								
60		■	36				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel.

DATE DRILLED 5/14/10 BORING NO. B-9

GROUND ELEVATION 685'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-46

DATE DRILLED 5/14/10 BORING NO. B-9

GROUND ELEVATION 685'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65								
70		■	46					Coarse SAND with gravel.
75								Gravel and cobble layer; hard drilling.
80		■	50/5"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel. Scattered cobbles.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-47

DATE DRILLED	5/14/10	BORING NO.	B-9
GROUND ELEVATION	685'± (MSL)	SHEET 5 OF 5	
METHOD OF DRILLING	8" Hollow Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85								
90		■	50/5"					Trace silt.
95								
100		■	97/8"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; trace silt; little gravel.

Total Depth = 100.7 feet.
No groundwater encountered during drilling.
Backfilled with grout and capped with concrete on 5/14/10.

Note:
Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-48

DATE DRILLED 5/14/10 BORING NO. B-10

GROUND ELEVATION 682'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								ASPHALT CONCRETE: Approximately 6 inches thick.
							GP	AGGREGATE BASE: Yellowish brown, damp, medium dense, sandy GRAVEL; approximately 3 inches thick.
							SM	FILL: Yellowish brown, moist, medium dense, silty SAND; trace gravel.
5			26					
							SM	ALLUVIUM: Light yellowish brown, moist, loose, silty SAND; trace gravel.
10			11	6.8	96.2			
15			9					Medium dense; silty SAND.
20			28	2.8			SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, SAND; trace to few gravel; trace silt.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-50

DATE DRILLED 5/14/10 BORING NO. B-10

GROUND ELEVATION 682'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
25			20					Medium dense to dense, trace gravel.
30			23					Dense; few fine gravel.
								Gravel and cobble layer.
							SM	Light yellowish brown, moist, medium dense, silty fine to medium SAND; trace gravel.
35			16					
40			38				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, coarse SAND with gravel; trace silt.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-51

DATE DRILLED 5/14/10 BORING NO. B-10

GROUND ELEVATION 682'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	40					
50								
55		■	28					Dense.
								Gravel and cobble layer.
60							SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, medium SAND with silt and gravel.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-52

DATE DRILLED	5/14/10	BORING NO.	B-10
GROUND ELEVATION	682'± (MSL)	SHEET 4 OF 5	
METHOD OF DRILLING	8" Hollow Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65		58					
70							
							Gravel and cobble layer.
75		65/10"					Trace silt. Scattered cobbles.
80						SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with silt and gravel; trace silt; scattered cobbles.

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PROJECT NO.	DATE	FIGURE
207789002	7/10	A-53

DATE DRILLED	5/14/10	BORING NO.	B-10
GROUND ELEVATION	682'± (MSL)	SHEET 5 OF 5	
METHOD OF DRILLING	8" Hollow Stem Auger (Martini Drilling)		
DRIVE WEIGHT	140 lbs. (Auto. Trip Hammer)	DROP	30"
SAMPLED BY	MCP	LOGGED BY MCP	REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85		74/10"					Gravel and cobble layer.
90							
							Gravel and cobble layer; very hard drilling.
95		50/3"					
100		50/4"				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with silt and gravel; cobble.

Total Depth = 100.3 feet.
No groundwater encountered during drilling.
Backfilled with grout and capped with concrete on 5/14/10.

Note:
Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.

Ninyo & Moore

BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-54

DATE DRILLED 5/17/10 BORING NO. B-11

GROUND ELEVATION 679'± (MSL) SHEET 1 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								ASPHALT CONCRETE: Approximately 4 inches thick.
							GP	AGGREGATE BASE: Yellowish brown, damp, medium dense, sandy GRAVEL; approximately 5 inches thick.
							SM	FILL: Yellowish brown, damp, dense, silty SAND with gravel.
							SM	ALLUVIUM: Light yellowish brown, damp, medium dense, silty SAND; trace gravel.
5		■	31					
								Gravel layer.
10		■	13	14.0	103.9			Loose.
15		■	64					Very dense.
20		■	27	2.8			SP	ALLUVIUM: (Continued) Light yellowish brown, damp, dense, SAND; trace gravel; trace silt.

Ninyo & Moore

BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-56

DATE DRILLED 5/17/10 BORING NO. B-11

GROUND ELEVATION 679'± (MSL) SHEET 2 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
25			17					Medium dense.
30			24				SM	Light yellowish brown, moist, dense, silty SAND with gravel.
35			43				SP	Light yellowish brown, damp, very dense, SAND with gravel; trace silt.
40			46				SP	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, SAND with gravel; trace silt.

Ninyo & Moore

BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-57

DATE DRILLED 5/17/10 BORING NO. B-11

GROUND ELEVATION 679'± (MSL) SHEET 3 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
45		■	17					Medium dense.
							SM	Light yellowish brown, moist, medium dense, silty SAND with gravel.
								Gravel and cobble layer.
50		■	21					Dense; silty fine to medium SAND with gravel.
								Very dense; gravel and cobble layer.
55								Gravel and cobble layer.
60		■	38				SP	ALLUVIUM: (Continued) Light yellowish brown, moist, very dense, SAND with gravel; trace silt.

Ninyo & Moore

BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-58

DATE DRILLED 5/17/10 BORING NO. B-11

GROUND ELEVATION 679'± (MSL) SHEET 4 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
65								Gravel and cobble layer.
							SM	Light yellowish brown, damp, very dense, silty SAND with gravel; scattered cobbles; hard drilling.
70		■	71/10"					Gravel and cobble layer.
75								
80		■	50/5"				SP	ALLUVIUM: (Continued) Light yellowish brown, very dense, SAND with silt and gravel; scattered cobbles; hard drilling.

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BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-59

DATE DRILLED 5/17/10 BORING NO. B-11

GROUND ELEVATION 679'± (MSL) SHEET 5 OF 5

METHOD OF DRILLING 8" Hollow Stem Auger (Martini Drilling)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY MCP LOGGED BY MCP REVIEWED BY CAP

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
85								
							SM	Light yellowish brown, very dense, silty SAND with gravel; scattered cobbles; hard drilling.
90			95/10"					
95								
100			50/4"				SM	ALLUVIUM: (Continued) Light yellowish brown, damp, very dense, silty SAND with gravel; little to some gravel; scattered cobbles.

Total Depth = 100.3 feet.
No groundwater encountered during drilling.
Backfilled with grout and capped with concrete on 5/17/10.

Note:
Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.

Ninyo & Moore

BORING LOG

REGIONAL INTERMODAL TRANSPORTATION CENTER, BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PROJECT NO.	DATE	FIGURE
207789002	7/10	A-60

APPENDIX B

CONE PENETROMETER TEST RESULTS

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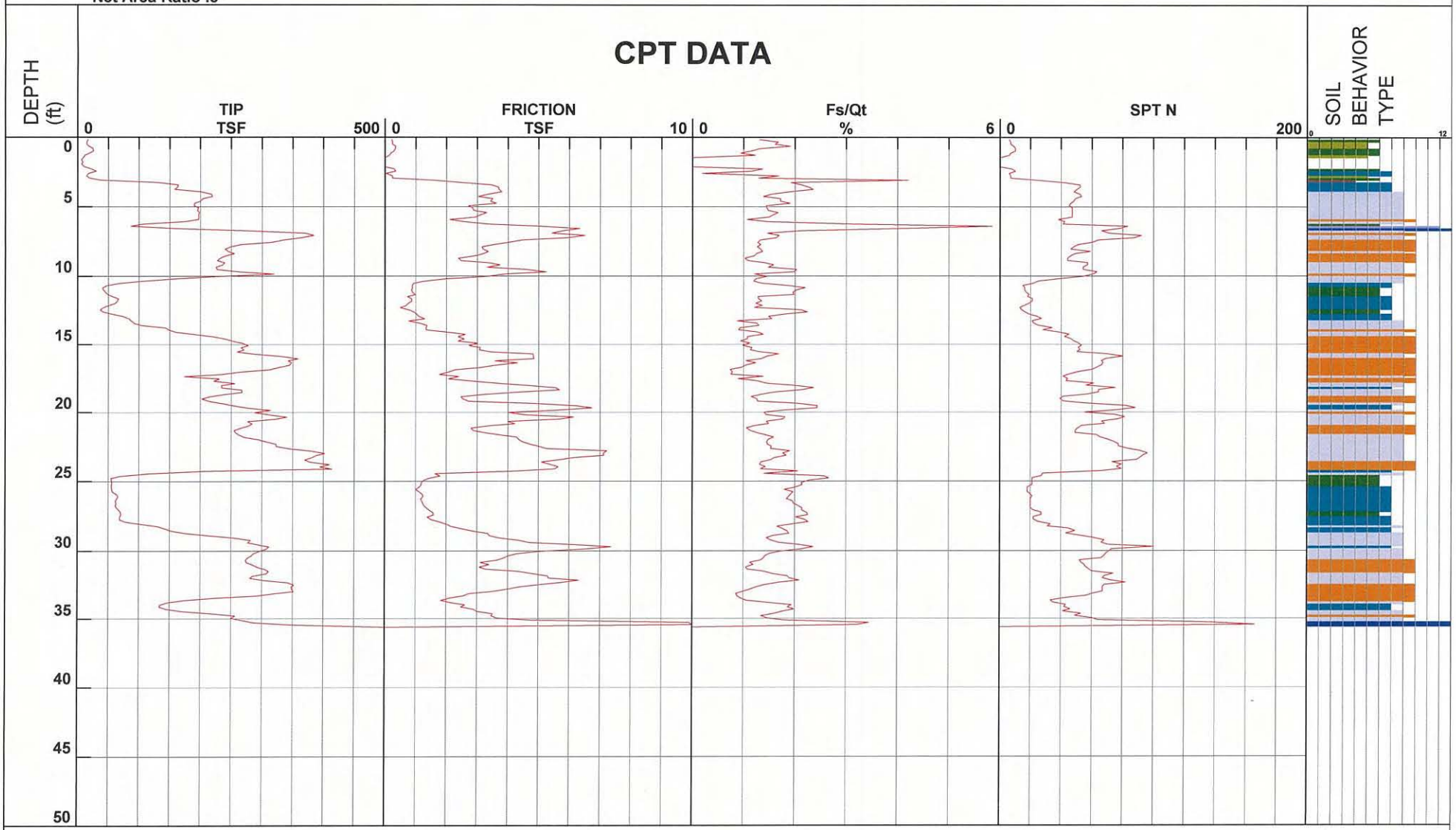
Ninyo & Moore

Project	Bob Hope Airport	Operator	BH/DK	Filename	SDF(051).cpt
Job Number	207789001	Cone Number	DSG1104	GPS	
Hole Number	CPT-01	Date and Time	9/10/2009 10:32:58 AM	Maximum Depth	35.76 ft
Water Table Depth	200.00 ft				

Net Area Ratio .8



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

Cone Size 10cm squared

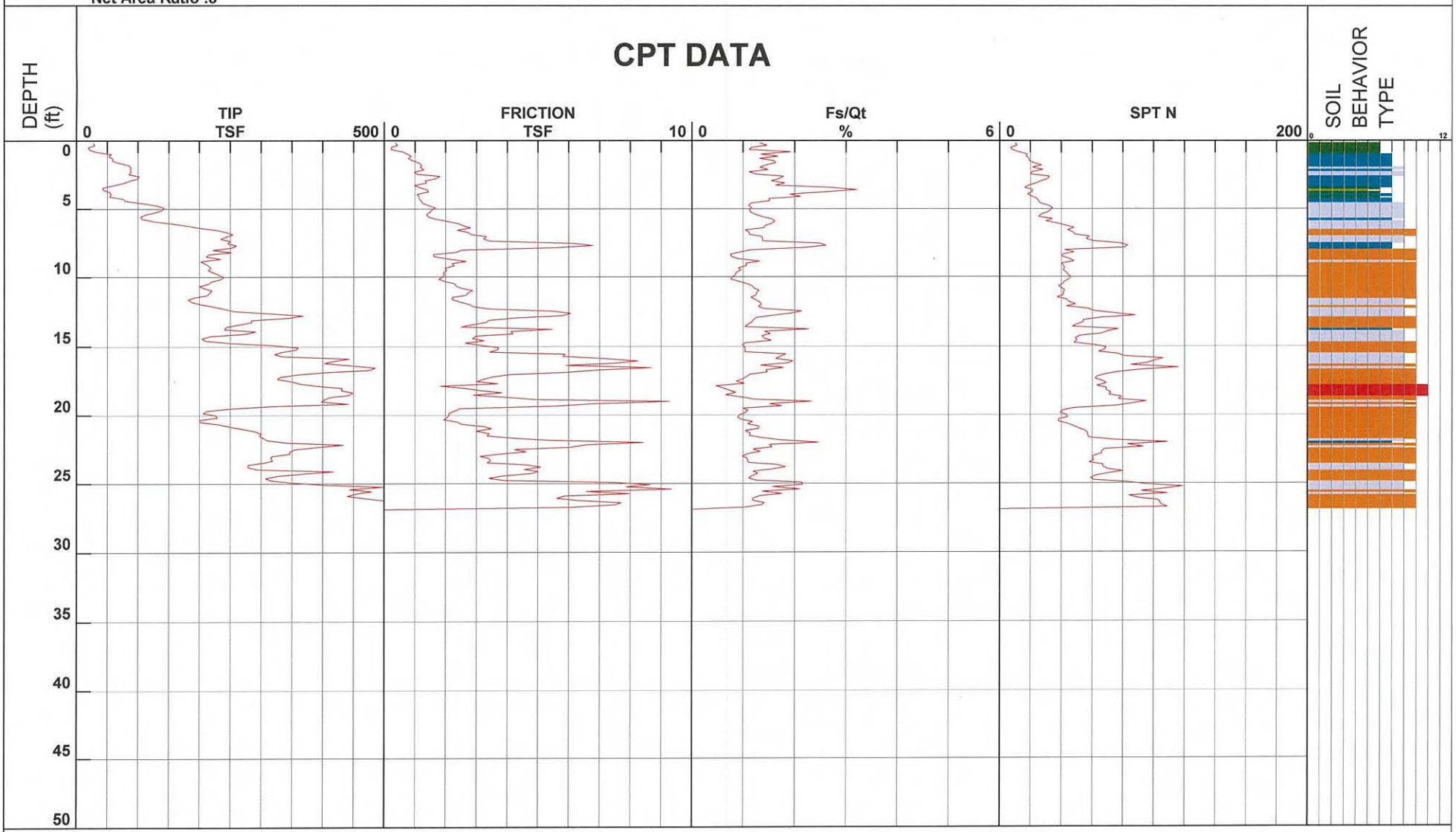
*Soil behavior type and SPT based on data from UBC-1983

Ninyo & Moore

Project	Bob Hope Airport	Operator	BH/DK	Filename	SDF(050).cpt
Job Number	207789001	Cone Number	DSG1104	GPS	
Hole Number	CPT-02	Date and Time	9/10/2009 8:58:24 AM	Maximum Depth	27.07 ft
Water Table Depth	200.00 ft				

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

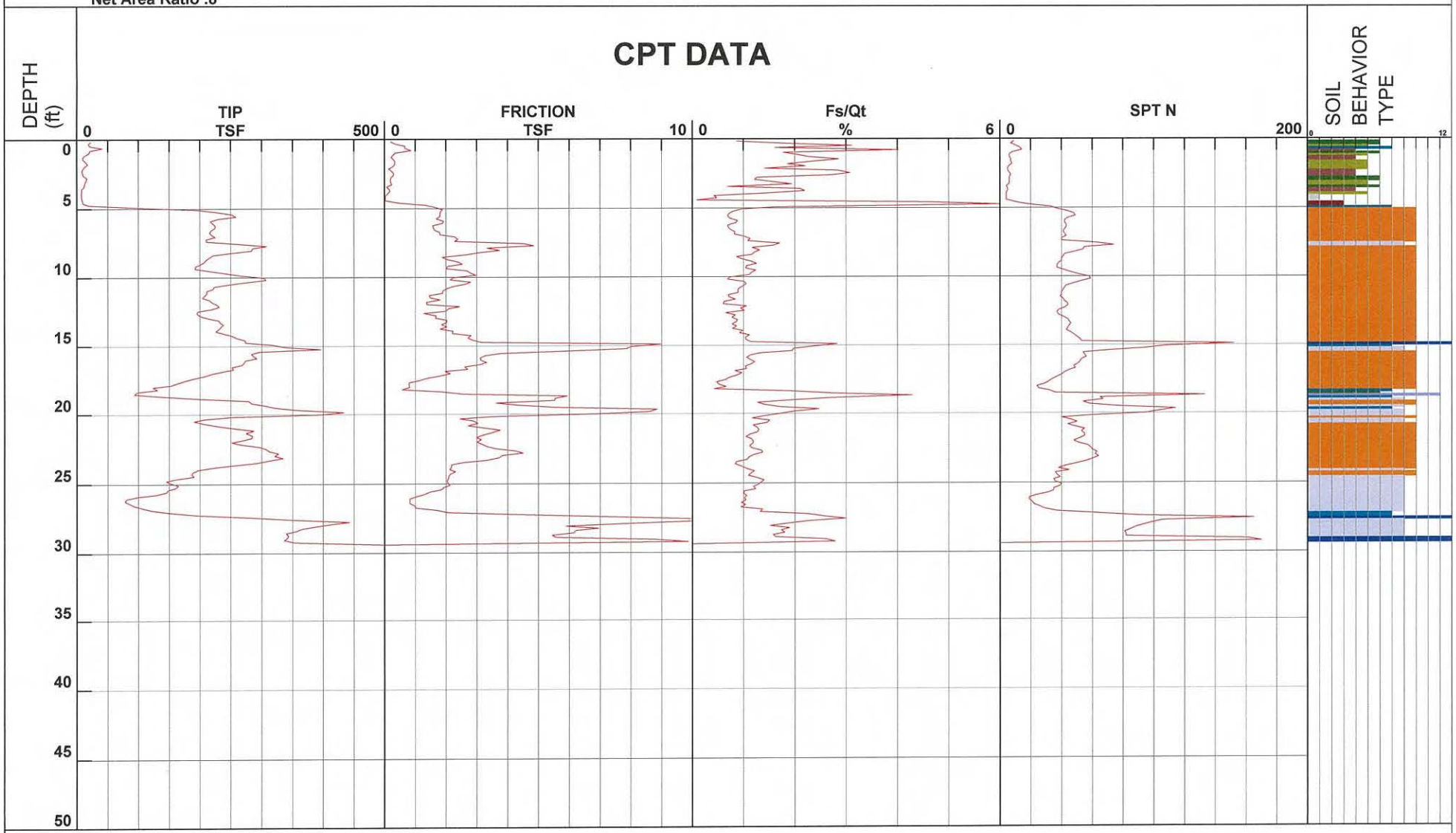
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

Ninyo & Moore

Project	Bob Hope Airport	Operator	BH/DK	Filename	SDF(052).cpt
Job Number	207789001	Cone Number	DSG1104	GPS	
Hole Number	CPT-03	Date and Time	9/10/2009 12:01:16 PM	Maximum Depth	29.53 ft
Water Table Depth	200.00 ft				

Net Area Ratio .8



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

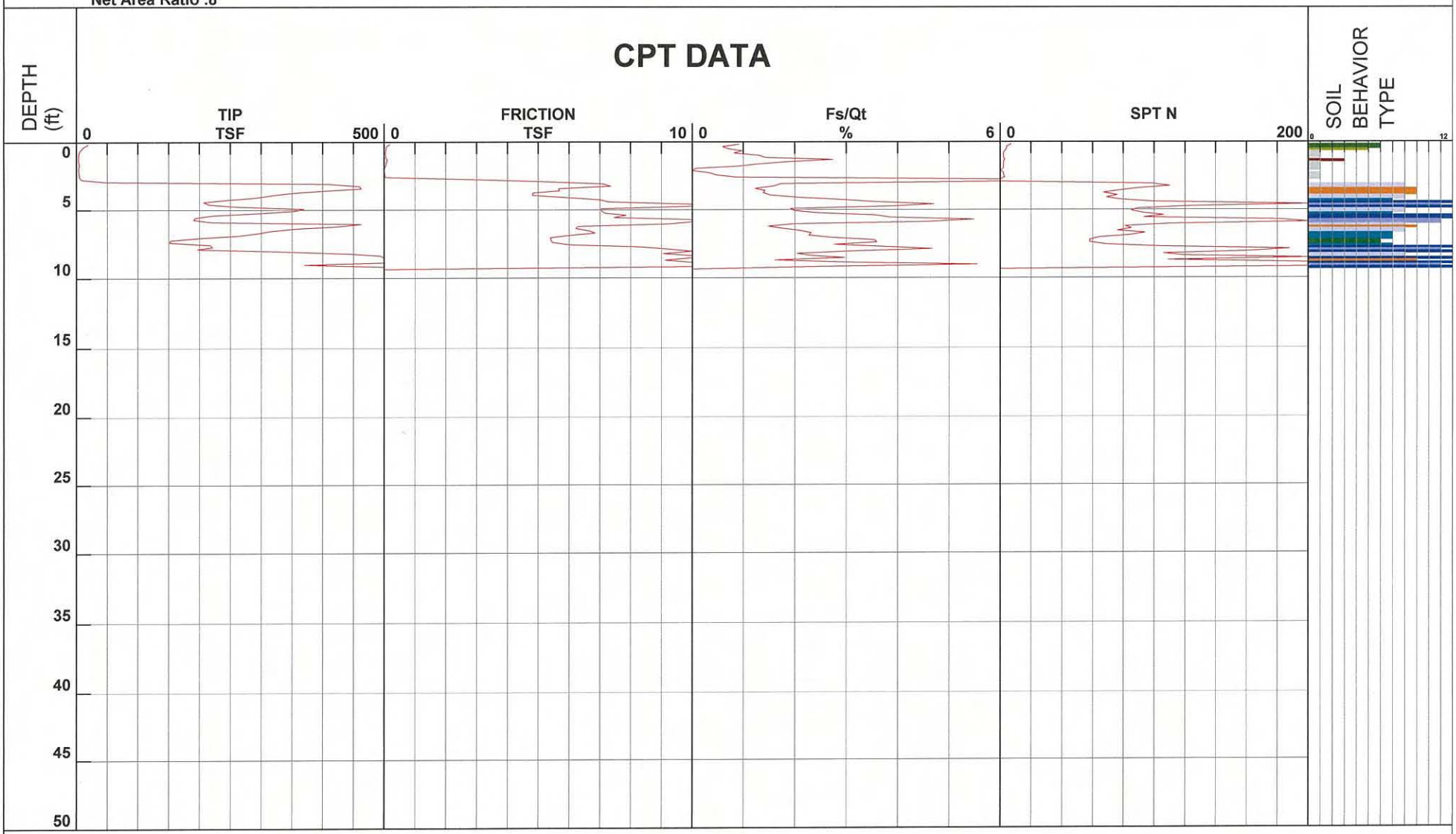
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

Ninyo & Moore

Project	Bob Hope Airport	Operator	BH/DK	Filename	SDF(054).cpt
Job Number	207789001	Cone Number	DSG1104	GPS	
Hole Number	CPT-04	Date and Time	9/10/2009 5:10:57 PM	Maximum Depth	9.51 ft
Water Table Depth	200.00 ft				

Net Area Ratio .8



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

Cone Size 10cm squared

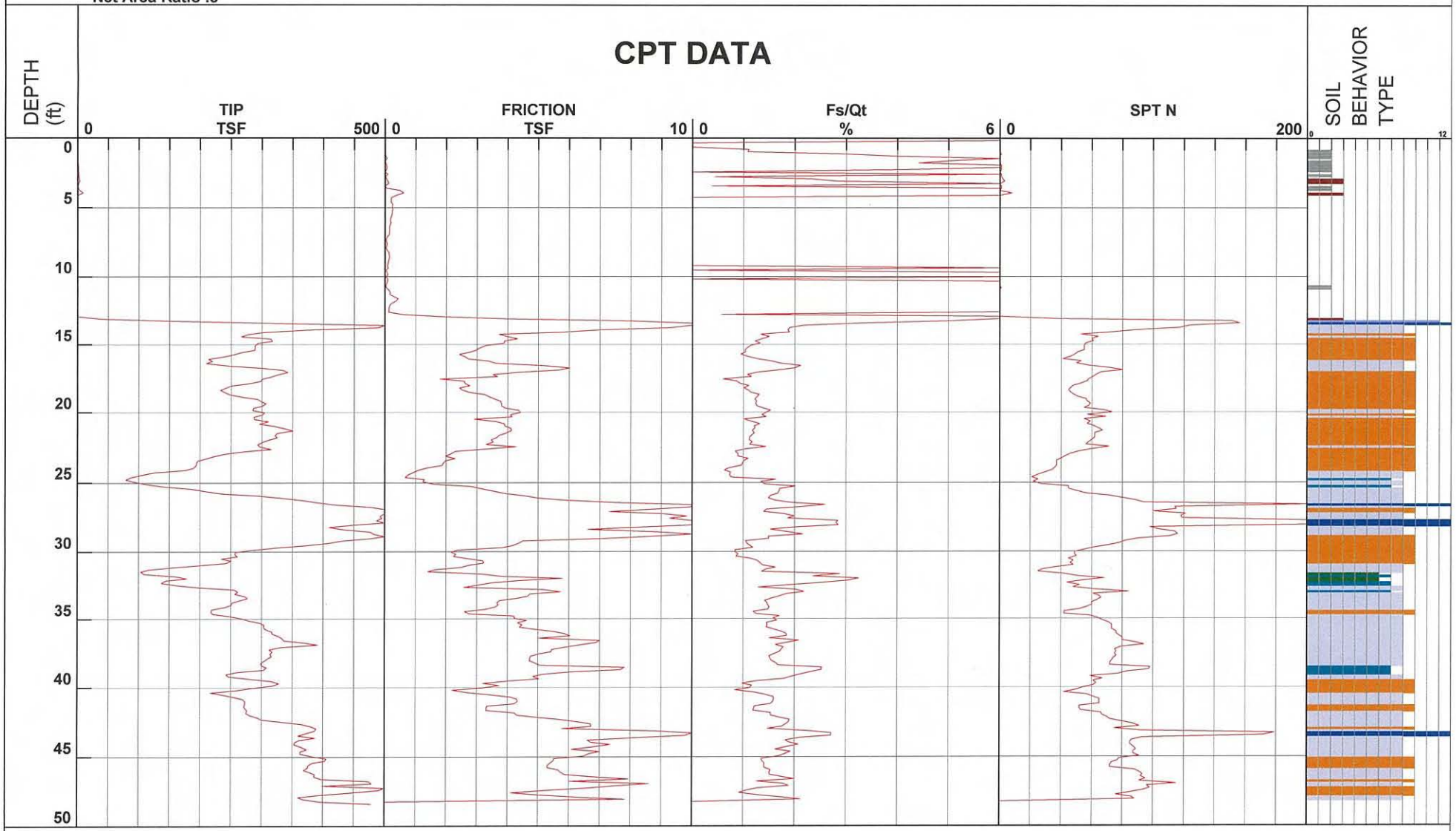
*Soil behavior type and SPT based on data from UBC-1983

Ninyo & Moore

Project	Bob Hope Airport	Operator	BH/DK	Filename	SDF(057).cpt
Job Number	207789001	Cone Number	DSG1104	GPS	
Hole Number	CPT-05	Date and Time	9/10/2009 7:23:37 PM	Maximum Depth	48.39 ft
Water Table Depth	200.00 ft				

Net Area Ratio .8

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

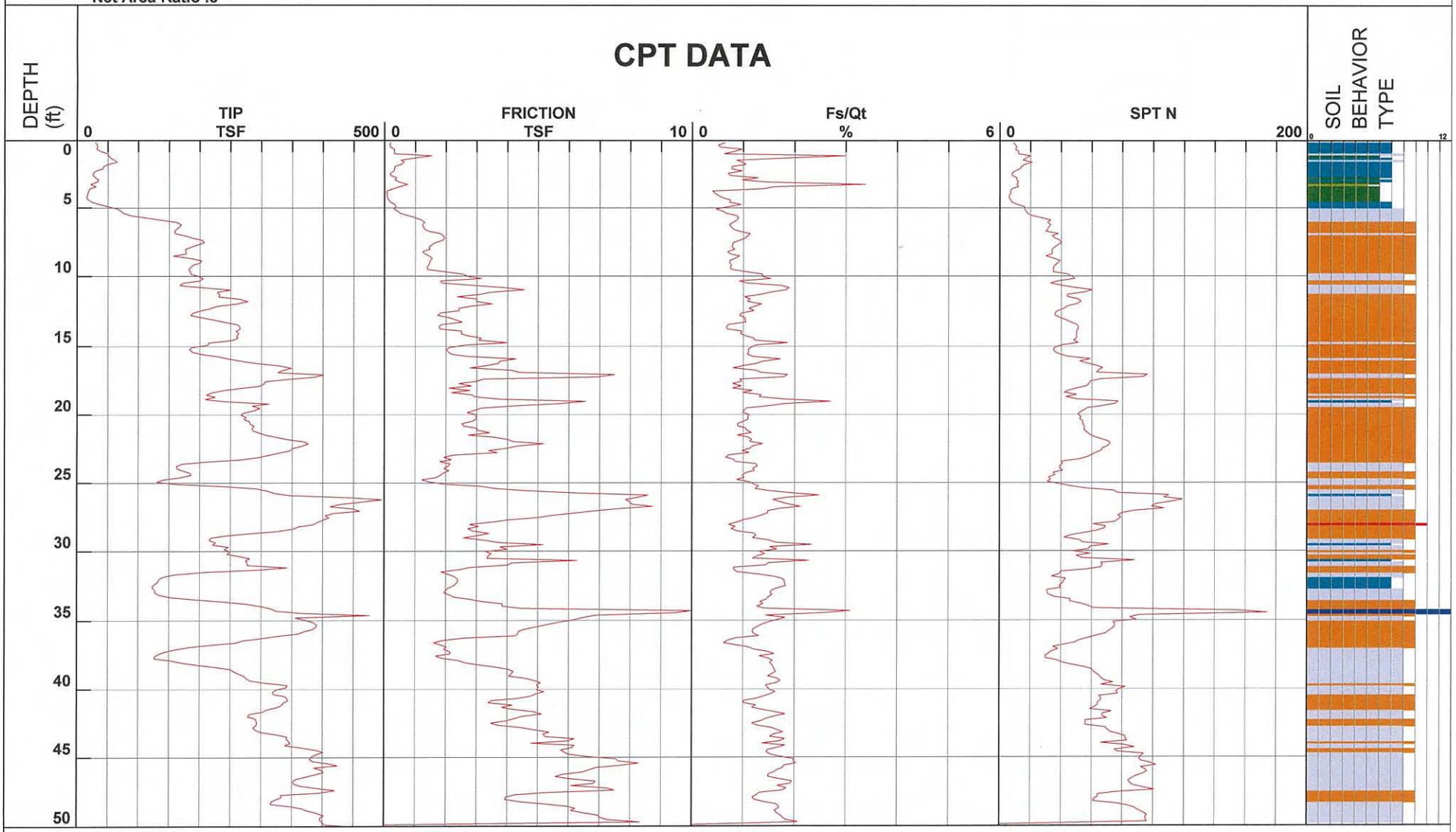
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

Ninyo & Moore

Project	Bob Hope Airport	Operator	BH/DK	Filename	SDF(053).cpt
Job Number	207789001	Cone Number	DSG1104	GPS	
Hole Number	CPT-06	Date and Time	9/10/2009 2:17:42 PM	Maximum Depth	50.03 ft
Water Table Depth	200.00 ft				

Net Area Ratio .8



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

APPENDIX C

LABORATORY TESTING

Classification

Soils were classified visually and texturally in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory borings in Appendix A.

Moisture Content

The moisture content of samples obtained from the exploratory excavations was evaluated in accordance with ASTM D 2216. The test results are presented on the logs of the exploratory excavations in Appendix A.

In-Place Moisture and Density Tests

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory borings were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory borings in Appendix A.

200 Wash

An evaluation of the percentage of particles finer than the No. 200 sieve in selected soil samples was performed in general accordance with ASTM D 1140. The results of the tests are presented on Figure C-1.

Gradation Analysis

Gradation analysis tests were performed on selected representative soil samples in general accordance with ASTM D 422. The grain-size distribution curves are shown on Figures C-2 through C-6. These test results were utilized in evaluating the soil classifications in accordance with the Unified Soil Classification System (USCS).

Proctor Density Tests

The maximum dry density and optimum moisture content of selected representative soil samples were evaluated using the Modified Proctor method in general accordance with ASTM D 1557. The results of these tests are summarized on Figures C-7 and C-8.

Direct Shear Tests

Direct shear tests were performed on relatively undisturbed and remolded samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of selected materials.

The samples were inundated during shearing to represent adverse field conditions. The results are shown on Figures C-9 through C-13.

Expansion Index Tests

The expansion index of selected materials was evaluated in general accordance with Uniform Building Code (UBC) Standard No. 18-2 (ASTM D 4829). Specimens were molded under a specified compactive energy at approximately 50 percent saturation (plus or minus 1 percent). The prepared 1-inch thick by 4-inch diameter specimens were loaded with a surcharge of 144 pounds per square foot and were inundated with tap water. Readings of volumetric swell were made for a period of 24 hours. The results of these tests are presented on Figure C-14.

Soil Corrosivity Tests

Soil pH, and resistivity tests were performed on representative samples in general accordance with California Test (CT) 643. The soluble sulfate and chloride content of selected samples were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure C-15.

R-Value

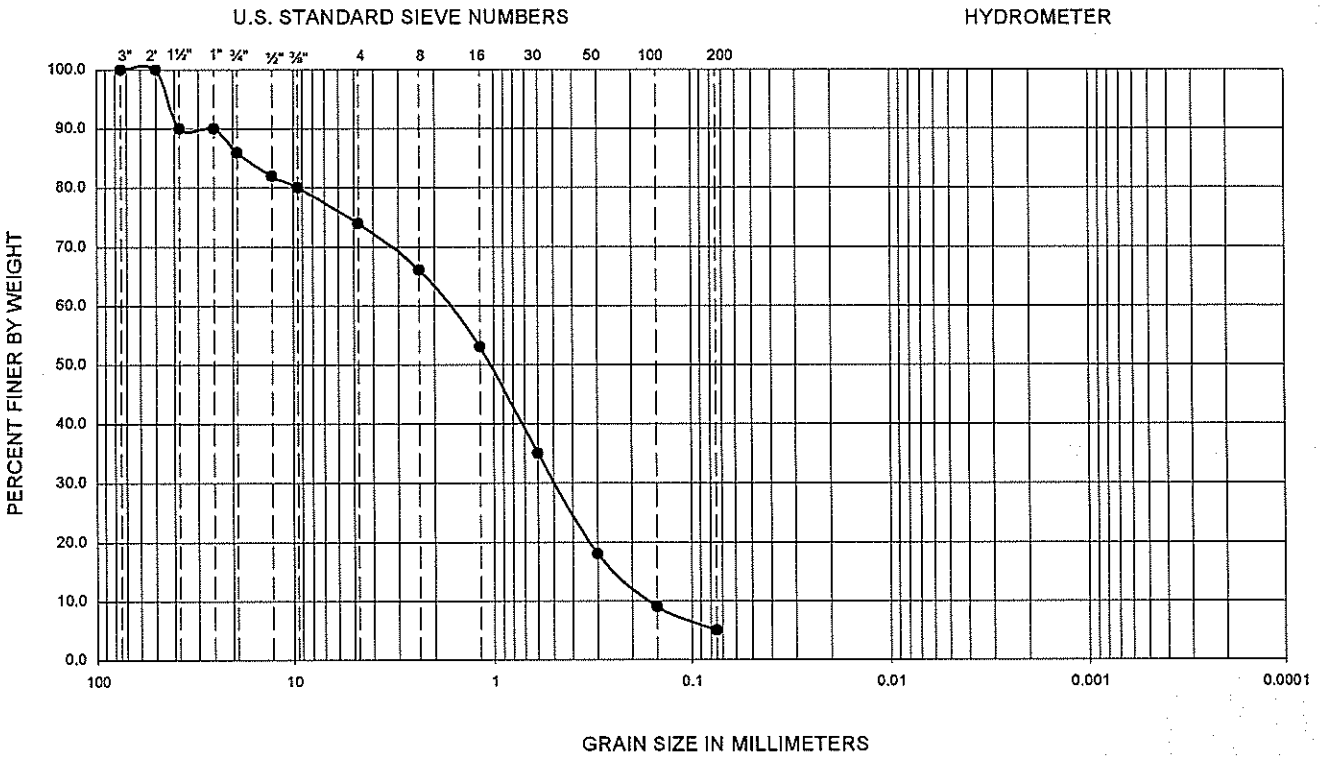
The resistance value, or R-value, for site soils was evaluated in general accordance with California Test (CT) 301. Samples were prepared and evaluated for exudation pressure and expansion pressure. The equilibrium R-value is reported as the lesser or more conservative of the two calculated results. The test results are shown on Figure C-16.

SAMPLE LOCATION	SAMPLE DEPTH (FT)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
B-3	5.0-6.0	SILTY SAND WITH GRAVEL	75	15	SM
B-7	15.0-16.5	POORLY GRADED SAND WITH SILT	91	9	SP-SM
B-10	5.0-6.5	SILTY SAND	95	30	SM
B-10	10.0-11.5	SILTY SAND	97	23	SM
B-11	10.0-11.5	SILTY SAND	99	46	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

Ninyo & Moore	NO. 200 SIEVE ANALYSIS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-1
207789002 / 7/10		

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



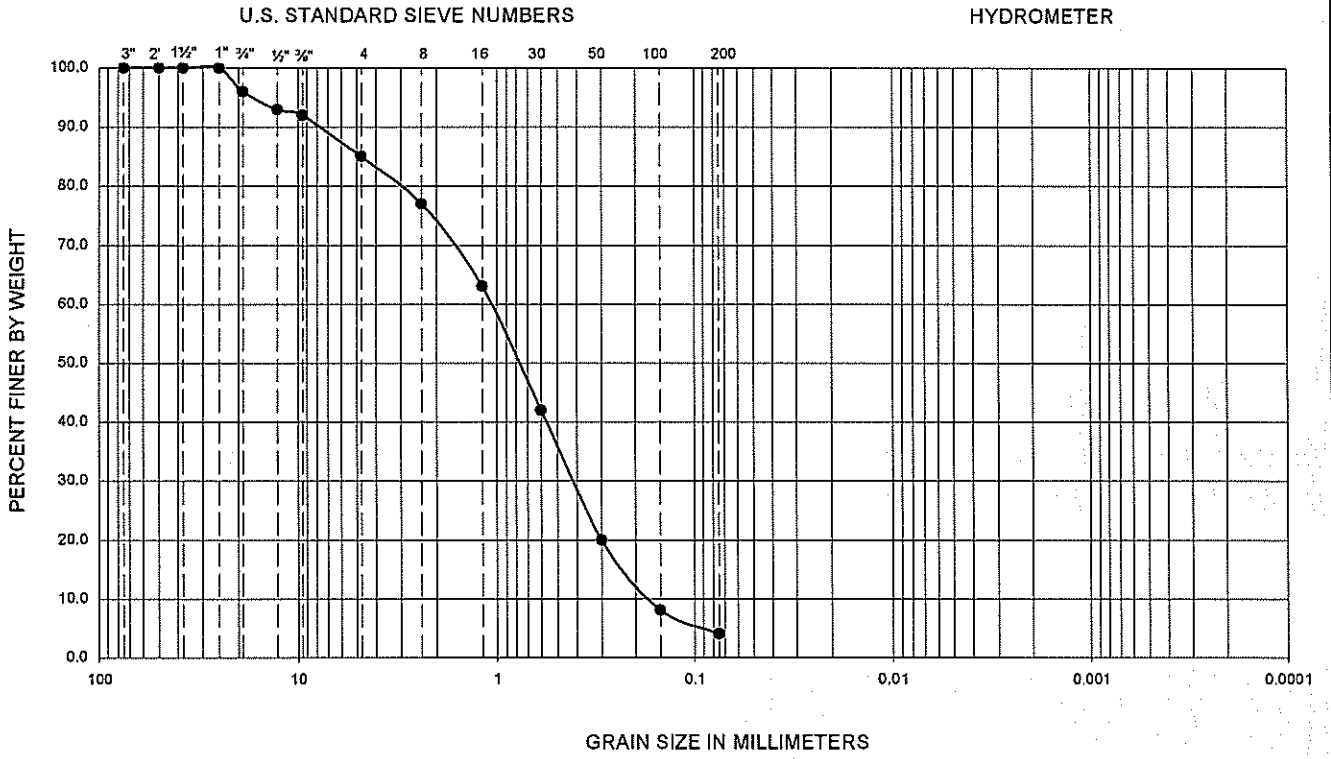
Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	USCS
●	B-5	10.0-11.5	--	--	--	0.16	0.50	1.60	10.0	1.0	5	SW-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

Ninyo & Moore	GRADATION TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER\ BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-2
207789002 / 7/10		

207789002 Fig C-2 SIEVE w No 8 B-5—10.0-11.5.xls

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



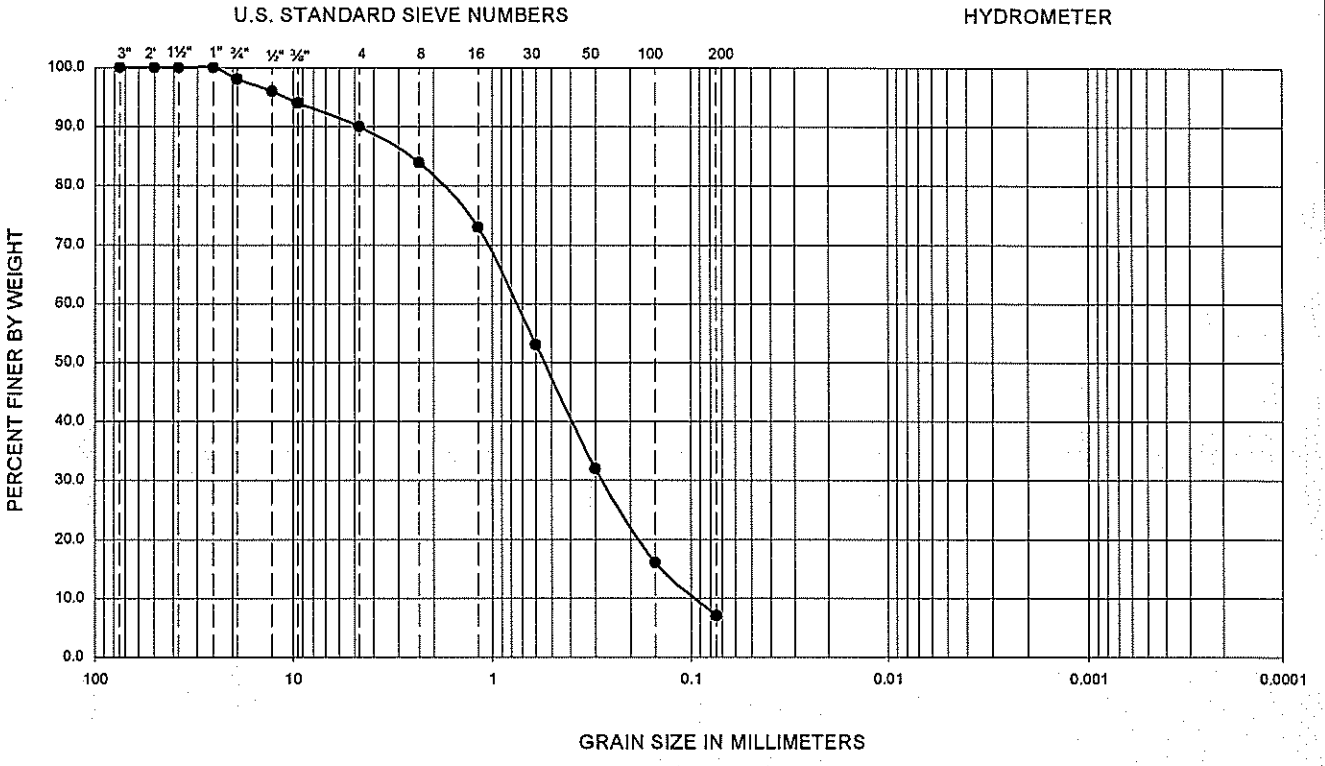
Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	USCS
●	B-5	20.0-21.5	--	--	--	0.18	0.41	1.05	5.8	0.9	4	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

Ninyo & Moore	GRADATION TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-3
207789002 / 7/10		

207789002 Fig C-3 SIEVE w No 8 B-5—20.0-21.5.xls

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

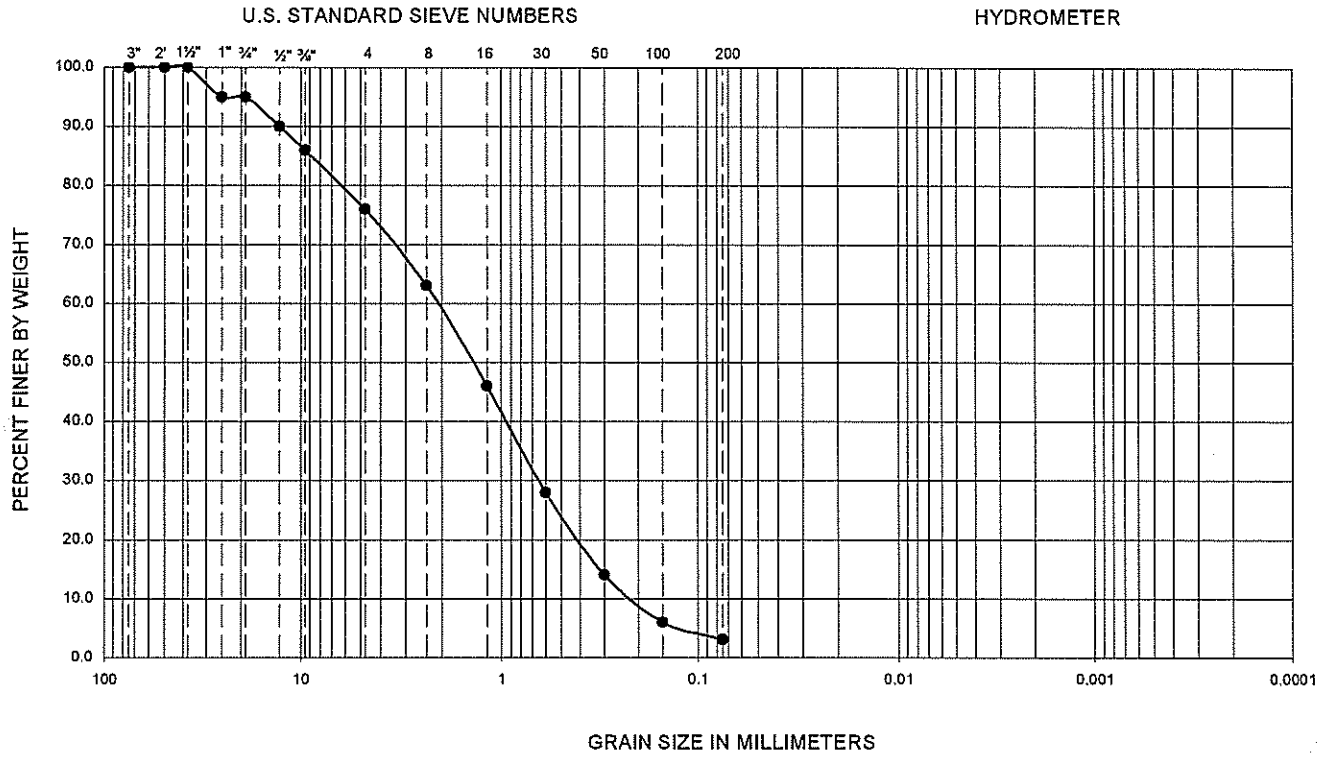


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	USCS
●	B-6	10.0-11.5	--	--	--	0.07	0.28	0.74	10.6	1.5	7	SW-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

Ninyo & Moore	GRADATION TEST RESULTS	FIGURE
PROJECT NO. 207789002 / DATE 7/10	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-4

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



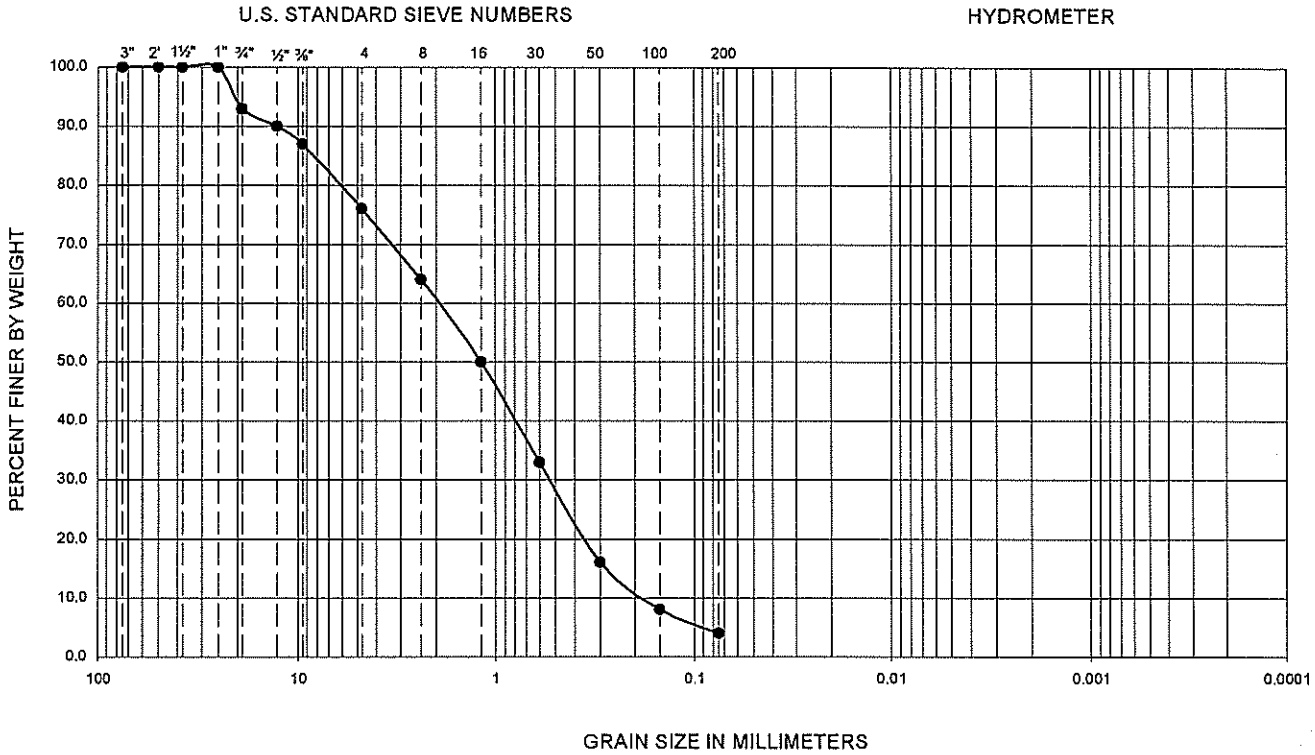
Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	USCS
●	B-10	20.0-21.5	--	--	--	0.22	0.64	2.04	9.3	0.9	3	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

Ninyo & Moore	GRADATION TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-5
207789002 / 7/10		

207789002 Fig C-5 SIEVE w No 81 B-5--20-21.5.xls

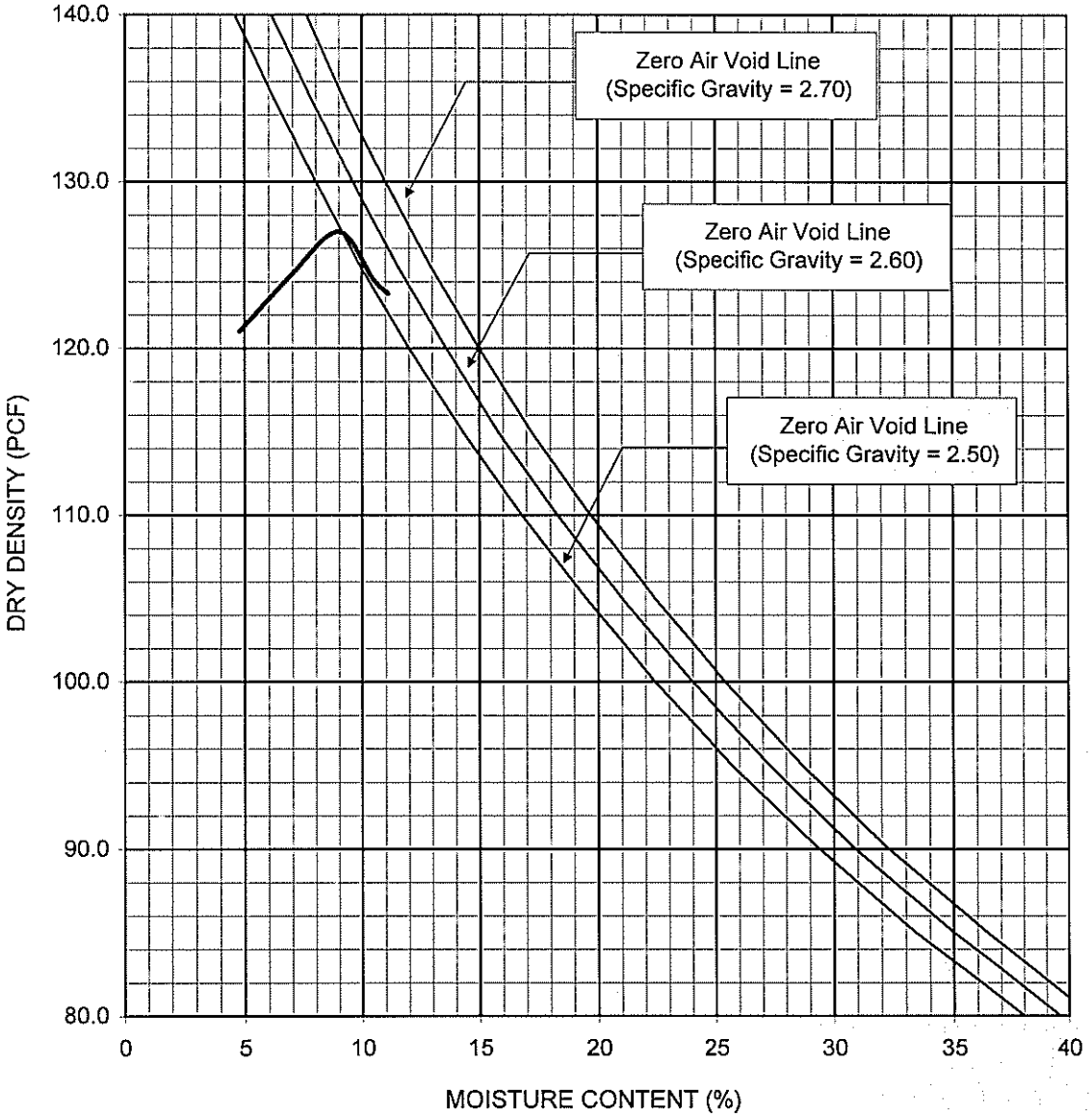
GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	USCS
●	B-11	20.0-21.5	--	--	--	0.18	0.52	1.90	10.6	0.8	4	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

Ninyo & Moore	GRADATION TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-6
207789002 / 7/10		

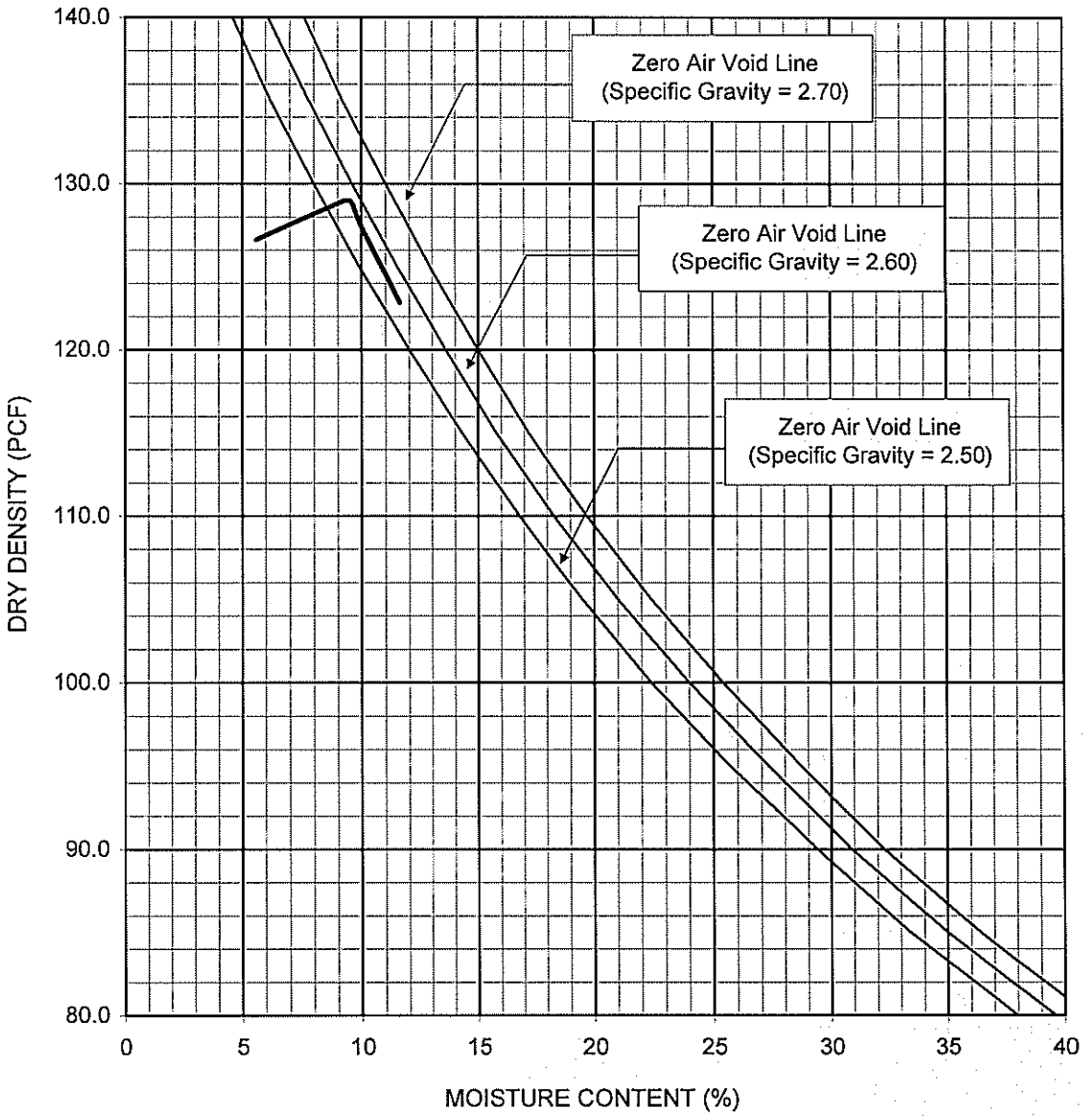


Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-5	1.0-5.0	YELLOWISH BROWN SILTY SAND	127.0	9.0
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718-87)				

PERFORMED IN GENERAL ACCORDANCE WITH ☑ ASTM D 1557 ☐ ASTM D 698 METHOD ☐ A ☐ B ☑ C

Ninyo & Moore	PROCTOR DENSITY TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-7
207789002 / 7/10		

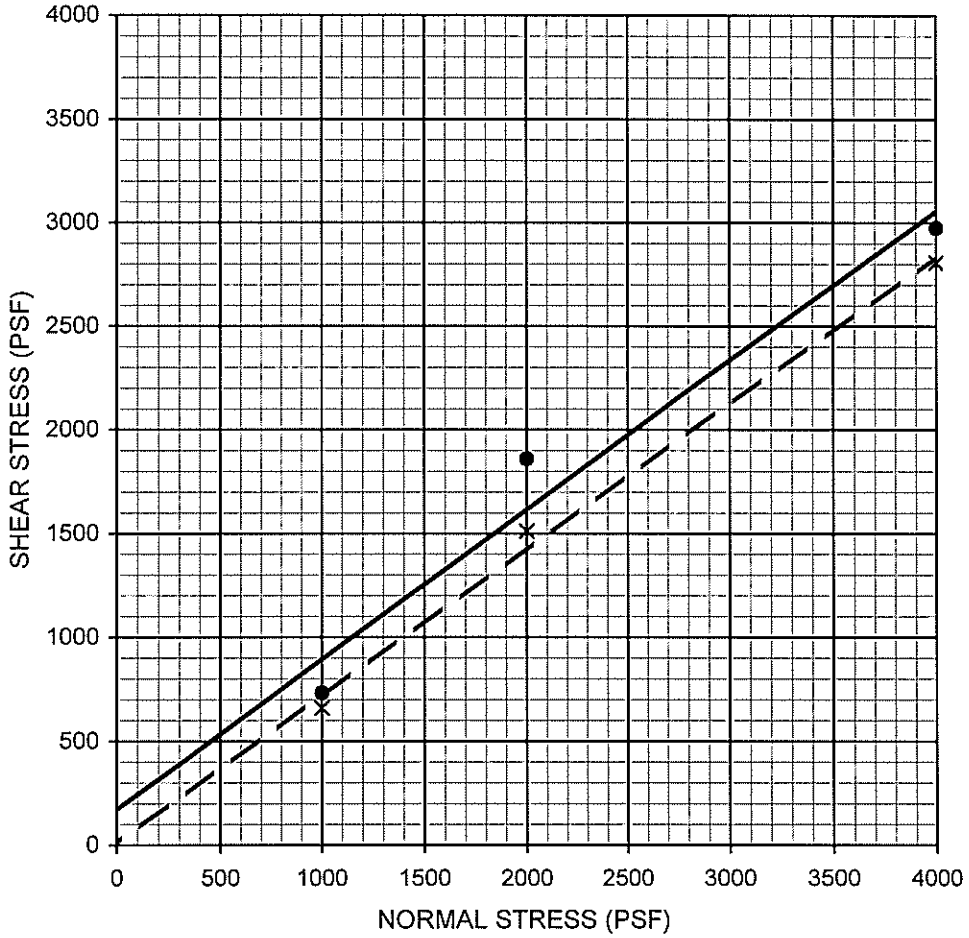
207789002 Fig C-7 MAXDENSITY B-5---1.0-5.0.xls



Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-10	1.0-5.0	YELLOWISH BROWN SILTY SAND	129.0	9.5
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718-87)				

PERFORMED IN GENERAL ACCORDANCE WITH ☑ ASTM D 1557 ☐ ASTM D 698 METHOD ☐ A ☑ B ☐ C

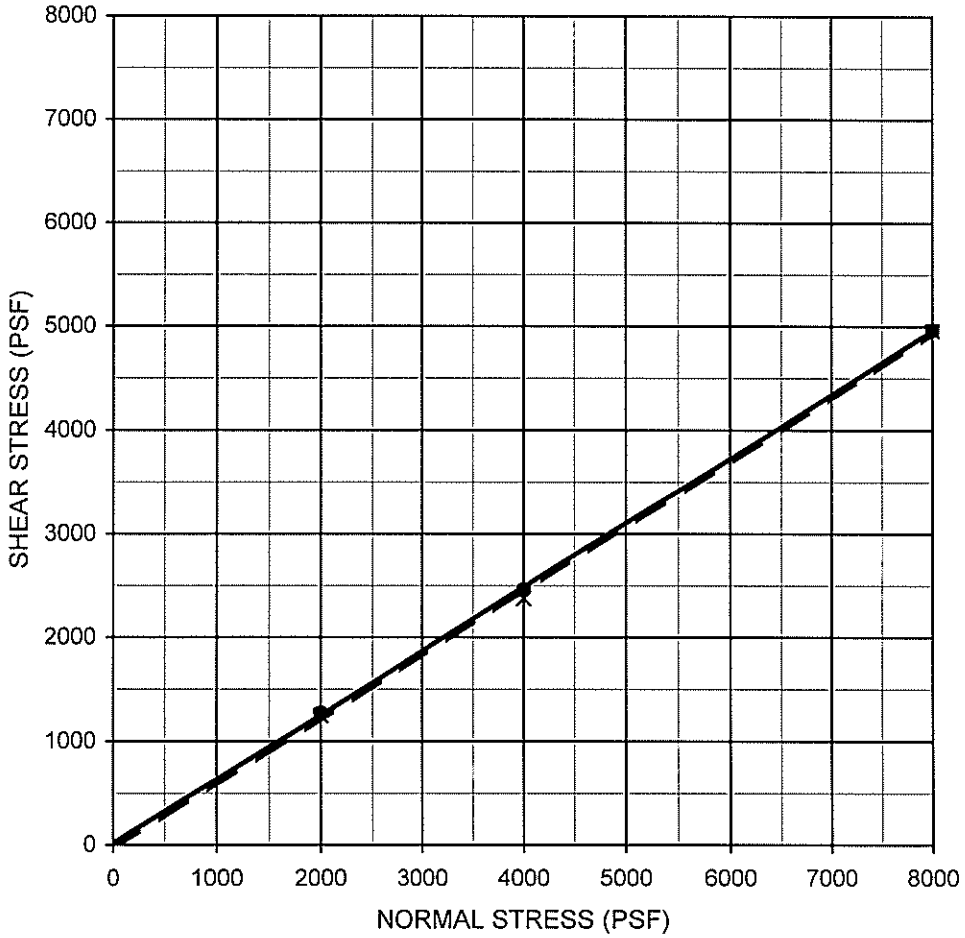
Ninyo & Moore	PROCTOR DENSITY TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-8
207789002 / 7/10		



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
SILTY SAND	—●—	B-4	5.0-6.5	Peak	174	36	SM
SILTY SAND	- - X - -	B-4	5.0-6.5	Ultimate	12	35	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

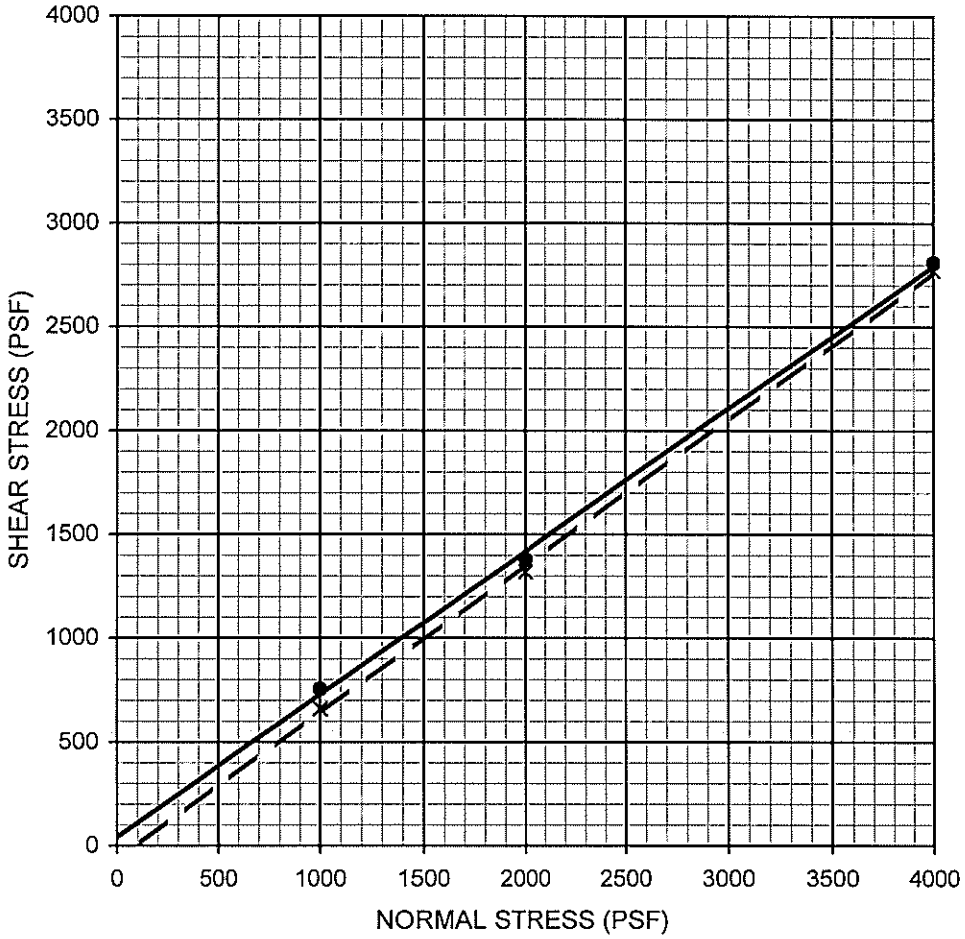
Ninyo & Moore	DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-9
207789002 / 7/10		



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
SILTY SAND	—●—	B-4	10.0-11.5	Peak	18	32	SM
SILTY SAND	- - X - -	B-4	10.0-11.5	Ultimate	0	32	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

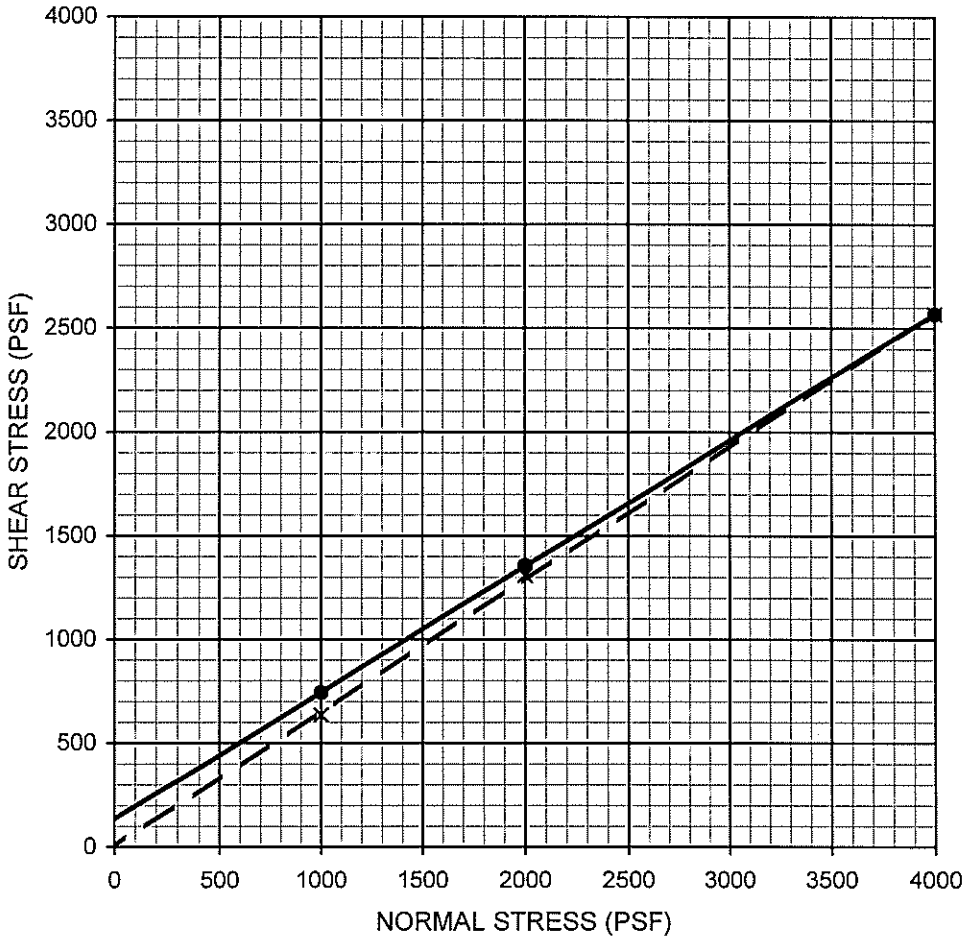
Ninyo & Moore	DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-10
207789002 / 7/10		



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
SILTY SAND	—●—	B-5	1.0-5.0	Peak	42	35	SM
SILTY SAND	- - X - -	B-5	1.0-5.0	Ultimate	0	35	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080 ON A SAMPLE REMOLDED TO 90% RELATIVE COMPACTION.

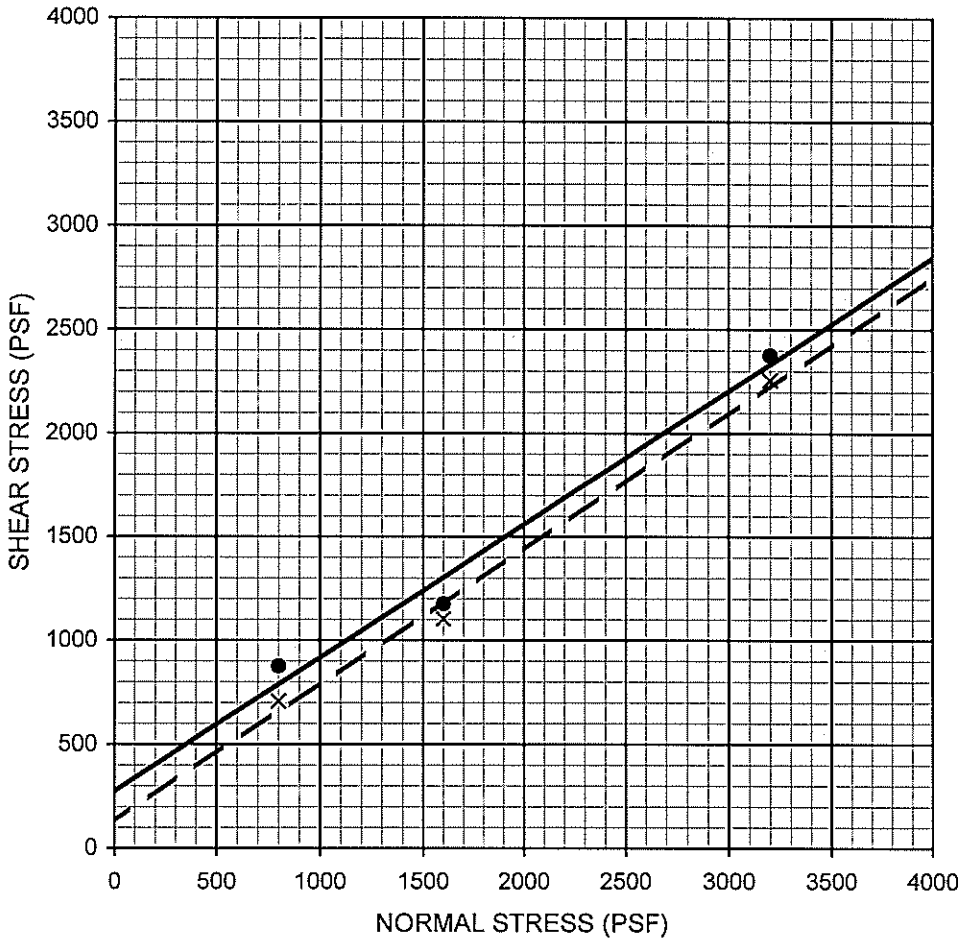
Ninyo & Moore		DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO.	DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-11
207789002	7/10		



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
SILTY SAND	—●—	B-10	1.0-5.0	Peak	138	31	SM
SILTY SAND	- - X - -	B-10	1.0-5.0	Ultimate	6	33	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080 ON A SAMPLE REMOLDED TO 90% RELATIVE COMPACTION.

Ninyo & Moore	DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-12
207789002 / 7/10		



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
SILTY SAND	—●—	B-10	5.0-6.5	Peak	276	33	SM
SILTY SAND	- - X - -	B-10	5.0-6.5	Ultimate	132	33	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080.

Ninyo & Moore	DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-13
207789002 / 7/10		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (IN)	EXPANSION INDEX	POTENTIAL EXPANSION
B-10	1.0-5.0	8.0	117.4	15.9	0.001	1	Very Low

PERFORMED IN GENERAL ACCORDANCE WITH ☐ UBC STANDARD 18-2 ☑ ASTM D 4829

Ninyo & Moore	EXPANSION INDEX TEST RESULTS	FIGURE
PROJECT NO. / DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-14
207789002 / 7/10		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	SOIL TYPE	R-VALUE
B-2	1.0-5.0	SM	86
B-8	1.0-5.0	SM	80

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844-01/CT 301

Ninyo & Moore		R-VALUE TEST RESULTS	FIGURE
PROJECT NO.	DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-15
207789002	7/10		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	pH [1]	RESISTIVITY [1] (Ohm-cm)	SULFATE CONTENT [2]		CHLORIDE CONTENT [3] (ppm)
				(ppm)	(%)	
B-3	1.0-5.0	8.6	2,545	130	0.013	70
B-8	1.0-5.0	7.4	2,680	150	0.015	80

[1] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643
[2] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417
[3] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

Ninyo & Moore		CORROSIVITY TEST RESULTS	FIGURE
PROJECT NO.	DATE	REGIONAL INTERMODAL TRANSPORTATION CENTER BOB HOPE AIRPORT BURBANK, CALIFORNIA	C-16
207789002	7/10		

APPENDIX D

KEANTAN LABORATORIES TEST RESULTS

KEANTAN LABORATORIES

GRAIN SIZE DISTRIBUTION

ASTM D422
Sieve Only

PROJECT NAME: Bob Hope Airport
SAMPLE NO.: B-1 DEPTH(FT 0-5
DESCRIPTION:

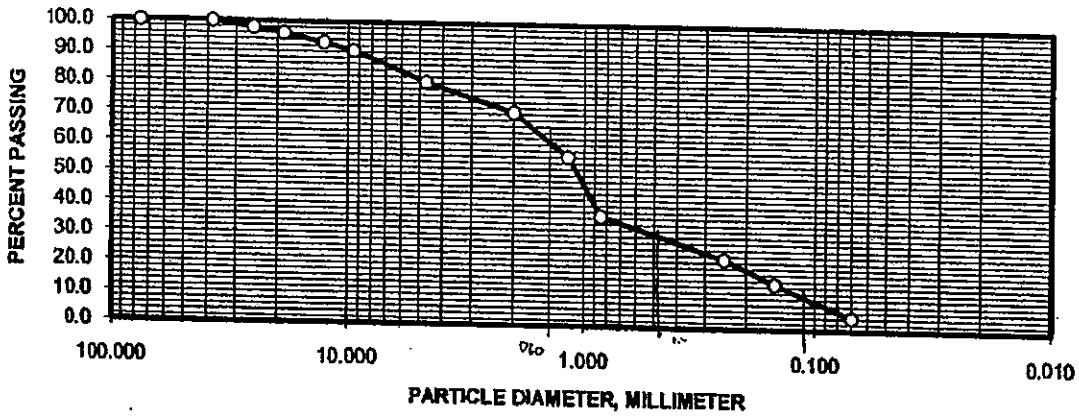
KTL NO.: 05-318-081
PROJECT NO.: n/a
DATE: 9/27/2009
TECH.: jk

UNIFIED SOIL CLASSIFICATION:	NEED DATA
Moisture Content Determination:	4.18%
Pan Number:	KB-16
Pan + Dry Soil, gms.	1344.7
Wt. of Pan, gms.	87.2
Wt. of Dry Soil, gms.	1257.5

$C_u = 13$
$C_c = 2.0$

SIEVE SIZE (U.S. STANDARD)	PARTICLE SIZE, (inches)	PARTICLES DIAMETER, (mm)	WEIGHT RETAINED (gms)	ACCUMULATED WEIGHT RETAINED (gms)	PERCENT PASSING (%)
5"	5.000	127.00	0.00	0.00	100.0
3"	3.000	76.20	0.00	0.00	100.0
1 1/2"	1.500	38.10	0.00	0.00	100.0
1"	1.000	25.40	27.30	27.30	97.8
3/4"	0.750	18.90	22.30	49.60	96.1
1/2"	0.500	12.70	37.00	86.60	93.1
3/8"	0.375	9.52	34.50	121.10	90.4
#4	0.185	4.70	127.30	248.40	80.2
#10	0.078	2.00	120.19	368.59	70.7
#20	0.033	1.17	182.76	551.35	56.2
#40	0.017	0.85	244.70	796.05	36.7
#60	0.009	0.25	172.86	968.91	23.0
#100	0.006	0.15	100.88	1069.79	15.0
#200	0.003	0.07	134.03	1203.82	4.3

Percent Passing	
200	4%



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KEANTAN LABORATORIES

GRAIN SIZE DISTRIBUTION

ASTM D422
Sieve Only

PROJECT NAME: Bob Hope Airport
SAMPLE NO.: B-1 DEPTH(FT 20-23
DESCRIPTION:

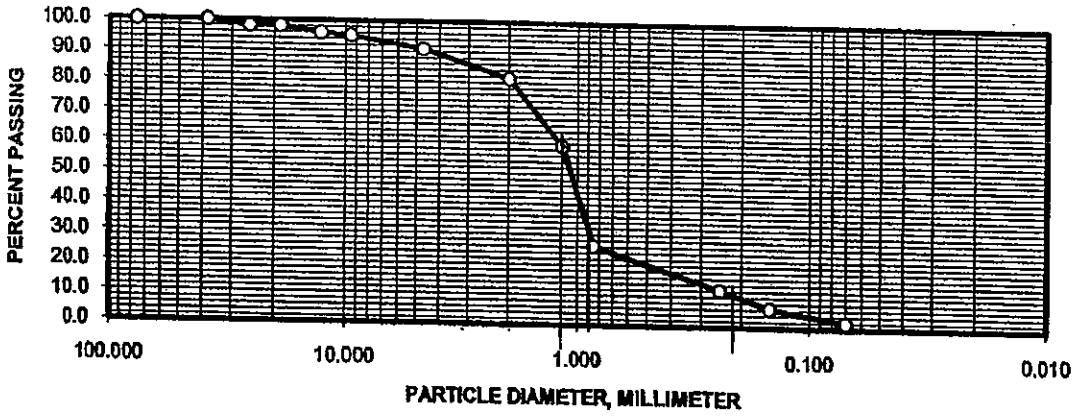
KTL NO.: 05-318-081
PROJECT NO.: n/a
DATE: 9/27/2009
TECH.: jk

UNIFIED SOIL CLASSIFICATION:	NEED DATA
Moisture Content Determination:	2.45%
Pan Number:	KB-34
Pan + Dry Soil, gms.	1375.3
Wt. of Pan, gms.	85.9
Wt. of Dry Soil, gms.	1289.4

Cu = 5.0
Cc = 3.5

SIEVE SIZE (U.S. STANDARD)	PARTICLE SIZE, (inches)	PARTICLES DIAMETER, (mm)	WEIGHT RETAINED (gms)	ACCUMULATED WEIGHT RETAINED (gms)	PERCENT PASSING (%)
5"	5.000	127.00	0.00	0.00	100.0
3"	3.000	76.20	0.00	0.00	100.0
1 1/2"	1.500	38.10	0.00	0.00	100.0
1"	1.000	25.40	25.60	25.60	98.0
3/4"	0.750	18.90	0.00	25.60	98.0
1/2"	0.500	12.70	25.40	51.00	96.0
3/8"	0.375	9.52	12.40	63.40	95.1
#4	0.185	4.70	52.36	115.76	91.0
#10	0.078	2.00	123.88	239.64	81.4
#20	0.033	1.17	286.21	525.85	59.2
#40	0.017	0.85	423.80	949.65	26.3
#60	0.009	0.25	181.40	1131.05	12.3
#100	0.006	0.15	75.30	1206.35	6.4
#200	0.003	0.07	57.50	1263.85	2.0

Percent Passing	
200	2%



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KEANTAN LABORATORIES

GRAIN SIZE DISTRIBUTION

ASTM D422
Sieve Only

PROJECT NAME: Bob Hope Airport
SAMPLE NO.: B-2 DEPTH(FT 20-21.5
DESCRIPTION:

KTL NO.: 05-318-081
PROJECT NO.: n/a
DATE: 9/27/2009
TECH.: jk

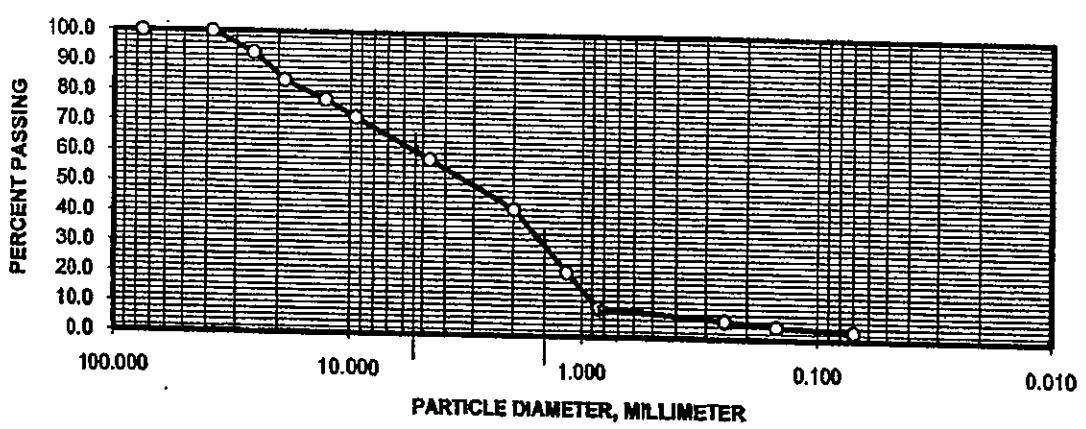
UNIFIED SOIL CLASSIFICATION: NEED DATA

Moisture Content Determination:	1.98%
Pan Number:	KB-29
Pan + Dry Soil, gms.	954.5
Wt. of Pan, gms.	84.6
Wt. of Dry Soil, gms..	869.9

$C_u = 6.0$
$C_c = 0.4$

SIEVE SIZE (U.S. STANDARD)	PARTICLE SIZE, (inches)	PARTICLES DIAMETER, (mm)	WEIGHT RETAINED (gms)	ACCUMULATED WEIGHT RETAINED (gms)	PERCENT PASSING (%)
5"	5.000	127.00	0.00	0.00	100.0
3"	3.000	76.20	0.00	0.00	100.0
1 1/2"	1.500	38.10	0.00	0.00	100.0
1"	1.000	25.40	60.94	60.94	93.0
3/4"	0.750	18.90	79.98	140.92	83.8
1/2"	0.500	12.70	54.76	195.68	77.5
3/8"	0.375	9.52	49.97	245.65	71.8
#4	0.185	4.70	118.78	364.43	58.1
#10	0.078	2.00	128.94	493.37	42.1
#20	0.033	1.17	180.31	673.68	21.4
#40	0.017	0.85	101.08	774.76	9.8
#60	0.009	0.25	32.72	807.48	6.0
#100	0.006	0.15	15.44	822.92	4.3
#200	0.003	0.07	12.01	834.93	2.9

Percent Passing	
200	3%



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LABORATORIES

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SUMMARY OF TEST RESULTS

Percent Passing 200

PROJECT NAME.: Bob Hope Airport

KTL NO.: 05-318-081

PROJECT NO.: 207789001

CLIENT.: Ninyo & Moore

DATE.: 9/30/2009

SUMMARIZED BY.: Kean Tan

BORING NO.	SAMPLE NO.	DEPTH (ft)	PERCENT RETAIN (%)	PERCENT PASSING (%)
B-1	n/a	40-41.5	94	6
B-2	n/a	1-5	88	12
B-2	n/a	45-46.5	95	5
	n/a			

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SUMMARY OF CORROSIVITY TEST RESULTS

PROJECT NAME:	Bob Hope Airport	KTL NO.:	05-318-081
PROJECT NO.:	207789001	CLIENT:	Ninyo & Moore
DATE:	9/30/2009	SUMMARIZED BY:	K. Tan

SAMPLE ID	DEPTH (ft)	CHLORIDE CONTENT Calif. 422 (ppm)	SULFATE CONTENT Calif. 417 (ppm)	pH Calif. 643	MINIMUM RESISTIVTY ohm-cm
B-1	0-5	104	50	7.36	19134
B-2	1-5	21	63	6.71	10422

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Preliminary Geotechnical Evaluation Replacement Terminal Environmental Impact Project

Bob Hope Airport, Burbank, California

January 18, 2016

January 18, 2016
Project No. 207789006

Mr. Dan Feger
Burbank Glendale-Pasadena Airport Authority
2627 Hollywood Way, Terminal A, 2nd Floor
Burbank, California 91505

Subject: Preliminary Geotechnical Evaluation
Replacement Terminal Environmental Impact Project
Bob Hope Airport
Burbank, California

Dear Mr. Feger:

In accordance with your request and authorization, we have performed a preliminary geotechnical evaluation for the Bob Hope Airport Replacement Terminal project (project) located at 2627 Hollywood Way in Burbank, California (Figure 1). The purpose of our geotechnical evaluation was to assess the geologic conditions at the site and develop preliminary conclusions regarding potential geologic and seismic impacts associated with the project relative to the California Environmental Quality Act (CEQA) Standard Geology and Soils Checklist (CERES, 2005b). Where appropriate, conceptual recommendations to mitigate potential geologic hazards, as noted in this report, have been provided.

Our evaluation was based on review of readily available geologic and seismic data and published geotechnical literature pertinent to the project site, and review of the findings from our October 14, 2009, geotechnical report (referenced) for the Regional Intermodal Transportation Center (RITC) project. We understand that our evaluation will be utilized for input to preparation of the Environmental Impact Report (EIR) for the project.

GEOTECHNICAL CONDITIONS

The project site is located on a gently sloping alluvial fan comprised of sediments derived from the San Gabriel Mountains to the north. Regional geologic mapping indicates that the site and vicinity are underlain by Holocene and late-Pleistocene alluvial fan deposits consisting of uncon-

solidated gravel, sand, and silt (Yerkes and Campbell, 2005). The topography of the site comprises relatively gentle surface gradients at elevations ranging from approximately 690 to 700 feet above Mean Sea Level (United States Geological Survey [USGS], 1981; Google Earth, 2016).

Based on the regional geologic mapping and our previous subsurface exploration in 2009 for the RITC project, the Terminal site is anticipated to be underlain by alluvial deposits to depths of more than 100 feet. The alluvial materials previously observed at the airport consisted of medium dense to very dense, poorly graded sand, well-graded sand, silty sand, and poorly graded gravel with silt and sand. Gravel and cobbles were encountered in the alluvium. Fill materials were also encountered at the site of our RITC exploration consisting of dense to very dense, sand and sand with silt and gravel. The expansion index of the near-surface soils at the RITC site were very low based on the observed granular soils at the locations of our borings.

Historical high groundwater beneath the site is mapped at a depth of approximately 75 feet (California Department of Conservation, Division of Mines and Geology [CDMG], 1998). Groundwater was not encountered in our subsurface borings performed for the RITC project to the depths explored of approximately 100 feet below the ground surface.

The project site is located in an area of relatively high seismicity, as is the majority of southern California. There are no known active faults crossing the site and the property is not located in a State of California Earthquake Fault Zone (Hart and Bryant, 1999). The active Verdugo fault is located approximately 1.4 miles east of the site and the active Sierra Madre fault zone is located approximately 5.7 miles east of the site (USGS, 2015a). Earthquakes generated from nearby or distant fault zones will result in site ground shaking.

The 2013 California Building Code (CBC) specifies that the Risk-Targeted, Maximum Considered Earthquake (MCE_R) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. The MCE_R ground motion response accelerations are based on the spectral response accelerations for 5 percent damping in the direction of maximum horizontal response and incorporate a target risk for structural collapse

equivalent to 1 percent in 50 years with deterministic limits for near-source effects. The horizontal peak ground acceleration that corresponds to the MCE_R for the site was calculated as 0.89g using the USGS (2015b) seismic design tool (web-based).

The project site is not located in an area designated as potentially liquefiable by the State of California (CDMG, 1999). Our referenced report for the RITC project indicated that liquefaction and liquefaction-related seismic hazards (e.g., dynamic settlement, ground subsidence, and/or lateral spreading) were not design considerations at the RITC site. However, minor potential settlement induced by dynamic compaction of relatively dry soil above the historic high groundwater level was calculated to be approximately 1 inch for the RITC site.

DISCUSSION

Based on our review of geologic and seismic background materials and our referenced report, we have the following comments regarding the impact potential for the proposed project (as defined by the CEQA Standard Geology and Soils Checklist) associated with each of the geologic/seismic conditions discussed in the following sections.

Fault Rupture Hazard: Based on our review of published geologic data and our referenced report, there are no active faults known to cross the site and the site is not located in a State of California Earthquake Fault Zone (formerly Alquist-Priolo Zone). The active Verdugo fault is located approximately 1.4 miles east of the site and the active Sierra Madre fault is located approximately 5.7 miles east of the site. Due to the distance of the site from a known active fault zone, the risk of fault rupture on site may be considered to have a less than significant impact.

Strong Ground Shaking: The site is located in a seismically active area and strong ground shaking during the design life of the proposed improvements could have a potentially significant impact on the site. However, it is our opinion that site improvements designed by a qualified structural engineer in accordance with current CBC design criteria, should be considered as having a less than significant impact from seismic ground shaking with mitigation incorporated.

Updated seismic parameters using current CBC guidelines should be developed by the geotechnical consultant during the detailed design phase of the project for use by the project structural engineer. Mitigation of the potential impacts of seismic ground shaking can be achieved through project structural design. Structural elements of future improvements can be designed to resist or accommodate appropriate site-specific ground motions and to conform to the current seismic design standards. Appropriate structural design and mitigation techniques would reduce the impacts related to seismic ground shaking to less than significant levels.

Seismic-Related Ground Failure – Liquefaction: The project site is not located in a State of California liquefaction hazard zone. Based on our background review and previous exploration at the RITC site, groundwater at the project site is anticipated to be deeper than 75 feet. We have previously concluded that liquefaction and liquefaction-related hazards were not design considerations at the RITC site. Therefore, the liquefaction hazard impact for the Replacement Terminal Project may be generally considered less than significant.

However, based on our previous geotechnical evaluation, we estimated minor potential settlement induced by dynamic compaction of relatively dry soil. Further subsurface exploration should be conducted during the detailed design stage of the project to address the site-specific liquefaction potential at the Replacement Terminal site. Liquefaction potential that is found to be potentially significant can by mitigated to a less than significant level through appropriate geotechnical and structural design.

Landslides: The subject property is relatively flat and will not be subjected to impacts from landslides.

Soil Erosion: The subject property has relatively gentle surface gradients and the potential for significant erosion is low. During construction, exposed ground areas could be subject to some erosion. However, during the detailed design phase of the project, erosion control plans utilizing Best Management Practices should be developed for construction, which would result in a less than significant impact related to erosion. During long-term operation of the project, soil erosion

can be mitigated to less than significant levels through site drainage design and maintenance practices.

Subsidence: Subsidence is characterized as a sinking of the ground surface relative to surrounding areas, and can generally occur where deep soil deposits are present. Subsidence in areas of deep soil deposits is typically associated with regional groundwater withdrawal or other fluid withdrawal from the ground such as oil and natural gas. Our background review does not indicate that historic subsidence has been reported in the project vicinity. Therefore, the potential for subsidence to impact the project site is considered less than significant.

Compressible/Collapsible Soils: Compressible soils are generally comprised of soils that undergo consolidation when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon where the soils undergo a significant decrease in volume upon increase in moisture content, with or without an increase in external loads. The presence, potential impacts, and mitigation of compressible/collapsible soils at the project site should be evaluated by the geotechnical consultant during the design stage of the project. With incorporation of the soil mitigation recommended by the geotechnical consultant during the project design, compressible/collapsible soils are considered to have a less than significant impact at the site.

Expansive Soils: Based on our background review and previous exploration at the RITC site, it is anticipated that the near-surface site soils at the project site will generally be comprised of granular materials that are considered to possess a low expansion potential. However, expansive soils may be present at the project site in areas not previously explored. The presence, potential impacts, and mitigation of expansive soils at the project site should be evaluated by the geotechnical consultant during the design stage of the project. Expansive soils are considered to have a less than significant impact at the site with incorporation of mitigation recommendations to be provided by the geotechnical consultant during project design.

LIMITATIONS

The purpose of this preliminary evaluation was to assess the potential geologic and seismic impacts at the Replacement Terminal site for preparation of environmental planning documents

for the project. The geotechnical analyses presented in this report have been conducted in accordance with current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No other warranty, implied or expressed, is made regarding the conclusions, recommendations, and professional opinions expressed in this report. Our conclusions and recommendations are based on a review of readily available geotechnical literature, geologic and seismic data, our referenced report, and an analysis of the observed and reported conditions. Variations may exist and conditions not observed or described in this report may be encountered.

We appreciate the opportunity to be of service on this project.

Respectfully submitted,
NINYO & MOORE

Michael Rogers, PG, CEG
Senior Geologist

Carol A. Price, PG, CEG
Principal Geologist

Kurt S. Yoshii, PE, GE
Principal Engineer

FR/MER/CAP/KSY/mlc

Attachment: References

Distribution: (1) Addressee (via e-mail)

REFERENCES

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UPDATED PRELIMINARY GEOTECHNICAL EVALUATION REPLACEMENT TERMINAL PROJECT

Bob Hope Airport, Burbank, California

March 10, 2016

UPDATED PRELIMINARY GEOTECHNICAL EVALUATION
REPLACEMENT TERMINAL PROJECT
BOB HOPE AIRPORT
BURBANK, CALIFORNIA

PREPARED FOR:
Burbank Glendale-Pasadena Airport Authority
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March 10, 2016
Project No. 207789006

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Project No. 207789006

Mr. Dan Feger
Burbank Glendale-Pasadena Airport Authority
2627 Hollywood Way, Terminal A, 2nd Floor
Burbank, California 91505

Subject: Updated Preliminary Geotechnical Evaluation
Replacement Terminal Project
Bob Hope Airport
Burbank, California

Dear Mr. Feger:

In accordance with your request and authorization, Ninyo & Moore has performed an updated preliminary geotechnical evaluation for the Replacement Terminal Project at the Bob Hope Airport in Burbank, California. Our updated evaluation was conducted in general accordance with the scope of services presented in our proposal dated February 10, 2016, and is intended to supersede our referenced Preliminary Geotechnical Evaluation dated January 18, 2016. This report presents our findings and conclusions regarding the site geologic conditions and the impacts associated with potential geologic and seismic hazards at the subject site. We understand that the results of this evaluation will be utilized in the preparation of environmental planning documents for the project.

We appreciate the opportunity to provide geotechnical consulting services for this project.

Sincerely,
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1. INTRODUCTION

In accordance with your request and authorization, we have performed an updated preliminary geotechnical evaluation for the Replacement Terminal Project (project) located at the Bob Hope Airport in Burbank, California (Figure 1). This evaluation addresses the site geologic conditions and the impacts associated with potential geologic and seismic hazards for inclusion in the environmental planning documents for the project. Our geotechnical evaluation was based on review of readily available geologic and seismic data and published geotechnical literature pertinent to the project site, and review of the findings from our referenced geotechnical evaluations for the Regional Intermodal Transportation Facility (RITC) at the airport.

The purpose of this evaluation was to assess the geologic conditions at the site and develop preliminary conclusions regarding potential geologic and seismic impacts associated with the project in accordance with the California Environmental Quality Act (CEQA). Where appropriate, recommendations to mitigate potential geologic hazards, as noted in this report, have been provided.

2. SCOPE OF SERVICES

Ninyo & Moore's scope of services has included the following:

- Review of readily available topographic and geologic maps, published geotechnical literature, geologic and seismic data, soil data, groundwater data, aerial photographs, and in-house information.
- Review of our referenced geotechnical evaluation reports for the RITC project.
- Review of the geotechnical aspects of preliminary project plans and project description documents pertaining to the site provided to us by the Burbank-Glendale-Pasadena Airport Authority (BGPAA).
- Compilation and analysis of existing geotechnical data pertaining to the site.
- Assessment of the general geologic conditions and seismic hazards affecting the area and evaluation of their potential impacts on the project.
- Preparation of this report presenting the results of our study, as well as our conclusions regarding the project's geologic and seismic impacts, and recommendations to address the impacts to be included in the environmental planning documents.

3. PROJECT DESCRIPTION

Based on our review of preliminary project plans and project description documents, the subject project involves development of a new airport terminal and associated improvements to replace the existing terminal at Bob Hope Airport. The project will generally include the following elements:

- Replacement of passenger terminal building, two-stories high with 14 aircraft gates. We understand that the terminal building will include a one-story basement.
- Aircraft ramp adjacent to the terminal.
- Public parking structure ranging from five to seven levels.
- Employee parking structure ranging up to three levels high.
- Central utility plant integrated into the second floor of the replacement terminal building.
- Replacement airline cargo building.
- Ground service equipment maintenance building.
- Re-aligned terminal loop road.
- Airplane taxiway extensions and improvements.
- Expansion of engineered material arresting system improvements.
- Airside service road and perimeter security fencing relocation.
- Demolition of the existing passenger terminal and adjacent public parking structure, as well as removal of a portion of existing parking lot E.

The BGPAA is considering three development options for the project at two proposed alternative sites, as shown on Figure 2. The development alternatives include:

- Adjacent Property (Northeast Quadrant [NEQ]) Full-Size Terminal Option – An approximately 355,000-square-foot replacement passenger terminal to be constructed on the B-6 Adjacent Property.
- Southwest Quadrant (SWQ) Full-Size Terminal Option – An approximately 355,000-square-foot replacement passenger terminal to be constructed in the SWQ of the airport.

- SWQ Same-Size Terminal Option – An approximately 232,000-square-foot replacement passenger terminal to be constructed in the SWQ of the airport.

4. SITE DESCRIPTION

The Bob Hope Airport is located in the eastern part of the San Fernando Valley west of the Verdugo Mountains and north of the Santa Monica Mountains. Topography of the airport site slopes gently down from the northwest toward the southeast. The elevations at the project site range from approximately 750 feet above mean sea level (MSL) in the NEQ site to approximately 700 feet above MSL in the SWQ site.

The irregular-shaped airport property is bounded by West Empire Avenue on the south, Vineland Avenue, Sherman Way, and Clybourn Avenue on the west, San Fernando Road on the north, and North Hollywood Way on the east (Figure 1). The alternative NEQ site comprises an approximately 49.2-acre portion of the former Lockheed B-6 Plant (Figure 2). The NEQ site is currently used for airport passenger and employee automobile parking, movie equipment staging, and truck/recreational vehicle parking. The alternative SWQ site comprises an approximately 43.2-acre area currently used for general aviation hangars and aircraft ramps, Federal Aviation Administration maintenance and communication facilities, rental car storage, air cargo airlines, and a cargo building for commercial air carriers.

5. GEOLOGY

5.1. Regional Geology

The project site is located in the San Fernando Valley, a Tertiary-Quaternary period sediment-filled basin within the Transverse Ranges geomorphic province of southern California (Norris and Webb, 1990). The Transverse Ranges geomorphic province is generally underlain by thick sequences of marine and non-marine sedimentary rock that have been folded and uplifted due to compression and rotation associated with a restraining bend on the San Andreas fault. The folding and uplifting of the region led to characteristic east-to-west trending structural troughs and mountain ranges. The San Fernando Valley

formed as sediment infilled a subsiding basin between the Santa Susana Mountains to the north and the Santa Monica Mountains to the south (Norris and Webb, 1990).

5.2. Site Geology

Regional geologic mapping indicates that the site and vicinity are underlain by Holocene and late Pleistocene epoch alluvial fan deposits consisting of unconsolidated gravel, sand, and silt (Yerkes and Campbell, 2005). A regional geologic map of the site vicinity is shown on Figure 3.

Our previous evaluation and subsurface exploration at the RITC site found that the southeast part of the airport property (RITC area) was underlain by fill soils and alluvium generally comprised of loose to very dense, sand and silty sand with varying amounts of gravel. Scattered cobbles were encountered in the fill and interbedded gravel and cobble layers were encountered in the alluvium.

5.3. Groundwater

The site is located within the San Fernando Valley Groundwater Basin. Groundwater monitoring well data from the State of California Water Resources Control Board's GeoTracker website (2016) were reviewed for wells in the vicinity of the project site. The data from wells located on off-site properties adjacent to the NEQ and SWQ sites indicate a depth to groundwater on the order of 250 feet below the ground surface. Regional mapping indicate that the historic high groundwater levels in the vicinity of the proposed project sites range from approximately 70 to 100 feet below ground surface (California Department of Conservation, Division of Mines and Geology [CDMG], 2001). Historic groundwater monitoring well data from the Los Angeles County Department of Public Work's (LACDPW) Historical Well Measurement Data website (LACDPW, 2016) were reviewed for wells located on adjacent properties of the site. Based on the groundwater measurements from 1957 to 2008 in a well approximately 0.6 mile southwest of the site, groundwater levels ranged from approximately 168 to 248 feet below the ground surface.

It should be noted that fluctuations in the level of groundwater at the site may occur due to variations in ground surface topography, subsurface stratification, rainfall, irrigation practices, and other factors which may not have been evident at the time of our evaluation. Shallow perched conditions may be present.

6. FAULTING AND SEISMICITY

The Bob Hope Airport project sites are located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion at the NEQ and SWQ sites are considered significant. Table 1 lists selected principal known active faults within approximately 30 miles of the project area and the maximum moment magnitude (M_{max}) as published by the United States Geological Survey ([USGS], 2008 and 2014) in general accordance with the Uniform California Earthquake Rupture Forecast, version 3 (UCERF) (Field, et al., 2013). The fault distances in Table 1 are measured from the approximate center of the project area between the NEQ and SWQ sites.

Figure 4 shows the approximate site location relative to the principal faults in the region. The active Verdugo fault is located approximately 1.4 miles northeast of the approximate center of the project area. The northeast corner of the NEQ site is located approximately 0.8 mile from the active Verdugo fault. The active Sierra Madre (San Fernando) fault is located approximately 5.6 miles north of the approximate center of the project area and approximately 5.0 miles north of the NEQ site. Blind thrust faults are low-angle faults at depths that do not break the surface and are, therefore, not shown on Figure 4. Although blind thrust faults do not have a surface trace, they can be capable of generating damaging earthquakes and are included in Table 1.

Table 1 – Principal Regional Active Faults

Fault	Approximate Fault-to-Site Distance miles (kilometers) [1]	Maximum Moment Magnitude (M_{max}) [1]
Verdugo	1.4 (2.2)	6.9
Sierra Madre (San Fernando)	5.6 (9.0)	6.7
Hollywood	6.4 (10.3)	6.7
Upper Elysian Park Blind Thrust	6.8 (11.0)	6.7
Santa Monica	7.3 (11.7)	7.4
Northridge	7.8 (12.5)	6.9
Raymond	9.3 (15.0)	6.8
San Gabriel	9.3 (15.0)	7.3
Newport-Inglewood	10.9 (17.5)	7.5
Puente Hills Blind Thrust	11.5 (18.5)	7.0
Santa Susana	11.8 (19.0)	6.9
Malibu Coast	15.2 (24.4)	7.0
Anacapa-Dume	16.6 (26.7)	7.2
Holser	18.7 (30.0)	6.8
Palos Verdes	19.5 (31.3)	7.7
Clamshell-Sawpit	20.5 (33.0)	6.7
Simi-Santa Rosa	20.8 (33.4)	6.9
Elsinore (Whittier)	22.6 (36.3)	7.9
San Andreas	27.9 (44.9)	8.2

Notes:
[1] United States Geological Survey (USGS), 2008.

7. METHODOLOGY FOR GEOLOGIC IMPACT AND HAZARD ANALYSES

As outlined by the CEQA, the proposed project has been evaluated with respect to potential geologic and seismic impacts associated with the project. Evaluation of impacts due to potential geologic and seismic hazards is based on our review of readily available published geotechnical literature and geologic and seismic data pertinent to the proposed project, and our previous evaluations at the airport. The references and data reviewed include, but are not limited to, the following:

- Geologic maps, fault maps and topographic maps from the California Geological Survey (CGS) and USGS.
- State of California Earthquake Fault Zone Maps.

- State of California Seismic Hazard Zones Reports and Maps.
- Aerial photographs.
- Seismic data from the CGS and USGS.
- Geotechnical publications by the CGS and USGS.
- Los Angeles County Safety Element.

8. THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA guidelines (California Environmental Resources Evaluation System [CERES], 2005a, 2005b), a project is considered to have a geologic impact if its implementation would result in or expose people/structures to potential substantial adverse effects, including the risk of loss, injury, or death involving hazards involving one or more of the geologic conditions presented in Table 2. Table 2 also presents the impact potential as defined by CEQA associated with each of the geologic conditions discussed in the following sections.

Table 2 – Summary of Potential Geologic Impacts/Hazards

Geologic Condition	Impact Potential[1]			
	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
Earthquake Fault Rupture			x	
Strong Seismic Ground Shaking		x		
Seismically Related Ground Failure, Including Liquefaction and Dynamic Compaction		x		
Landslides				x
Substantial Soil Erosion			x	
Subsidence				x
Compressible/Collapsible Soils		x		
Expansive Soils		x		
Corrosive Soils		x		
Groundwater and Excavations		x		

Note:
[1]Reference: CERES, 2005, Appendix G – Environmental Checklist Form, Final Text, dated October 26. Website: http://ceres.ca.gov/topic/envlaw/ceqa/guidelines/appendices.html

9. CONCLUSIONS AND RECOMMENDATIONS FOR POTENTIAL GEOLOGIC AND SEISMIC IMPACTS/HAZARDS

Based on our review of geologic and seismic background information, and previous exploration at the airport site, implementation of the proposed project is not anticipated to have a significant impact on the geologic environment. However, development of the proposed project improvements may be subjected to potential impacts from geologic and seismic hazards. Potential impacts on the proposed project based on our evaluation are provided in the following sections.

The potential geologic and seismic hazards described below may be addressed by employing sound engineering practice in the design and construction of the proposed project elements. This practice includes the implementation of appropriate geotechnical recommendations prior to the design and construction of the facilities at the project site. Typical methods to reduce potential hazards that may be encountered during the construction of improvements are described in the following sections. Where appropriate, recommendations to mitigate potential geologic hazards are provided. Prior to design of planned improvements, detailed subsurface geotechnical evaluation should be performed to address the site-specific conditions at the locations of the planned improvements and to provide detailed recommendations for design and construction.

9.1. Surface Fault Rupture

Surface fault rupture is the offset or rupturing of the ground surface by relative displacement across a fault during an earthquake. Based on our review of referenced geologic and fault hazard data, the project site is not transected by known active or potentially active faults. The active Verdugo fault is located approximately 1.4 miles northeast of the approximate center of the project area. The site is not located within a State of California Earthquake Fault Zone (State of California, 1979). Therefore, the potential for surface rupture is relatively low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

9.2. Seismic Ground Shaking

Earthquake events from one of the regional active or potentially active faults near the project area could result in strong ground shaking which could affect the project area. The level of ground shaking at a given location depends on many factors, including the size and type of earthquake, distance from the earthquake, and subsurface geologic conditions. The type of construction also affects how particular structures and improvements perform during ground shaking.

The 2013 California Building Code recommends that the design of structures be based on spectral response accelerations in the direction of maximum horizontal response (5 percent damped) having a 1 percent probability of collapse in 50 years. Such spectral response accelerations represent the Risk-Targeted Maximum Considered Earthquake (MCE_R) ground motion.

The horizontal peak ground acceleration (PGA) that corresponds to the MCE_R for the NEQ site was calculated as 0.95g using the USGS (2015a) seismic design tool (web-based). The mapped PGA (PGA_M) which is defined as the Maximum Considered Earthquake Geometric Mean (MCE_G) PGA with adjustment for site class effects in accordance with the American Society of Civil Engineers (ASCE) 7-10 Standard was estimated to be 0.83g using the USGS (2015b) seismic design tool in accordance with the ASCE 7-10 Standard.

The horizontal PGA that corresponds to the MCE_R for the SWQ site was calculated as 0.88g using the USGS (2015a) seismic design tool. The mapped PGA (PGA_M) which is defined as the MCE_G PGA with adjustment for site class effects in accordance with the ASCE 7-10 Standard was estimated to be 0.83g using the USGS (2015b) seismic design tool in accordance with the ASCE 7-10 Standard. These estimates of ground motion do not include near-source factors that may be applicable to the design of structures on site.

This potential level of ground shaking could have high impacts on project improvements without appropriate design mitigation, and should be considered during the detailed design phase of the project. Mitigation of the potential impacts of seismic ground shaking can be

achieved through project structural design. Structural elements of planned improvements can be designed to resist or accommodate appropriate site-specific ground motions and to conform to the current seismic design standards. Appropriate structural design and mitigation techniques would reduce the impacts related to seismic ground shaking to low levels.

9.3. Liquefaction and Seismically Induced Settlement

Liquefaction is the phenomenon in which loosely deposited granular soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to rapid rise in pore water pressure causing the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking. The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of slabs due to sand boiling, buckling of deep foundations due to liquefaction-induced ground settlement.

The project site is not located in an area mapped as potentially susceptible to liquefaction (CDMG, 1999). Regional geologic mapping and our previous subsurface exploration and laboratory testing for the RITC airport site indicate that the site is underlain by relatively dense, granular, sand, silty sand and gravelly soils. Additionally, the current groundwater levels at the site are approximately 250 feet deep (GeoTracker, 2016); and the historic high groundwater levels are more than 70 feet deep (CDMG, 2001). Therefore, the project sites are not subject to liquefaction or liquefaction-related seismic hazards (e.g., dynamic settlement and/or lateral spreading).

Relatively dry soils (e.g., soils above the groundwater table) with low density or softer consistency tend to undergo a degree of compaction during a seismic event. Earthquake

shaking often induces significant cyclic shear strain in a soil mass, which responds to the vibration by undergoing volumetric changes. Volumetric changes in dry soils take place primarily through changes in the void ratio (usually contraction in loose or normally consolidated soft soils, and dilation in dense or over-consolidated stiff soils) and secondarily through particle reorientation. Such volumetric changes are generally non-recoverable.

Our previous analyses for the RITC airport site indicated a potential for settlement at that site induced by dynamic compaction of relatively dry soil layers above the historic high groundwater from strong ground motion during a seismic event. Detailed assessment of the potential for seismically induced dynamic compaction at the project sites would be evaluated prior to detailed design and construction of project improvements and incorporated into the design, as appropriate. Structural design and mitigation techniques would be developed to reduce the potential impacts to low levels. Therefore, the potential impacts due to dynamic compaction are considered to be less than significant with incorporation of techniques such as structural design, in-situ ground modification, or supporting foundations with piles at depths designed specifically for seismically induced settlement.

9.4. Landslides

Landslides, slope failures, and mudflows of earth materials generally occur where slopes are steep and/or the earth materials are too weak to support themselves. Earthquake-induced landslides may also occur due to seismic ground shaking. The project site is relatively flat and has been extensively developed and is primarily covered with pavements, hardscape and structures. Accordingly, there is no potential for landslides or mudflows to affect the project sites.

9.5. Soil Erosion

Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and may occur in the project area where bare soil is exposed to wind or moving water (both rainfall and

surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses.

Regional geologic mapping and our previous findings at the RITC airport site indicate that the site soils generally consist of sandy materials. Sandy soils typically have low cohesion, and have a relatively higher potential for erosion from surface runoff when exposed in excavations. Surface soils with higher amounts of clay tend to be less erodible as the clay acts as a binder to hold the soil particles together.

The planned construction at the project sites would result in ground surface disruption during excavation, grading, and trenching that would create the potential for erosion to occur. However, a Storm Water Pollution Prevention Program (SWPPP) incorporating Best Management Practices (BMPs) for erosion control would be prepared prior to the start of construction in accordance with City of Burbank guidelines. In addition, the topographic gradients at the project site are relatively gentle. Therefore, the potential impacts of soil erosion would be low with incorporation of appropriate BMPs.

With the implementation of BMPs incorporated in the project SWPPP during planned construction, water- and wind-related soil erosion can be limited and managed within construction site boundaries. Examples of these procedures could include surface drainage measures for erosion due to water, such as the use of erosion prevention mats or geofabrics, silt fencing, sandbags and plastic sheeting, and temporary drainage devices. Positive surface drainage should be accommodated at project construction sites to allow surface runoff to flow away from site improvements or areas susceptible to erosion. To reduce wind-related erosion, wetting of soil surfaces and/or covering exposed ground areas and soil stockpiles could be considered during construction operations, as appropriate.

During long-term operation of planned developments in the project area, soil erosion in landscaping areas can be mitigated through site drainage design and maintenance practices. Design procedures can be performed to reduce soil erosion such as appropriate surface drainage design of roadways and facilities to provide for positive surface runoff. These

design procedures would address reducing concentrated run-off conditions that could cause erosion and affect the stability of project improvements.

9.6. Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas, and can generally occur where deep soil deposits are present. Subsidence in areas of deep soil deposits is typically associated with regional groundwater withdrawal or other fluid withdrawal from the ground such as oil and natural gas. Subsidence can result in the development of ground cracks and damage to subsurface vaults, pipelines and other improvements. Historic subsidence is not known to have occurred or been reported in the site region and the potential for subsidence in the project area is low.

9.7. Compressible/Collapsible Soils

Compressible soils are generally comprised of soils that undergo consolidation when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon where the soils undergo a significant decrease in volume upon increase in moisture content, with or without an increase in external loads. Buildings, structures and other improvements may be subject to excessive settlement-related distress when compressible soils or collapsible soils are present.

Regional geologic mapping and our previous findings at the RITC airport site indicate that the project sites are generally underlain by alluvial soils and that older fill soils may be present. The alluvial deposits underlying the project sites are generally unconsolidated, reflecting a depositional history without substantial loading, and may be subject to collapse. Older, undocumented fill soils related to previous development may be present at the project sites and, if so, may be potentially compressible/collapsible. Due to the presence of potentially compressible/ collapsible soils at the site, there is a potential for differential settlement to cause damage to project improvements. The potential impacts of settlement are significant without appropriate mitigation during detailed project design and construction.

Since planned development within the project area will involve construction of new improvements that would be constructed upon the existing soils, potential settlement and/or collapsible soils will be a consideration in the detailed design and construction of project improvements. Assessment of the potential for soils prone to settlement would be evaluated prior to detailed design and construction of project improvements and mitigation techniques would be developed, as appropriate, to reduce the impacts related to settlement to low levels.

To evaluate the potential for settlement to affect planned project components, surface reconnaissance and subsurface evaluation would be performed. During the detailed design phase of the project, site-specific geotechnical evaluations would be performed to assess the settlement potential of the on-site natural soils and undocumented fill. This may include detailed surface reconnaissance to evaluate site conditions, and drilling of exploratory borings or test pits and laboratory testing of soils, where appropriate, to evaluate site conditions.

Examples of possible mitigation measures for soils with the potential for settlement include removal of the compressible/collapsible soil layers and replacement with compacted fill; surcharging to induce settlement prior to construction of improvements; allowing for a settlement period after or during construction of new fills; and specialized foundation design, including the use of deep foundation systems to support structures. Varieties of in-situ soil improvement techniques are also available, such as dynamic compaction (heavy tamping) or compaction grouting.

9.8. Expansive Soils

Expansive soils include clay minerals that are characterized by their ability to undergo significant volume change (shrink or swell) due to variations in moisture content. Sandy soils are generally not expansive. Changes in soil moisture content can result from rainfall, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors. Volumetric change of expansive soil may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs-on-grade, or pavements supported on these materials.

Regional geologic mapping and our previous findings at the RITC airport site indicate that the site soils generally consist of sandy materials. The observed granular soils encountered at the RITC site in our previous borings, and the sandy alluvial soils mapped at the project sites are considered to possess a low expansion potential and would not present significant impacts to the proposed site improvements.

Clayey fill soils may be present in areas not previously explored, including at the proposed project sites. Detailed assessment of the potential for expansive soils would be evaluated during the design phase of the project through subsurface exploration and mitigation techniques would be developed, as appropriate, to reduce the impacts related to expansive soils to low levels. Therefore, the potential impacts due to expansive soils would be reduced to low levels with incorporation of techniques such as overexcavation and replacement with non-expansive soil, soil treatment, moisture management, and/or specific structural design for expansive soil conditions developed during design of the project.

9.9. Corrosive Soils

The project site is located in a geologic environment that could potentially contain soil conditions that are corrosive to concrete and metals. Corrosive soil conditions may exacerbate the corrosion hazard to buried conduits, foundations, and other buried concrete or metal improvements. Corrosive soils could cause premature deterioration of these underground structures or foundations. Constructing planned project improvements on corrosive soils could have a substantial impact to the project. Assessment of the potential for corrosive soils would be evaluated during the detailed design phase of the project through soil testing procedures, and mitigation techniques would be developed, as appropriate, to reduce the impacts related to corrosive soils to low levels.

To evaluate the potential for corrosive soils to affect planned project improvements, subsurface evaluation, including laboratory testing, would need to be performed. Evaluation of the corrosive soil potential can be accomplished by the testing and analysis of soils at foundation design depths. The laboratory tests conducted on the soils prior to construction and improvement plan preparation would include corrosivity tests to evaluate the corrosivity

of the subsurface soils. Review of these data by a corrosion engineer would result in corrosion protection measures suitable for the project. Evaluation of the potential corrosive soils hazard would be performed prior to detailed design and construction so that, in the event the hazard exists, mitigation techniques can be implemented.

Mitigation of corrosive soil conditions may involve the use of concrete resistant to sulfate exposure. Corrosion protection for metals may be needed for underground foundations or structures in areas where corrosive groundwater or soil could potentially cause deterioration. Typical mitigation techniques include epoxy and metallic protective coatings, the use of alternative (corrosion resistant) materials, and selection of the appropriate type of cement and water/cement ratio. Specific measures to reduce the potential effects of corrosive soils would be developed in the detailed design phase.

9.10. Groundwater and Excavations

The depth of historic high groundwater at the airport sites ranges from approximately 70 to 100 feet below ground surface (CDMG, 2001). The data from wells located on off-site properties adjacent to the NEQ and SWQ sites indicate a depth to groundwater on the order of 250 feet below the ground surface (GeoTracker, 2016). Planned improvements at the project sites are anticipated to consist of excavations and site grading for the terminals, parking structures and other major structures. The proposed terminal structure includes one basement level. Based on the deep groundwater levels in the project area and the anticipated depth of these construction activities, groundwater would not have a significant impact on excavations for the planned project improvements. However, areas of shallower perched groundwater may be encountered during excavations, and, if encountered, could have an impact on the construction activities at the sites.

Wet or saturated soil conditions encountered in excavations during construction for the project can cause instability of the excavations, and present a constraint to construction activities. Excavations in areas with shallow perched groundwater may need to be cased/shored and/or dewatered to maintain stability of the excavations and adjacent improvements and provide access for construction.

Groundwater levels may be influenced by seasonal variations, precipitation, irrigation, soil/rock types, groundwater pumping, and other factors and are subject to fluctuations. On-site infiltration of storm water related to low impact development guidelines may have an impact on existing and planned site improvements and should be evaluated during the detailed design phase of the project.

Further study, including subsurface exploration, would be performed during the detailed design phase of planned improvements to evaluate the presence of seepage and/or perched groundwater, and to evaluate the potential for stormwater infiltration at the site, and the potential impacts on design and construction of project improvements. Mitigation techniques would be developed, as appropriate, to reduce the impacts related to groundwater to low levels. Therefore, the potential impacts due to groundwater would be reduced with incorporation of techniques such as casing, shoring and/or construction dewatering.

10. LIMITATIONS

The purpose of this study was to evaluate geotechnical conditions and potential geologic and seismic hazards at the site by reviewing readily available geotechnical data, to provide a preliminary geotechnical report which can be utilized in the preparation of environmental documents for the project.

The geotechnical analyses presented in this report have been conducted in accordance with current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No other warranty, implied or expressed, is made regarding the conclusions, recommendations, and professional opinions expressed in this report. Our preliminary conclusions and recommendations are based on a review of readily available geotechnical literature, geologic and seismic data, and an analysis of the observed conditions. Variations may exist and conditions not observed or described in this report may be encountered.

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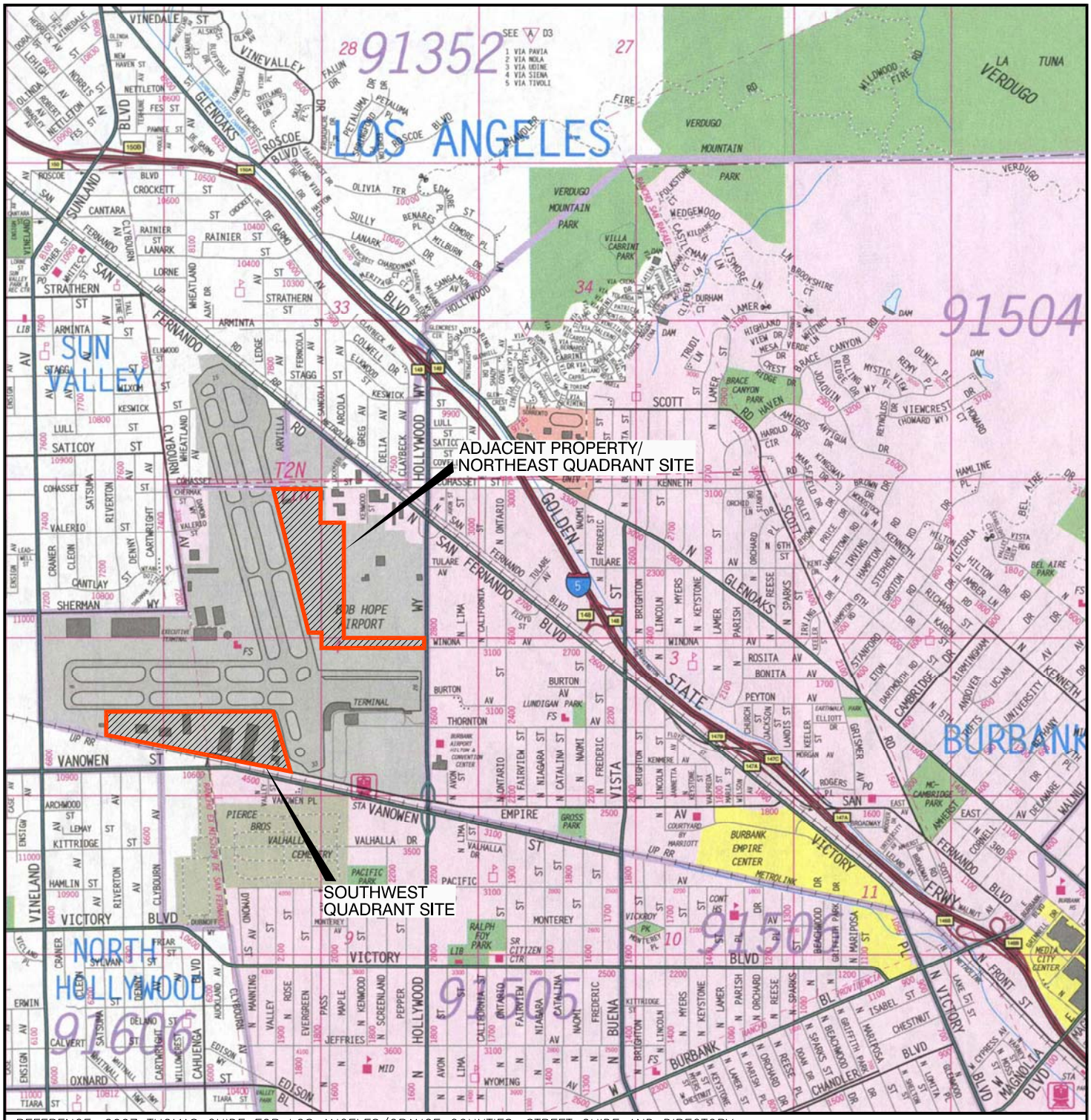
AERIAL PHOTOGRAPHS

Source	Scale	Date	Flight	Numbers
USDA	1:20,000	10-27-24	AXJ-20K	39 and 40



REFERENCE: 2007 THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY.

SCALE IN FEET

0 2,400 4,800

N

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Map © Rand McNally, R.L.07-S-129

Ninyo & Moore	SITE LOCATION	FIGURE
PROJECT NO. 207789006 / DATE 3/16	BOB HOPE AIRPORT REPLACEMENT TERMINAL PROJECT BURBANK, CALIFORNIA	1

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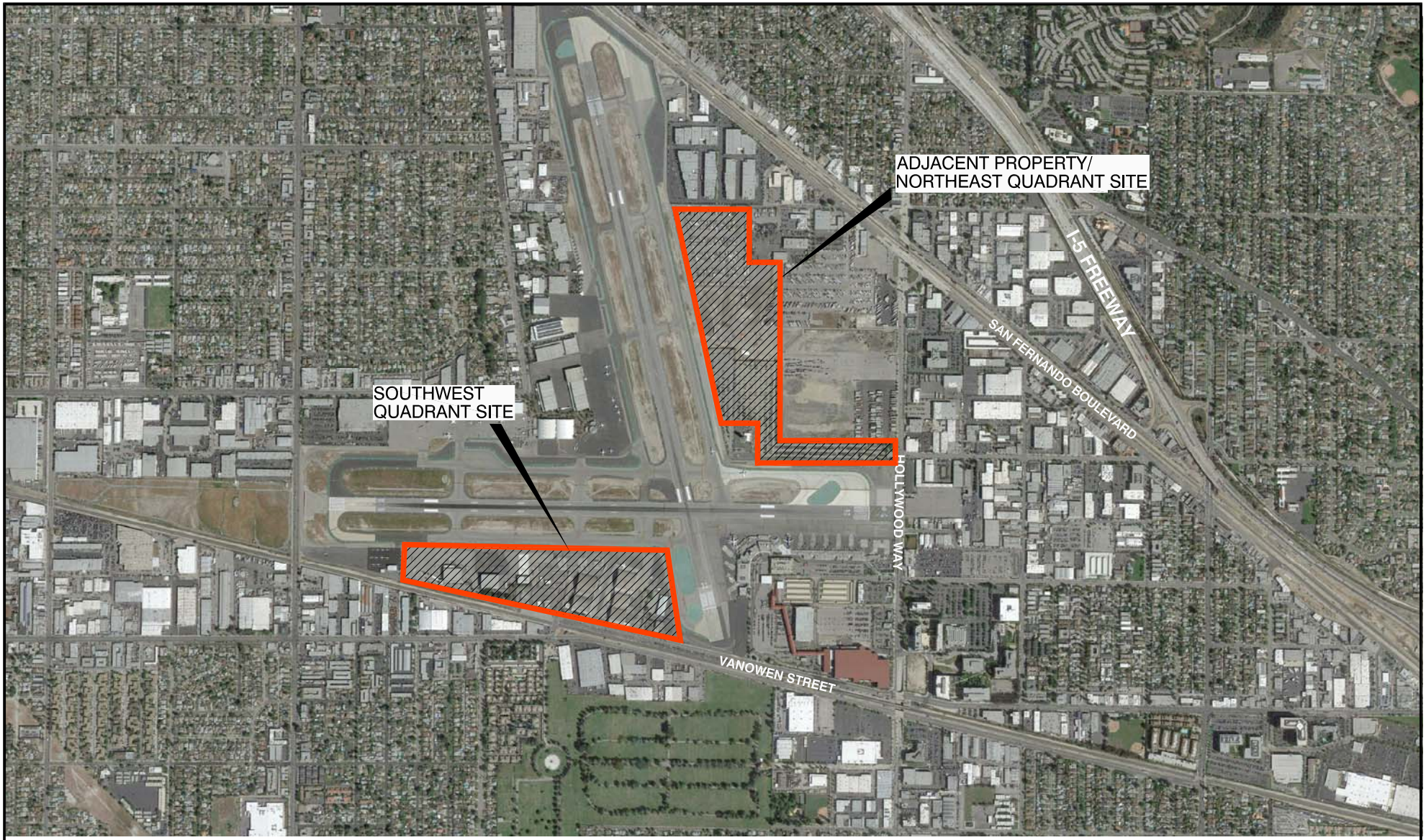

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SCALE IN FEET

0 1,500 3,000

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

REFERENCE: GOOGLE EARTH AERIAL PHOTO, 2016.

Ninyo & Moore		SITE PLAN	FIGURE
PROJECT NO.	DATE	BOB HOPE AIRPORT REPLACEMENT TERMINAL PROJECT BURBANK, CALIFORNIA	2
207789006	3/16		

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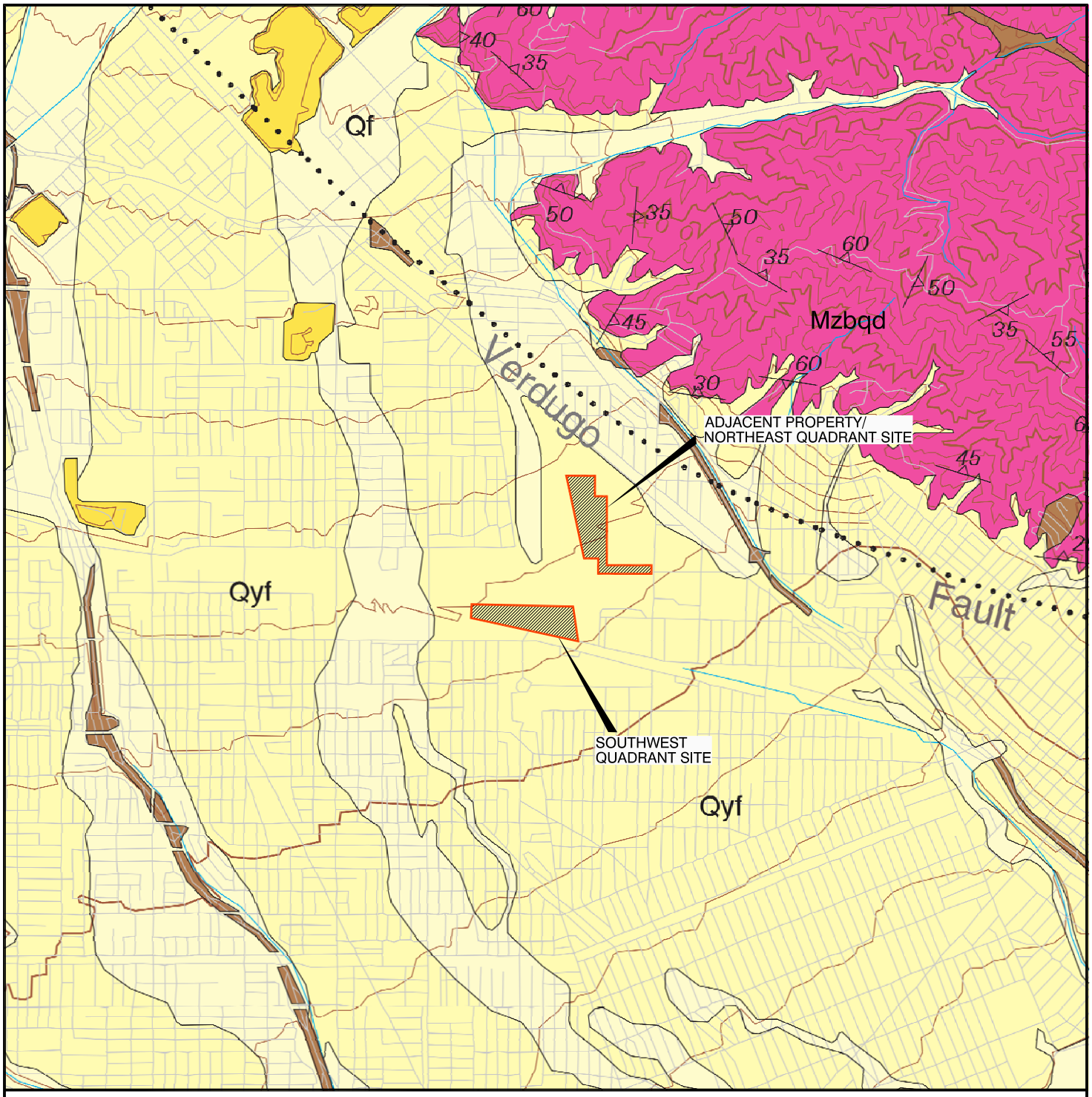

REFERENCE: ROBERT F. YERKES AND RUSSEL H. CAMPBELL, 2005, GEOLOGIC MAP OF THE LOS ANGELES 30'X60' QUADRANGLE, SOUTHERN CALIFORNIA.

N

SCALE IN FEET

0 4000 8000

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

Qyf	YOUNG ALLUVIAL FAN DEPOSITS	———	GEOLOGIC CONTACT
Qf	ALLUVIAL FAN DEPOSITS	• • • • • • • •	FAULT; DOTTED WHERE CONCEALED
Mzbqd	GRANITIC ROCKS		
Qaf	ARTIFICIAL FILL		

Ninyo & Moore

PROJECT NO.	DATE
207789006	3/16

REGIONAL GEOLOGY

BOB HOPE AIRPORT REPLACEMENT TERMINAL PROJECT
BURBANK, CALIFORNIA

FIGURE

3

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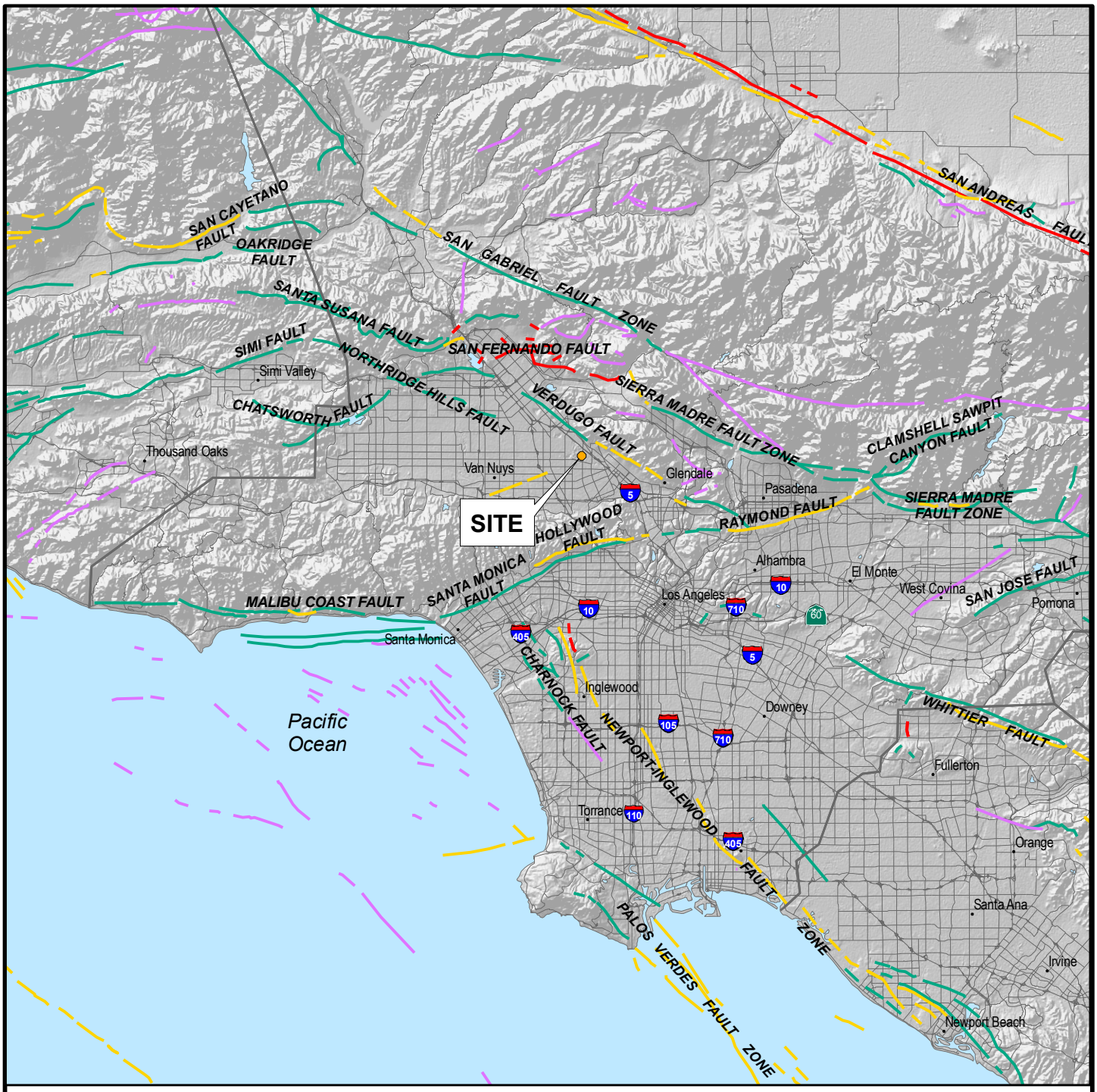


GIS DATA SOURCE: CALIFORNIA GEOLOGICAL SURVEY (CGS); ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI)
REFERENCE: JENNINGS, 2010, FAULT ACTIVITY MAP OF CALIFORNIA AND ADJACENT AREAS

LEGEND

FAULT ACTIVITY:

- HISTORICALLY ACTIVE
- HOLOCENE ACTIVE
- COUNTY BOUNDARIES
- LATE QUATERNARY
- QUATERNARY

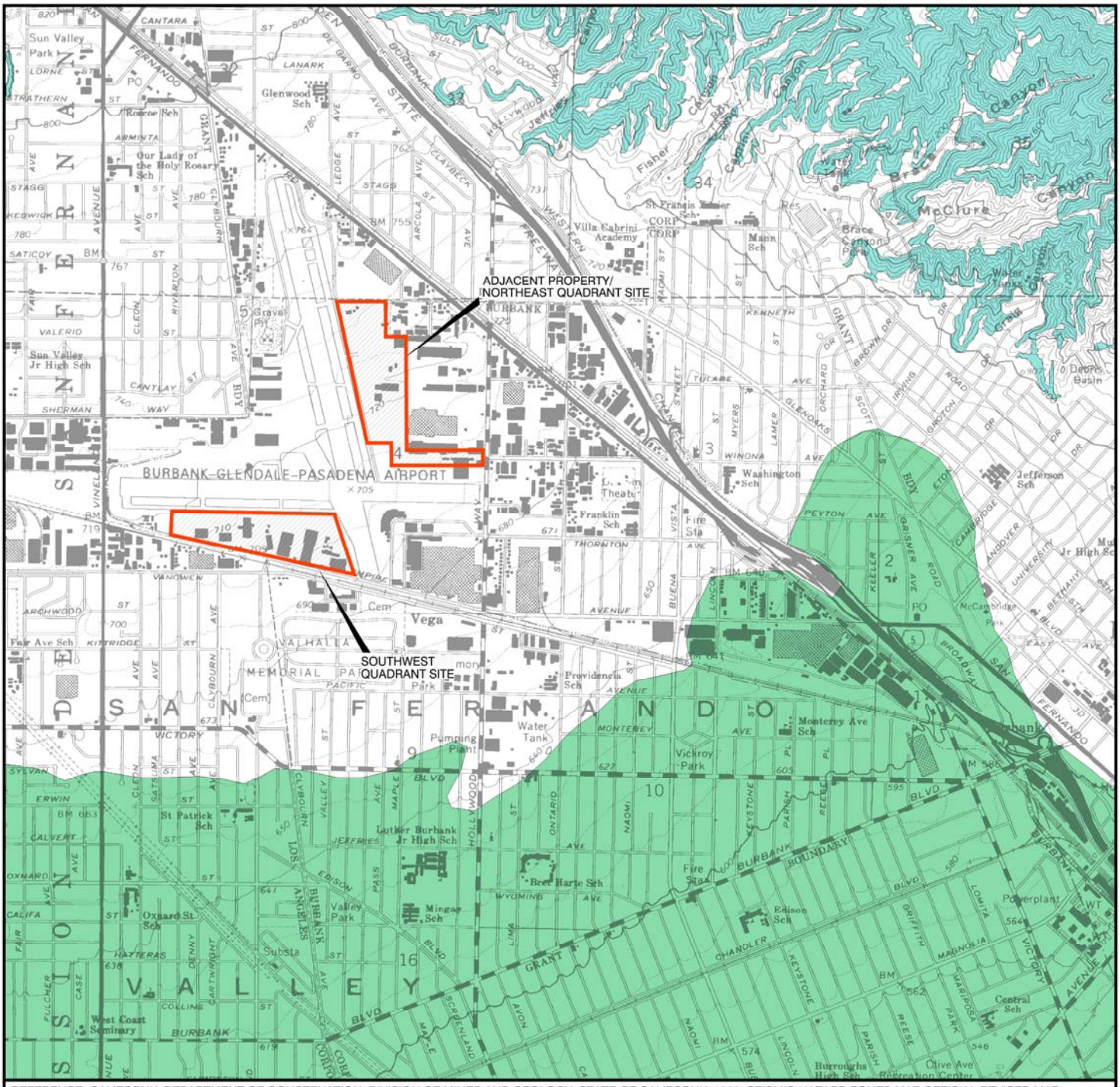
N

10 0 10
Miles

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore	FAULT LOCATIONS	FIGURE
PROJECT NO. 207789006 / DATE 3/16	BOB HOPE AIRPORT REPLACEMENT TERMINAL PROJECT BURBANK, CALIFORNIA	4

207789006_Fault loc.gis



REFERENCE: CALIFORNIA DEPARTMENT OF CONSERVATION, DIVISION OF MINES AND GEOLOGY, STATE OF CALIFORNIA,1999, SEISMIC HAZARD ZONES MAP OFFICIAL REVISED MAP BURBANK QUADRANGLE, 7.5-MINUTE SERIES: SCALE 1:24,000.

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SCALE IN FEET

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NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

EARTHQUAKE-INDUCED LANDSLIDES

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

LIQUEFACTION:

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Ninyo & Moore

SEISMIC HAZARD ZONES

FIGURE

5

PROJECT NO.	DATE
207789006	3/16

BOB HOPE AIRPORT REPLACEMENT TERMINAL PROJECT
BURBANK, CALIFORNIA

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Burbank-Glendale-Pasadena Airport Authority

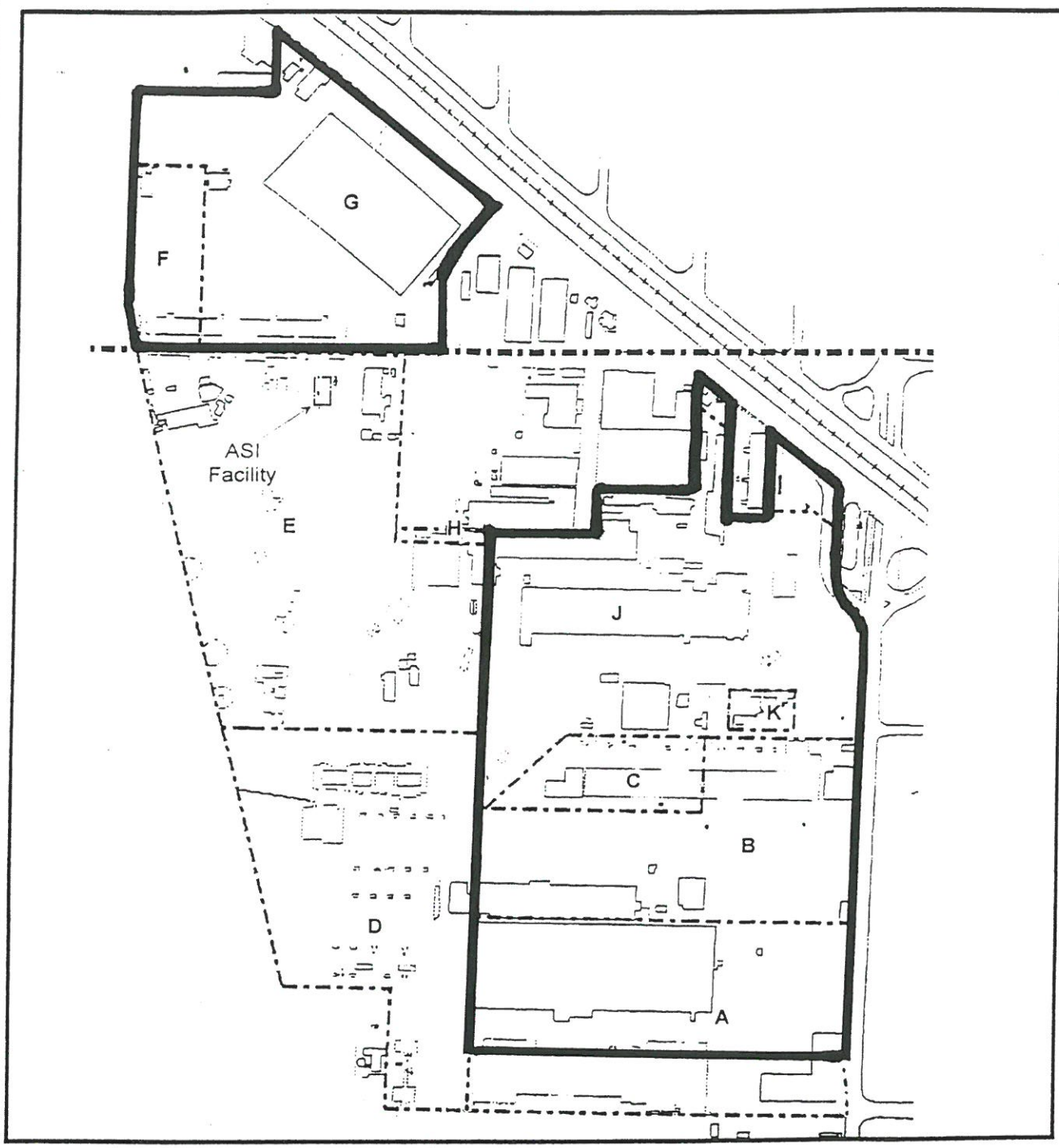
Burbank, California

Trust Property Environmental Summary

ENSR
Glendale, California

May 2001

Document Number 1123-003-000



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ENSR
ENSR Consulting and Engineering

FIGURE 2
SITE MAP – Trust Property
Burbank-Glendale-Pasadena Airport
Burbank, California

DRAWN: djp	DATE: September 1, 2000	PROJECT NO.:	REV:
FILE NO.:	CHECKED: ldp	1123-003-000	

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500
FAX: (213) 266-7600

July 18, 1996

Ron N. Helgerson
Lockheed Martin Corporation
Burbank Program Office
2550 North Hollywood Way, Suite 305
Burbank, CA 91505-1055

No Further Requirements, Parcels D and F, Lockheed Plant B-6 West, (File No. 104.0674)(Cleanup & Abatement Order No. 87-161)

We have reviewed your July 5, 1996, letter requesting closure for Parcels D and F of Plant B-6 as notated on the attached map. Upon review of the subject proposal and other information in our files, we have the following comments with respect to the Well Investigation Program:

Parcel D

1. A total of 228 soil matrix samples were collected from 28 boreholes during assessment in this area. The highest TPH concentration detected was 3,680 mg/kg at 2' bgs. The only VOCs detected in these samples were acetone (maximum 40 ug/kg), MEK (maximum 12 ug/kg), toluene (maximum 21 ug/kg) and xylenes (maximum 23 ug/kg). No significant levels of PCB's, metals or other contaminants were detected.

2. A total of 104 soil gas locations were sampled in the subject parcel. Elevated concentrations of PCE (maximum 166 ug/l), TCE (maximum 4 ug/l), 1,1,1-TCA (maximum 5 ug/l) and methylene chloride (maximum 133 ug/l) were detected in shallow samples. The highest VOC concentration in samples collected at depth below the highest shallow VOC concentrations was approximately 7 ug/l at 20' bgs. Ground water is at approximately 250' bgs in this area.

3. The ground water monitoring well located on this property may be a key well in the network established by USEPA and may be needed to evaluate adjacent properties. One or more additional wells may be required in the future to accomplish these objectives if this well is destroyed for new construction.

Parcel F

1. Acetone (maximum 16 ug/kg) was the only VOC detected above detection limits in the 28 soil matrix samples collected from 3 soil borings in this area. Total petroleum hydrocarbons (maximum of 252 mg/kg at 2' bgs) were detected in near surface samples. No other compounds were detected in any of the soil samples.

2. No VOCs were detected in any of the soil gas samples collected from eighteen locations during the initial soil gas investigation in this parcel.

Based on our inspections and information submitted, we have no further requirements with respect to the Well Investigation Program for the subject two parcels. The soil contamination detected on these parcels is not a threat to ground water quality and therefore cleanup is not necessary. This "no further requirements" determination for these two parcels does not affect requirements for assessment and cleanup on the other adjacent parcels covered by our Cleanup and Abatement Order No. 87-161. We have no information concerning other conditions that would adversely impact the value or usage of these properties. However, additional assessment or remediation may be needed depending on future use of these sites.

The jurisdictional requirements of other agencies, such as the U.S. Environmental Protection Agency, are not affected by this Board's "no further requirements" decision. Such agencies may choose to make their own determinations regarding the site.

We are pleased to release these two parcels from the obligations of the cleanup and abatement order. Your cooperation in completing the required work is appreciated. If you have any questions, please contact Alex Carlos at (213) 266-7583.

Robert P. Ghirelli

ROBERT P. GHIRELLI, D.Env.
Executive Officer

cc: Mr. Jorge Leon, SWRCB, Office of the Chief Counsel
Mr. David Seter, USEPA, Region IX
Mr. Hamid Saebfar, CALEPA, DTSC, Region 3
Mr. Josef Solares, Burbank Fire Department, UST Section
Mr. Mel Blevins, ULARA Watermaster
Mr. Tom Blackman, Lockheed Martin
Mr. Bob Gilbert, Lockheed Martin
Ms. Michelle Levesque, Lockheed Martin

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500
FAX (213) 266-7600

B. P. O.
DATE REC'D. 11/25/96
WBS # 3A
COPIES TO: Gilbert [redacted], Blair Brown, Helgerson, [illegible]

November 22, 1996

Ron N. Helgerson
Lockheed Martin Corporation
Burbank Program Office
2550 North Hollywood Way, Suite 305
Burbank, CA 91505-1055

No Further Requirements, Parcel E, Lockheed Plant B-6 West
(File No. 104.0674)(Cleanup & Abatement Order No. 87-161)

We have reviewed your November 8, 1996, letter requesting closure for Parcel E at Plant B-6 as notated on the map that accompanied the letter. Upon review of the subject proposal and other information in our files, we have the following comments with respect to the Well Investigation Program:

1. During multiple phases of assessment, approximately 694 soil matrix and 190 soil gas samples were collected at the subject parcel. Based on the results of these investigations, six areas that required further assessment were identified:

   Building 345-346
   Building 357 utility pit (Sites 3)
   Building 357 utility pit/trenches (Site 4)
   Building 370 sump.sand trap (Area #1)
   Building 363 Former Jet Fuel UST B6-F33 (Area #2)
   LAT Fuel Farm UST F37

2. Additional soil gas investigation in the Building 345-346 area demonstrated that the relatively low VOC concentrations (<166 ug/L) were limited to depths less than 20' bgs. Based on these results, Board required no further investigation in this area on August 8, 1995.

3. At Sites 3 and 4, further soil assessments were conducted to determine the extent of petroleum hydrocarbon and metal impact. Investigation results demonstrated that the identified soil contamination is limited to relatively small areas and shallow depths. Concentrations of metals detected in confirmation samples were below Title 22 TTLC and 10 times STLC and U.S. Environmental Protection Agency (USEPA) Preliminary Remediation Goals (1995). Based on results of limited excavation delineation in the subject sites, the Board approved backfilling in July 1996.

4. Additional subsurface investigation was conducted in Area #1 to delineate the extent of VOC impact. A remedial action was required and approximately 590 cubic yards of petroleum hydrocarbon and VOC contaminated soil were excavated to a depth of approximately 35' bgs in this area. On November 6, 1996, the Board issued a "no further requirements" letter for this area based on the results of this remediation.

5. Based on site assessment results for Building 363 Former Jet Fuel UST B6-F33 (Area #2), Board staff issued a "no further requirements" letter on September 23, 1996. Multiple investigations demonstrated that petroleum hydrocarbon contamination in this area is limited to the immediate area of the former tank cavity and vertically to approximately 120' bgs.

6. On October 30, 1996, Board staff issued a "no further requirements" letter for UST F37 based on the limited area and depth (approximately 90' bgs) of soil contamination, and depth to groundwater (approximately 260' bgs) in this area.

Based on our inspections and information submitted, we have no further requirements with respect to the Well Investigation Program for the subject parcel. Remaining soil contamination in this parcel is not a threat to ground water quality and therefore further cleanup is not warranted. This parcel is therefore excluded from requirements in our Cleanup and Abatement Order No. 87-161.

If you have any questions, please contact Alex Carlos at (213) 266-7583.

Henk H Ipsen

for ROBERT P. GHIRELLI, D.Env.
Executive Officer

cc: Jorge Leon, SWRCB, Office of the Chief Counsel
David Seter, USEPA, Region IX
Hamid Saebfar, CALEPA, DTSC, Region 3
Josef Solares, Burbank Fire Department, UST Section
Mel Blevins, ULARA Watermaster
Tom Blackman, Lockheed Martin Corporation
Bob Gilbert, Lockheed Martin Corporation
Michelle Levesque, Lockheed Martin Corporation

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Lockheed Plant Name for Buildings within Plant B-6	RWQCD 1996 Designation (ENSR + Water Board Letters)	Tetra Tech 2014	RWQCB Letter 2015 / Response Matrix (Corresponds to Tetra Tech AOCs)
Building 371[1]		AOC 11	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil boring locations Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Building 357 (consists of 8 Buildings: 334, 335, 336, 337, 338, 357, 357T, 358)	Appears to be Parcel E	AOC 12	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil boring locations Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Building 353 (consists of 3 buildings: 353, 353A, 353B) Also: 345-346, 370, 363 (per RWQBC letter re: Parcel E)	Appears to be Parcel E Also includes "Area 3, 4, 5"	AOC 13	Soil and Vapor: Results do not present evidence of Total Chromium or VOC release in soil boring locations. "However, a detectable concentration of CrVI (Hexavalent 6) was found at 85 ft. below grade. This may be an anomaly." Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Building 340		AOC 14	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil boring locations Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Buildings 330, 331, 332, 333		AOC 15	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil

[1] Tetra Tech 2014, App. I, 22; same applies for all building numbers in this column

			boring locations Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Buildings 309-310	Possibly Parcel D Also includes "Area 10, 11"	AOC 16	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil boring locations Groundwater: Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Building 88	Includes "Area 7, 8"	AOC 17	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil boring locations Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater
Building 83 (clarifier)		AOC 18	Soil and Vapor: Results do not present evidence of a Total Chromium, Hexavalent 6, or VOC release in soil boring locations Groundwater: Results do not present evidence of Total Chromium, Hexavalent 6 Chromium, or VOC release in soil boring locations or the underlying groundwater

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APPENDIX I
GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

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I.1 California Emissions Estimator Model (CalEEMod) Output – Annual Emissions (Project Construction)

I.2 On-Road Emissions Factor (EMFAC2014) Model Output – Haul and Vendor Truck Emissions (Project Construction)

I.3 Federal Aviation Administration, Aviation Environmental Design Tool (AEDT), Version 2b Model Output – Aircraft and Supporting Equipment Annual Emissions (Existing and Project Operations)

I.4 California Emissions Estimator Model (CalEEMod) Output – Building Annual Emissions (Existing and Project Operations)

I.5 On-Road Emissions Factor (EMFAC2014) Model Output – Passenger Trip Annual Emissions (Existing and Project Operations)

I.6 Unison Survey, Bob Hope Airport Ground Access Study Data Collection and Analysis (2012) (select pages)

I.1 - California Emissions Estimator Model (CalEEMod) Output – Annual Emissions (Project Construction)

Project Information

Land Use	CalEEMod Land Use Type	Units	
Discretionary Terminal		355	KSF
Parking Structure	Enclosed Parking Lot with Elevator	3,000	Spaces
Employee Structure	Unenclosed Parking Lot with Elevator	634	Spaces
Valet Parking Structure	Unenclosed Parking Lot with Elevator	68	Spaces
Air Cargo Building	General Light Industry	8	KSF
GSE Building	General Light Industry	10	KSF
ARFF Station	General Light Industry	80	KSF
Taxiway	Other Asphalt Surfaces	20	acres

Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	Demo (CY) [a]	Demo Truck Capacity (CY)	Demo Truck Total One-Way Trips	Demo Truck Daily One-Way Trips	Soil Export (CY) [a]	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Soil Haul Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day [b]
Grading/Excavation	4/1/2020	9/30/2020	131					130,000	-	16	16,250	125	
Demolition(LOT A)	4/1/2020	6/30/2020	65	5,000	10	1,000	16						
Building Construction	10/1/2020	3/30/2023	651										301
Demolition (LOT H)	10/1/2021	12/31/2021	66	4,500	10	900	14						
Paving	3/30/2022	3/30/2023	262										
Architectural Coating	3/30/2022	3/30/2023	262										
Demolition (TERMINAL/ PARKING)	4/1/2023	12/31/2023	195	100,000	10	20,000	103						
Building Construction (Air Cargo)	7/1/2023	12/31/2024	392										160
Paving	6/30/2024	12/31/2024	132										
Architectural Coating	6/30/2024	12/31/2024	132										
Demolition (AIR CARGO BLDG)	1/1/2025	3/30/2025	63	2,000	10	400	6						
Taxiway Construction	7/2/2023	12/1/2025	631										50

Notes:

a. Demolition and soil exacavation quantities are based on the maximum volumes for the Project alternatives; therefore, values represent the maximum amounts that could result from implementation of any of the Project alternatives.

b. Vendor trips are associated with the Building Construction phase and are estimated based on CalEEMod assumptions.

Sources: Burbank-Glendale-Pasadena Airport Authority, 2016; ESA PCR, 2016

Burbank AP Terminal Replacement Construction

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	355.00	1000sqft	8.15	355,000.00	0
Enclosed Parking with Elevator	3,000.00	Space	27.00	1,200,000.00	0
Unenclosed Parking with Elevator	68.00	Space	0.61	27,200.00	0
Unenclosed Parking with Elevator	634.00	Space	5.71	253,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2025
Utility Company	Burbank Water & Power				
CO2 Intensity (lb/MWhr)	1096.12	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See AQ construction model inputs

Off-road Equipment -

Off-road Equipment - See AQ construction model inputs

Off-road Equipment - See AQ Construction Model Inputs

Off-road Equipment - See AQ Construction Model Inputs

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - See AQ construction model inputs

Trips and VMT - Vendor and haul trips calculated externally using EMFAC2014.

Demolition -

Grading -

Architectural Coating - See AQ Construction Model Inputs

Construction Off-road Equipment Mitigation - Equipment HP>100 Tier 3 and DPF level 3

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	1,592.00	0.00
tblTripsAndVMT	HaulingTripNumber	1,819.00	0.00
tblTripsAndVMT	HaulingTripNumber	4,850.00	0.00

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					
2017	0.6825	6.7877	6.0116	8.9100e-003	1.4134	0.3229	1.7364	0.3225	0.2995	0.6220	0.0000	779.3854	779.3854	0.1597	0.0000	782.7397
2018	0.9572	6.4774	11.2517	0.0249	1.2955	0.2502	1.5457	0.3489	0.2341	0.5830	0.0000	1,972.3948	1,972.3948	0.1266	0.0000	1,975.0527
2019	0.8743	5.9071	10.6575	0.0249	1.2956	0.2203	1.5159	0.3489	0.2062	0.5550	0.0000	1,919.5406	1,919.5406	0.1223	0.0000	1,922.1084
2020	9.8961	4.1104	7.6540	0.0184	0.9323	0.1579	1.0902	0.2510	0.1475	0.3984	0.0000	1,382.1452	1,382.1452	0.1020	0.0000	1,384.2863
2021	11.9992	0.0324	0.1196	3.5000e-004	0.0250	1.6500e-003	0.0267	6.6400e-003	1.6400e-003	8.2800e-003	0.0000	23.6560	23.6560	1.1900e-003	0.0000	23.6809
Total	**24.4092**	**23.3150**	**35.6944**	**0.0775**	**4.9618**	**0.9530**	**5.9148**	**1.2778**	**0.8889**	**2.1667**	**0.0000**	**6,077.1219**	**6,077.1219**	**0.5117**	**0.0000**	**6,087.8680**

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					
2017	0.6825	6.7877	6.0116	8.9100e-003	0.6698	0.3229	0.9927	0.1576	0.2995	0.4572	0.0000	779.3847	779.3847	0.1597	0.0000	782.7390
2018	0.9572	6.4774	11.2517	0.0249	1.2955	0.2502	1.5457	0.3489	0.2341	0.5830	0.0000	1,972.3945	1,972.3945	0.1266	0.0000	1,975.0523
2019	0.8743	5.9071	10.6575	0.0249	1.2956	0.2203	1.5159	0.3489	0.2062	0.5550	0.0000	1,919.5402	1,919.5402	0.1223	0.0000	1,922.1080
2020	9.8961	4.1104	7.6540	0.0184	0.9323	0.1579	1.0902	0.2510	0.1475	0.3984	0.0000	1,382.1449	1,382.1449	0.1020	0.0000	1,384.2860
2021	11.9992	0.0324	0.1196	3.5000e-004	0.0250	1.6500e-003	0.0267	6.6400e-003	1.6400e-003	8.2800e-003	0.0000	23.6560	23.6560	1.1900e-003	0.0000	23.6809
Total	**24.4092**	**23.3150**	**35.6944**	**0.0775**	**4.2181**	**0.9530**	**5.1711**	**1.1130**	**0.8889**	**2.0019**	**0.0000**	**6,077.1202**	**6,077.1202**	**0.5117**	**0.0000**	**6,087.8663**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**14.99**	**0.00**	**12.57**	**12.90**	**0.00**	**7.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition (Lot A)	Demolition	1/1/2017	3/10/2017	5	50	
2	Demolition (Lot H)	Demolition	3/11/2017	5/19/2017	5	50	
3	Demolition (Terminal/ Parking)	Demolition	5/20/2017	7/28/2017	5	50	
4	Grading	Grading	7/29/2017	11/10/2017	5	75	
5	Building Construction	Building Construction	11/11/2017	9/11/2020	5	740	
6	Paving	Paving	9/12/2020	11/27/2020	5	55	
7	Architectural Coating	Architectural Coating	11/28/2020	2/12/2021	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,753,700; Non-Residential Outdoor: 917,900 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition (Lot A)	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition (Lot A)	Excavators	3	8.00	162	0.38
Demolition (Lot A)	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Demolition (Lot H)	Rubber Tired Dozers	2	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Demolition (Lot H)	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition (Lot H)	Excavators	3	8.00	162	0.38
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition (Terminal/ Parking)	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition (Terminal/ Parking)	Excavators	3	8.00	162	0.38
Demolition (Terminal/ Parking)	Rubber Tired Dozers	2	8.00	255	0.40

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
Demolition (Lot A)	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	736.00	301.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition (Lot H)	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	147.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition (Terminal/ Parking)	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition (Lot A) - 2017

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					0.1723	0.0000	0.1723	0.0261	0.0000	0.0261	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5455	91.5455	0.0251	0.0000	92.0729
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**	**0.1723**	**0.0531**	**0.2254**	**0.0261**	**0.0495**	**0.0756**	**0.0000**	**91.5455**	**91.5455**	**0.0251**	**0.0000**	**92.0729**

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	1.3500e-003	1.9900e-003	0.0207	5.0000e-005	4.1100e-003	3.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.7066	3.7066	1.9000e-004	0.0000	3.7107
Total	**1.3500e-003**	**1.9900e-003**	**0.0207**	**5.0000e-005**	**4.1100e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.7066**	**3.7066**	**1.9000e-004**	**0.0000**	**3.7107**

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					0.0672	0.0000	0.0672	0.0102	0.0000	0.0102	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5454	91.5454	0.0251	0.0000	92.0728
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**	**0.0672**	**0.0531**	**0.1203**	**0.0102**	**0.0495**	**0.0597**	**0.0000**	**91.5454**	**91.5454**	**0.0251**	**0.0000**	**92.0728**

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	1.3500e-003	1.9900e-003	0.0207	5.0000e-005	4.1100e-003	3.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.7066	3.7066	1.9000e-004	0.0000	3.7107
Total	**1.3500e-003**	**1.9900e-003**	**0.0207**	**5.0000e-005**	**4.1100e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.7066**	**3.7066**	**1.9000e-004**	**0.0000**	**3.7107**

3.3 Demolition (Lot H) - 2017

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					0.1969	0.0000	0.1969	0.0298	0.0000	0.0298	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5455	91.5455	0.0251	0.0000	92.0729
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**	**0.1969**	**0.0531**	**0.2500**	**0.0298**	**0.0495**	**0.0793**	**0.0000**	**91.5455**	**91.5455**	**0.0251**	**0.0000**	**92.0729**

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	1.3500e-003	1.9900e-003	0.0207	5.0000e-005	4.1100e-003	3.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.7066	3.7066	1.9000e-004	0.0000	3.7107
Total	**1.3500e-003**	**1.9900e-003**	**0.0207**	**5.0000e-005**	**4.1100e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.7066**	**3.7066**	**1.9000e-004**	**0.0000**	**3.7107**

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					0.0768	0.0000	0.0768	0.0116	0.0000	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5454	91.5454	0.0251	0.0000	92.0728
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**	**0.0768**	**0.0531**	**0.1299**	**0.0116**	**0.0495**	**0.0611**	**0.0000**	**91.5454**	**91.5454**	**0.0251**	**0.0000**	**92.0728**

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	1.3500e-003	1.9900e-003	0.0207	5.0000e-005	4.1100e-003	3.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.7066	3.7066	1.9000e-004	0.0000	3.7107
Total	**1.3500e-003**	**1.9900e-003**	**0.0207**	**5.0000e-005**	**4.1100e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.7066**	**3.7066**	**1.9000e-004**	**0.0000**	**3.7107**

3.4 Demolition (Terminal/ Parking) - 2017

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					0.5248	0.0000	0.5248	0.0795	0.0000	0.0795	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5455	91.5455	0.0251	0.0000	92.0729
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**	**0.5248**	**0.0531**	**0.5779**	**0.0795**	**0.0495**	**0.1289**	**0.0000**	**91.5455**	**91.5455**	**0.0251**	**0.0000**	**92.0729**

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	1.3500e-003	1.9900e-003	0.0207	5.0000e-005	4.1100e-003	3.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.7066	3.7066	1.9000e-004	0.0000	3.7107
Total	**1.3500e-003**	**1.9900e-003**	**0.0207**	**5.0000e-005**	**4.1100e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.7066**	**3.7066**	**1.9000e-004**	**0.0000**	**3.7107**

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					0.2047	0.0000	0.2047	0.0310	0.0000	0.0310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5454	91.5454	0.0251	0.0000	92.0728
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**	**0.2047**	**0.0531**	**0.2578**	**0.0310**	**0.0495**	**0.0805**	**0.0000**	**91.5454**	**91.5454**	**0.0251**	**0.0000**	**92.0728**

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	1.3500e-003	1.9900e-003	0.0207	5.0000e-005	4.1100e-003	3.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.7066	3.7066	1.9000e-004	0.0000	3.7107
Total	**1.3500e-003**	**1.9900e-003**	**0.0207**	**5.0000e-005**	**4.1100e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.7066**	**3.7066**	**1.9000e-004**	**0.0000**	**3.7107**

3.5 Grading - 2017

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					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2287	2.6097	1.7552	2.3100e-003		0.1244	0.1244		0.1144	0.1144	0.0000	214.7772	214.7772	0.0658	0.0000	216.1592
Total	**0.2287**	**2.6097**	**1.7552**	**2.3100e-003**	**0.3253**	**0.1244**	**0.4496**	**0.1349**	**0.1144**	**0.2493**	**0.0000**	**214.7772**	**214.7772**	**0.0658**	**0.0000**	**216.1592**

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	2.6900e-003	3.9900e-003	0.0415	1.0000e-004	8.2300e-003	7.0000e-005	8.3000e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.4133	7.4133	3.8000e-004	0.0000	7.4213
Total	**2.6900e-003**	**3.9900e-003**	**0.0415**	**1.0000e-004**	**8.2300e-003**	**7.0000e-005**	**8.3000e-003**	**2.1900e-003**	**6.0000e-005**	**2.2500e-003**	**0.0000**	**7.4133**	**7.4133**	**3.8000e-004**	**0.0000**	**7.4213**

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					0.1269	0.0000	0.1269	0.0526	0.0000	0.0526	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2287	2.6097	1.7552	2.3100e-003		0.1244	0.1244		0.1144	0.1144	0.0000	214.7770	214.7770	0.0658	0.0000	216.1589
Total	**0.2287**	**2.6097**	**1.7552**	**2.3100e-003**	**0.1269**	**0.1244**	**0.2512**	**0.0526**	**0.1144**	**0.1670**	**0.0000**	**214.7770**	**214.7770**	**0.0658**	**0.0000**	**216.1589**

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	2.6900e-003	3.9900e-003	0.0415	1.0000e-004	8.2300e-003	7.0000e-005	8.3000e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.4133	7.4133	3.8000e-004	0.0000	7.4213
Total	**2.6900e-003**	**3.9900e-003**	**0.0415**	**1.0000e-004**	**8.2300e-003**	**7.0000e-005**	**8.3000e-003**	**2.1900e-003**	**6.0000e-005**	**2.2500e-003**	**0.0000**	**7.4133**	**7.4133**	**3.8000e-004**	**0.0000**	**7.4213**

3.6 Building Construction - 2017

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	0.0543	0.4621	0.3173	4.7000e-004		0.0312	0.0312		0.0293	0.0293	0.0000	41.9088	41.9088	0.0103	0.0000	42.1255
Total	**0.0543**	**0.4621**	**0.3173**	**4.7000e-004**		**0.0312**	**0.0312**		**0.0293**	**0.0293**	**0.0000**	**41.9088**	**41.9088**	**0.0103**	**0.0000**	**42.1255**

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	0.0429	0.4352	0.5818	1.1400e-003	0.0324	6.6600e-003	0.0391	9.2500e-003	6.1200e-003	0.0154	0.0000	102.2188	102.2188	7.3000e-004	0.0000	102.2342
Worker	0.0463	0.0685	0.7118	1.7400e-003	0.1413	1.1600e-003	0.1425	0.0375	1.0700e-003	0.0386	0.0000	127.3107	127.3107	6.5800e-003	0.0000	127.4488
Total	**0.0891**	**0.5037**	**1.2936**	**2.8800e-003**	**0.1737**	**7.8200e-003**	**0.1816**	**0.0468**	**7.1900e-003**	**0.0540**	**0.0000**	**229.5295**	**229.5295**	**7.3100e-003**	**0.0000**	**229.6830**

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	0.0543	0.4621	0.3173	4.7000e-004		0.0312	0.0312		0.0293	0.0293	0.0000	41.9088	41.9088	0.0103	0.0000	42.1254
Total	**0.0543**	**0.4621**	**0.3173**	**4.7000e-004**		**0.0312**	**0.0312**		**0.0293**	**0.0293**	**0.0000**	**41.9088**	**41.9088**	**0.0103**	**0.0000**	**42.1254**

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	0.0429	0.4352	0.5818	1.1400e-003	0.0324	6.6600e-003	0.0391	9.2500e-003	6.1200e-003	0.0154	0.0000	102.2188	102.2188	7.3000e-004	0.0000	102.2342
Worker	0.0463	0.0685	0.7118	1.7400e-003	0.1413	1.1600e-003	0.1425	0.0375	1.0700e-003	0.0386	0.0000	127.3107	127.3107	6.5800e-003	0.0000	127.4488
Total	**0.0891**	**0.5037**	**1.2936**	**2.8800e-003**	**0.1737**	**7.8200e-003**	**0.1816**	**0.0468**	**7.1900e-003**	**0.0540**	**0.0000**	**229.5295**	**229.5295**	**7.3100e-003**	**0.0000**	**229.6830**

3.6 Building Construction - 2018

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9844	308.9844	0.0756	0.0000	310.5723
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9844**	**308.9844**	**0.0756**	**0.0000**	**310.5723**

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	0.2991	2.9786	4.1563	8.5100e-003	0.2418	0.0468	0.2885	0.0690	0.0430	0.1120	0.0000	749.4724	749.4724	5.4300e-003	0.0000	749.5865
Worker	0.3099	0.4632	4.8073	0.0129	1.0538	8.4100e-003	1.0622	0.2799	7.7800e-003	0.2876	0.0000	913.9380	913.9380	0.0455	0.0000	914.8939
Total	**0.6089**	**3.4418**	**8.9636**	**0.0215**	**1.2955**	**0.0552**	**1.3507**	**0.3489**	**0.0508**	**0.3997**	**0.0000**	**1,663.4104**	**1,663.4104**	**0.0510**	**0.0000**	**1,664.4804**

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9841	308.9841	0.0756	0.0000	310.5720
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9841**	**308.9841**	**0.0756**	**0.0000**	**310.5720**

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	0.2991	2.9786	4.1563	8.5100e-003	0.2418	0.0468	0.2885	0.0690	0.0430	0.1120	0.0000	749.4724	749.4724	5.4300e-003	0.0000	749.5865
Worker	0.3099	0.4632	4.8073	0.0129	1.0538	8.4100e-003	1.0622	0.2799	7.7800e-003	0.2876	0.0000	913.9380	913.9380	0.0455	0.0000	914.8939
Total	**0.6089**	**3.4418**	**8.9636**	**0.0215**	**1.2955**	**0.0552**	**1.3507**	**0.3489**	**0.0508**	**0.3997**	**0.0000**	**1,663.4104**	**1,663.4104**	**0.0510**	**0.0000**	**1,664.4804**

3.6 Building Construction - 2019

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5302	305.5302	0.0743	0.0000	307.0913
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5302**	**305.5302**	**0.0743**	**0.0000**	**307.0913**

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	0.2828	2.7464	4.0151	8.4700e-003	0.2418	0.0444	0.2862	0.0690	0.0408	0.1098	0.0000	734.8562	734.8562	5.3300e-003	0.0000	734.9682
Worker	0.2846	0.4248	4.4081	0.0129	1.0538	8.2600e-003	1.0620	0.2799	7.6500e-003	0.2875	0.0000	879.1541	879.1541	0.0426	0.0000	880.0489
Total	**0.5674**	**3.1712**	**8.4233**	**0.0214**	**1.2956**	**0.0526**	**1.3482**	**0.3489**	**0.0485**	**0.3974**	**0.0000**	**1,614.0104**	**1,614.0104**	**0.0479**	**0.0000**	**1,615.0171**

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5299	305.5299	0.0743	0.0000	307.0909
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5299**	**305.5299**	**0.0743**	**0.0000**	**307.0909**

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	0.2828	2.7464	4.0151	8.4700e-003	0.2418	0.0444	0.2862	0.0690	0.0408	0.1098	0.0000	734.8562	734.8562	5.3300e-003	0.0000	734.9682
Worker	0.2846	0.4248	4.4081	0.0129	1.0538	8.2600e-003	1.0620	0.2799	7.6500e-003	0.2875	0.0000	879.1541	879.1541	0.0426	0.0000	880.0489
Total	**0.5674**	**3.1712**	**8.4233**	**0.0214**	**1.2956**	**0.0526**	**1.3482**	**0.3489**	**0.0485**	**0.3974**	**0.0000**	**1,614.0104**	**1,614.0104**	**0.0479**	**0.0000**	**1,615.0171**

3.6 Building Construction - 2020

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	0.1932	1.7462	1.5380	2.4500e-003		0.1018	0.1018		0.0958	0.0958	0.0000	211.0447	211.0447	0.0514	0.0000	212.1244
Total	**0.1932**	**1.7462**	**1.5380**	**2.4500e-003**		**0.1018**	**0.1018**		**0.0958**	**0.0958**	**0.0000**	**211.0447**	**211.0447**	**0.0514**	**0.0000**	**212.1244**

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	0.1880	1.6799	2.7299	5.9400e-003	0.1695	0.0285	0.1980	0.0484	0.0262	0.0746	0.0000	503.6392	503.6392	3.6600e-003	0.0000	503.7161
Worker	0.1869	0.2761	2.8765	9.0500e-003	0.7389	5.7500e-003	0.7446	0.1962	5.3400e-003	0.2016	0.0000	591.3790	591.3790	0.0283	0.0000	591.9731
Total	**0.3749**	**1.9560**	**5.6064**	**0.0150**	**0.9084**	**0.0342**	**0.9426**	**0.2446**	**0.0315**	**0.2761**	**0.0000**	**1,095.0181**	**1,095.0181**	**0.0320**	**0.0000**	**1,095.6892**

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	0.1932	1.7462	1.5380	2.4500e-003		0.1018	0.1018		0.0958	0.0958	0.0000	211.0444	211.0444	0.0514	0.0000	212.1242
Total	**0.1932**	**1.7462**	**1.5380**	**2.4500e-003**		**0.1018**	**0.1018**		**0.0958**	**0.0958**	**0.0000**	**211.0444**	**211.0444**	**0.0514**	**0.0000**	**212.1242**

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	0.1880	1.6799	2.7299	5.9400e-003	0.1695	0.0285	0.1980	0.0484	0.0262	0.0746	0.0000	503.6392	503.6392	3.6600e-003	0.0000	503.7161
Worker	0.1869	0.2761	2.8765	9.0500e-003	0.7389	5.7500e-003	0.7446	0.1962	5.3400e-003	0.2016	0.0000	591.3790	591.3790	0.0283	0.0000	591.9731
Total	**0.3749**	**1.9560**	**5.6064**	**0.0150**	**0.9084**	**0.0342**	**0.9426**	**0.2446**	**0.0315**	**0.2761**	**0.0000**	**1,095.0181**	**1,095.0181**	**0.0320**	**0.0000**	**1,095.6892**

3.7 Paving - 2020

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	0.0366	0.3791	0.3947	6.1000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	53.9057	53.9057	0.0174	0.0000	54.2718
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0366**	**0.3791**	**0.3947**	**6.1000e-004**		**0.0203**	**0.0203**		**0.0187**	**0.0187**	**0.0000**	**53.9057**	**53.9057**	**0.0174**	**0.0000**	**54.2718**

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	1.1400e-003	1.6900e-003	0.0176	6.0000e-005	4.5300e-003	4.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.6224	3.6224	1.7000e-004	0.0000	3.6260
Total	**1.1400e-003**	**1.6900e-003**	**0.0176**	**6.0000e-005**	**4.5300e-003**	**4.0000e-005**	**4.5600e-003**	**1.2000e-003**	**3.0000e-005**	**1.2300e-003**	**0.0000**	**3.6224**	**3.6224**	**1.7000e-004**	**0.0000**	**3.6260**

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	0.0366	0.3791	0.3947	6.1000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	53.9056	53.9056	0.0174	0.0000	54.2717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0366**	**0.3791**	**0.3947**	**6.1000e-004**		**0.0203**	**0.0203**		**0.0187**	**0.0187**	**0.0000**	**53.9056**	**53.9056**	**0.0174**	**0.0000**	**54.2717**

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	1.1400e-003	1.6900e-003	0.0176	6.0000e-005	4.5300e-003	4.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.6224	3.6224	1.7000e-004	0.0000	3.6260
Total	**1.1400e-003**	**1.6900e-003**	**0.0176**	**6.0000e-005**	**4.5300e-003**	**4.0000e-005**	**4.5600e-003**	**1.2000e-003**	**3.0000e-005**	**1.2300e-003**	**0.0000**	**3.6224**	**3.6224**	**1.7000e-004**	**0.0000**	**3.6260**

3.8 Architectural Coating - 2020

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	9.2825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9100e-003	0.0202	0.0220	4.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	3.0639	3.0639	2.4000e-004	0.0000	3.0689
Total	**9.2854**	**0.0202**	**0.0220**	**4.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**3.0639**	**3.0639**	**2.4000e-004**	**0.0000**	**3.0689**

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	4.9000e-003	7.2300e-003	0.0754	2.4000e-004	0.0194	1.5000e-004	0.0195	5.1400e-003	1.4000e-004	5.2800e-003	0.0000	15.4905	15.4905	7.4000e-004	0.0000	15.5061
Total	**4.9000e-003**	**7.2300e-003**	**0.0754**	**2.4000e-004**	**0.0194**	**1.5000e-004**	**0.0195**	**5.1400e-003**	**1.4000e-004**	**5.2800e-003**	**0.0000**	**15.4905**	**15.4905**	**7.4000e-004**	**0.0000**	**15.5061**

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	9.2825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9100e-003	0.0202	0.0220	4.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	3.0639	3.0639	2.4000e-004	0.0000	3.0689
Total	**9.2854**	**0.0202**	**0.0220**	**4.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**3.0639**	**3.0639**	**2.4000e-004**	**0.0000**	**3.0689**

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	4.9000e-003	7.2300e-003	0.0754	2.4000e-004	0.0194	1.5000e-004	0.0195	5.1400e-003	1.4000e-004	5.2800e-003	0.0000	15.4905	15.4905	7.4000e-004	0.0000	15.5061
Total	**4.9000e-003**	**7.2300e-003**	**0.0754**	**2.4000e-004**	**0.0194**	**1.5000e-004**	**0.0195**	**5.1400e-003**	**1.4000e-004**	**5.2800e-003**	**0.0000**	**15.4905**	**15.4905**	**7.4000e-004**	**0.0000**	**15.5061**

3.8 Architectural Coating - 2021

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	11.9899					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3900e-003	0.0237	0.0282	5.0000e-005		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	3.9575	3.9575	2.7000e-004	0.0000	3.9633
Total	**11.9933**	**0.0237**	**0.0282**	**5.0000e-005**		**1.4600e-003**	**1.4600e-003**		**1.4600e-003**	**1.4600e-003**	**0.0000**	**3.9575**	**3.9575**	**2.7000e-004**	**0.0000**	**3.9633**

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	5.9800e-003	8.7300e-003	0.0914	3.1000e-004	0.0250	1.9000e-004	0.0252	6.6400e-003	1.8000e-004	6.8200e-003	0.0000	19.6984	19.6984	9.2000e-004	0.0000	19.7177
Total	**5.9800e-003**	**8.7300e-003**	**0.0914**	**3.1000e-004**	**0.0250**	**1.9000e-004**	**0.0252**	**6.6400e-003**	**1.8000e-004**	**6.8200e-003**	**0.0000**	**19.6984**	**19.6984**	**9.2000e-004**	**0.0000**	**19.7177**

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	11.9899					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3900e-003	0.0237	0.0282	5.0000e-005		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	3.9575	3.9575	2.7000e-004	0.0000	3.9632
Total	**11.9933**	**0.0237**	**0.0282**	**5.0000e-005**		**1.4600e-003**	**1.4600e-003**		**1.4600e-003**	**1.4600e-003**	**0.0000**	**3.9575**	**3.9575**	**2.7000e-004**	**0.0000**	**3.9632**

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	5.9800e-003	8.7300e-003	0.0914	3.1000e-004	0.0250	1.9000e-004	0.0252	6.6400e-003	1.8000e-004	6.8200e-003	0.0000	19.6984	19.6984	9.2000e-004	0.0000	19.7177
Total	**5.9800e-003**	**8.7300e-003**	**0.0914**	**3.1000e-004**	**0.0250**	**1.9000e-004**	**0.0252**	**6.6400e-003**	**1.8000e-004**	**6.8200e-003**	**0.0000**	**19.6984**	**19.6984**	**9.2000e-004**	**0.0000**	**19.7177**

Burbank AP Terminal Replacement Construction

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	80.00	1000sqft	1.84	80,000.00	0
General Light Industry	8.00	1000sqft	0.18	8,000.00	0
General Light Industry	10.00	1000sqft	0.23	10,000.00	0
Other Asphalt Surfaces	20.00	Acre	20.00	871,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2025
Utility Company	Burbank Water & Power				
CO2 Intensity (lb/MWhr)	1096.12	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See AQ Construction Model Inputs

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - See AQ Construction Model Inputs

Off-road Equipment -

Off-road Equipment -

Trips and VMT - See AQ Construction Model Inputs

Demolition -

Architectural Coating - See AQ Construciton Model Inputs

Construction Off-road Equipment Mitigation - See AQ Construction Model Input

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	484,600.00	49,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,453,800.00	199,272.00
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	131.00
tblConstructionPhase	NumDays	370.00	391.00
tblConstructionPhase	NumDays	20.00	63.00
tblConstructionPhase	NumDays	20.00	631.00
tblConstructionPhase	NumDays	20.00	131.00
tblConstructionPhase	PhaseEndDate	7/1/2025	12/30/2024
tblConstructionPhase	PhaseEndDate	3/27/2025	3/30/2025
tblConstructionPhase	PhaseEndDate	6/1/2027	12/1/2025
tblConstructionPhase	PhaseEndDate	6/2/2026	12/30/2024
tblConstructionPhase	PhaseStartDate	12/31/2024	6/30/2024
tblConstructionPhase	PhaseStartDate	12/31/2024	1/1/2025
tblConstructionPhase	PhaseStartDate	12/31/2024	7/2/2023
tblConstructionPhase	PhaseStartDate	12/2/2025	6/30/2024
tblOffRoadEquipment	HorsePower	97.00	255.00
tblOffRoadEquipment	LoadFactor	0.37	0.40

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	55.00	0.00
tblTripsAndVMT	VendorTripNumber	159.00	0.00

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					
2023	0.2376	1.6730	2.9571	6.8900e-003	0.3009	0.0802	0.3811	0.0799	0.0748	0.1547	0.0000	507.0636	507.0636	0.0870	0.0000	508.8906
2024	2.0064	3.8586	7.1127	0.0164	0.6733	0.1794	0.8526	0.1788	0.1670	0.3458	0.0000	1,212.3703	1,212.3703	0.2188	0.0000	1,216.9640
2025	0.1444	1.1828	2.0621	3.5800e-003	0.0283	0.0564	0.0847	6.8500e-003	0.0521	0.0590	0.0000	306.6936	306.6936	0.0898	0.0000	308.5784
Total	**2.3884**	**6.7144**	**12.1319**	**0.0269**	**1.0026**	**0.3159**	**1.3185**	**0.2656**	**0.2939**	**0.5595**	**0.0000**	**2,026.1276**	**2,026.1276**	**0.3955**	**0.0000**	**2,034.4330**

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					
2023	0.2376	1.6730	2.9571	6.8900e-003	0.3009	0.0802	0.3811	0.0799	0.0748	0.1547	0.0000	507.0633	507.0633	0.0870	0.0000	508.8902
2024	2.0064	3.8586	7.1127	0.0164	0.6733	0.1794	0.8526	0.1788	0.1670	0.3458	0.0000	1,212.3695	1,212.3695	0.2188	0.0000	1,216.9632
2025	0.1444	1.1828	2.0621	3.5800e-003	0.0247	0.0564	0.0811	6.3100e-003	0.0521	0.0584	0.0000	306.6933	306.6933	0.0898	0.0000	308.5781
Total	**2.3884**	**6.7144**	**12.1319**	**0.0269**	**0.9989**	**0.3159**	**1.3149**	**0.2650**	**0.2939**	**0.5589**	**0.0000**	**2,026.1261**	**2,026.1261**	**0.3955**	**0.0000**	**2,034.4315**

	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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.36	0.00	0.27	0.20	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/1/2023	12/30/2024	5	391	
2	Taxiway Paving	Paving	7/2/2023	12/1/2025	5	631	
3	Paving	Paving	6/30/2024	12/30/2024	5	131	
4	Architectural Coating	Architectural Coating	6/30/2024	12/30/2024	5	131	
5	Demolition	Demolition	1/1/2025	3/30/2025	5	63	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 199,272; Non-Residential Outdoor: 49,000 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Taxiway Paving	Pavers	2	8.00	125	0.42
Taxiway Paving	Paving Equipment	2	8.00	130	0.36
Taxiway Paving	Rollers	2	8.00	80	0.38
Paving	Pavers	2	8.00	125	0.42

Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	162	0.38
Demolition	Tractors/Loaders/Backhoes	1	8.00	255	0.40

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
Building Construction	9	407.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Taxiway Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	81.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Building Construction - 2023

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	0.1018	0.9303	1.0536	1.7400e-003		0.0453	0.0453		0.0426	0.0426	0.0000	150.0490	150.0490	0.0356	0.0000	150.7975
Total	**0.1018**	**0.9303**	**1.0536**	**1.7400e-003**		**0.0453**	**0.0453**		**0.0426**	**0.0426**	**0.0000**	**150.0490**	**150.0490**	**0.0356**	**0.0000**	**150.7975**

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	0.0623	0.0895	0.9404	3.5600e-003	0.2903	2.2600e-003	0.2925	0.0771	2.1000e-003	0.0792	0.0000	221.4482	221.4482	9.7900e-003	0.0000	221.6538
Total	**0.0623**	**0.0895**	**0.9404**	**3.5600e-003**	**0.2903**	**2.2600e-003**	**0.2925**	**0.0771**	**2.1000e-003**	**0.0792**	**0.0000**	**221.4482**	**221.4482**	**9.7900e-003**	**0.0000**	**221.6538**

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	0.1018	0.9303	1.0536	1.7400e-003		0.0453	0.0453		0.0426	0.0426	0.0000	150.0488	150.0488	0.0356	0.0000	150.7973
Total	**0.1018**	**0.9303**	**1.0536**	**1.7400e-003**		**0.0453**	**0.0453**		**0.0426**	**0.0426**	**0.0000**	**150.0488**	**150.0488**	**0.0356**	**0.0000**	**150.7973**

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	0.0623	0.0895	0.9404	3.5600e-003	0.2903	2.2600e-003	0.2925	0.0771	2.1000e-003	0.0792	0.0000	221.4482	221.4482	9.7900e-003	0.0000	221.6538
Total	**0.0623**	**0.0895**	**0.9404**	**3.5600e-003**	**0.2903**	**2.2600e-003**	**0.2925**	**0.0771**	**2.1000e-003**	**0.0792**	**0.0000**	**221.4482**	**221.4482**	**9.7900e-003**	**0.0000**	**221.6538**

3.2 Building Construction - 2024

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	0.1912	1.7458	2.1054	3.5000e-003		0.0797	0.0797		0.0750	0.0750	0.0000	301.3101	301.3101	0.0711	0.0000	302.8041
Total	**0.1912**	**1.7458**	**2.1054**	**3.5000e-003**		**0.0797**	**0.0797**		**0.0750**	**0.0750**	**0.0000**	**301.3101**	**301.3101**	**0.0711**	**0.0000**	**302.8041**

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	0.1189	0.1702	1.7949	7.1800e-003	0.5827	4.5900e-003	0.5873	0.1548	4.2500e-003	0.1590	0.0000	440.7082	440.7082	0.0191	0.0000	441.1098
Total	**0.1189**	**0.1702**	**1.7949**	**7.1800e-003**	**0.5827**	**4.5900e-003**	**0.5873**	**0.1548**	**4.2500e-003**	**0.1590**	**0.0000**	**440.7082**	**440.7082**	**0.0191**	**0.0000**	**441.1098**

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	0.1912	1.7458	2.1054	3.5000e-003		0.0797	0.0797		0.0750	0.0750	0.0000	301.3098	301.3098	0.0711	0.0000	302.8038
Total	**0.1912**	**1.7458**	**2.1054**	**3.5000e-003**		**0.0797**	**0.0797**		**0.0750**	**0.0750**	**0.0000**	**301.3098**	**301.3098**	**0.0711**	**0.0000**	**302.8038**

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	0.1189	0.1702	1.7949	7.1800e-003	0.5827	4.5900e-003	0.5873	0.1548	4.2500e-003	0.1590	0.0000	440.7082	440.7082	0.0191	0.0000	441.1098
Total	**0.1189**	**0.1702**	**1.7949**	**7.1800e-003**	**0.5827**	**4.5900e-003**	**0.5873**	**0.1548**	**4.2500e-003**	**0.1590**	**0.0000**	**440.7082**	**440.7082**	**0.0191**	**0.0000**	**441.1098**

3.3 Taxiway Paving - 2023

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	0.0658	0.6499	0.9285	1.4500e-003		0.0326	0.0326		0.0300	0.0300	0.0000	127.4049	127.4049	0.0412	0.0000	128.2703
Paving	5.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0712**	**0.6499**	**0.9285**	**1.4500e-003**		**0.0326**	**0.0326**		**0.0300**	**0.0300**	**0.0000**	**127.4049**	**127.4049**	**0.0412**	**0.0000**	**128.2703**

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	2.2900e-003	3.3000e-003	0.0347	1.3000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	8.0000e-005	2.9200e-003	0.0000	8.1615	8.1615	3.6000e-004	0.0000	8.1691
Total	**2.2900e-003**	**3.3000e-003**	**0.0347**	**1.3000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**8.0000e-005**	**2.9200e-003**	**0.0000**	**8.1615**	**8.1615**	**3.6000e-004**	**0.0000**	**8.1691**

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	0.0658	0.6499	0.9285	1.4500e-003		0.0326	0.0326		0.0300	0.0300	0.0000	127.4048	127.4048	0.0412	0.0000	128.2701
Paving	5.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0712**	**0.6499**	**0.9285**	**1.4500e-003**		**0.0326**	**0.0326**		**0.0300**	**0.0300**	**0.0000**	**127.4048**	**127.4048**	**0.0412**	**0.0000**	**128.2701**

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	2.2900e-003	3.3000e-003	0.0347	1.3000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	8.0000e-005	2.9200e-003	0.0000	8.1615	8.1615	3.6000e-004	0.0000	8.1691
Total	**2.2900e-003**	**3.3000e-003**	**0.0347**	**1.3000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**8.0000e-005**	**2.9200e-003**	**0.0000**	**8.1615**	**8.1615**	**3.6000e-004**	**0.0000**	**8.1691**

3.3 Taxiway Paving - 2024

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	0.1269	1.2242	1.8766	2.9200e-003		0.0603	0.0603		0.0555	0.0555	0.0000	256.7661	256.7661	0.0830	0.0000	258.5100
Paving	0.0109					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1378**	**1.2242**	**1.8766**	**2.9200e-003**		**0.0603**	**0.0603**		**0.0555**	**0.0555**	**0.0000**	**256.7661**	**256.7661**	**0.0830**	**0.0000**	**258.5100**

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	4.4000e-003	6.3000e-003	0.0664	2.7000e-004	0.0216	1.7000e-004	0.0217	5.7300e-003	1.6000e-004	5.8800e-003	0.0000	16.3046	16.3046	7.1000e-004	0.0000	16.3194
Total	**4.4000e-003**	**6.3000e-003**	**0.0664**	**2.7000e-004**	**0.0216**	**1.7000e-004**	**0.0217**	**5.7300e-003**	**1.6000e-004**	**5.8800e-003**	**0.0000**	**16.3046**	**16.3046**	**7.1000e-004**	**0.0000**	**16.3194**

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	0.1269	1.2242	1.8766	2.9200e-003		0.0603	0.0603		0.0555	0.0555	0.0000	256.7658	256.7658	0.0830	0.0000	258.5097
Paving	0.0109					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1378**	**1.2242**	**1.8766**	**2.9200e-003**		**0.0603**	**0.0603**		**0.0555**	**0.0555**	**0.0000**	**256.7658**	**256.7658**	**0.0830**	**0.0000**	**258.5097**

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	4.4000e-003	6.3000e-003	0.0664	2.7000e-004	0.0216	1.7000e-004	0.0217	5.7300e-003	1.6000e-004	5.8800e-003	0.0000	16.3046	16.3046	7.1000e-004	0.0000	16.3194
Total	**4.4000e-003**	**6.3000e-003**	**0.0664**	**2.7000e-004**	**0.0216**	**1.7000e-004**	**0.0217**	**5.7300e-003**	**1.6000e-004**	**5.8800e-003**	**0.0000**	**16.3046**	**16.3046**	**7.1000e-004**	**0.0000**	**16.3194**

3.3 Taxiway Paving - 2025

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	0.1072	1.0064	1.7062	2.6700e-003		0.0491	0.0491		0.0452	0.0452	0.0000	234.1405	234.1405	0.0757	0.0000	235.7307
Paving	9.9200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1172**	**1.0064**	**1.7062**	**2.6700e-003**		**0.0491**	**0.0491**		**0.0452**	**0.0452**	**0.0000**	**234.1405**	**234.1405**	**0.0757**	**0.0000**	**235.7307**

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	3.8300e-003	5.4600e-003	0.0578	2.4000e-004	0.0197	1.6000e-004	0.0198	5.2200e-003	1.4000e-004	5.3700e-003	0.0000	14.6842	14.6842	6.3000e-004	0.0000	14.6973
Total	**3.8300e-003**	**5.4600e-003**	**0.0578**	**2.4000e-004**	**0.0197**	**1.6000e-004**	**0.0198**	**5.2200e-003**	**1.4000e-004**	**5.3700e-003**	**0.0000**	**14.6842**	**14.6842**	**6.3000e-004**	**0.0000**	**14.6973**

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	0.1072	1.0064	1.7062	2.6700e-003		0.0491	0.0491		0.0452	0.0452	0.0000	234.1402	234.1402	0.0757	0.0000	235.7304
Paving	9.9200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1172**	**1.0064**	**1.7062**	**2.6700e-003**		**0.0491**	**0.0491**		**0.0452**	**0.0452**	**0.0000**	**234.1402**	**234.1402**	**0.0757**	**0.0000**	**235.7304**

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	3.8300e-003	5.4600e-003	0.0578	2.4000e-004	0.0197	1.6000e-004	0.0198	5.2200e-003	1.4000e-004	5.3700e-003	0.0000	14.6842	14.6842	6.3000e-004	0.0000	14.6973
Total	**3.8300e-003**	**5.4600e-003**	**0.0578**	**2.4000e-004**	**0.0197**	**1.6000e-004**	**0.0198**	**5.2200e-003**	**1.4000e-004**	**5.3700e-003**	**0.0000**	**14.6842**	**14.6842**	**6.3000e-004**	**0.0000**	**14.6973**

3.4 Paving - 2024

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	0.0635	0.6121	0.9383	1.4600e-003		0.0301	0.0301		0.0277	0.0277	0.0000	128.3830	128.3830	0.0415	0.0000	129.2550
Paving	0.0262					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0897**	**0.6121**	**0.9383**	**1.4600e-003**		**0.0301**	**0.0301**		**0.0277**	**0.0277**	**0.0000**	**128.3830**	**128.3830**	**0.0415**	**0.0000**	**129.2550**

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	2.2000e-003	3.1500e-003	0.0332	1.3000e-004	0.0108	8.0000e-005	0.0109	2.8600e-003	8.0000e-005	2.9400e-003	0.0000	8.1523	8.1523	3.5000e-004	0.0000	8.1597
Total	**2.2000e-003**	**3.1500e-003**	**0.0332**	**1.3000e-004**	**0.0108**	**8.0000e-005**	**0.0109**	**2.8600e-003**	**8.0000e-005**	**2.9400e-003**	**0.0000**	**8.1523**	**8.1523**	**3.5000e-004**	**0.0000**	**8.1597**

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	0.0635	0.6121	0.9383	1.4600e-003		0.0301	0.0301		0.0277	0.0277	0.0000	128.3829	128.3829	0.0415	0.0000	129.2548
Paving	0.0262					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0897**	**0.6121**	**0.9383**	**1.4600e-003**		**0.0301**	**0.0301**		**0.0277**	**0.0277**	**0.0000**	**128.3829**	**128.3829**	**0.0415**	**0.0000**	**129.2548**

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	2.2000e-003	3.1500e-003	0.0332	1.3000e-004	0.0108	8.0000e-005	0.0109	2.8600e-003	8.0000e-005	2.9400e-003	0.0000	8.1523	8.1523	3.5000e-004	0.0000	8.1597
Total	**2.2000e-003**	**3.1500e-003**	**0.0332**	**1.3000e-004**	**0.0108**	**8.0000e-005**	**0.0109**	**2.8600e-003**	**8.0000e-005**	**2.9400e-003**	**0.0000**	**8.1523**	**8.1523**	**3.5000e-004**	**0.0000**	**8.1597**

3.5 Architectural Coating - 2024

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	1.4384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.0798	0.1186	1.9000e-004		3.9900e-003	3.9900e-003		3.9900e-003	3.9900e-003	0.0000	16.7238	16.7238	9.4000e-004	0.0000	16.7436
Total	**1.4503**	**0.0798**	**0.1186**	**1.9000e-004**		**3.9900e-003**	**3.9900e-003**		**3.9900e-003**	**3.9900e-003**	**0.0000**	**16.7238**	**16.7238**	**9.4000e-004**	**0.0000**	**16.7436**

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	0.0119	0.0170	0.1793	7.2000e-004	0.0582	4.6000e-004	0.0587	0.0155	4.2000e-004	0.0159	0.0000	44.0223	44.0223	1.9100e-003	0.0000	44.0624
Total	**0.0119**	**0.0170**	**0.1793**	**7.2000e-004**	**0.0582**	**4.6000e-004**	**0.0587**	**0.0155**	**4.2000e-004**	**0.0159**	**0.0000**	**44.0223**	**44.0223**	**1.9100e-003**	**0.0000**	**44.0624**

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	1.4384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.0798	0.1186	1.9000e-004		3.9900e-003	3.9900e-003		3.9900e-003	3.9900e-003	0.0000	16.7238	16.7238	9.4000e-004	0.0000	16.7436
Total	**1.4503**	**0.0798**	**0.1186**	**1.9000e-004**		**3.9900e-003**	**3.9900e-003**		**3.9900e-003**	**3.9900e-003**	**0.0000**	**16.7238**	**16.7238**	**9.4000e-004**	**0.0000**	**16.7436**

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	0.0119	0.0170	0.1793	7.2000e-004	0.0582	4.6000e-004	0.0587	0.0155	4.2000e-004	0.0159	0.0000	44.0223	44.0223	1.9100e-003	0.0000	44.0624
Total	**0.0119**	**0.0170**	**0.1793**	**7.2000e-004**	**0.0582**	**4.6000e-004**	**0.0587**	**0.0155**	**4.2000e-004**	**0.0159**	**0.0000**	**44.0223**	**44.0223**	**1.9100e-003**	**0.0000**	**44.0624**

3.6 Demolition - 2025

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					5.9100e-003	0.0000	5.9100e-003	8.9000e-004	0.0000	8.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.1702	0.2900	6.4000e-004		7.0900e-003	7.0900e-003		6.7500e-003	6.7500e-003	0.0000	55.8045	55.8045	0.0133	0.0000	56.0842
Total	**0.0229**	**0.1702**	**0.2900**	**6.4000e-004**	**5.9100e-003**	**7.0900e-003**	**0.0130**	**8.9000e-004**	**6.7500e-003**	**7.6400e-003**	**0.0000**	**55.8045**	**55.8045**	**0.0133**	**0.0000**	**56.0842**

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	5.4000e-004	7.7000e-004	8.1200e-003	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.0644	2.0644	9.0000e-005	0.0000	2.0662
Total	**5.4000e-004**	**7.7000e-004**	**8.1200e-003**	**3.0000e-005**	**2.7600e-003**	**2.0000e-005**	**2.7900e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.0644**	**2.0644**	**9.0000e-005**	**0.0000**	**2.0662**

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					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.1702	0.2900	6.4000e-004		7.0900e-003	7.0900e-003		6.7500e-003	6.7500e-003	0.0000	55.8045	55.8045	0.0133	0.0000	56.0841
Total	**0.0229**	**0.1702**	**0.2900**	**6.4000e-004**	**2.3000e-003**	**7.0900e-003**	**9.3900e-003**	**3.5000e-004**	**6.7500e-003**	**7.1000e-003**	**0.0000**	**55.8045**	**55.8045**	**0.0133**	**0.0000**	**56.0841**

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	5.4000e-004	7.7000e-004	8.1200e-003	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.0644	2.0644	9.0000e-005	0.0000	2.0662
Total	**5.4000e-004**	**7.7000e-004**	**8.1200e-003**	**3.0000e-005**	**2.7600e-003**	**2.0000e-005**	**2.7900e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.0644**	**2.0644**	**9.0000e-005**	**0.0000**	**2.0662**

Burbank AP Terminal Replacement Construction - All Cargo Carrier Facility

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	61.70	1000sqft	1.42	61,700.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2025
Utility Company	Burbank Water & Power				
CO2 Intensity (lb/MWhr)	1096.12	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See AQ construction model inputs

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating -

Trips and VMT -

Construction Off-road Equipment Mitigation - See Aq Construction Model Inputs

Table Name	Column Name	Default Value	New Value

tblAreaCoating	Area_Nonresidential_Interior	92550	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstructionPhase	NumDays	10.00	110.00
tblConstructionPhase	NumDays	200.00	260.00
tblConstructionPhase	NumDays	10.00	110.00
tblConstructionPhase	PhaseEndDate	6/2/2025	12/30/2024
tblConstructionPhase	PhaseEndDate	6/2/2025	12/30/2024
tblConstructionPhase	PhaseStartDate	12/31/2024	7/30/2024
tblConstructionPhase	PhaseStartDate	12/31/2024	7/30/2024
tblProjectCharacteristics	OperationalYear	2014	2025
tblSolidWaste	SolidWasteGenerationRate	58.00	0.00
tblWater	IndoorWaterUseRate	14,268,125.00	0.00

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					

2024	0.9598	1.8786	2.4649	4.6200e-003	0.0560	0.0785	0.1344	0.0150	0.0751	0.0902	0.0000	372.8225	372.8225	0.0617	0.0000	374.1186
Total	**0.9598**	**1.8786**	**2.4649**	**4.6200e-003**	**0.0560**	**0.0785**	**0.1344**	**0.0150**	**0.0751**	**0.0902**	**0.0000**	**372.8225**	**372.8225**	**0.0617**	**0.0000**	**374.1186**

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					
2024	0.9598	1.8786	2.4649	4.6200e-003	0.0560	0.0563	0.1123	0.0150	0.0548	0.0698	0.0000	372.8221	372.8221	0.0617	0.0000	374.1182
Total	**0.9598**	**1.8786**	**2.4649**	**4.6200e-003**	**0.0560**	**0.0563**	**0.1123**	**0.0150**	**0.0548**	**0.0698**	**0.0000**	**372.8221**	**372.8221**	**0.0617**	**0.0000**	**374.1182**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**28.19**	**16.46**	**0.00**	**27.09**	**22.57**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/2/2024	12/30/2024	5	260	
2	Paving	Paving	7/30/2024	12/30/2024	5	110	
3	Architectural Coating	Architectural Coating	7/30/2024	12/30/2024	5	110	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,550; Non-Residential Outdoor: 30,850 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Paving Equipment	1	8.00	130	0.36
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	1	6.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Building Construction	7	26.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	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

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Building Construction - 2024

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	0.1839	1.4309	1.6235	2.8600e-003		0.0583	0.0583		0.0562	0.0562	0.0000	235.0248	235.0248	0.0390	0.0000	235.8432
Total	**0.1839**	**1.4309**	**1.6235**	**2.8600e-003**		**0.0583**	**0.0583**		**0.0562**	**0.0562**	**0.0000**	**235.0248**	**235.0248**	**0.0390**	**0.0000**	**235.8432**

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	7.6300e-003	0.0483	0.1155	2.8000e-004	8.0000e-003	1.2000e-003	9.2000e-003	2.2800e-003	1.1000e-003	3.3800e-003	0.0000	23.6908	23.6908	1.6000e-004	0.0000	23.6942
Worker	7.5700e-003	0.0108	0.1142	4.6000e-004	0.0371	2.9000e-004	0.0374	9.8500e-003	2.7000e-004	0.0101	0.0000	28.0455	28.0455	1.2200e-003	0.0000	28.0710
Total	**0.0152**	**0.0591**	**0.2297**	**7.4000e-004**	**0.0451**	**1.4900e-003**	**0.0466**	**0.0121**	**1.3700e-003**	**0.0135**	**0.0000**	**51.7363**	**51.7363**	**1.3800e-003**	**0.0000**	**51.7652**

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	0.1839	1.4309	1.6235	2.8600e-003		0.0422	0.0422		0.0415	0.0415	0.0000	235.0245	235.0245	0.0390	0.0000	235.8429
Total	**0.1839**	**1.4309**	**1.6235**	**2.8600e-003**		**0.0422**	**0.0422**		**0.0415**	**0.0415**	**0.0000**	**235.0245**	**235.0245**	**0.0390**	**0.0000**	**235.8429**

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	7.6300e-003	0.0483	0.1155	2.8000e-004	8.0000e-003	1.2000e-003	9.2000e-003	2.2800e-003	1.1000e-003	3.3800e-003	0.0000	23.6908	23.6908	1.6000e-004	0.0000	23.6942
Worker	7.5700e-003	0.0108	0.1142	4.6000e-004	0.0371	2.9000e-004	0.0374	9.8500e-003	2.7000e-004	0.0101	0.0000	28.0455	28.0455	1.2200e-003	0.0000	28.0710
Total	**0.0152**	**0.0591**	**0.2297**	**7.4000e-004**	**0.0451**	**1.4900e-003**	**0.0466**	**0.0121**	**1.3700e-003**	**0.0135**	**0.0000**	**51.7363**	**51.7363**	**1.3800e-003**	**0.0000**	**51.7652**

3.3 Paving - 2024

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	0.0336	0.3183	0.4787	7.3000e-004		0.0153	0.0153		0.0141	0.0141	0.0000	63.8041	63.8041	0.0202	0.0000	64.2287
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0336**	**0.3183**	**0.4787**	**7.3000e-004**		**0.0153**	**0.0153**		**0.0141**	**0.0141**	**0.0000**	**63.8041**	**63.8041**	**0.0202**	**0.0000**	**64.2287**

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	1.6000e-003	2.2900e-003	0.0242	1.0000e-004	7.8400e-003	6.0000e-005	7.9100e-003	2.0800e-003	6.0000e-005	2.1400e-003	0.0000	5.9327	5.9327	2.6000e-004	0.0000	5.9381
Total	**1.6000e-003**	**2.2900e-003**	**0.0242**	**1.0000e-004**	**7.8400e-003**	**6.0000e-005**	**7.9100e-003**	**2.0800e-003**	**6.0000e-005**	**2.1400e-003**	**0.0000**	**5.9327**	**5.9327**	**2.6000e-004**	**0.0000**	**5.9381**

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	0.0336	0.3183	0.4787	7.3000e-004		9.2000e-003	9.2000e-003		8.5100e-003	8.5100e-003	0.0000	63.8040	63.8040	0.0202	0.0000	64.2286
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0336**	**0.3183**	**0.4787**	**7.3000e-004**		**9.2000e-003**	**9.2000e-003**		**8.5100e-003**	**8.5100e-003**	**0.0000**	**63.8040**	**63.8040**	**0.0202**	**0.0000**	**64.2286**

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	1.6000e-003	2.2900e-003	0.0242	1.0000e-004	7.8400e-003	6.0000e-005	7.9100e-003	2.0800e-003	6.0000e-005	2.1400e-003	0.0000	5.9327	5.9327	2.6000e-004	0.0000	5.9381
Total	**1.6000e-003**	**2.2900e-003**	**0.0242**	**1.0000e-004**	**7.8400e-003**	**6.0000e-005**	**7.9100e-003**	**2.0800e-003**	**6.0000e-005**	**2.1400e-003**	**0.0000**	**5.9327**	**5.9327**	**2.6000e-004**	**0.0000**	**5.9381**

3.4 Architectural Coating - 2024

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	0.7150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9400e-003	0.0670	0.0996	1.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	14.0429	14.0429	7.9000e-004	0.0000	14.0595
Total	**0.7249**	**0.0670**	**0.0996**	**1.6000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**	**0.0000**	**14.0429**	**14.0429**	**7.9000e-004**	**0.0000**	**14.0595**

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	6.2000e-004	8.8000e-004	9.2900e-003	4.0000e-005	3.0200e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.2818	2.2818	1.0000e-004	0.0000	2.2839
Total	**6.2000e-004**	**8.8000e-004**	**9.2900e-003**	**4.0000e-005**	**3.0200e-003**	**2.0000e-005**	**3.0400e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.2818**	**2.2818**	**1.0000e-004**	**0.0000**	**2.2839**

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	0.7150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9400e-003	0.0670	0.0996	1.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	14.0429	14.0429	7.9000e-004	0.0000	14.0595
Total	**0.7249**	**0.0670**	**0.0996**	**1.6000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**	**0.0000**	**14.0429**	**14.0429**	**7.9000e-004**	**0.0000**	**14.0595**

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	6.2000e-004	8.8000e-004	9.2900e-003	4.0000e-005	3.0200e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.2818	2.2818	1.0000e-004	0.0000	2.2839
Total	**6.2000e-004**	**8.8000e-004**	**9.2900e-003**	**4.0000e-005**	**3.0200e-003**	**2.0000e-005**	**3.0400e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.2818**	**2.2818**	**1.0000e-004**	**0.0000**	**2.2839**

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I.2 - On-Road Emissions Factor (EMFAC2014) Model Output – Haul and Vendor Truck Emissions (Project Construction)

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Construction Schedule, Demolition and Soil Excavation Quantities, and Vehicle Trips

Construction Phase	Start Date	End Date	No. Work Days	Demo (CY) [a]	Demo Truck Capacity (CY)	Demo Truck Total One-Way Trips	Demo Truck Daily One-Way Trips	Soil Export (CY) [a]	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Soil Haul Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day [b]
Grading/Excavation	4/1/2020	9/30/2020	131					130,000	-	16	16,250	125	
Demolition (LOT A)	4/1/2020	6/30/2020	65	5,000	10	1,000	16						
Building Construction	10/1/2020	3/30/2023	651										301
Demolition (LOT H)	10/1/2021	12/31/2021	66	4,500	10	900	14						
Paving	3/30/2022	3/30/2023	262										
Architectural Coating	3/30/2022	3/30/2023	262										
Demolition (Terminal/Parking)	4/1/2023	12/31/2023	195	100,000	10	20,000	103						
Building Construction (Air Cargo)	7/1/2023	12/31/2024	392										160
Paving	6/30/2024	12/31/2024	132										
Architectural Coating	6/30/2024	12/31/2024	132										
Demolition (Air Cargo)	1/1/2025	3/30/2025	63	2,000	10	400	7						
Taxiway Construction	7/2/2023	12/1/2025	631										50

Notes:

a. Demolition and soil exacavation quantities are based on the maximum volumes for the Project alternatives; therefore, values represent the maximum amounts that could result from implementation of any of the Project alternatives.

b. Vendor trips are associated with the Building Construction phase and are estimated based on CalEEMod assumptions.

Sources: Burbank-Glendale-Pasadena Airport Authority, 2016; ESA PCR, 2016

On-Road Truck Regional Emissions

On-Road Truck Regional Running Emissions

Construction Phase	Source	Year	Daily One-Way Truck Trips	Work Days per Year (days/year)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day [a] (miles)	Running Emissions Factor [b] (grams/mile) ROG	NOX	CO	SO2	PM10	PM2.5	CO2e	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5	CO2e (metric tons/year)
Grading/Excavation	On-Road HHDT Trucks	2020	125	131	8	20	0.1029	4.0403	0.4292	0.0155	0.0192	0.0184	1,621.78	0.57	22.27	2.37	0.09	0.11	0.10	531
Demolition (LOT A)	On-Road HHDT Trucks	2020	16	65	8	20	0.1029	4.0403	0.4292	0.0155	0.0192	0.0184	1,621.78	0.07	2.85	0.30	0.01	0.01	0.01	34
Building Construction - Year 1	On-Road MHDT/HHDT Trucks	2020	301	66	8	7	0.1273	3.2442	0.8918	0.0133	0.0311	0.0297	1,421.81	0.59	15.07	4.14	0.06	0.14	0.14	198
Building Construction - Year 2	On-Road MHDT/HHDT Trucks	2021	301	261	8	7	0.1014	2.7333	0.7960	0.0132	0.0118	0.0113	1,411.02	0.47	12.70	3.70	0.06	0.05	0.05	776
Building Construction - Year 3	On-Road MHDT/HHDT Trucks	2022	301	260	8	7	0.0965	2.4966	0.7679	0.0131	0.0104	0.0100	1,398.29	0.45	11.60	3.57	0.06	0.05	0.05	766
Building Construction - Year 4	On-Road MHDT/HHDT Trucks	2023	301	64	8	7	0.0653	1.4472	0.6942	0.0127	0.0046	0.0044	1,359.47	0.30	6.72	3.22	0.06	0.02	0.02	183
Demolition (LOT H)	On-Road HHDT Trucks	2021	14	66	8	20	0.0997	3.5644	0.4272	0.0153	0.0171	0.0164	1,605.29	0.06	2.20	0.26	0.01	0.01	0.01	30
Paving - Year 1	On-Road HHDT Trucks	2022	0	198	8	20	0.0961	3.1526	0.4236	0.0151	0.0147	0.0140	1,587.33	-	-	-	-	-	-	-
Paving - Year 2	On-Road HHDT Trucks	2023	0	64	8	20	0.0628	1.2431	0.3668	0.0146	0.0047	0.0045	1,532.43	-	-	-	-	-	-	-
Architectural Coating - Year 1	On-Road HHDT Trucks	2022	0	198	8	20	0.0961	3.1526	0.4236	0.0151	0.0147	0.0140	1,587.33	-	-	-	-	-	-	-
Architectural Coating - Year 2	On-Road HHDT Trucks	2023	0	64	8	20	0.0628	1.2431	0.3668	0.0146	0.0047	0.0045	1,532.43	-	-	-	-	-	-	-
Demolition (Terminal/Parking)	On-Road HHDT Trucks	2023	103	195	8	20	0.0628	1.2431	0.3668	0.0146	0.0047	0.0045	1,532.43	0.29	5.65	1.67	0.07	0.02	0.02	616
Building Construction (Air Cargo) - Year 1	On-Road MHDT/HHDT Trucks	2023	160	130	8	7	0.0653	1.4472	0.6942	0.0127	0.0046	0.0044	1,359.47	0.16	3.57	1.71	0.03	0.01	0.01	198
Building Construction (Air Cargo) - Year 2	On-Road MHDT/HHDT Trucks	2024	160	262	8	7	0.0658	1.4461	0.6913	0.0127	0.0046	0.0044	1,356.69	0.16	3.57	1.71	0.03	0.01	0.01	398
Paving	On-Road HHDT Trucks	2024	0	132	8	20	0.0640	1.2438	0.3746	0.0146	0.0046	0.0044	1,528.38	-	-	-	-	-	-	-
Architectural Coating	On-Road HHDT Trucks	2024	0	132	8	20	0.0640	1.2438	0.3746	0.0146	0.0046	0.0044	1,528.38	-	-	-	-	-	-	-
Demolition (Air Cargo)	On-Road HHDT Trucks	2025	7	63	8	20	0.0644	1.2311	0.3774	0.0145	0.0046	0.0044	1,522.87	0.02	0.38	0.12	0.00	0.00	0.00	13
Taxiway Construction - Year 1	On-Road HHDT Trucks	2023	50	130	8	20	0.0628	1.2431	0.3668	0.0146	0.0047	0.0045	1,532.43	0.14	2.74	0.81	0.03	0.01	0.01	199
Taxiway Construction - Year 2	On-Road HHDT Trucks	2024	50	262	8	20	0.0640	1.2438	0.3746	0.0146	0.0046	0.0044	1,528.38	0.14	2.74	0.83	0.03	0.01	0.01	400
Taxiway Construction - Year 3	On-Road HHDT Trucks	2025	50	239	8	20	0.0644	1.2311	0.3774	0.0145	0.0046	0.0044	1,522.87	0.14	2.71	0.83	0.03	0.01	0.01	364

Notes:

a. Based on trip distances in the California Emissions Estimator Model (CalEEMod).

b. EMFAC2014, South Coast Air Basin (Los Angeles County), T7 single construction, MHDT, HHDT.

On-Road Truck Idling Emissions

Construction Phase	Source	Year	Daily Number of Trucks	Work Days per Year (days/year)	Work Hours per Day (hours/day)	Idling Time per Truck (minutes)	Idling Emissions Factor [a] (grams/hour) ROG	NOX	CO	SO2	PM10	PM2.5	CO2e	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5	CO2e (metric tons/year)
Grading/Excavation	Idling HHDT Trucks	2020	125	131	8	30	0.9730	35.1225	3.8999	0.0617	0.0158	0.0151	6,466.46	0.13	4.84	0.54	0.01	0.00	0.00	53
Demolition (LOT A)	Idling HHDT Trucks	2020	16	65	8	30	0.9730	35.1225	3.8999	0.0617	0.0158	0.0151	6,466.46	0.02	0.62	0.07	0.00	0.00	0.00	3
Building Construction - Year 1	Idling MHDT/HHDT Trucks	2020	301	66	8	30	1.3726	38.0209	14.3710	0.0652	0.0740	0.0708	6,907.51	0.46	12.62	4.77	0.02	0.02	0.02	69
Building Construction - Year 2	Idling MHDT/HHDT Trucks	2021	301	261	8	30	1.1982	28.7657	12.5576	0.0641	0.0182	0.0174	6,793.52	0.40	9.54	4.17	0.02	0.01	0.01	267
Building Construction - Year 3	Idling MHDT/HHDT Trucks	2022	301	260	8	30	1.1319	26.9322	11.9202	0.0634	0.0158	0.0151	6,722.53	0.38	8.94	3.96	0.02	0.01	0.01	263
Building Construction - Year 4	Idling MHDT/HHDT Trucks	2023	301	64	8	30	0.9446	18.8169	10.8527	0.0610	0.0096	0.0092	6,475.05	0.31	6.24	3.60	0.02	0.00	0.00	62
Demolition (LOT H)	Idling HHDT Trucks	2021	14	66	8	30	0.9340	33.1449	3.7248	0.0611	0.0137	0.0131	6,401.61	0.01	0.51	0.06	0.00	0.00	0.00	3
Paving - Year 1	Idling HHDT Trucks	2022	0	198	8	30	0.8932	31.0120	3.5401	0.0604	0.0118	0.0113	6,332.33	-	-	-	-	-	-	-
Paving - Year 2	Idling HHDT Trucks	2023	0	64	8	30	0.5123	15.7439	1.8973	0.0576	0.0019	0.0018	6,032.98	-	-	-	-	-	-	-
Architectural Coating - Year 1	Idling HHDT Trucks	2022	0	198	8	30	0.8932	31.0120	3.5401	0.0604	0.0118	0.0113	6,332.33	-	-	-	-	-	-	-
Architectural Coating - Year 2	Idling HHDT Trucks	2023	0	64	8	30	0.5123	15.7439	1.8973	0.0576	0.0019	0.0018	6,032.98	-	-	-	-	-	-	-
Demolition (Terminal/Parking)	Idling HHDT Trucks	2023	103	195	8	30	0.5123	15.7439	1.8973	0.0576	0.0019	0.0018	6,032.98	0.06	1.79	0.22	0.01	0.00	0.00	61
Building Construction (Air Cargo) - Year 1	Idling MHDT/HHDT Trucks	2023	160	130	8	30	0.9446	18.8169	10.8527	0.0610	0.0096	0.0092	6,475.05	0.17	3.32	1.91	0.01	0.00	0.00	67
Building Construction (Air Cargo) - Year 2	Idling MHDT/HHDT Trucks	2024	160	262	8	30	0.9153	18.5400	10.4526	0.0606	0.0085	0.0081	6,440.81	0.16	3.27	1.84	0.01	0.00	0.00	135
Paving	Idling HHDT Trucks	2024	0	132	8	30	0.5118	15.7148	1.8954	0.0573	0.0018	0.0017	6,003.53	-	-	-	-	-	-	-
Architectural Coating	Idling HHDT Trucks	2024	0	132	8	30	0.5118	15.7148	1.8954	0.0573	0.0018	0.0017	6,003.53	-	-	-	-	-	-	-
Demolition (Air Cargo)	Idling HHDT Trucks	2025	7	63	8	30	0.5115	15.6879	1.8935	0.0570	0.0018	0.0017	5,979.40	0.00	0.12	0.01	0.00	0.00	0.00	1
Taxiway Construction - Year 1	Idling HHDT Trucks	2023	50	130	8	30	0.5123	15.7439	1.8973	0.0576	0.0019	0.0018	6,032.98	0.03	0.87	0.10	0.00	0.00	0.00	20
Taxiway Construction - Year 2	Idling HHDT Trucks	2024	50	262	8	30	0.5118	15.7148	1.8954	0.0573	0.0018	0.0017	6,003.53	0.03	0.87	0.10	0.00	0.00	0.00	39
Taxiway Construction - Year 3	Idling HHDT Trucks	2025	50	239	8	30	0.5115	15.6879	1.8935	0.0570	0.0018	0.0017	5,979.40	0.03	0.86	0.10	0.00	0.00	0.00	36

Notes:

a. EMFAC2014, South Coast Air Basin (Los Angeles County), T7 single construction, MHDT, HHDT.

On-Road Truck Fugitive Dust Emissions (Paved Road Dust (RD), Break Wear (BW), Tire Wear (TW))

Construction Phase	Source	Year	Daily One-Way Truck Trips	Work Days per Year (days/year)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day [a] (miles)	Fugitive Dust Emissions Factor [b] (grams/mile) PM10 RD	PM10 BW	PM10 TW	PM2.5 RD	PM2.5 BW	PM2.5 TW	Regional Emissions (pounds/day) PM10 RD	PM10 BW	PM10 TW	PM2.5 RD	PM2.5 BW	PM2.5 TW
Grading/Excavation	On-Road HHDT Trucks	2020	125	131	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	1.6526	0.3403	0.1984	0.4056	0.1458	0.0496
Demolition (LOT A)	On-Road HHDT Trucks	2020	16	65	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	0.2115	0.0436	0.0254	0.0519	0.0187	0.0063
Building Construction - Year 1	On-Road MHDT/HHDT Trucks	2020	301	66	8	7	0.2998	0.0956	0.0237	0.0736	0.0410	0.0059	1.3928	0.4441	0.1099	0.3419	0.1903	0.0275
Building Construction - Year 2	On-Road MHDT/HHDT Trucks	2021	301	261	8	7	0.2998	0.0956	0.0237	0.0736	0.0410	0.0059	1.3928	0.4441	0.1100	0.3419	0.1903	0.0275
Building Construction - Year 3	On-Road MHDT/HHDT Trucks	2022	301	260	8	7	0.2998	0.0956	0.0237	0.0736	0.0410	0.0059	1.3928	0.4442	0.1100	0.3419	0.1904	0.0275
Building Construction - Year 4	On-Road MHDT/HHDT Trucks	2023	301	64	8	7	0.2998	0.0956	0.0237	0.0736	0.0410	0.0059	1.3928	0.4442	0.1100	0.3419	0.1904	0.0275
Demolition (LOT H)	On-Road HHDT Trucks	2021	14	66	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	0.1851	0.0381	0.0222	0.0454	0.0163	0.0056
Paving - Year 1	On-Road HHDT Trucks	2022	0	198	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	-	-	-	-	-	-
Paving - Year 2	On-Road HHDT Trucks	2023	0	64	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	-	-	-	-	-	-
Architectural Coating - Year 1	On-Road HHDT Trucks	2022	0	198	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	-	-	-	-	-	-
Architectural Coating - Year 2	On-Road HHDT Trucks	2023	0	64	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	-	-	-	-	-	-
Demolition (Terminal/Parking)	On-Road HHDT Trucks	2023	103	195	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	1.3618	0.2804	0.1635	0.3343	0.1202	0.0409
Building Construction (Air Cargo) - Year 1	On-Road MHDT/HHDT Trucks	2023	160	130	8	7	0.2998	0.0956	0.0237	0.0736	0.0410	0.0059	0.7404	0.2361	0.0585	0.1817	0.1012	0.0146
Building Construction (Air Cargo) - Year 2	On-Road MHDT/HHDT Trucks	2024	160	262	8	7	0.2998	0.0956	0.0237	0.0736	0.0410	0.0059	0.7404	0.2361	0.0585	0.1817	0.1012	0.0146
Paving	On-Road HHDT Trucks	2024	0	132	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	-	-	-	-	-	-
Architectural Coating	On-Road HHDT Trucks	2024	0	132	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	-	-	-	-	-	-
Demolition (Air Cargo)	On-Road HHDT Trucks	2025	7	63	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	0.0925	0.0191	0.0111	0.0227	0.0082	0.0028
Taxiway Construction - Year 1	On-Road HHDT Trucks	2023	50	130	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	0.6611	0.1361	0.0794	0.1623	0.0583	0.0198
Taxiway Construction - Year 2	On-Road HHDT Trucks	2024	50	262	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	0.6611	0.1361	0.0794	0.1623	0.0583	0.0198
Taxiway Construction - Year 3	On-Road HHDT Trucks	2025	50	239	8	20	0.2998	0.0617	0.0360	0.0736	0.0265	0.0090	0.6611	0.1361	0.0794	0.1623	0.0583	0.0198

Notes:

a. Based on trip distances in the California Emissions Estimator Model (CalEEMod).

b. RD: Road Dust (see Road Dust Emission Factors worksheet); TW and BW: Tire Wear and Break Wear: (EMFAC2014, South Coast Air Basin (Los Angeles County), T7 single construction, MHDT, HHDT).

Summary of On-Road Truck Regional Emissions

	Construction Phase	Source	Year	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	PM10 Total	PM2.5 Dust	PM2.5 Exh	PM2.5 Total	CO2e (metric tons/year)
Y1	Grading/Excavation	On-Road HHDT Trucks	2020	0.70	27.11	2.90	0.09	2.19	0.11	2.30	0.60	0.10	0.70	584
Y1	Demolition (LOT A)	On-Road HHDT Trucks	2020	0.09	3.47	0.37	0.01	0.28	0.01	0.29	0.08	0.01	0.09	37
N	Building Construction - Year 1	On-Road MHDT/HHDT Trucks	2020	1.05	27.68	8.91	0.08	1.95	0.17	2.12	0.56	0.16	0.72	266
Y2	Building Construction - Year 2	On-Road MHDT/HHDT Trucks	2021	0.87	22.24	7.86	0.08	1.95	0.06	2.01	0.56	0.06	0.62	1,043
Y3	Building Construction - Year 3	On-Road MHDT/HHDT Trucks	2022	0.82	20.53	7.52	0.08	1.95	0.05	2.00	0.56	0.05	0.61	1,029
Y4	Building Construction - Year 4	On-Road MHDT/HHDT Trucks	2023	0.62	12.97	6.83	0.08	1.95	0.02	1.97	0.56	0.02	0.58	246
Y2	Demolition (LOT H)	On-Road HHDT Trucks	2021	0.08	2.71	0.32	0.01	0.25	0.01	0.26	0.07	0.01	0.08	33
Y3	Paving - Year 1	On-Road HHDT Trucks	2022	-	-	-	-	-	-	-	-	-	-	-
Y4	Paving - Year 2	On-Road HHDT Trucks	2023	-	-	-	-	-	-	-	-	-	-	-
Y3	Architectural Coating - Year 1	On-Road HHDT Trucks	2022	-	-	-	-	-	-	-	-	-	-	-
Y4	Architectural Coating - Year 2	On-Road HHDT Trucks	2023	-	-	-	-	-	-	-	-	-	-	-
Y5	Demolition (Terminal/Parking)	On-Road HHDT Trucks	2023	0.34	7.43	1.88	0.07	1.81	0.02	1.83	0.50	0.02	0.52	676
Y5	Building Construction (Air Cargo) - Year 1	On-Road MHDT/HHDT Trucks	2023	0.33	6.89	3.63	0.04	1.03	0.01	1.05	0.30	0.01	0.31	265
Y6	Building Construction (Air Cargo) - Year 2	On-Road MHDT/HHDT Trucks	2024	0.32	6.84	3.55	0.04	1.04	0.01	1.05	0.30	0.01	0.31	533
Y6	Paving	On-Road HHDT Trucks	2024	-	-	-	-	-	-	-	-	-	-	-
Y6	Architectural Coating	On-Road HHDT Trucks	2024	-	-	-	-	-	-	-	-	-	-	-
Y7	Demolition (Air Cargo)	On-Road HHDT Trucks	2025	0.02	0.50	0.13	0.00	0.12	0.00	0.12	0.03	0.00	0.04	15
Y5	Taxiway Construction - Year 1	On-Road HHDT Trucks	2023	0.17	3.61	0.91	0.04	0.88	0.01	0.89	0.24	0.01	0.25	219
Y6	Taxiway Construction - Year 2	On-Road HHDT Trucks	2024	0.17	3.61	0.93	0.04	0.88	0.01	0.89	0.24	0.01	0.25	440
Y7	Taxiway Construction - Year 3	On-Road HHDT Trucks	2025	0.17	3.58	0.94	0.04	0.88	0.01	0.89	0.24	0.01	0.25	400
Y1	**Demolition (Lot A) + Grading - 2020**			**0.8**	**30.6**	**3.3**	**0.1**	**2.5**	**0.1**	**2.6**	**0.7**	**0.1**	**0.8**	**621.17**
N	**Building Construction - 2020**			**1.0**	**27.7**	**8.9**	**0.1**	**1.9**	**0.2**	**2.1**	**0.6**	**0.2**	**0.7**	**266.33**
Y2	**Building Construction + Demolition (Lot H) - 2021**			**0.9**	**25.0**	**8.2**	**0.1**	**2.2**	**0.1**	**2.3**	**0.6**	**0.1**	**0.7**	**1,075.43**
Y3	**Building Construction + Paving + Architectural Coating - 2022**			**0.8**	**20.5**	**7.5**	**0.1**	**1.9**	**0.1**	**2.0**	**0.6**	**0.1**	**0.6**	**1,029.06**
Y4	**Building Construction + Paving + Architectural Coating - 2023**			**0.6**	**13.0**	**6.8**	**0.1**	**1.9**	**0.0**	**2.0**	**0.6**	**0.0**	**0.6**	**245.69**
Y5	**Demolition (Terminal/Parking) + Building Construction + Taxiway Paving - 2023**			**0.8**	**17.9**	**6.4**	**0.2**	**3.7**	**0.0**	**3.8**	**1.0**	**0.0**	**1.1**	**1,160.27**
Y6	**Building Construction + Taxiway Paving + Paving + Architectural Coating - 2024**			**0.5**	**10.4**	**4.5**	**0.1**	**1.9**	**0.0**	**1.9**	**0.5**	**0.0**	**0.6**	**972.87**
Y7	**Taxiway Paving + Demolition - 2025**			**0.2**	**4.1**	**1.1**	**0.0**	**1.0**	**0.0**	**1.0**	**0.3**	**0.0**	**0.3**	**414.44**

Source: ESA PCR, 2016

On-Road Truck Emission Factors (Aggregate Model Year, Aggregate Speeds)

EMFAC2014 (v1.0.7) Emission Rates
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Years: 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/hour for IDLEX, RESTL and DIURN

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
						CRITERIA AIR POLLUTANTS																GREENHOUSE GASES					
Region	**CalYr**	**VehClass**	**MdlYr**	**Speed**	**Fuel**	**ROG_RUNEX**	**ROG_IDLEX**	**NOx_RUNEX**	**NOx_IDLEX**	**CO_RUNEX**	**CO_IDLEX**	**SO2_RUNEX**	**SO2_IDLEX**	**PM10_BW**	**PM10_TW**	**PM10_RUNEX**	**PM10_IDLEX**	**PM2.5_BW**	**PM2.5_TW**	**PM2.5_RUNEX**	**PM2.5_IDLEX**	**CO2_RUNEX**	**CO2_IDLEX**	**CH4_RUNEX**	**CH4_IDLEX**	**CO2e_RUNEX**	**CO2e_IDLEX**
Los Angeles County (SC)	2019	T7 single construction	Aggregated	Aggregated	All	0.1304	1.8138	4.8733	46.8318	0.5167	7.5222	0.0156	0.0625	0.0617	0.0360	0.0334	0.1334	0.0265	0.0090	0.0319	0.1276	1,637.45	6,553.65	0.0061	0.0842	1,637.60	6,555.76
Los Angeles County (SC)	2020	T7 single construction	Aggregated	Aggregated	All	0.1029	0.9730	4.0403	35.1225	0.4292	3.8999	0.0155	0.0617	0.0617	0.0360	0.0192	0.0158	0.0265	0.0090	0.0184	0.0151	1,621.66	6,465.33	0.0048	0.0452	1,621.78	6,466.46
Los Angeles County (SC)	2021	T7 single construction	Aggregated	Aggregated	All	0.0997	0.9340	3.5644	33.1449	0.4272	3.7248	0.0153	0.0611	0.0617	0.0360	0.0171	0.0137	0.0265	0.0090	0.0164	0.0131	1,605.18	6,400.53	0.0046	0.0434	1,605.29	6,401.61
Los Angeles County (SC)	2022	T7 single construction	Aggregated	Aggregated	All	0.0961	0.8932	3.1526	31.0120	0.4236	3.5401	0.0151	0.0604	0.0617	0.0360	0.0147	0.0118	0.0265	0.0090	0.0140	0.0113	1,587.22	6,331.29	0.0045	0.0415	1,587.33	6,332.33
Los Angeles County (SC)	2023	T7 single construction	Aggregated	Aggregated	All	0.0628	0.5123	1.2431	15.7439	0.3668	1.8973	0.0146	0.0576	0.0617	0.0360	0.0047	0.0019	0.0265	0.0090	0.0045	0.0018	1,532.36	6,032.38	0.0029	0.0238	1,532.43	6,032.98
Los Angeles County (SC)	2024	T7 single construction	Aggregated	Aggregated	All	0.0640	0.5118	1.2438	15.7148	0.3746	1.8954	0.0146	0.0573	0.0617	0.0360	0.0046	0.0018	0.0265	0.0090	0.0044	0.0017	1,528.31	6,002.94	0.0030	0.0238	1,528.38	6,003.53
Los Angeles County (SC)	2025	T7 single construction	Aggregated	Aggregated	All	0.0644	0.5115	1.2311	15.6879	0.3774	1.8935	0.0145	0.0570	0.0617	0.0360	0.0046	0.0018	0.0265	0.0090	0.0044	0.0017	1,522.79	5,978.81	0.0030	0.0238	1,522.87	5,979.40
Los Angeles County (SC)	2026	T7 single construction	Aggregated	Aggregated	All	0.0647	0.5111	1.2194	15.6643	0.3798	1.8919	0.0145	0.0568	0.0617	0.0360	0.0046	0.0017	0.0265	0.0090	0.0044	0.0017	1,517.66	5,955.20	0.0030	0.0237	1,517.74	5,955.79
Los Angeles County (SC)	2027	T7 single construction	Aggregated	Aggregated	All	0.0650	0.5108	1.2059	15.6440	0.3817	1.8904	0.0144	0.0566	0.0617	0.0360	0.0046	0.0017	0.0265	0.0090	0.0044	0.0016	1,512.43	5,930.36	0.0030	0.0237	1,512.51	5,930.95
Los Angeles County (SC)	2019	MHDT/HHDT	Aggregated	Aggregated	All	0.1548	1.5610	3.7604	44.5192	0.9961	16.0614	0.0134	0.0660	0.0956	0.0237	0.0456	0.1241	0.0410	0.0059	0.0437	0.1188	1,432.73	6,981.37	0.0543	0.3260	1,434.09	6,989.52
Los Angeles County (SC)	2020	MHDT/HHDT	Aggregated	Aggregated	All	0.1273	1.3726	3.2442	38.0209	0.8918	14.3710	0.0133	0.0652	0.0956	0.0237	0.0311	0.0740	0.0410	0.0059	0.0297	0.0708	1,420.49	6,899.75	0.0529	0.3106	1,421.81	6,907.51
Los Angeles County (SC)	2021	MHDT/HHDT	Aggregated	Aggregated	All	0.1014	1.1982	2.7333	28.7657	0.7960	12.5576	0.0132	0.0641	0.0956	0.0237	0.0118	0.0182	0.0410	0.0059	0.0113	0.0174	1,409.73	6,786.08	0.0515	0.2977	1,411.02	6,793.52
Los Angeles County (SC)	2022	MHDT/HHDT	Aggregated	Aggregated	All	0.0965	1.1319	2.4966	26.9322	0.7679	11.9202	0.0131	0.0634	0.0956	0.0237	0.0104	0.0158	0.0410	0.0059	0.0100	0.0151	1,397.01	6,715.52	0.0511	0.2806	1,398.29	6,722.53
Los Angeles County (SC)	2023	MHDT/HHDT	Aggregated	Aggregated	All	0.0653	0.9446	1.4472	18.8169	0.6942	10.8527	0.0127	0.0610	0.0956	0.0237	0.0046	0.0096	0.0410	0.0059	0.0044	0.0092	1,358.23	6,468.37	0.0496	0.2671	1,359.47	6,475.05
Los Angeles County (SC)	2024	MHDT/HHDT	Aggregated	Aggregated	All	0.0658	0.9153	1.4461	18.5400	0.6913	10.4526	0.0127	0.0606	0.0956	0.0237	0.0046	0.0085	0.0410	0.0059	0.0044	0.0081	1,355.44	6,434.40	0.0499	0.2565	1,356.69	6,440.81
Los Angeles County (SC)	2025	MHDT/HHDT	Aggregated	Aggregated	All	0.0654	0.8924	1.4215	18.2981	0.6857	10.1546	0.0126	0.0603	0.0956	0.0237	0.0046	0.0076	0.0410	0.0059	0.0044	0.0073	1,349.87	6,402.19	0.0501	0.2482	1,351.12	6,408.40
Los Angeles County (SC)	2026	MHDT/HHDT	Aggregated	Aggregated	All	0.0649	0.8740	1.3933	18.0769	0.6810	9.9183	0.0125	0.0600	0.0956	0.0237	0.0045	0.0067	0.0410	0.0059	0.0043	0.0065	1,344.55	6,372.56	0.0502	0.2419	1,345.81	6,378.60
Los Angeles County (SC)	2027	MHDT/HHDT	Aggregated	Aggregated	All	0.0645	0.8602	1.3647	17.8822	0.6765	9.7247	0.0125	0.0597	0.0957	0.0237	0.0045	0.0060	0.0410	0.0059	0.0043	0.0057	1,339.48	6,345.00	0.0503	0.2372	1,340.74	6,350.93

Source: California Air Resources Board, EMFAC2014, http://www.arb.ca.gov/emfac/2014/. Accessed February 2016.

I.3 - Federal Aviation Administration, Aviation Environmental Design Tool (AEDT), Version 2b Model Output – Aircraft and Supporting Equipment Annual Emissions (Existing and Project Operations)

- Existing Conditions
- Adjacent Property Full-Size Terminal Option
- Southwest Quadrant Full-Size Terminal Option
- Southwest Quadrant Same-Size Terminal Option

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Air Quality and Greenhouse Gas Assessment
Existing Conditions - Annual

2015 - Base Year Existing Conditions (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	120,625.12	1,152.68	165.05	187.29	185.90	188.63	387.55	49.40	4.92	4.92	121,843.56
GSE	N/A	196.94	N/A	6.54	6.83	7.48	21.62	0.90	0.89	0.85	
APUs	N/A	20.32	1.21	1.39	1.39	1.39	16.22	2.49	2.22	2.22	
Total	120,625.12	1,369.95	166.25	195.22	194.11	197.50	425.39	52.78	8.03	7.98	121,843.56

2023 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	142,938.44	1278.593	188.135	213.562	211.985	215.061	494.332	58.535	5.619	5.619	144,382.26
GSE	N/A	231.661	N/A	7.696	8.033	8.8	25.565	1.054	1.047	0.992	
APUs	N/A	19.175	1.158	1.339	1.332	1.339	19.334	2.803	2.344	2.344	
Total	142,938.44	1,529.43	189.29	222.60	221.35	225.20	539.23	62.39	9.01	8.96	144,382.26

2025 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	147,510.00	1305	191.8	217.746	216.141	219.266	510.74	60.407	5.764	5.764	149,000.00
GSE	N/A	238.987	N/A	7.937	8.285	9.075	26.363	1.088	1.079	1.022	
APUs	N/A	19.781	1.198	1.385	1.378	1.385	19.983	2.898	2.425	2.425	
Total	147,510.00	1,563.77	193.00	227.07	225.80	229.73	557.09	64.39	9.27	9.21	149,000.00

Source: Federal Aviation Administration, Aviation Environmental Design Tool (AEDT), Version 2b Feature Pack 1; RS&H, Inc., 2016; ESA PCR, 2016

Air Quality and Greenhouse Gas Assessment
Adjacent Property Full Size Terminal Option - Annual

ADJACENT PROPERTY
2023 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	141,163.94	1265.804	186.755	211.967	210.398	213.466	491.925	57.808	5.603	5.603	142,589.84
GSE	NA	231.661	NA	7.696	8.033	8.8	25.565	1.054	1.047	0.992	
APUs	NA	19.175	1.158	1.339	1.332	1.339	19.334	2.803	2.344	2.344	
Total	141,163.94	1,516.64	187.91	221.00	219.76	223.61	536.82	61.67	8.99	8.94	142,589.84

2025 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	145,669.16	1291.743	190.37	216.092	214.496	217.612	508.242	59.653	5.747	5.747	147,140.56
GSE	NA	238.985	NA	7.937	8.285	9.075	26.363	1.088	1.022	1.022	
APUs	NA	19.781	1.198	1.385	1.378	1.385	19.982	2.898	2.425	2.425	
Total	145,669.16	1,550.51	191.57	225.41	224.16	228.07	554.59	63.64	9.19	9.19	147,140.56

Source: Federal Aviation Administration, Aviation Environmental Design Tool (AEDT), Version 2b Feature Pack 1; RS&H, Inc., 2016; ESA PCR, 2016

Air Quality and Greenhouse Gas Assessment Southwest
Quandrant Full-Size Terminal Option - Annual

2023 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	153,099.39	1371.694	197.956	224.684	223.022	226.272	507.951	62.696	5.722	5.722	154,645.85
GSE	NA	231.66	NA	7.696	8.033	8.8	25.565	1.054	1.047	0.992	
APUs	NA	19.175	1.158	1.339	1.332	1.339	19.334	2.803	2.3447	2.344	
Total	153,099.39	1,622.53	199.11	233.72	232.39	236.41	552.85	66.55	9.11	9.06	154,645.85

2025 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	157,980.27	1399.968	201.739	229.001	227.31	230.61	524.795	64.694	5.87	5.87	159,576.03
GSE	NA	238.985	NA	7.937	8.285	9.075	26.363	1.088	1.079	1.022	
APUs	NA	19.781	1.198	1.385	1.378	1.385	19.982	2.898	2.425	2.425	
Total	157,980.27	1,658.73	202.94	238.32	236.97	241.07	571.14	68.68	9.37	9.32	159,576.03

Source: Federal Aviation Administration, Aviation Environmental Design Tool (AEDT), Version 2b Feature Pack 1; RS&H, Inc., 2016; ESA PCR, 2016

Air Quality and Greenhouse Gas Assessment
Southwest Quandrant Same-Size Terminal Option - Annual

2023 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	153,135.47	1363.71	197.576	224.353	222.705	225.899	508.05	62.71	5.722	5.722	154,682.29
GSE	NA	231.66	NA	7.696	8.033	8.8	25.565	1.054	1.047	0.992	
APUs	NA	19.175	1.158	1.339	1.332	1.339	19.334	2.803	2.344	2.344	
Total	153,135.47	1,614.55	198.73	233.39	232.07	236.04	552.95	66.57	9.11	9.06	154,682.29

2025 - Criteria Pollutants (TONS)

	CO2	CO	THC	NMHC	VOC	TOG	Nox	Sox	PM-10	PM-2.5	CO2e
Aircraft	157,922.15	1391.212	201.291	228.593	226.916	230.16	524.762	64.67	5.87	5.87	159,517.33
GSE	NA	238.985	NA	7.937	8.285	9.075	26.363	1.088	1.079	1.022	
APUs	NA	19.781	1.198	1.385	1.378	1.385	19.982	2.898	2.425	2.425	
Total	157,922.15	1,649.98	202.49	237.92	236.58	240.62	571.11	68.66	9.37	9.32	159,517.33

Source: Federal Aviation Administration, Aviation Environmental Design Tool (AEDT), Version 2b Feature Pack 1; RS&H, Inc., 2016; ESA PCR, 2016

I.4 - California Emissions Estimator Model (CalEEMod) Output – Building Annual Emissions (Existing and Project Operations)

- Existing Conditions
- Adjacent Property Full-Size Terminal Option
- Southwest Quadrant Full-Size/Same-Size Terminal Option

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Burbank AP Operations (Existing)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	232.00	1000sqft	5.33	232,000.00	0
General Light Industry	96.00	1000sqft	2.20	96,000.00	0
Unrefrigerated Warehouse-No Rail	980.32	1000sqft	22.50	980,317.00	0
Parking Lot	6,833.00	Space	61.50	2,733,200.00	0
Unenclosed Parking with Elevator	438.00	Space	3.94	175,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2015
Utility Company	Burbank Water & Power				
CO2 Intensity (lb/MWhr)	1096.12	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Mobile emissions modeled separately.

Area Coating - Architectural coatings adjusted for parking lot striping, see "Operational CalEEMod Inputs"

Energy Mitigation -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	2348270	1963310
tblLandUse	LandUseSquareFeet	980,320.00	980,317.00
tblLandUse	LotAcreage	22.51	22.50
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	68.93	0.00
tblVehicleTrips	WD_TR	2.59	0.00

2.0 Emissions Summary

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	16.8393	1.1000e-003	0.1133	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.2129	0.2129	6.2000e-004	0.0000	0.2259
Energy	0.0313	0.2846	0.2391	1.7100e-003		0.0216	0.0216		0.0216	0.0216	0.0000	6,329.6328	6,329.6328	0.1652	0.0386	6,345.0780
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	255.0176	0.0000	255.0176	15.0711	0.0000	571.5108
Water						0.0000	0.0000		0.0000	0.0000	93.5861	2,065.7698	2,159.3559	9.6668	0.2383	2,436.2240
Total	**16.8706**	**0.2857**	**0.3524**	**1.7200e-003**	**0.0000**	**0.0220**	**0.0220**	**0.0000**	**0.0220**	**0.0220**	**348.6037**	**8,395.6155**	**8,744.2191**	**24.9038**	**0.2769**	**9,353.0386**

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	16.8393	1.1000e-003	0.1133	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.2129	0.2129	6.2000e-004	0.0000	0.2259
Energy	0.0313	0.2846	0.2391	1.7100e-003		0.0216	0.0216		0.0216	0.0216	0.0000	6,329.6328	6,329.6328	0.1652	0.0386	6,345.0780
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	255.0176	0.0000	255.0176	15.0711	0.0000	571.5108
Water						0.0000	0.0000		0.0000	0.0000	93.5861	2,065.7698	2,159.3559	9.6651	0.2379	2,436.0747
Total	**16.8706**	**0.2857**	**0.3524**	**1.7200e-003**	**0.0000**	**0.0220**	**0.0220**	**0.0000**	**0.0220**	**0.0220**	**348.6037**	**8,395.6155**	**8,744.2191**	**24.9020**	**0.2765**	**9,352.8893**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.13**	**0.00**

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,019.7807	6,019.7807	0.1593	0.0330	6,033.3402
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,019.7807	6,019.7807	0.1593	0.0330	6,033.3402
NaturalGas Mitigated	0.0313	0.2846	0.2391	1.7100e-003		0.0216	0.0216		0.0216	0.0216	0.0000	309.8521	309.8521	5.9400e-003	5.6800e-003	311.7378
NaturalGas Unmitigated	0.0313	0.2846	0.2391	1.7100e-003		0.0216	0.0216		0.0216	0.0216	0.0000	309.8521	309.8521	5.9400e-003	5.6800e-003	311.7378

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					
Government Office Building	2.88608e+006	0.0156	0.1415	0.1188	8.5000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	154.0122	154.0122	2.9500e-003	2.8200e-003	154.9495
Parking Lot	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
Unenclosed 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
Unrefrigerated Warehouse-No Rail	1.01953e+006	5.5000e-003	0.0500	0.0420	3.0000e-004		3.8000e-003	3.8000e-003		3.8000e-003	3.8000e-003	0.0000	54.4060	54.4060	1.0400e-003	1.0000e-003	54.7371
General Light Industry	1.9008e+006	0.0103	0.0932	0.0783	5.6000e-004		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	101.4339	101.4339	1.9400e-003	1.8600e-003	102.0512
Total		**0.0313**	**0.2846**	**0.2391**	**1.7100e-003**		**0.0216**	**0.0216**		**0.0216**	**0.0216**	**0.0000**	**309.8521**	**309.8521**	**5.9300e-003**	**5.6800e-003**	**311.7378**

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					
Parking Lot	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
Unenclosed 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
Unrefrigerated Warehouse-No Rail	1.01953e+006	5.5000e-003	0.0500	0.0420	3.0000e-004		3.8000e-003	3.8000e-003		3.8000e-003	3.8000e-003	0.0000	54.4060	54.4060	1.0400e-003	1.0000e-003	54.7371
General Light Industry	1.9008e+006	0.0103	0.0932	0.0783	5.6000e-004		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	101.4339	101.4339	1.9400e-003	1.8600e-003	102.0512
Government Office Building	2.88608e+006	0.0156	0.1415	0.1188	8.5000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	154.0122	154.0122	2.9500e-003	2.8200e-003	154.9495
Total		**0.0313**	**0.2846**	**0.2391**	**1.7100e-003**		**0.0216**	**0.0216**		**0.0216**	**0.0216**	**0.0000**	**309.8521**	**309.8521**	**5.9300e-003**	**5.6800e-003**	**311.7378**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.20384e+006	598.5392	0.0158	3.2800e-003	599.8874
Government Office Building	3.53568e+006	1,757.9106	0.0465	9.6200e-003	1,761.8703
Parking Lot	2.39428e+006	1,190.4177	0.0315	6.5200e-003	1,193.0991
Unenclosed Parking with Elevator	493714	245.4703	6.4900e-003	1.3400e-003	246.0232
Unrefrigerated Warehouse-No Rail	4.48005e+006	2,227.4429	0.0589	0.0122	2,232.4602
Total		**6,019.7807**	**0.1593**	**0.0330**	**6,033.3402**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.20384e+006	598.5392	0.0158	3.2800e-003	599.8874
Government Office Building	3.53568e+006	1,757.9106	0.0465	9.6200e-003	1,761.8703
Parking Lot	2.39428e+006	1,190.4177	0.0315	6.5200e-003	1,193.0991
Unenclosed Parking with Elevator	493714	245.4703	6.4900e-003	1.3400e-003	246.0232
Unrefrigerated Warehouse-No Rail	4.48005e+006	2,227.4429	0.0589	0.0122	2,232.4602
Total		**6,019.7807**	**0.1593**	**0.0330**	**6,033.3402**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	16.8393	1.1000e-003	0.1133	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.2129	0.2129	6.2000e-004	0.0000	0.2259
Unmitigated	16.8393	1.1000e-003	0.1133	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.2129	0.2129	6.2000e-004	0.0000	0.2259

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	1.5910					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	15.2371					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0112	1.1000e-003	0.1133	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.2129	0.2129	6.2000e-004	0.0000	0.2259
Total	**16.8393**	**1.1000e-003**	**0.1133**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**0.2129**	**0.2129**	**6.2000e-004**	**0.0000**	**0.2259**

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	1.5910					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	15.2371					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0112	1.1000e-003	0.1133	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.2129	0.2129	6.2000e-004	0.0000	0.2259
Total	**16.8393**	**1.1000e-003**	**0.1133**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**0.2129**	**0.2129**	**6.2000e-004**	**0.0000**	**0.2259**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2,159.3559	9.6651	0.2379	2,436.0747
Unmitigated	2,159.3559	9.6668	0.2383	2,436.2240

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	22.2 / 0	150.7643	0.7272	0.0179	171.5742
Government Office Building	46.089 / 28.2481	469.0363	1.5138	0.0380	512.5908
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	226.699 / 0	1,539.5552	7.4258	0.1825	1,752.0589
Total		**2,159.3559**	**9.6668**	**0.2383**	**2,436.2240**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	22.2 / 0	150.7643	0.7271	0.0178	171.5630
Government Office Building	46.089 / 28.2481	469.0363	1.5136	0.0379	512.5675
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	226.699 / 0	1,539.5552	7.4245	0.1822	1,751.9442
Total		**2,159.3559**	**9.6651**	**0.2379**	**2,436.0747**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	255.0176	15.0711	0.0000	571.5108
Unmitigated	255.0176	15.0711	0.0000	571.5108

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	119.04	24.1640	1.4281	0.0000	54.1532
Government Office Building	215.76	43.7973	2.5884	0.0000	98.1526
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	921.5	187.0562	11.0547	0.0000	419.2049
Total		**255.0175**	**15.0711**	**0.0000**	**571.5108**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	119.04	24.1640	1.4281	0.0000	54.1532
Government Office Building	215.76	43.7973	2.5884	0.0000	98.1526
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	921.5	187.0562	11.0547	0.0000	419.2049
Total		**255.0175**	**15.0711**	**0.0000**	**571.5108**

9.0 Operational Offroad

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

10.0 Vegetation

Burbank AP Operations (NEQ)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	355.00	1000sqft	8.15	355,000.00	0
General Light Industry	98.00	1000sqft	2.25	98,000.00	0
Unrefrigerated Warehouse-No Rail	980.32	1000sqft	22.50	980,317.00	0
Parking Lot	3,037.00	Space	27.33	1,214,800.00	0
Unenclosed Parking with Elevator	3,600.00	Space	32.40	1,440,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2025
Utility Company	Burbank Water & Power				
CO2 Intensity (lb/MWhr)	1096.12	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Not a construction run

Vehicle Trips - Mobile emissions modeled separately.

Area Coating - Architectural coatings adjusted for parking lot striping, see "Operational CalEEMod Inputs"

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	4364642	2150971
tblConstructionPhase	NumDays	1,550.00	245.00
tblConstructionPhase	PhaseStartDate	2/23/2019	2/24/2019
tblLandUse	LandUseSquareFeet	980,320.00	980,317.00
tblLandUse	LotAcreage	22.51	22.50
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	68.93	0.00
tblVehicleTrips	WD_TR	2.59	0.00

2.0 Emissions Summary

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	16.8710	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	0.2003	0.2003	5.2000e-004	0.0000	0.2112
Energy	0.0357	0.3243	0.2724	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	8,180.3509	8,180.3509	0.2139	0.0493	8,200.1304
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	278.7411	0.0000	278.7411	16.4731	0.0000	624.6768
Water						0.0000	0.0000		0.0000	0.0000	101.4850	2,309.6819	2,411.1669	10.4846	0.2588	2,711.5600
Total	**16.9067**	**0.3252**	**0.3751**	**1.9600e-003**	**0.0000**	**0.0250**	**0.0250**	**0.0000**	**0.0250**	**0.0250**	**380.2261**	**10,490.2331**	**10,870.4592**	**27.1721**	**0.3081**	**11,536.5784**

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	16.8710	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	0.2003	0.2003	5.2000e-004	0.0000	0.2112
Energy	0.0263	0.2394	0.2011	1.4400e-003		0.0182	0.0182		0.0182	0.0182	0.0000	6,376.5047	6,376.5047	0.1668	0.0383	6,391.8669
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	278.7411	0.0000	278.7411	16.4731	0.0000	624.6768
Water						0.0000	0.0000		0.0000	0.0000	88.9414	2,053.7164	2,142.6578	9.1878	0.2266	2,405.8469
Total	**16.8974**	**0.2404**	**0.3039**	**1.4500e-003**	**0.0000**	**0.0186**	**0.0186**	**0.0000**	**0.0186**	**0.0186**	**367.6825**	**8,430.4214**	**8,798.1039**	**25.8283**	**0.2649**	**9,422.6018**

	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	N20	CO2e
Percent Reduction	**0.06**	**26.10**	**19.00**	**26.02**	**0.00**	**25.78**	**25.78**	**0.00**	**25.78**	**25.78**	**3.30**	**19.64**	**19.06**	**4.95**	**14.03**	**18.32**

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,115.8620	6,115.8620	0.1618	0.0335	6,129.6379
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,827.3163	7,827.3163	0.2071	0.0429	7,844.9473
NaturalGas Mitigated	0.0263	0.2394	0.2011	1.4400e-003		0.0182	0.0182		0.0182	0.0182	0.0000	260.6428	260.6428	5.0000e-003	4.7800e-003	262.2290
NaturalGas Unmitigated	0.0357	0.3243	0.2724	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	353.0346	353.0346	6.7700e-003	6.4700e-003	355.1831

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					
Government Office Building	3.88015e+006	0.0209	0.1902	0.1598	1.1400e-003		0.0145	0.0145		0.0145	0.0145	0.0000	207.0596	207.0596	3.9700e-003	3.8000e-003	208.3197
Parking Lot	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
Unenclosed 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
Unrefrigerated Warehouse-No Rail	892088	4.8100e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	47.6052	47.6052	9.1000e-004	8.7000e-004	47.8950
General Light Industry	1.84338e+006	9.9400e-003	0.0904	0.0759	5.4000e-004		6.8700e-003	6.8700e-003		6.8700e-003	6.8700e-003	0.0000	98.3698	98.3698	1.8900e-003	1.8000e-003	98.9684
Total		**0.0357**	**0.3243**	**0.2724**	**1.9400e-003**		**0.0247**	**0.0247**		**0.0247**	**0.0247**	**0.0000**	**353.0346**	**353.0346**	**6.7700e-003**	**6.4700e-003**	**355.1831**

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					
Parking Lot	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
Unenclosed 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
Unrefrigerated Warehouse-No Rail	643637	3.4700e-003	0.0316	0.0265	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003	0.0000	34.3469	34.3469	6.6000e-004	6.3000e-004	34.5560
General Light Industry	1.43808e+006	7.7500e-003	0.0705	0.0592	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	76.7416	76.7416	1.4700e-003	1.4100e-003	77.2086
Government Office Building	2.80254e+006	0.0151	0.1374	0.1154	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	149.5542	149.5542	2.8700e-003	2.7400e-003	150.4644
Total		**0.0263**	**0.2394**	**0.2011**	**1.4300e-003**		**0.0182**	**0.0182**		**0.0182**	**0.0182**	**0.0000**	**260.6428**	**260.6428**	**5.0000e-003**	**4.7800e-003**	**262.2290**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.1809e+006	587.1336	0.0155	3.2100e-003	588.4562
Government Office Building	5.15815e+006	2,564.5892	0.0679	0.0140	2,570.3659
Parking Lot	1.06902e+006	531.5098	0.0141	2.9100e-003	532.7071
Unenclosed Parking with Elevator	4.0608e+006	2,018.9959	0.0534	0.0111	2,023.5437
Unrefrigerated Warehouse-No Rail	4.27418e+006	2,125.0877	0.0562	0.0116	2,129.8745
Total		**7,827.3164**	**0.2071**	**0.0428**	**7,844.9473**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.00309e+006	498.7274	0.0132	2.7300e-003	499.8508
Government Office Building	4.14495e+006	2,060.8354	0.0545	0.0113	2,065.4774
Parking Lot	761145	378.4350	0.0100	2.0700e-003	379.2874
Unenclosed Parking with Elevator	2.97009e+006	1,476.7022	0.0391	8.0800e-003	1,480.0285
Unrefrigerated Warehouse-No Rail	3.42154e+006	1,701.1620	0.0450	9.3100e-003	1,704.9938
Total		**6,115.8620**	**0.1618**	**0.0335**	**6,129.6379**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	16.8710	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	0.2003	0.2003	5.2000e-004	0.0000	0.2112
Unmitigated	16.8710	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	0.2003	0.2003	5.2000e-004	0.0000	0.2112

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	2.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	14.7724					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4600e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	0.2003	0.2003	5.2000e-004	0.0000	0.2112
Total	**16.8710**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**0.2003**	**0.2003**	**5.2000e-004**	**0.0000**	**0.2112**

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	2.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	14.7724					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4600e-003	9.3000e-004	0.1027	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	0.2003	0.2003	5.2000e-004	0.0000	0.2112
Total	**16.8710**	**9.3000e-004**	**0.1027**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**0.2003**	**0.2003**	**5.2000e-004**	**0.0000**	**0.2112**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Toilet

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2,142.6578	9.1878	0.2266	2,405.8469
Unmitigated	2,411.1669	10.4846	0.2588	2,711.5600

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	22.6625 / 0	153.9053	0.7423	0.0182	175.1487
Government Office Building	70.5242 / 43.2245	717.7064	2.3164	0.0581	784.3524
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	226.699 / 0	1,539.5552	7.4258	0.1825	1,752.0589
Total		**2,411.1669**	**10.4846**	**0.2588**	**2,711.5600**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	19.8614 / 0	134.8826	0.6505	0.0160	153.4903
Government Office Building	61.8074 / 43.2245	658.5091	2.0305	0.0510	716.9528
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	198.679 / 0	1,349.2662	6.5068	0.1597	1,535.4039
Total		**2,142.6578**	**9.1878**	**0.2266**	**2,405.8469**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	278.7411	16.4731	0.0000	624.6768
Unmitigated	278.7411	16.4731	0.0000	624.6768

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	121.52	24.6675	1.4578	0.0000	55.2814
Government Office Building	330.15	67.0175	3.9606	0.0000	150.1905
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	921.5	187.0562	11.0547	0.0000	419.2049
Total		**278.7411**	**16.4731**	**0.0000**	**624.6768**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	121.52	24.6675	1.4578	0.0000	55.2814
Government Office Building	330.15	67.0175	3.9606	0.0000	150.1905
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	921.5	187.0562	11.0547	0.0000	419.2049
Total		**278.7411**	**16.4731**	**0.0000**	**624.6768**

9.0 Operational Offroad

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

10.0 Vegetation

Burbank AP Operations (SWQ)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	355.00	1000sqft	8.15	355,000.00	0
General Light Industry	98.00	1000sqft	2.25	98,000.00	0
Unrefrigerated Warehouse-No Rail	971.82	1000sqft	22.31	971,817.00	0
Parking Lot	3,037.00	Space	27.33	1,214,800.00	0
Unenclosed Parking with Elevator	3,600.00	Space	32.40	1,440,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2025
Utility Company	Burbank Water & Power				
CO2 Intensity (lb/MWhr)	1096.12	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Not a construction run

Vehicle Trips - Mobile emissions modeled separately.

Area Coating - Architectural coatings adjusted for parking lot striping, see "Operational CalEEMod Inputs"

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	4351892	2138221
tblConstructionPhase	NumDays	1,550.00	245.00
tblConstructionPhase	PhaseEndDate	2/22/2019	2/23/2019
tblConstructionPhase	PhaseEndDate	7/26/2019	7/26/2024
tblConstructionPhase	PhaseStartDate	2/24/2019	2/24/2024
tblLandUse	LandUseSquareFeet	971,820.00	971,817.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	68.93	0.00
tblVehicleTrips	WD_TR	2.59	0.00

2.0 Emissions Summary

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	16.8304	9.3000e-004	0.1026	1.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	0.2001	0.2001	5.2000e-004	0.0000	0.2110
Energy	0.0356	0.3239	0.2721	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	8,161.5122	8,161.5122	0.2134	0.0492	8,181.2477
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	277.1192	0.0000	277.1192	16.3773	0.0000	621.0420
Water						0.0000	0.0000		0.0000	0.0000	100.8614	2,296.9566	2,397.8180	10.4202	0.2572	2,696.3685
Total	**16.8661**	**0.3249**	**0.3747**	**1.9500e-003**	**0.0000**	**0.0250**	**0.0250**	**0.0000**	**0.0250**	**0.0250**	**377.9806**	**10,458.6689**	**10,836.6495**	**27.0114**	**0.3064**	**11,498.8692**

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	16.8304	9.3000e-004	0.1026	1.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	0.2001	0.2001	5.2000e-004	0.0000	0.2110
Energy	0.0263	0.2392	0.2009	1.4300e-003		0.0182	0.0182		0.0182	0.0182	0.0000	6,361.4567	6,361.4567	0.1664	0.0382	6,376.7838
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	277.1192	0.0000	277.1192	16.3773	0.0000	621.0420
Water						0.0000	0.0000		0.0000	0.0000	88.3949	2,042.5639	2,130.9588	9.1314	0.2252	2,392.5340
Total	**16.8568**	**0.2401**	**0.3035**	**1.4400e-003**	**0.0000**	**0.0185**	**0.0185**	**0.0000**	**0.0185**	**0.0185**	**365.5141**	**8,404.2207**	**8,769.7348**	**25.6756**	**0.2634**	**9,390.5708**

	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**	**N20**	**CO2e**
Percent Reduction	**0.06**	**26.10**	**19.00**	**26.15**	**0.00**	**25.78**	**25.78**	**0.00**	**25.78**	**25.78**	**3.30**	**19.64**	**19.07**	**4.95**	**14.04**	**18.33**

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,101.1118	6,101.1118	0.1614	0.0334	6,114.8545
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,808.8904	7,808.8904	0.2066	0.0427	7,826.4799
NaturalGas Mitigated	0.0263	0.2392	0.2009	1.4300e-003		0.0182	0.0182		0.0182	0.0182	0.0000	260.3449	260.3449	4.9900e-003	4.7700e-003	261.9294
NaturalGas Unmitigated	0.0356	0.3239	0.2721	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	352.6218	352.6218	6.7600e-003	6.4600e-003	354.7678

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 Light Industry	1.84338e+006	9.9400e-003	0.0904	0.0759	5.4000e-004		6.8700e-003	6.8700e-003		6.8700e-003	6.8700e-003	0.0000	98.3698	98.3698	1.8900e-003	1.8000e-003	98.9684
Government Office Building	3.88015e+006	0.0209	0.1902	0.1598	1.1400e-003		0.0145	0.0145		0.0145	0.0145	0.0000	207.0596	207.0596	3.9700e-003	3.8000e-003	208.3197
Parking Lot	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
Unenclosed 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
Unrefrigerated Warehouse-No Rail	884353	4.7700e-003	0.0434	0.0364	2.6000e-004		3.2900e-003	3.2900e-003		3.2900e-003	3.2900e-003	0.0000	47.1925	47.1925	9.0000e-004	8.7000e-004	47.4797
Total		**0.0356**	**0.3239**	**0.2721**	**1.9400e-003**		**0.0246**	**0.0246**		**0.0246**	**0.0246**	**0.0000**	**352.6218**	**352.6218**	**6.7600e-003**	**6.4700e-003**	**354.7678**

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					
Government Office Building	2.80254e+006	0.0151	0.1374	0.1154	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	149.5542	149.5542	2.8700e-003	2.7400e-003	150.4644
Parking Lot	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
Unenclosed 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
Unrefrigerated Warehouse-No Rail	638056	3.4400e-003	0.0313	0.0263	1.9000e-004		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	34.0491	34.0491	6.5000e-004	6.2000e-004	34.2563
General Light Industry	1.43808e+006	7.7500e-003	0.0705	0.0592	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	76.7416	76.7416	1.4700e-003	1.4100e-003	77.2086
Total		**0.0263**	**0.2392**	**0.2009**	**1.4300e-003**		**0.0182**	**0.0182**		**0.0182**	**0.0182**	**0.0000**	**260.3449**	**260.3449**	**4.9900e-003**	**4.7700e-003**	**261.9294**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.1809e+006	587.1336	0.0155	3.2100e-003	588.4562
Government Office Building	5.15815e+006	2,564.5892	0.0679	0.0140	2,570.3659
Parking Lot	1.06902e+006	531.5098	0.0141	2.9100e-003	532.7071
Unenclosed Parking with Elevator	4.0608e+006	2,018.9959	0.0534	0.0111	2,023.5437
Unrefrigerated Warehouse-No Rail	4.23712e+006	2,106.6618	0.0557	0.0115	2,111.4071
Total		**7,808.8904**	**0.2066**	**0.0427**	**7,826.4799**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.00309e+006	498.7274	0.0132	2.7300e-003	499.8508
Government Office Building	4.14495e+006	2,060.8354	0.0545	0.0113	2,065.4774
Parking Lot	761145	378.4350	0.0100	2.0700e-003	379.2874
Unenclosed Parking with Elevator	2.97009e+006	1,476.7022	0.0391	8.0800e-003	1,480.0285
Unrefrigerated Warehouse-No Rail	3.39187e+006	1,686.4118	0.0446	9.2300e-003	1,690.2104
Total		**6,101.1118**	**0.1614**	**0.0334**	**6,114.8545**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	16.8304	9.3000e-004	0.1026	1.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	0.2001	0.2001	5.2000e-004	0.0000	0.2110
Unmitigated	16.8304	9.3000e-004	0.1026	1.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	0.2001	0.2001	5.2000e-004	0.0000	0.2110

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	2.0793					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	14.7417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1026	1.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	0.2001	0.2001	5.2000e-004	0.0000	0.2110
Total	**16.8304**	**9.3000e-004**	**0.1026**	**1.0000e-005**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**0.2001**	**0.2001**	**5.2000e-004**	**0.0000**	**0.2110**

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	2.0793					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	14.7417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4500e-003	9.3000e-004	0.1026	1.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	0.2001	0.2001	5.2000e-004	0.0000	0.2110
Total	**16.8304**	**9.3000e-004**	**0.1026**	**1.0000e-005**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**0.2001**	**0.2001**	**5.2000e-004**	**0.0000**	**0.2110**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Toilet

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2,130.9588	9.1314	0.2252	2,392.5340
Unmitigated	2,397.8180	10.4202	0.2572	2,696.3685

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	22.6625 / 0	153.9053	0.7423	0.0182	175.1487
Government Office Building	70.5242 / 43.2245	717.7064	2.3164	0.0581	784.3524
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	224.733 / 0	1,526.2063	7.3614	0.1809	1,736.8675
Total		**2,397.8180**	**10.4202**	**0.2572**	**2,696.3685**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	19.8614 / 0	134.8826	0.6505	0.0160	153.4903
Government Office Building	61.8074 / 43.2245	658.5091	2.0305	0.0510	716.9528
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	196.956 / 0	1,337.5672	6.4504	0.1583	1,522.0909
Total		**2,130.9588**	**9.1314**	**0.2252**	**2,392.5340**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	277.1192	16.3773	0.0000	621.0420
Unmitigated	277.1192	16.3773	0.0000	621.0420

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	121.52	24.6675	1.4578	0.0000	55.2814
Government Office Building	330.15	67.0175	3.9606	0.0000	150.1905
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	913.51	185.4343	10.9589	0.0000	415.5702
Total		**277.1192**	**16.3773**	**0.0000**	**621.0420**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	121.52	24.6675	1.4578	0.0000	55.2814
Government Office Building	330.15	67.0175	3.9606	0.0000	150.1905
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	913.51	185.4343	10.9589	0.0000	415.5702
Total		**277.1192**	**16.3773**	**0.0000**	**621.0420**

9.0 Operational Offroad

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

10.0 Vegetation

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I.5 - On-Road Emissions Factor (EMFAC2014) Model Output – Passenger Trip Annual Emissions (Existing and Project Operations)

- Existing Conditions
- Adjacent Property Full-Size Terminal Option
- Southwest Quadrant Full-Size/Same-Size Terminal Option

Average Trip Distance to BUR Airport

Zip Code	County	Respondents	Miles to Bob Hope Airport [a] Route 1	Route 2	Average
92337	SB	1	62.1	62.3	62.2
92706	OC	1	46.6	61.7	54.2
92735	OC	1	51.6	61.1	56.4
92780	OC	1	50.4	65.7	58.1
92606	OC	1	57	61.2	59.1
91361	VEN	11	49.5	43.7	46.6
91360	VEN	3	41.9	37.9	39.9
91362	VEN	6	42.8	35.7	39.3
91320	VEN	3	48	40.7	44.4
93041	VEN	3	55.9	54.5	55.2
93065	VEN	16	30.2		30.2
91307	VEN	2	29	27.1	28.1
93063	VEN	3	25.3		25.3
93021	VEN	2	36.7	46.2	41.5
93015	VEN	2	46		46
93060	VEN	1	60.7	60.8	60.8
93010	VEN	3	56.5	49.2	52.9
93004	VEN	2	53.2	61.8	57.5
93003	VEN	4	57.6	65.4	61.5
93001	VEN	3	69.4	62.1	65.8
93030	VEN	5	62.2	54.9	58.6
93035	VEN	1	68.6	61.3	65
93041	VEN	3	59.9	58.5	59.2
93536	LA	3	64.5	61.7	63.1
93535	LA	1	67.1	71.1	69.1
93534	LA	4	58.3	55.5	56.9
91384	LA	3	36.2		36.2
91390	LA	6	32.4		32.4
93551	LA	5	53.9	51.2	52.6
93550	LA	1	36.9	45.4	41.2
93552	LA	2	52.4	48.6	50.5
93543	LA	1	48	55.6	51.8
91381	LA	3	22.7		22.7
91355	LA	8	24.3		24.3
91354	LA	4	27	31.1	29.1
91350	LA	5	25.9	24	25
91351	LA	6	24.3		24.3
91387	LA	6	25.1	24.2	24.7
91321	LA	2	19.7		19.7
91311	LA	5	19.3		19.3

91326	LA	4	16.7	19.6	18.2
91344	LA	11	12.2		12.2
91340	LA	4	11.3	9.1	10.2
91345	LA	2	9.8	9.5	9.7
91324	LA	4	17.7	17.1	17.4
91325	LA	2	15	12.9	14
91343	LA	4	12.9	10.5	11.7
91402	LA	5	8	8.5	8.3
91331	LA	6	7.8	8	7.9
91040	LA	1	10.7	12.4	11.6
91352	LA	4	4.2	5	4.6
91042	LA	8	14.5	16.2	15.4
91342	LA	8	10.6	12.9	11.8
91214	LA	5	13	15	14
91020	LA	2	12.3	14.3	13.3
91208	LA	3	12.5	14.5	13.5
91207	LA	4	6.8	8.2	7.5
91501	LA	7	5.4	4.8	5.1
91504	LA	16	2.4		2.4
91505	LA	9	3.2		3.2
91506	LA	15	3.3	3.7	3.5
91201	LA	1	6.6	5.6	6.1
91202	LA	4	6.9	8.3	7.6
91206	LA	2	12	11.8	11.9
91205	LA	5	10.5		10.5
91304	LA	3	25.3	20.7	23
91303	LA	8	23.1	19.4	21.3
91306	LA	7	21.2	18.3	19.8
91335	LA	5	18.2	11.6	14.9
91405	LA	1	7		7
91605	LA	2	4		4
91411	LA	3	7.9	7.5	7.7
91401	LA	11	6	6.4	6.2
91606	LA	2	2.9	3.6	3.3
91607	LA	11	5.6	5.2	5.4
91601	LA	11	3.4	3.5	3.5
91403	LA	14	9.8		9.8
91436	LA	1	10.8	12.3	11.6
91316	LA	4	12.1	14	13.1
91356	LA	8	13.4	14.7	14.1
91364	LA	11	17	18	17.5
91367	LA	7	16.9	18	17.5
91302	LA	8	23.1	25.4	24.3
91301	LA	3	29.4	31.7	30.6
90265	LA	1	38.7	41	39.9
90272	LA	1	27.6	29.5	28.6
90049	LA	6	20.8	22.3	21.6
90025	LA	9	18.6	20.1	19.4
90077	LA	7	20.2	21.7	21
90210	LA	2	11.9	12.7	12.3

90069	LA	1	10.6	10	10.3
91423	LA	4	8.2	8.6	8.4
91604	LA	9	7.8	7.7	7.8
90046	LA	1	8.8	8.5	8.7
91602	LA	7	4.5	4.4	4.5
90068	LA	3	7.1	11.3	9.2
90027	LA	7	11.6	12.2	11.9
90039	LA	1	14.5	11.1	12.8
90024	LA	3	15.8	16.8	16.3
90048	LA	1	11.8	13.7	12.8
90036	LA	2	14.5	10.7	12.6
90004	LA	3	13.3	10.7	12
90038	LA	3	12.1	8.7	10.4
90029	LA	3	13.5	12.9	13.2
90028	LA	19	11.2	7.8	9.5
90064	LA	1	20	23	21.5
90066	LA	1	22	24.1	23.1
90291	LA	6	24.3	26.3	25.3
90292	LA	1	26.4	28.4	27.4
90034	LA	3	16.7	24.3	20.5
90035	LA	1	15.9	25.3	20.6
90019	LA	3	13.6	12	12.8
90026	LA	22	13.4	13.1	13.3
90057	LA	2	15.7	15.3	15.5
90008	LA	1	17.7	15.7	16.7
90043	LA	1	19.4	24.1	21.8
90062	LA	1	21.4	19.4	20.4
90037	LA	7	20	18	19
90011	LA	2	20.3	20.9	20.6
90001	LA	3	25.7	22.6	24.2
90021	LA	3	21.4	18.1	19.8
90014	LA	2	20.3	17.6	19
90012	LA	11	14.8	17.7	16.3
90033	LA	2	16	19.1	17.6
90031	LA	2	17	14.7	15.9
90065	LA	6	14	15	14.5
90042	LA	5	15.4	14.5	15
90032	LA	6	18.8	18.6	18.7
90041	LA	8	12.3	15	13.7
91105	LA	2	15.8	20.3	18.1
91030	LA	2	17.9	19.9	18.9
91801	LA	5	20.7	22.3	21.5
91108	LA	2	19.2	22.6	20.9
91106	LA	5	17.1	20.5	18.8
91104	LA	6	18.2	21.6	19.9
91103	LA	4	16.7	17.7	17.2
91001	LA	14	20.6	20	20.3
91107	LA	3	20	23.5	21.8
91024	LA	2	22.9	26.4	24.7
91006	LA	3	25.1	28.6	26.9

91016	LA	2	24.3	27.8	26.1
91010	LA	3	31	34.5	32.8
91702	LA	2	43.9	47.3	45.6
91773	LA	1	36.1	39.5	37.8
91789	LA	1	45.3	48.8	47.1
91790	LA	1	32.7	32	32.4
91780	LA	1	23.7	27.2	25.5
91770	LA	2	25.2	24	24.6
90640	LA	2	25.5	25.7	25.6
91754	LA	1	22	22.7	22.4
91803	LA	2	20.5	20.8	20.7
90022	LA	2	22.2		22.2
90023	LA	1	19	18.9	19
90605	LA	1	44.7	37.3	41
90242	LA	1	30.7	30.5	30.6
90703	LA	1	38.1	34.4	36.3
90713	LA	1	36.7	35.1	35.9
90277	LA	1	37.5	38.3	37.9
90501	LA	1	33.8	31.7	32.8
90506	LA	1	30.2	35.1	32.7
90731	LA	6	42.4	44	43.2
90744	LA	6	36.2	40	38.1
				Weighted Average Distance [b]	20.2

Notes:

a. Distance is estimated based on mapped travel distance from the zip code to BUR Airport using Google Maps. For most zip codes, the average distance is calculated as the average of two potential routes to the Airport.

b. The weighted average distance is based on the number of survey respondents from each zip code.

Source: Unison Consulting, Inc., Bob Hope Airport Ground Access Study, Data Collection and Analysis, Surveys of Airport Passengers and Employees, Figure 2, (2012); ESA PCR, 2016.

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Passenger Trip Emissions

Year	Trips/Day [a]	VMT/Trip	GHG Emissions (metric tons/year)			
			CO2	CH4	N2O	CO2e
			1	*25*	*298*	
Existing	14,156	20.2	38,676.2	1.5	-	38,713.0
2023	17,839	20.2	38,347.9	0.8	-	38,368.4
2025	18,460	20.2	36,742.7	0.7	-	36,760.5

Notes:

a. Gibson Transportation Consulting, Inc., 2016. Daily trips provided by consultant and are used in the roadway intersection traffic volume analysis.

Source: ESA PCR, 2016.

Parking Emissions (On-site parking areas affected by the Project)

Year	Trips/Day [a]	On-Airport Parking Lot	Percent of Total [b]	VMT/Trip	GHG Emissions (metric tons/year) CO2	CH4	N2O	CO2e
					1	*25*	*298*	
Existing Conditions								
Existing	14,156	No Parking (Dropped Off) [c]	57.0%	0.91	2,958.90	0.17	-	2,963.08
		Lot A	7.7%	0.67	293.61	0.02	-	294.03
		Lot E	2.6%	0.39	57.40	0.00	-	57.48
		Short-Term	3.4%	0.52	101.06	0.01	-	101.20
		Valet	11.6%	0.65	430.49	0.02	-	431.10
2023	17,839	No Parking (Dropped Off) [c]	57.0%	0.91	2,931.10	0.10	-	2,933.59
		Lot A	7.7%	0.67	290.86	0.01	-	291.10
		Lot E	2.6%	0.39	56.86	0.00	-	56.91
		Short-Term	3.4%	0.52	100.11	0.00	-	100.20
		Valet	11.6%	0.65	426.44	0.01	-	426.80
2025	18,460	No Parking (Dropped Off) [c]	57.0%	0.91	2,793.51	0.09	-	2,795.68
		Lot A	7.7%	0.67	277.20	0.01	-	277.42
		Lot E	2.6%	0.39	54.19	0.00	-	54.23
		Short-Term	3.4%	0.52	95.41	0.00	-	95.49
		Valet	11.6%	0.65	406.42	0.01	-	406.74
NEQ (Adjacent Full-Size)								
2023	17,839	No Parking (Dropped Off) [d]	57.0%	1.27	4,090.66	0.14	-	4,094.13
		Parking (includes Valet) [e]	28.8%	1.87	3,044.39	0.10	-	3,046.97
2025	18,460	No Parking (Dropped Off) [d]	57.0%	1.27	3,898.63	0.12	-	3,901.67
		Parking (includes Valet) [e]	28.8%	1.87	2,901.47	0.09	-	2,903.73
SWQ (Full-Size and Same-Size)								
2023	17,839	No Parking (Dropped Off) [d]	57.0%	1.20	3,865.19	0.13	-	3,868.47
		Parking [e]	17.2%	1.78	1,730.07	0.06	-	1,731.54
		Valet	11.6%	1.27	829.92	0.03	-	830.63
2025	18,460	No Parking (Dropped Off) [d]	57.0%	1.20	3,683.75	0.11	-	3,686.62
		Parking [e]	17.2%	1.78	1,648.85	0.05	-	1,650.14
		Valet	11.6%	1.27	790.96	0.02	-	791.58

Notes:

a. Gibson Transportation Consulting, Inc., 2016. Daily trips provided by consultant and are used in the roadway intersection traffic volume analysis.

b. Unison Consulting, Inc., Bob Hope Airport Ground Access Study, Data Collection and Analysis, Surveys of Airport Passengers and Employees, Figure 4, (2012).

c. Assumes all vehicles enter and exit at Hollywood Way/Thornton Avenue and that all vehicles make one return loop around Airport Way.

d. Assumes all vehicles make one return loop around the drop off/pickup area.

e. Assumes all vehicles make four loops inside the parking structure.

Source: ESA PCR, 2016.

Passenger Trip Emission Factors

Year	GHG Emission Factors (metric tons/mile)			
	CO2	CH4	N2O	CO2e
	1	*25*	*298*	
Existing	3.71E-04	1.41E-08	-	3.71E-04
2023	2.92E-04	6.23E-09	-	2.92E-04
2025	2.70E-04	5.23E-09	-	2.70E-04

Source: EMFAC2014, Region: Southern California Association of Governments, Mode: "Emissions" (or "Burden"), Vehicles: LDA, LDT1, LDT2.

Passenger Trip Emission Factors (Parking)

Year	GHG Emission Factors (metric tons/mile)			
	CO2	CH4	N2O	CO2e
	1	*25*	*298*	
Existing	1.10E-03	6.24E-08	-	1.11E-03
2023	8.68E-04	2.95E-08	-	8.69E-04
2025	7.99E-04	2.49E-08	-	8.00E-04

Source: EMFAC2014, Region: Southern California Association of Governments, Mode: "Emissions" (or "Burden"), Vehicles: LDA, LDT1, LDT2, Speed: 5 MPH.

I.6 - Unison Survey, Bob Hope Airport Ground Access Study Data Collection and Analysis (2012) (select pages)

BOB HOPE AIRPORT

GROUND ACCESS STUDY
DATA COLLECTION AND ANALYSIS

SURVEYS OF AIRPORT PASSENGERS AND EMPLOYEES

Conducted on May 7-16, 2012

REPORT ON THE SURVEY FINDINGS

Draft – August 30, 2012

By

UNISON Consulting, Inc.

Maroon Society
research strategy solutions

Montbury Consulting Inc

David Brownstone, Ph.D.

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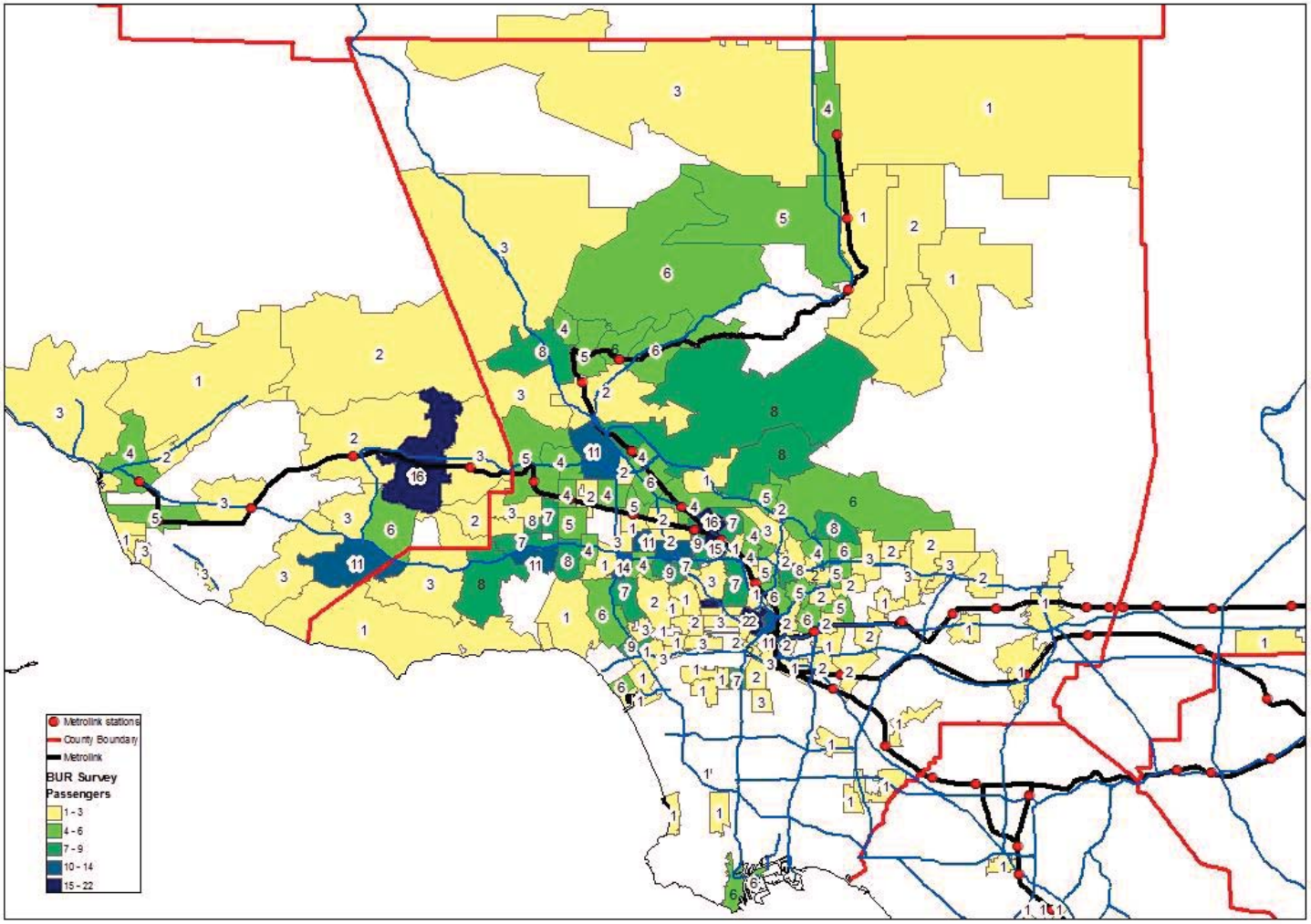


N

0 2 4 8 Miles

NUMBER OF RESPONDENTS BY ORIGIN ZIP CODE

UNISON Consulting, Inc. Maroon Society research strategy solutions Montbury Consulting Inc.

PRIVATE VEHICLE USE

Private vehicle trips account for 73 percent of all passenger trips to the Airport.

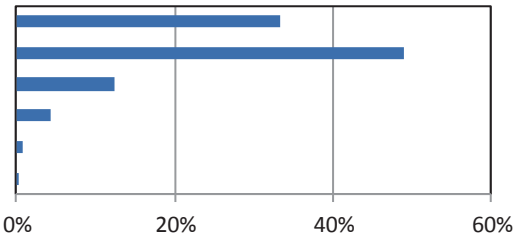
Vehicle Occupancy

Private vehicle trips to the airport have an average of two occupants, including the driver. As shown in **Figure 4,** 49 percent of respondents using private vehicles reported two occupants, followed by 33 percent with one occupant, and 12 percent with three occupants.

Figure 4. PRIVATE VEHICLES - OCCUPANCY AND PARKING

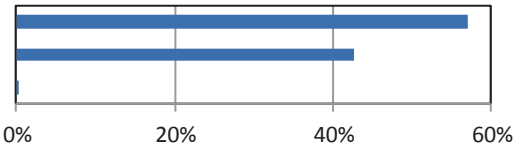
Passengers who used a private vehicle: How many people were in the vehicle (including you) (Q27)

	Frequency	Percent
1	181	33%
2	266	49%
3	67	12%
4	23	4%
5	4	1%
6	1	0%
Total	**542**	**100%**
Mean		1.9
Median		2.0
Std. Deviation		0.8



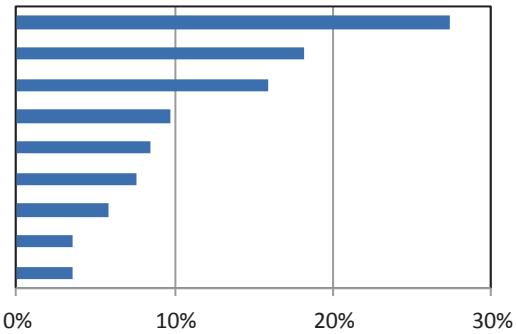
Passengers who used a private vehicle: Was the vehicle parked? (Q28)

	Frequency	Percent
No (dropped Off)	312	57%
Yes	233	43%
NA (Not Applicable)	2	0%
Total	**547**	**100%**



Passengers who used a private vehicle: Where was the vehicle parked? (Q28)

	Frequency	Percent
Valet Parking	62	27%
Economy Lot A	41	18%
Economy Lot C	36	16%
Non-Airport Parking	22	10%
Economy Lot B	19	8%
Short Term Parking Structure	17	8%
Economy Lot E	13	6%
Carter's VSP Parking	8	4%
Economy Lot D	8	4%
Total	**226**	**100%**



Parking

A majority of passengers who use private vehicles do not park. **Figure 4** shows that 57 percent of respondents using private vehicles were dropped off and did not park. Of the remaining 43

APPENDIX J
HYDROLOGY REPORT

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BOB HOPE AIRPORT

HYDROLOGY REPORT

APRIL 22, 2016

RS&H

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BOB HOPE AIRPORT

HYDROLOGY REPORT

April 22, 2016

Burbank, CA

RS&H No.:
226-0008-000

Prepared by RS&H, Inc. at the direction of Burbank-Glendale-Pasadena Airport Authority.

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J.1 EXECUTIVE SUMMARY

The intent of this study is to analyze and provide recommendations related to the hydrology, water quality, and floodplain impacts and mitigation measures for three replacement terminal options at Bob Hope Airport in Burbank, California.

The three development alternatives are:

- Option 1: 355,000-square-foot replacement passenger terminal constructed on the Adjacent Property.
- Option 2: 355,000-square-foot replacement passenger terminal constructed in the Southwest Quadrant. This is referred to as the Southwest Quadrant Operationally-Sized Terminal Option.
- Option 3: 232,000-square-foot replacement passenger terminal constructed in the Southwest Quadrant. This is referred to as the Southwest Quadrant Same-Size Terminal Option.

A more complete description of each alternative can be found in the Environmental Impact Report (EIR). Exhibits illustrating the two (2) proposed project sites, as well as the existing terminal location, can be found in Attachment A.

Engineering and environmental analysis of the hydrology, water quality, and floodplain impacts determined that the development of the Adjacent Property option would result in an increase of 9.5 cubic feet per second (cfs) in the peak runoff volume. Stormwater retention would be required to prevent an increase in runoff volume. No water quality systems are currently located at this site but must be included in the project design to meet current design requirements. By effectively designing these systems, the water quality mitigation methods may also address the stormwater retention requirements. Measures such as detention basins with internal treatment measures can be used to achieve both water quality and stormwater retention mitigation. These boxes could be used to provide storage volume until the treatment in the system is complete and the water can be safely discharged to existing systems. This site is located outside any sensitive floodplain areas so no additional floodplain mitigation measures are required.

Both Southwest Quadrant options have nearly identical hydrologic and water quality impacts. Due to the pre-developed condition of the site, there was determined to be a decrease of 0.8 cubic feet per second for the peak flow rate if either Southwest Quadrant Option is developed. As with the Adjacent Property site, there appears to no existing water quality measures in place on the Southwest Quadrant. Mitigation measures such as detention basins with treatment methods are required to meet current water quality requirements. A portion of the Southwest Quadrant site is located adjacent the 100 year floodplain as illustrated on the effective Flood Insurance Rate Map (FIRM) panel developed by FEMA. Mitigation will not be required as the development is located outside 100 year floodplain as it is currently shown. The floodplain shown on the effective FIRM panel may not be accurate because the topographic information available is inconsistent with the location shown. An in-depth study is required by the City to fully determine the impacts to the actual floodplain. Based on preliminary analysis, the development of a passenger terminal within the Southwest Quadrant is likely to induce floodplain impacts greater than that shown on the current FIRM panel.

In addition to the two study areas listed above, an analysis of the impacts of the removal of the existing terminal has been performed. Stormwater runoff volumes are not expected to increase since the existing

site is completely developed and is 100% impervious. The existing water quality control measure should be evaluated to determine compliance with current design requirements or if any additional measures are necessary. The proposed construction changes are located outside the 100-year floodplain shown on the FIRM panel; however, an analysis should be performed to confirm the accuracy of the existing floodplain limits and elevations.

J.2 BACKGROUND AND METHODOLOGY

J.2.1 INTRODUCTION

The following report details the hydrologic and stormwater quality analysis for three passenger terminal redevelopment options at Bob Hope Airport. One terminal option includes a new 355,000 square-foot terminal located at Adjacent Property site in the northeast portion of the airport property. The other options, one being a 355,000 square-foot terminal and the other being a 232,000 square-foot terminal, are both located in the Southwest Quadrant of the existing airport property. A more complete description of the options can be found in the Environmental Impact Report (EIR). This report analyzes the existing and proposed site conditions of both alternative sites, the pre- and post-development stormwater volume impacts, the pre- and post-development water quality impacts, and floodplain impacts.

Exhibits showing the various site configurations and conditions for pre- and post-development are found in Attachment A.

J.2.2 REGULATORY REQUIREMENTS

J.2.2.1 HYDROLOGY

Hydrology calculations for the 2-year, 5-year, 10-year, 25-year and 50-year storm events for each of the sites were performed in accordance with the County of Los Angeles Department of Public Works Low Impact Development (LID) Standards Manual, dated February 2014 and the City of Burbank Municipal Storm Water and Urban Runoff Discharges & Low Impact Development Standards Manual 2015. The LID manual was developed to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) 2012 Municipal Separate Storm Sewer System (MS4) permit, as well as the Los Angeles Regional Water Quality Control Board (RWQCB) basin plan. The City of Burbank Code adopted the LA County Standard Urban Storm Water Mitigation Plan (SUSMP) in 2000. The SUSMP was subsequently replaced by the LID manual in 2014.

The required components of a hydrology analysis as stated in the LID manual are determining the time of concentration (t_c), the runoff coefficients (C), and the final stormwater quality design volume (SWQDv). The intent of this analysis is to reduce and/or eliminate any increase in runoff due to development.

To assist in determining these components, LA County has developed the HydroCalc program. This program utilizes the Modified Rational Method (MODRAT) to determine the peak flow rates and volumes for stormwater. HydroCalc was used for all analysis in this report. All sub-basin areas studied are under the 40 acre maximum denoted in the LID manual.

J.2.2.2 WATER QUALITY

Per the LID Manual, the intent of stormwater quality measures is to "Minimize pollutant loadings from impervious surfaces by requiring development projects to incorporate properly-designed, technically-appropriate Best Management Practices (BMPs) and other Low Impact Development (LID) strategies."[1]

The scale of this project falls into the Designated Project requirements as it meets the "redevelopment" criteria within the LID Manual. If more than 50% of the site will be redeveloped, the entire development site must meet the requirements of the LID standards manual. If less than 50% of the site is to be redeveloped, the only the new portion must be brought up to current LID standards. Discussions with the Regional Water Quality Control Board indicate that this site is not suitable for infiltration due to the risk of groundwater pollution. Additionally, site-specific source control measures and stormwater quality control measures are required. The source control measures can be found in **Table J.2-1** shown below taken from the LID Manual.

TABLE J.2-1 – SOURCE CONTROL MEASURES

Source Control Measures	
S-1 – Storm Drain Message and Signage	S-6 – Outdoor Vehicle/Equipment/Accessory Wash Area
S-2 – Outdoor Material Storage Area	S-7 – Fuel & Maintenance Area
S-3 – Outdoor Trash Storage/Waste Handling Area	S-8 – Landscape Irrigation Areas
S-4 – Outdoor Loading/Unloading Dock Area	S-9 – Building Materials
S-5 – Outdoor Vehicle/Equipment Repair/ Maintenance Area	S-10 – Animal Care and Handling Facilities
	S-11 – Outdoor Horticulture Areas

Source: LA County Low Impact Design Manual – Section 5

A description of the recommended source control measures can be found in the Mitigation sections in Section 1 of this report.

The SWQDv is defined as either 0.75 inches, 24 hour rain event or 85th percentile, 24 hour rain event per the LA County isoheytal map, whichever is greater. Per the LID manual section 6, it is encouraged that the SWQDv is determined using the HydroCalc program. Once this is established, there are several mitigation options outlined in the LID manual. A discussion of the mitigation methods and their practicality for each of the sites can be found in Section J.3 of this report.

[1] County of Los Angeles Department of Public Works, 2014 Low Impact Design Manual, February 2014, Section 1.1.

J.2.2.3 FLOODPLAINS

Floodplains are established by Federal Emergency Management Agency (FEMA) and are reported on Flood Insurance Rate Map (FIRM) panels. Since portions of the Airport property are located within the City of Burbank and other portions are not, floodplains are managed in part by both Los Angeles County and the City of Burbank. The LA County Low Impact Development Manual requires that site development must make an effort to minimize land disturbance, or preserving the hydrologic conditions of the site as much as practical. This includes locating buildings and impervious surfaces away from floodplains. The City of Burbank Land Development limits the impact in Zones A1-30 and AE areas to an increase no greater than one foot to the base flood elevation anywhere in the City. (Burbank City Code §9-1-1-G103.9.2).

The floodplains established by FEMA are presented on Flood Insurance Rate Maps (FIRM) panels. The panel that all of the proposed sites are shown is Panel 1328F, dated September 26, 2008. This FIRM panel can be found in Attachment C.

J.2.3 METHODOLOGY/CALCULATIONS

The hydrology calculations presented in this report were performed using the HydroCalc software. All design years outlined in the LID were performed including 2-year, 5-year, 10-year, 25-year, and 50-year. As the 50-year was the most demanding of the analysis performed, the results in this report refer to the values associated with the 50-year storm. The calculations for each of the design years can be found in Attachment B.

The slopes and flow paths for existing conditions were determined based on a topographic LiDAR survey performed by Wagner Engineering and Survey performed on December 24, 2015. The slopes and flow paths for the final condition were based upon FAA design criteria for pavements and engineering judgement based on the existing topography. The water quality BMPs were outlined in the LID manual. Cross sections were made of the floodplain based on the topographic data provided by the survey areas to determine the extent of the impacts of the development.

The Stormwater Pollution Prevention Plan (SWPPP) and the geotechnical report from Ninyo & More Consultants, dated January 18th, 2016, were provided by the Airport Authority. The SWPPP contained a drainage map of the existing systems of the Airport, which was used to determine the existing basins at the Airport. The existing hydrology data was obtained from LA County Department of Public Works (LACDPW) online database. Lastly, the FIRM panel information was obtained from FEMA's online web portal. Both the Drainage Map and the effective FIRM panel can be found in Attachment C.

Some information was not available at the time of this report, such as the existing stormwater pipe network sizing or the existing drainage basins. As a result, some assumptions were made related to the existing drainage patterns on the various sites. A more detailed discussion of the assumptions made for this report can be found in Section 2 of this report.

J.2.4 EXISTING CONDITIONS

J.2.4.1 ADJACENT PROPERTY SITE

Hydrology

The Bob Hope Airport is located in the Los Angeles River Watershed. All drainage systems on the Adjacent Property site drain offsite to the Lockheed Drainage Channel located on the southern edge of the Airport. This channel discharges to Burbank Western Channel.

The Adjacent Property is approximately 57.3 acres. The site is located adjacent to Taxiway A and Taxiway D on the northwest corner of the Airport. This area is currently utilized for parking lots, construction staging activity for various projects at the Airport, and the Air Traffic Control Tower (ATCT), which is the only building located on this site.

According to Bob Hope Airport Stormwater Pollution Prevention Plan (SWPPP) revised in November 2015, there are currently 2 drainage systems serving this area. The drainage map showing these systems can be found in Attachment C. The first system is an open sheet flow system serving the Desmond parking lots on the northern portion of the site, designated as Drainage Area 1. The second is the Parking Lot A storm drain system which collects Drainage Area 2. These 2 systems have separate exit points which have been denoted as different points of interest (POI). The location of these POIs can be seen on Exhibit 1-1 in Attachment A.

This site was divided into two drainage areas. Drainage Area 1 is 52.6% parking lot and 47.4% open staging area. Historical data shows portions of this staging area were previously paved. Due to compaction of subgrade from the previously paved surface as well as compaction of soil from heavy equipment that regularly work in this area, the current non-paved, pervious surfaces of this site are expected to infiltrate very little, if any, stormwater runoff. Therefore, only 5% pervious has been assumed for the open staging area. This assumption results in Drainage Area 1 being 95% impervious cover. Drainage Area 2 is 95% impervious with the only pervious area being the landscaping elements around the current ATCT. Exhibit 1-1 illustrating this condition can be found in Attachment A.

Using the Los Angeles County Department of Public Works (LACDPW) program HydroCalc, the discharge at each of the POI's was determined. The results of the 50-year storm calculations can be found in Table J.2-2.

TABLE J.2-2 – ADJACENT PROPERTY SITE – PRE-DEVELOPMENT RUNOFF CALCULATIONS

Point of Interest	Q_{2yr}	Q_{5yr}	Q_{10yr}	Q_{25yr}	Q_{50yr}
POI 1	20.42 cfs	35.61 cfs	45.95 cfs	61.82 cfs	72.77 cfs
POI 2	14.40 cfs	24.18 cfs	31.64 cfs	41.99 cfs	50.05 cfs

These values served as the baseline peak flows, or existing conditions, for the analysis. The complete results of the HydroCalc analysis for all design storm frequencies can be found in Attachment B.

Water Quality

Existing stormwater flows over pavements and infield areas prior to entering the storm drain systems. There are no detention/retention facilities for any of the runoff associated with this site. Based on the information provided in the SWPPP, there does not appear to be any treatment of stormwater runoff. Any stormwater quality control best management practices implemented in the proposed development would improve the runoff quality from the existing site.

Floodplains

The Flood Insurance Rate Map (FIRM) panel showing the location of the Airport indicates that the Adjacent Property site is located entirely in Zone X, which is defined as an area that is outside the 500-year floodplain area. As a result, it is not considered a sensitive area and no special considerations are required.

J.2.4.2 SOUTHWEST QUADRANT SITE

Hydrology

The second alternative site, labeled SW Quadrant Site, is located in the SW corner of the airfield. The site is 39.42 acres and is currently occupied by several cargo tenants. Refer to Exhibit 2-1 for existing site layout.

One overall drainage system currently serves this site according to the latest SWPPP. The drainage system consists of overland sheet flow, open channels, and subsurface piping networks as shown in Attachment C. Three primary outfalls are located along Empire Ave. and the Lockheed Drainage channel which have been designated as the 3 POIs for this site. The location of these outfalls is shown in Exhibit 2-1 in Attachment A.

Drainage Area 1 is predominately apron pavement with one cargo hangar located within the limits and is 100% impervious. Immediate capture was assumed for the stormwater and the slope of the surface in HydroCalc has been adjusted to reflect this rate of capture and set the time of concentration to the minimum. Drainage Area 2 is also covered predominantly by apron pavements. There are six buildings including offices and hangars throughout the area. Landscape features are limited to the parking areas adjacent to the offices which result in only a small area of pervious conditions. Drainage Area 2 is 98% impervious. Drainage Area 3 has been calculated to be 99% impervious, with the only pervious areas being the several landscape islands along Empire Ave. The remaining portion of the area is covered with apron pavements and large hangars.

The pre-development peak flow at each of these outfalls was determined using the HydroCalc program. These flows are provided in Table J.2-3.

The complete results of the HydroCalc analysis for all design years can be found in Attachment B.

Water Quality

Based on the SWPPP documentation, there does not appear to be any stormwater quality measures currently installed at this site. Aerial imagery does not show any retention basins and drainage swales do not include vegetative cover (grass). The individual tenants may have constructed independent water quality

systems, such as oil/water separators; however, no information was available for these sites at the time of this report.

TABLE J.2-3 – SOUTHWEST QUADTANT SITE – PRE-DEVELOPMENT RUNOFF CALCULATIONS

Point of Interest	Q_{2yr}	Q_{5yr}	Q_{10yr}	Q_{25yr}	Q_{50yr}
POI 1	5.36 cfs	9.18 cfs	12.14 cfs	16.41 cfs	18.69 cfs
POI 2	12.84 cfs	22.49 cfs	28.80 cfs	39.41 cfs	44.93 cfs
POI 3	13.61 cfs	23.15 cfs	30.45 cfs	40.83 cfs	48.90 cfs

Floodplains

The FIRM panel 1328F panel showing the location of the Airport indicates that this development site is located outside the 100-year floodplain area. As a result, it is not considered a sensitive area and no special considerations are required.

Additional Floodplain Considerations

A topographic LiDAR survey, performed by Wagner Engineering and Survey performed on December 24, 2015, shows the channel is located substantially farther south than the FIRM panel indicates, thus further separating the proposed development from the 100 year floodplain. Additionally, the base flood elevations shown on the FIRM panel are higher in elevation than a majority of the surrounding area, signifying the floodplain may be larger than shown on the FIRM panel. Refer to Exhibit 4-1 for the contours of the area.

During coordination, LA County and the City of Burbank officials, indicated that the floodplains shown on the FIRM panel for this area have been determined to be inaccurate. According to officials, previous analysis of the area have shown that the location of the floodplain is often different than depicted on the effective FIRM panel and the floodplain limits are substantially larger than shown. The City of Burbank floodplain manager requires an in-depth study of the floodplain near any proposed development to establish the actual effective base flood elevation and determine the extent of mitigation necessary to avoid drastically changing the base flood elevations in an area.

Based on these two considerations, it is recommended that an additional study be performed to accurately define the limits of the existing floodplain. A detailed floodplain analysis would satisfy the City of Burbank's additional requirements as well as allow for accurate determination of the appropriate mitigation efforts for development of the SW Quadrant Site. Once complete, a Letter of Map Revision (LOMR) should be submitted to FEMA so that the FIRM panel may be updated with the accurate floodplain location and boundaries.

J.2.4.3 EXISTING TERMINAL LOCATION

Hydrology

The existing terminal is located in the southeast quadrant of the Airport property. This site is approximately 71.15 acres. The terminal is served on the airside by a large apron area. Three surface parking lots, two parking structures, and Terminal Loop Road provide auto access to the terminal. Refer to Exhibit 3-1 for the existing site layout.

While the terminal site does include minor vegetative coverings along the perimeter of the parking structure, the effective site is 100% impervious. The existing terminal site has been divided into four (4) drainage areas. Drainage Area 1 includes the northern terminal apron and is approximately 12.27 acres. As this is all concrete pavement, this entire area is impervious. Drainage Area 2 includes the western terminal apron and is approximately 9.65 acres. It also is completely impervious. Drainage Area 3 includes the southwest portion of the existing terminal, the valet surface lot and the Regional Intermodal Transportation Center (RITC). This area is 100% impervious cover. Drainage Area 4 includes the northeastern portion of the terminal, the short term parking structure, and parking lots E, G, and D. Drainage Area 4 is 100% impervious.

The SWPPP does not show any existing subsurface drainage systems for the existing terminal and terminal loop road. The various parking lots and structures in this area are served by a combination of overland sheet flow and several subsurface systems that exit the site at various exit points.

The pre-development peak flow at each of these outfalls was determined using the HydroCalc program as shown in Table J.2-4 below.

TABLE J.2-4 – EXISTING TERMINAL SITE – PRE-DEVELOPMENT RUNOFF CALCULATIONS

Point of Interest	Q_{2yr}	Q_{5yr}	Q_{10yr}	Q_{25yr}	Q_{50yr}
POI 1	7.58 cfs	13.23 cfs	16.92 cfs	22.46 cfs	26.32 cfs
POI 2	6.49 cfs	11.15 cfs	14.78 cfs	19.35 cfs	22.82 cfs
POI 3	10.87 cfs	18.58 cfs	24.25 cfs	32.19 cfs	37.73 cfs
POI 4	20.54 cfs	35.68 cfs	45.84 cfs	61.42 cfs	72.25 cfs

Water Quality

Drainage Area 1 and 2 have hydrodynamic separators located at their respective POIs. These systems are intended to capture any pollutants that may enter the stormwater system due to the operations performed on the aircraft apron. There does not appear to be any stormwater retention for either of these areas. Drainage Areas 3 and 4 do not appear to have any existing water quality measures.

Floodplains

A portion of the existing terminal site is located in the 100-year floodplain; however there are no proposed changes in this area. Since no development is planned within the floodplain on this site, no impacts to the

floodplain will occur. If the proposed development is expanded, the impacts to the floodplain must be evaluated for this area.

J.3 IMPACTS AND MITIGATION

J.3.1 ADJACENT PROPERTY – OPTION 1

J.3.1.1 HYDROLOGY

Impacts

The proposed site development includes a 355,000 square foot, 2-story passenger terminal building, a new apron to serve the terminal, several parking structures and a new terminal access road. The existing parking lots on site would be removed. Refer to Exhibit 1-2 in Attachment A for the proposed development layout.

Stormwater runoff from the proposed development would be routed to existing outfalls via overland sheet flow and subsurface drainage systems. It is anticipated two (2) drainage areas would be established for the final condition. The first area includes the proposed terminal expansion. Due to a majority of this area being covered by buildings, immediate capture was assumed and the time of concentration was set to the minimum value in runoff calculations as a worst case scenario. The slope of the surface in HydroCalc has been adjusted to reflect this rate of capture. The second area includes the existing ATCT location and proposed roadway as well as apron area serving the replacement terminal. This area is only slightly modified with changes to the proposed entrance roads; therefore, much of the hydrologic conditions remain the same.

Drainage Area 1 is assumed to exit the site via POI 1, as this is the nearest outfall from the site. The buildings located in this area would each have their own independent roof drain capture systems, which would deliver runoff to this outfall. Drainage Area 2 is assumed to route runoff to curb inlets and sheet flow across roadway pavements. The apron area is assumed to be captured via a trench drain system along the center of the apron pavement. This drainage system would tie into the existing system in Lot A and exit the site at POI 2.

The post-development 50-year storm peak flow was determined using the HydroCalc program. The results shown in Table J.3-1.

TABLE J.3-1 – ADJACENT PROPERTY SITE - POST-DEVELOPMENT ANTICIPATED RUNOFF FLOWS

Point of Interest	Pre-Development Peak Flow	Post Development Peak Flow	Difference in Peak Flow
POI 1	72.92 cfs	64.15 cfs	(-8.77 cfs)
POI 2	50.69 cfs	68.97 cfs	18.28 cfs

The net change of runoff as compared to pre-development peak flows for this project site is an increase of 9.51 cfs. The flow path could be modified to redistribute some flow from Drainage Area 2 to Drainage Area 1 to mimic the existing conditions more closely and reduce the impact of the development.

Mitigation

Mitigation is required to offset the increase of peak flow out of the site in order to meet the LID requirement of minimizing the impacts of the post-development peak runoff. The LID manual presents several alternatives for potential retention/detention options. Several of these options including constructed wetlands and wet ponds, feature standing water which is not suitable applications for airports due to the risk of creating wildlife attractants as outlined in Federal Aviation Administration (FAA) Advisory Circular (AC)[2] titled *Hazardous Wildlife Attractants on or Near Airports* (AC No: 150/5200-33B). The standards outlined in this document comply with the requirements in Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D related to Airport Operating Certificates. Additionally, a majority of the retention based, biofiltration, and vegetation measures are not feasible according to the LID manual as the drainage areas in the proposed project are larger than 10 acres. Per discussions with the Regional Stormwater Quality Management officials, infiltration is not permitted at this site due to concerns with groundwater pollution.

The four remaining quality control measures include sand filters, extended detention basin, permeable pavement with an underdrain system, and proprietary devices. The majority of the proposed site is occupied by pavements and structures so a sand filter is likely not feasible due to sizing restrictions. While apron pavements would not be able to be of permeable construction due to FAA pavement design requirements, sections of the surface parking lots could be made permeable; however the majority of the parking facilities in the proposed development are parking structures. The most feasible solutions is an extended detention basin with treatment measures within the system. These basins would need to be located underground to avoid any open standing water that may become a wildlife attractant. These basins could have baffles to lower the time of concentration enough to mitigate any increase as a result of the development. The proprietary devices would need to be investigated further as the drainage basins are finalized and the final flow paths are determined.

J.3.1.2 WATER QUALITY

Impacts

As discussed in Section 0 of this report, there are no pre-existing stormwater quality control measures in place for the Adjacent Property site. More than 50% of the site will be redeveloped; therefore, all the stormwater run-off generated on site must be treated, per the LID Manual Section 2. The post-development volume was determined to be 10.95 acre-feet for Drainage Area 1. This volume will require mitigation. In addition, due to the nature of the proposed site development, additional source control measures would be required to offset any additional pollutants added to the system. A discussion of these measures can be found in Section 3.1.1.2 of this report.

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[2] Federal Aviation Administration, Advisory Circular (AC), *Hazardous Wildlife Attractants on or Near Airports*, AC No. 150/5200-33B (August 28, 2007).

With the increase of peak runoff flowrates, the post development SWQDv for Drainage Area 2 was determined to be to 16.52 acre-feet. All existing source control measures, if any, should be evaluated to ensure they meet the current LID requirements.

Mitigation

The LID manual outlines 11 source control measures that are required based on the activities that will occur on site. Of these 11 measures, storm drainage message and signage, outdoor trash storage, outdoor loading/unloading dock area, fuel-maintenance area and landscape irrigation are anticipated to be required due to the proposed operations located at this development. Each of these has a detailed list of components and features the final design must incorporate to satisfy the LID requirements.

Storm drain message and signage requires that signs and messages be posted that discourage illegal dumping. Outdoor trash requirements include isolating the stormwater impacted by the storage area and ensuring the waste is contained onsite via grading and screens until the materials can be disposed of properly. Outdoor loading and unloading include similar requirements such as isolating the bays from the surround drainage systems and covering the area to prevent any leakage of pollutants. Any area where fueling or maintenance takes place is required to be isolated from exterior systems and include a shut off in the event of a fuel spill. Lastly, landscape requirements include design criteria to limit excessive runoff generated by the landscaping and minimize fertilize, pesticides, and herbicide uses. A complete breakdown of the requirements can be found in Appendix D of the LA County LID manual.

In addition to the source control measures, treatment would be required for the post-development SWQDv of 27.47 acre-feet. An underground detention basin is the most feasible large scale solution for the current replacement terminal site plan. Treatment measures such as modified wet lands could be installed in the boxes to provide on-site treatment prior to discharging to the existing stormwater networks. These boxes would need to be sized to accommodate the post-development SWQDv within the system to ensure complete treatment for all runoff generated on site.

While a large detention basin would allow the development to comply with the City of Burbank and the LA County LID requirements, a combination of mitigation techniques is likely the most cost effective solution. A dedicated detention basin with internal treatment measures such as a modified wetlands would be the recommended mitigation for the apron pavements but smaller stormwater quality control measures such as vegetative swales or sand filters could be used around the development to decrease the required detention site area. Dedicated dry wells for each of the buildings could be utilized to treat the runoff generated by the buildings. Due to the scale of the building, numerous cisterns would be required to provide adequate volume for treatment. Many of the vegetated options outlined in the LID manual would result in standing water that could last longer than 48 hours if the systems are not designed properly.

An extended detention would be feasible; however, it would need to be installed underground to avoid any standing water, thus increasing the cost of the basins and increasing the difficulty of maintenance. Permeable pavements could also be utilized; however, since the majority of the proposed site is occupied by buildings, the number of eligible pavements is limited. Additionally, apron pavements would not be able to be of permeable construction due to FAA pavement design requirements.

In addition to the measures outlined above, due to the nature of the apron operations and the potential for hydrocarbon pollutants, a hydrodynamic separator would be required at all apron stormwater exit points to capture any pollutants, such as jet fuel, before it enters and contaminates any other drainage systems. These would be similar to the current apron conditions. These would need to be connected to either the trench drain or drainage channel that is used for the entire apron area and must be located upstream of any detention systems.

J.3.1.3 FLOODPLAINS

Impacts

As discussed in Section J.2.2.3, the Adjacent Property site is not located in an effective FEMA floodplain area. The proposed development would not alter the site in a way to drastically change this condition; therefore, there is no projected impact to any floodplain areas.

Mitigation

No mitigation is required.

J.3.2 SOUTHWEST QUADRANT – OPTIONS 2 AND 3

J.3.2.1 HYDROLOGY

Impacts

Option 2 includes many of the same elements of the Adjacent Property including a 355,000 2-story passenger terminal building, a new apron to serve this facility, several parking structures and a new terminal access road. The existing buildings on site would all be removed, with the exception of the westernmost hangar. The majority of the apron pavements would also be reconstructed to better accommodate the proposed terminal. The roadways existing on site would be replaced as well. Option 3 is nearly identical with the only difference being that the replacement terminal has been reduced to a 1-story building. The overall footprint of the various site developments between Options 2 and 3 are identical. The proposed layout and impacts of this development can be found in Exhibit 2-2 in Attachment A.

As with the Adjacent Property site, the design intent is to attempt to offset any drainage changes that result from the proposed construction and utilize the same outfall locations from the site. Four final drainage basins were established based on the likely grading patterns of the development, all of which drain to the 3 existing outfalls. Drainage Area 1 is nearly identical to the existing Drainage area with the only change being a slight reduction in the size of the drainage area. Drainage Area 2 includes the remaining proposed buildings including the terminal and parking structures. As such, the entire drainage area is 100% impervious. Drainage Area 3 includes the terminal apron area as well as the replacement airline maintenance building. There is a grassy field that would be added adjacent to the maintenance hangar here, resulting in a final site condition that is 91% impervious. The final drainage area is area 4 which includes the roadway along the southern edge of the site.

Drainage Area 1 is assumed to sheet flow over a majority of the site and exit via POI 1, similar to the existing condition. As a result, the peak flow is nearly identical to the existing condition. Drainage Area 2 is assumed to discharge to POI 2. Each of the buildings would drain to an independent capture system that then collects

in a main line near POI 2. Drainage Area 3 is assumed to sheet flow away from the terminal and then enter a stormwater drainage system and be routed into the existing system. Once it enters this system, it would exit the site via POI 3. Drainage Area 4 is assumed to sheet flow across the pavements, then channeled flow via curbs and gutters to the low point at POI 2. The 50-year storm peak flow was determined using the HydroCalc program and the results can be found in Table J.3-2.

TABLE J.3-2 – SW QUAD SITE - POST-DEVELOPMENT ANTICIPATED RUNOFF VOLUMES

Point of Interest	Pre-Development Peak Flow	Post Development Peak Flow	Difference in Peak Flow
POI 1	18.69 cfs	18.72 cfs	0.03 cfs
POI 2	44.93 cfs	53.91 cfs	8.98 cfs
POI 3	48.90 cfs	39.12 cfs	(-9.78 cfs)

The overall change for the site based on the proposed development alone was determined to be negligible. The existing site is developed so similarly to the proposed condition that the overall development should not impact the runoff volumes, provided the routing of the stormwater is considered in the design. With the added water quality measures, the flow from the site is anticipated to decrease as the treatment measure would likely delay the departure of water from the site.

Mitigation

No additional mitigation is required, provided site drainage is balanced properly. There is an overall net decrease in the site peak flows as a result of the development. As POI 3 is located downstream of POI 2, the additional flow generated in Drainage Area 2 could be rerouted to exit the site via POI 3, thus balancing the site. This would require minimal effort as Drainage Area 2 is covered by buildings and the storm water collection systems on the buildings could route the water appropriately.

J.3.2.2 WATER QUALITY

Impacts

As with the Adjacent Property site, more than 50% of the site will be redeveloped; therefore, the entire site must be brought up to the current LID standards. Since there are no stormwater quality measures currently installed at this site, mitigation will be required for the total post-development SWQDv. The post-development SWQDv for POI 1 was determined to be 3.23 acre-feet. POI 2 has a post-development SWQDv of 7.72 ac-ft. Similarly, POI 3 has a post-development condition of 8.58 ac-ft. The HydroCalc outputs for each of the design storms can be found in Attachment B.

Mitigation

Similar to the Adjacent Property site, source control measures would need to be implemented as a result of the development. The same source control measures that are required for the Adjacent Property option would also be required for Options 2 and 3 in the southwest quadrant. Storm drainage message and

signage, outdoor trash storage, outdoor loading/unloading dock area, fuel-maintenance area and landscape irrigation would all be required for this site.

As with the Adjacent Property site, an underground detention basin with treatment measures within the system is the most feasible large scale BMP for the current site layout. Modified wetlands could be implanted in the detention boxes to provide treatment. Baffles could be added to the system to increase the time of concentration in the system thereby increasing the treatment provided. A combination of smaller BMPs could be utilized to reduce the size of the basins required. Similar techniques to those discussed in Section 3.1.2.2 of this report could be utilized for this site as well. Swales along the terminal loop road and vegetative filter strips along the apron edge could provide additional treatment. Any solution involving standing water longer than 48 hours is not permissible close to an active airfield, which eliminates traditional retention ponds. Extended detention basins would have to be located underground as with the Adjacent Property site. Also similar to the Adjacent Property site, the options for permeable pavement locations are limited.

Certain components would need to be added to address the additional pollutants that would be added to the site, such as hydrodynamic separators to capture and treat any runoff generated in the apron areas prior to the runoff entering any drainage systems or treatment areas. Parking garages and the terminal pick-up/drop-off areas may require separators as well, depending on the final flow patterns.

J.3.2.3 FLOODPLAINS

Impacts

As discussed in Section J.2.2.3, the Southwest Quadrant site is not located in an effective FEMA floodplain area. The proposed development would not alter the site in a way to drastically change this condition; therefore, there is no projected impact to any floodplain areas.

Mitigation

No mitigation is required.

J.3.3 EXISTING TERMINAL LOCATION

J.3.3.1HYDROLOGY

Impacts

The proposed modifications to the existing terminal location include the removal of the existing terminal, apron pavements, and some terminal roadway pavements. The ultimate future condition also includes the construction of extensions to Taxiways A and C. The majority of the parking facilities located in the southeast corner of the site would remain. Refer to Exhibit 3-2 in Attachment A for the final condition of this development.

The existing drainage basins would be maintained to the extent possible, resulting in four for the proposed final condition. Drainage Area 1 would increase slightly to accommodate the proposed Taxiway C extension. A large portion of this area would convert to pervious cover with the final site condition being 47% impervious. Drainage Area 2 would also increase as a result of the Taxiway A extension. Similar to Area 1,

pervious would be added resulting in a final condition of 60% impervious cover. Drainage Area 3 and 4 would reduce in size and the remaining areas are unaffected by the development resulting in 100% impervious cover.

Runoff from Drainage Area 1 will discharge to subsurface drainage structures that outfall at POI 1. The infield areas along Taxiway C would be captured via area inlets located between the paving areas. Drainage Area 2 would function in a similar manner. The Taxiway A extension infield areas would be captured using area inlets then carried through subsurface drainage pipes to POI 2. The drainage patterns for Area 3 and 4 would remain unchanged and the runoff generated in each of these areas would exit the site via POI 3 and 4, respectively.

The results from the post-development 50-year storm peak flow as determined by HydroCalc can be found in Table J.3-3.

TABLE J.3-3 – EXISTING TERMINAL SITE - POST-DEVELOPMENT ANTICIPATED RUNOFF FLOWS

Point of Interest	Pre-Development Peak Flow	Post Development Peak Flow	Difference in Peak Flow
POI 1	26.32 cfs	43.99 cfs	17.67 cfs
POI 2	22.82 cfs	25.96 cfs	3.14 cfs
POI 3	37.73 cfs	32.41 cfs	(-5.32 cfs)
POI 4	72.25 cfs	59.15 cfs	(-13.10 cfs)

Mitigation

The increases in the peak flows in Area 1 and Area 2 would require mitigation. Unlike the other sites presented in this report, these areas have large pervious areas where infiltration currently occurs. Area inlets should be installed in this area to limit the amount of infiltration that occurs in this area. Underground detention basins can be added to increase the time of concentration and provide storage volume for the generated runoff. Additionally, for this analysis, the pipe flow was assumed to occur at 10 cubic feet per second from each of the hydraulically most distant points for Areas 1 and 2 to be conservative when accounting for the final site design. This velocity is half maximum velocity allowable by American Public Works Association (APWA) design criteria and velocities greater than this may cause scoring or erosions in the pipe. These systems should be designed in a way to further increase the time of concentration and reduce the impacts of the development.

J.3.3.2 WATER QUALITY

Impacts

Unlike the 2 potential relocation sites, less than 50% of this area will be redeveloped; therefore, the LID manual requirements only apply to the modified portions of the site. The SWQDv of Area 1 for the post-

development condition was determined to be 10.53 acre-feet. This additional volume would require treatment prior to exiting the site. The post-development SWQDv for Area 2 is 5.64 acre-feet. The pre-development volume for Drainage Area 3 was determined to be 9.03 acre-feet while the post-development SWQDv was found to be 7.52 acre-feet. This results in a decrease of 1.51 acre-feet. Drainage Area 4 was determined to have a pre-development condition of 16.24 acre –feet. The post-development condition was determined to be 12.83 acre-feet. The overall change for this area is a reduction of 3.41 acre-feet.

The increase to the SWQDv in Areas 1 and 2 would require mitigation due to the redevelopment; however, as Areas 3 and 4 are untouched and the SWQDv decreases for these areas, they do not require any additional treatment. It should be noted that the removal of the apron pavements in Areas 1 and 2 would decrease the amount of pollutants in the stormwater runoff by removing the refueling operations from the drainage basin. This would improve the runoff water quality for both areas. Areas 3 and 4 do not require mitigation as they are untouched by the development and they have a decrease in SWQDv from the pre-developed condition.

Mitigation

Based on the current site development layout, there should only be one source control measure required. The changes to the site only include the addition of airfield taxiways, which would not feature many of the site conditions outlined in the LID manual. Storm drain message and signage will be required on all new drainage structures that are constructed as part of the development.

Areas 1 and 2 would require treatment for their SWQDv that is generated as a result of the development. As with the hydrologic mitigation measures, this can be achieved in underground detention basins. Treatment measures such as modified wetlands could be installed in this boxes to provide treatment prior to the water exiting the site. In order to treat the larger volume in Area 1, a sand filter basin should be installed to capture and provide treatment to the necessary volume. Areas 3 and 4 do not require mitigation as there is no change to the future condition of these areas.

J.3.3.3 FLOODPLAINS

Impacts

There are no impacts anticipated based on the current site development location. The areas currently located inside the floodplain are not disturbed by the proposed development.

Mitigation

No mitigation is required with the current proposed development. However, the impacts to the flood plain should be reevaluated if additional changes are made to the proposed development on this site.

J.4 ASSUMPTIONS

Due to a lack of additional information regarding the existing drainage basins throughout the Airport site, it was assumed that all exterior water to the sites will be routed around the site via external conveyance methods.

A drainage map showing the location of the various storm drain networks located on the airfield was provided in the Nov. 2015 Bob Hope Airport Stormwater Pollution Prevention Plan (SWPPP); however, there was no information related to the various sizes and slopes of the pipes in the network. As a result, a capacity analysis could not be performed to determine if any changes in the runoff pattern of the sites would have adverse effects on the systems. These systems would need to be assessed prior to any site modifications. Time of Concentration for existing systems was determined conservatively. It was assumed that the pipes carry all water at a velocity of 10 feet per second to their designated outfalls. Velocities greater than this may cause scoring or erosions in the pipe. Additionally, this velocity is half maximum velocity allowable by American Public Works Association (APWA) design criteria, which is the design standard for the City of Burbank. It should be noted this is likely higher than the actual velocities.

It was assumed that all outfalls have capacity to receive existing flows. Much of the existing sites are previously developed; therefore, there is little change to the overall runoff of the sites. Minor modifications may be needed at specific exit points to accommodate the final design flows.

The proposed stormwater source control measures and stormwater quality control measures were established based on the planning level sketches of the site. As the site condition is finalized, a more detailed analysis will be required to accurately determine the extent of treatment required and the feasibility of the recommendations in this report. The recommendations presented in this report may no longer be the most economical or applicable as the site is completely established. Smaller, combination systems may be used to effectively treat any stormwater, but at the time of this report, the details of the sites were not established enough to analyze the potential combinations.

Lastly, the calculations and BMPs outlined in this report are intended for planning purposes. As the design of the site development is finalized, the assumptions and findings of this report should be verified to ensure the analysis is applicable.

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ATTACHMENT A: EXHIBITS

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ATTACHMENT B: HYDROCALC SOLUTIONS

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ATTACHMENT C: SUPPORTING DATA

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APPENDIX K
NOISE ANALYSIS

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K: NOISE ANALYSIS

This Appendix describes the methodology used to model changes in aircraft noise exposure resulting from replacement of the existing passenger terminal at Burbank Bob Hope Airport. The noise analysis addresses four scenarios that could influence taxi times and taxi routes, but would have no effect on existing runway use, flight tracks, or flight scheduling. The effects of these scenarios were evaluated using the FAA's Integrated Noise Model (INM), version 7.0d and the Aviation Environmental Design Tool (AEDT), version 2b using the community noise equivalent level (CNEL) metric. The EIR analysis examines three separate terminal options during two future year scenarios, as presented in **Table K-1**. The following sections in this Appendix describe the runway use, taxiway use, and fleet mix assumptions incorporated into the noise analyses.

Table K-1
ALTERNATIVES AND SCENARIOS EXAMINED

Alternative Considered	Scenario Years – Annual Aircraft Operations
Existing Passenger Terminal	2015 – 126,347 2023 – 142,348 2025 – 145,550
Adjacent Property Full Size Terminal Option	2023 – 142,348 2025 – 145,550
Southwest Quadrant Full Size Terminal Option	2023 – 142,348 2025 – 145,550
Southwest Quadrant Same Size Terminal Option	2023 – 142,348 2025 – 145,550

Source: RS&H, 2016
Prepared by: RS&H, 2016

K.1 NOISE MEASUREMENT AND THE EFFECTS OF NOISE ON PEOPLE

Noise is defined as unwanted sound. In other words, noise is sound that disturbs routine activities or quiet, and/or causes feelings of annoyance. Whether sound is interpreted as pleasant (e.g., music), or unpleasant (e.g., jackhammer) depends largely on the listener's current activity, past experience, and attitude toward the source.

Sound is transmitted by alternating compression and decompression in air pressure. These relatively small changes in atmospheric pressure are called sound waves. The measurement and human perception of sound involves two physical characteristics—intensity and frequency. Intensity is a measure of the strength or magnitude of the sound vibrations, and is expressed in terms of the sound pressure level (SPL). The higher the SPL, the more intense is the perception of that sound. The other characteristic is sound frequency or "pitch"—the speed of vibration. Frequencies are expressed in terms of cycles per second or hertz (Hz). Low frequency sounds might be characterized as a rumble or roar, while high frequency sounds are typified by sirens or screeches. Noise analysis accounts for both of these characteristics in the units used to measure sound.

Sound Level Intensity

The human ear is sensitive to an extremely wide range of sound intensity, which covers a relative scale of 1 to 100,000,000. Representation of sound intensity using a linear index becomes difficult because of this wide range. The decibel (dB), a logarithmic measure of the magnitude of sound, expresses this range of energy levels using a smaller range of values. For most purposes, sound levels between 0 dB, the approximate threshold of hearing, and 130 dB, the threshold of pain, represent the range of interest.

As a logarithmic unit of measurement, the decibel can't be added or subtracted linearly, as shown in **Figure K-1**. Some simple guidelines for understanding changes in noise levels follow.

- If two sounds of the same level are added, the sound level increases by approximately 3 dB. For example: 60 dB + 60 dB = 63 dB.
- The sum of two sounds of a different level is only slightly higher than the louder level. For example: 60 dB + 70 dB = 70.4 dB.
- Sound from a "point source," such as an aircraft, decreases approximately 6 dB for each doubling of distance.
- Although the human ear can detect a sound change as faint as 1 dB, the typical person does not perceive changes of less than approximately 3 dB.
- A 10 dB change in sound level is perceived by the average person as a doubling, or halving, of the sound's loudness.

Humans are most sensitive to frequencies near the normal range of speech communications. "A-weighting" reflects this sensitivity by emphasizing midrange frequencies and de-emphasizing high and low frequencies. The A-weighted decibel (dBA) provides a better prediction of human reaction to environmental noise than the un-weighted decibel and is the metric most frequently used in noise compatibility planning.

The SEL Metric

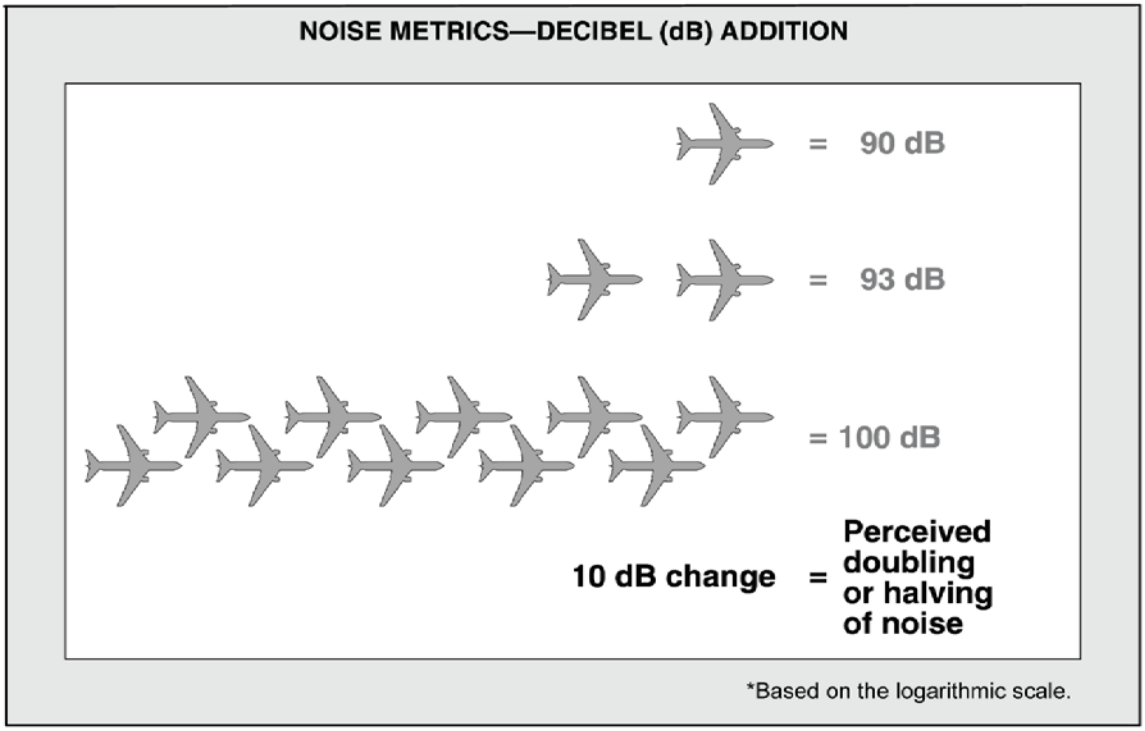
The sound exposure level (SEL) is the total sound energy of a single sound event. By accounting for both intensity and duration, the SEL allows us to compare the "annoyance" of different events. **Figure K-2** shows that the SEL for a single noise event is higher than its maximum level (Lmax). One way to understand SEL is to think of it as the sound level you would experience if all of the sound energy of a sound event occurred in one second.

Multiple Noise Sources

People experience a wide range of noise sources at varying intensities depending on local conditions. **Figure K-3** plots a hypothetical history of sound levels in a typical suburban neighborhood on a normal or "quiet" afternoon. A typical background, or residential, sound level in the absence of any identifiable noise sources, is approximately 45 dBA. About three-quarters of the time, the sound level is 50 dB or less. The highest sound level, caused by a nearby sports car, is approximately 70 dB, while an aircraft generates a maximum sound level of about 68 dB. Studies have shown that human response to noise involves both the maximum level and its duration. For example, the aircraft in this case is not as loud as the sports car, but the aircraft sound lasts longer. For most people, the aircraft overflight would be more annoying than the sports car event.

The number of events can be an important consideration in estimating the effect of noise. One way to describe this factor might be to count the number of events exceeding SEL 80 dB, plus the number that exceed SEL 75 dB, plus the number that exceed SEL 70 dB, etc. A more efficient way to describe both the number of such events, and the sound exposure level of each is the time-average of the total sound energy over a specified period, referred to as the equivalent sound level (Leq). Research indicates that community reaction to noise corresponds to the total acoustic energy that is represented by the Leq. In the example shown in **Figure K-3**, the Leq is roughly 58 dB. This measurement accounts for all of the sound energy during the sample period and provides a single-number descriptor.

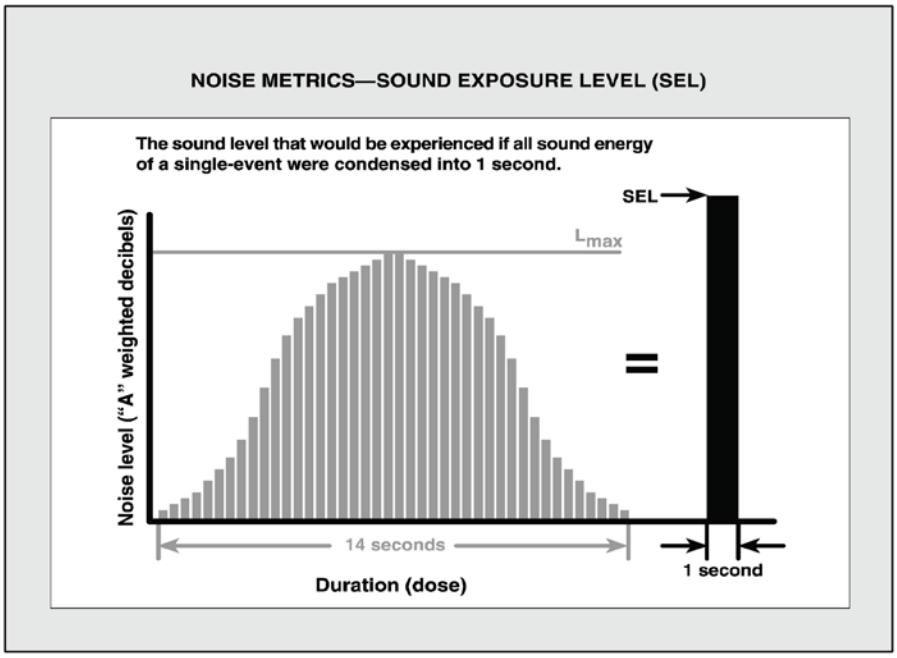
Figure K-1
Decibel Addition



Time of Day Considerations – The CNEL Noise Metric

People are normally more sensitive to intrusive sound events at night, and the background sound levels are normally lower at night because of decreased human activity. Therefore, noise events during the nighttime hours are likely to be more annoying than noise events at other times. To account for these factors, the Community Noise Equivalent Level (CNEL) adds about a 4.8dBA penalty to events occurring between the evening hours of 7-10pm and a 10 dBA penalty to events occurring between 10:00 PM and 7:00 AM (see **Figure K-4**). In essence, the CNEL is the 24-hour equivalent sound level (or Leq 24), including this 4.8 evening and 10 nighttime dBA penalty. This penalty means that one evening sound event is equivalent to about 3 daytime events at the same level and one nighttime sound event is equivalent to 10 daytime events of the same level. Noise models calculate CNEL by incorporating the SELs of individual aircraft operations experienced at a given location during an annual average day (total annual operations divided by 365) with a 4.8dBA penalty for events occurring between the evening hours and a 10 dBA penalty for those operations occurring during the nighttime hours.

Figure K-2
Sound Exposure Level



The U.S. Environmental Protection Agency (USEPA) has designated the DNL as the principal metric for airport noise analysis[1]. DNL is widely accepted as the best available single metric to describe aircraft noise exposure. The FAA requires use of the annual DNL in aircraft noise exposure analyses and noise compatibility planning[2].

K.2 RUNWAY AND TAXIWAY USE

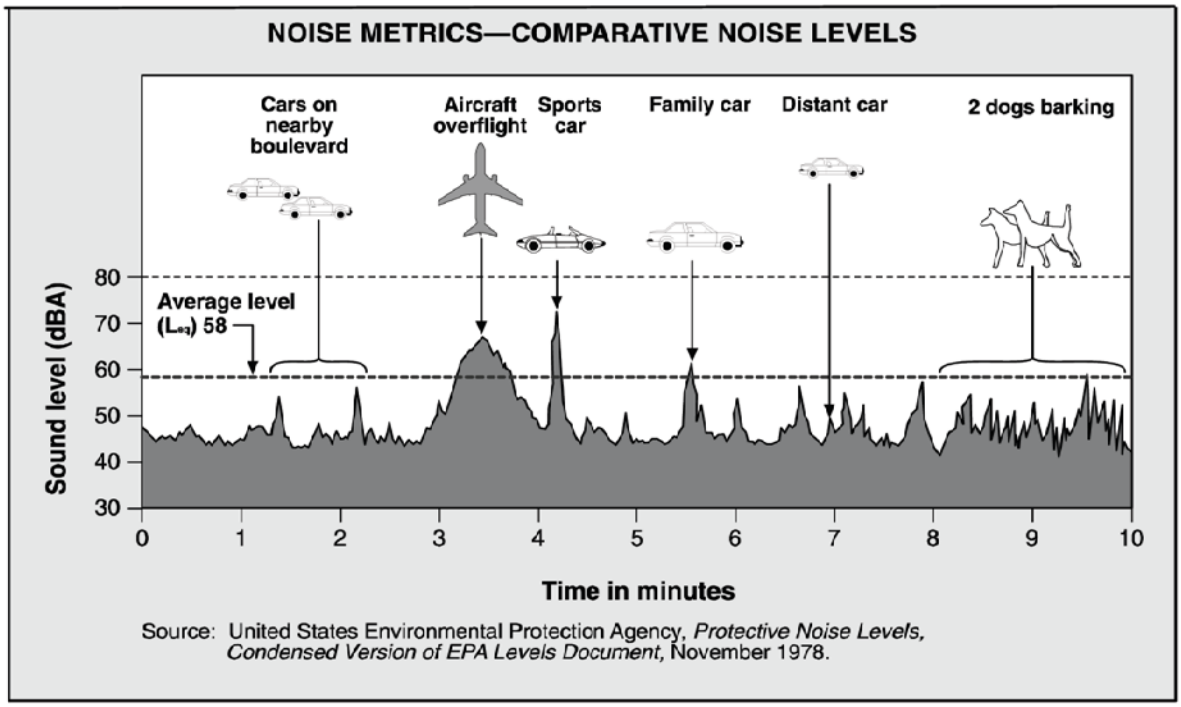
Runway use is generally influenced by the prevailing wind direction, runway length, available approach procedures, and equipment requirements. Taxiway use is based on convenience, availability, and equipment requirements.

K.2.1 Runway Use

Based on communication with airport and airport traffic control tower (ATCT) staff, Airport tenants, airlines, and fixed base operators, it was determined that the Proposed Project would not influence runway use patterns. Therefore, this section focuses on changes to the taxi pattern system and does not discuss any changes to runway use.

[1] U.S. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, U.S. EPA Report No. 550/9-74-004, 1974.
[2] Federal Aviation Administration, Federal Aviation Regulations Part 150, Airport Noise Compatibility Planning, Appendix A, 1984.

Figure K-3
Comparative Noise Levels



K.2.2 Taxiway Use

A conservative approach to examining changes in taxi patterns was used to measure differences between the various alternatives examined in this EIR. This conservative approach minimized the number of runway crossings. Since the Integrated Noise Model 7.0d and the Aviation Environmental Design Tool (AEDT) are not designed to model taxiway noise, SEL contours were developed using a modelling method that assumed an overflight 10 feet above field elevation (AFE), traveling at 15 knots.[3]

Since INMN and AEDT do not have the capability to model taxiway noise, a recommended workaround from the INM User guide Handbook was used to analyze taxi noise. In order to create taxi tracks a custom overflight flight track representing conservative taxi patterns for each user class type was drawn over the taxi system. The overflight elevation was assigned to the engine height above the ground for each piece of equipment. Engine power was determined by assigning thrust to a value between 8 and 10 percent of the static thrust for each piece of equipment. Speed between 10 and 15 knots was assigned to each aircraft as well. The following taxi patterns presented in **Figures K-5** through **Figure K-12** respectively present taxi patterns used to model noise under existing conditions, the Adjacent Property Full Size Terminal Alternative, the Southwest Quadrant Full Size Terminal Alternative, and the Southwest Quadrant Same Size Terminal Alternative.

[3] This INM model does not account for the noise-reduction benefit of large hangars, terminals and parking structures between the taxiing aircraft and off-airport receptors. Actual contours off-airport will be less than the model predicts because of the existing and future presence of large structures along the taxiways.

Figure K-4
Day-Night Average Sound Level

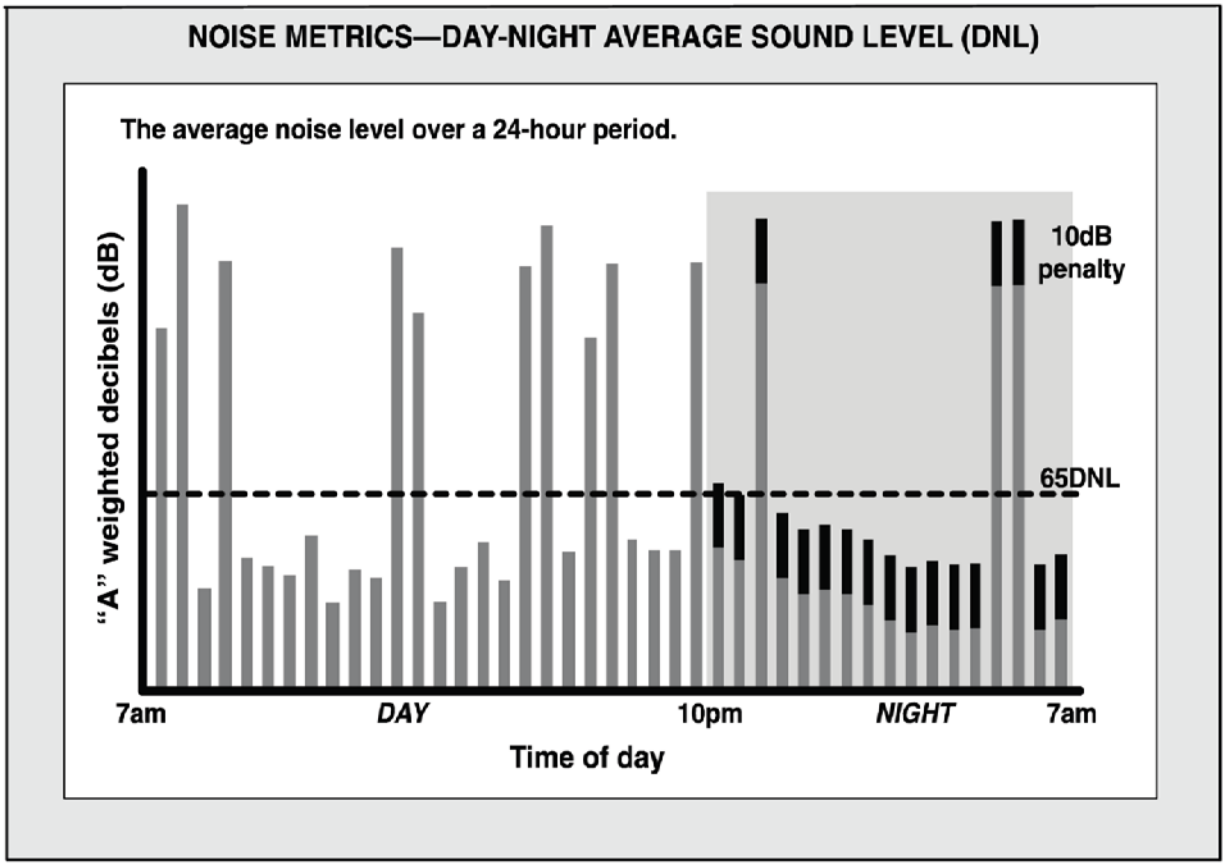


Table K-2
EXISTING AND FUTURE RUNWAY USE AT THE AIRPORT UNDER ANY OPTION

Runway	Air Carrier/Cargo	Turboprop/ Business Jet	General Aviation	Military
Departures				
8	0%	0.5%	30.25%	0.00%
26	0.5%	1.5%	4.75%	1.5%
15	96%	94%	53.5%	95%
33	3.5%	4%	11.5%	3.5%
Arrivals				
8	86%	75%	56%	85%
26	0%	4%	8%	0%
15	10%	18%	32%	10%
33	4%	3%	4%	5%

Source: Airport Part 150, 2013. RS&H, 2016.
Prepared by: RS&H, 2016.

K.2.3 Taxi SEL Contours

Changes in taxi pattern noise exposure were measured using SEL contours to demonstrate the spatial extent of noise events resulting from potential taxi operations representing each alternative. Since relocation of the terminal would influence air carrier taxi routes, the loudest aircraft in the air carrier fleet, the 737-800, was used to model taxi noise. The SEL noise contours associated with existing conditions are presented in **Figure K-5** and **K-6**. SEL contours associated with each option considered in this EIR are presented in **Figure K-7** through **Figure K-12**.

Table K-3 compares the SEL values for the noisiest passenger aircraft at the Airport for the 4 noise-sensitive receptors shown in **Figures K-5** through **K-12**. Depending upon the runways being used, aircraft taxiing to and from the terminal locations will be closer to or more distant from these sites. The SEL values shown in **Table K-3** represent single events and are not affected by the number of events that would be experienced. In addition, the SEL values do not take into account any structures or other noise attenuation that could occur between the taxiway and the noise-sensitive receptor. It is likely that such structure would act as a noise shield. As noted earlier, there is no threshold of significance for single event noise levels, which are provided for informational purposes only.

K.3 FLIGHT TRACK USE

Since the Airport Part 150 Study was completed in April of 2013, flight track use (i.e. flight paths) has not changed. In addition, none of the options considered as part of this EIR would have any effect on flight track use.

Therefore, departure (**Figure K-13**), arrival (**Figure K-14**), touch and go, and training tracks (**Figure K-15**) do not differ from the flight tracks presented in the Airport Part 150 Study. These flight tracks account for the FAA ban on Runway 8 departures by aircraft over 12,500 pounds. Note that there are, on a routine basis, departures on Runway 8 by aircraft weighing less than 12,500 pounds.

K.4 FLEET MIX

The Fleet mix for the EIR was developed using the Airport Part 150 and the hypothetical Air Carrier Schedule found in **Appendix E**. The Airport Part 150 was used to develop the 2015 Air carrier fleet mix and the non-air carrier fleet mix for all study years. The hypothetical flight schedule presented in **Appendix E** was the basis for the air carrier fleet mixed used in 2023 and 2025. **Table K-4** presents the fleet mix for all study years examined as part of the EIR. All fleet mixes are identical across all options examined.[4]

[4] The CRJ 200 is an Air Taxi class of aircraft, but because it is routinely operated out of the terminal building by some airlines, it is included in the fleet mix for the Air Carrier User Class.

Table K-3
737-800 Aircraft Taxi Noise (SEL) at Nearby Noise Sensitive Uses[5]

Site ID and Taxi Path	Existing		Adjacent Property Full-Size Terminal Option		Southwest Quadrant Full-Size Terminal Option		Southwest Quadrant Same-Size Terminal Option	
	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart
Site 1								
Runway 8	62.6	-	64.6	-	67	-	67	-
Runway 33	83.8	66.5	82.9	65.4	82.3	86.9	82.3	86.9
Runway 26	-	65.6	-	65.6	-	62.5	-	62.5
Runway 15	58.3	82.9	63.4	82.9	86.9	82.5	86.9	82.5
Site 2								
Runway 8	65.8	-	70.6	-	73	-	73	-
Runway 33	80.7	72.1	80.4	71.8	81.1	82.2	81.1	82.2
Runway 26	-	71.5	-	71.5	-	66.7	-	66.7
Runway 15	63.1	80.4	70.4	80.4	82.2	81.5	82.2	81.5
Site 3								
Runway 8	66	-	70.9	-	83.7	-	83.7	-
Runway 33	74.2	71.4	71.3	73.9	75.8	70.8	75.8	70.8
Runway 26	-	70.3	-	70.3	-	71	-	71
Runway 15	66.9	71.3	70.7	71.3	70.8	84.2	70.8	84.2
Site 4								
Runway 8	70.5	-	72.8	-	87.3	-	87.3	-
Runway 33	72.1	73.7	65.2	80.1	81.1	61	81.1	61
Runway 26	-	71	-	71	-	81.7	-	81.7
Runway 15	76.2	65.2	73.8	65.2	61	87.3	61	87.3

Source: RS&H, 2016

[5] A noise-sensitive receptor is defined as a location where noise can interrupt on-going activities which can result in community annoyance especially in residential areas

Figure K-5

EXISTING AIR CARRIER ARRIVAL AIRCRAFT TAXI PATTERNS

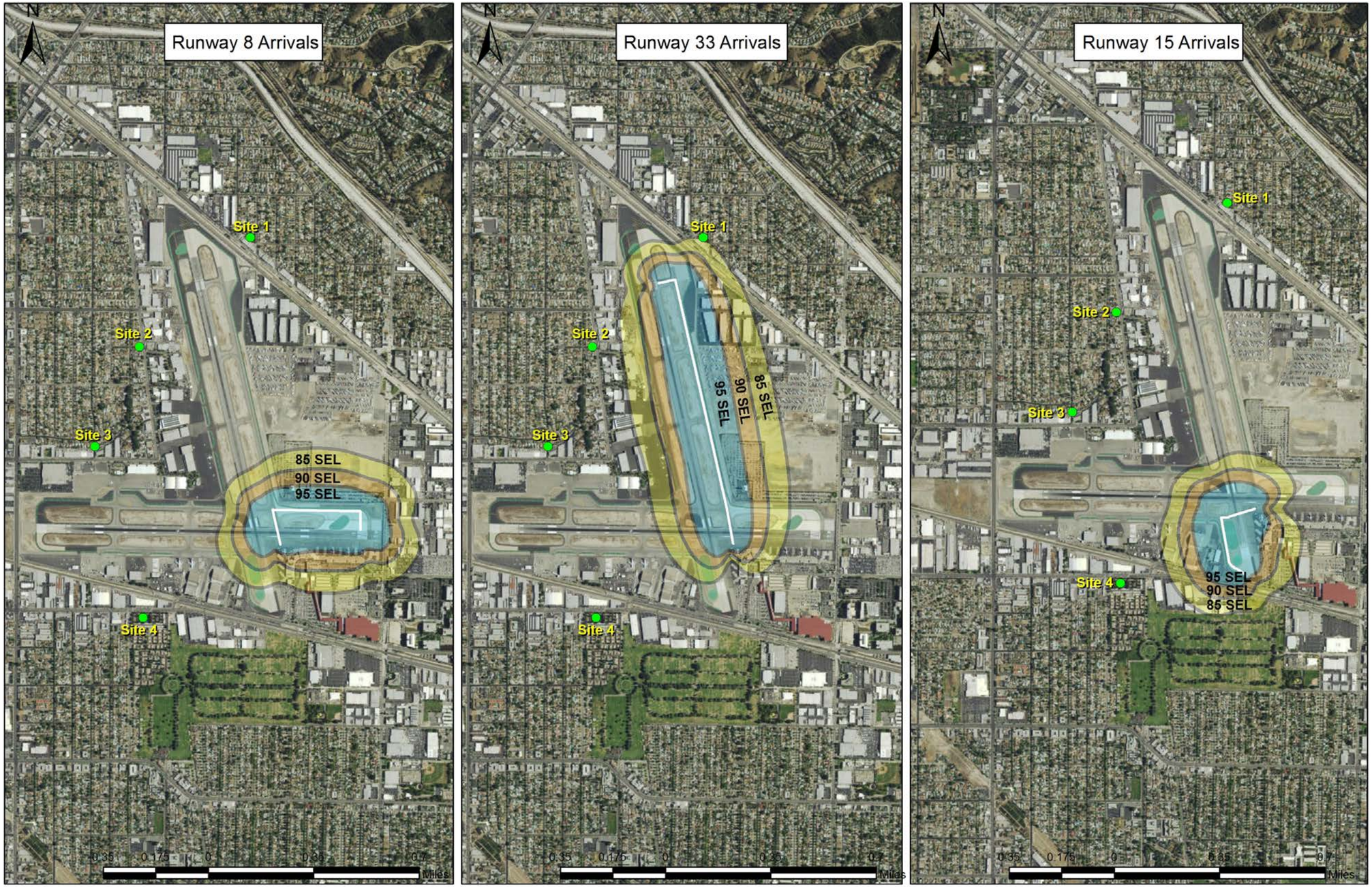


Figure K-6

EXISTING AIR CARRIER DEPARTURE AIRCRAFT TAXI PATTERNS

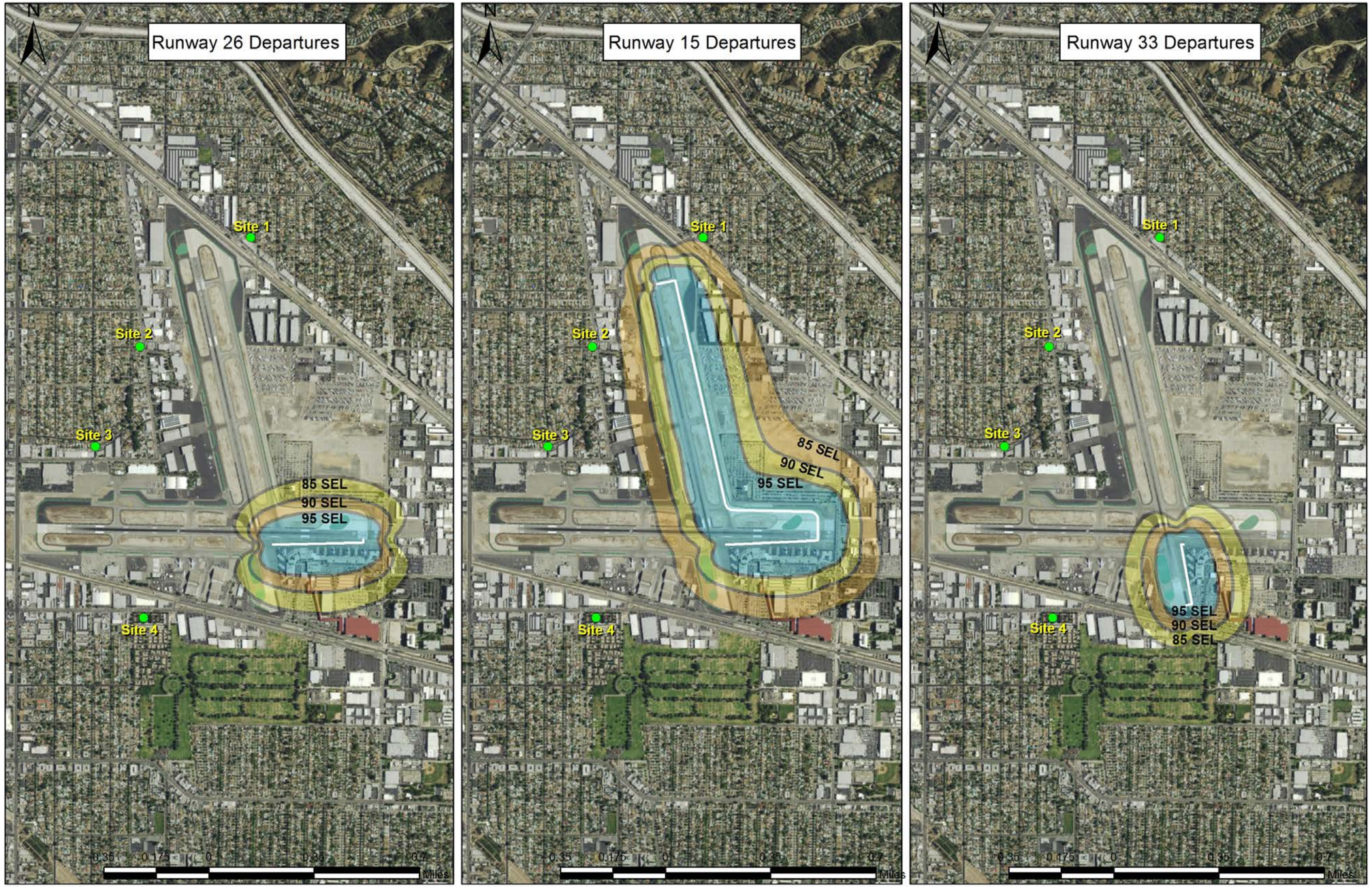


Figure K-7

ADJACENT PROPERTY FULL SIZE TERMINAL OPTION AIR CARRIER ARRIVAL TAXI PATTERNS

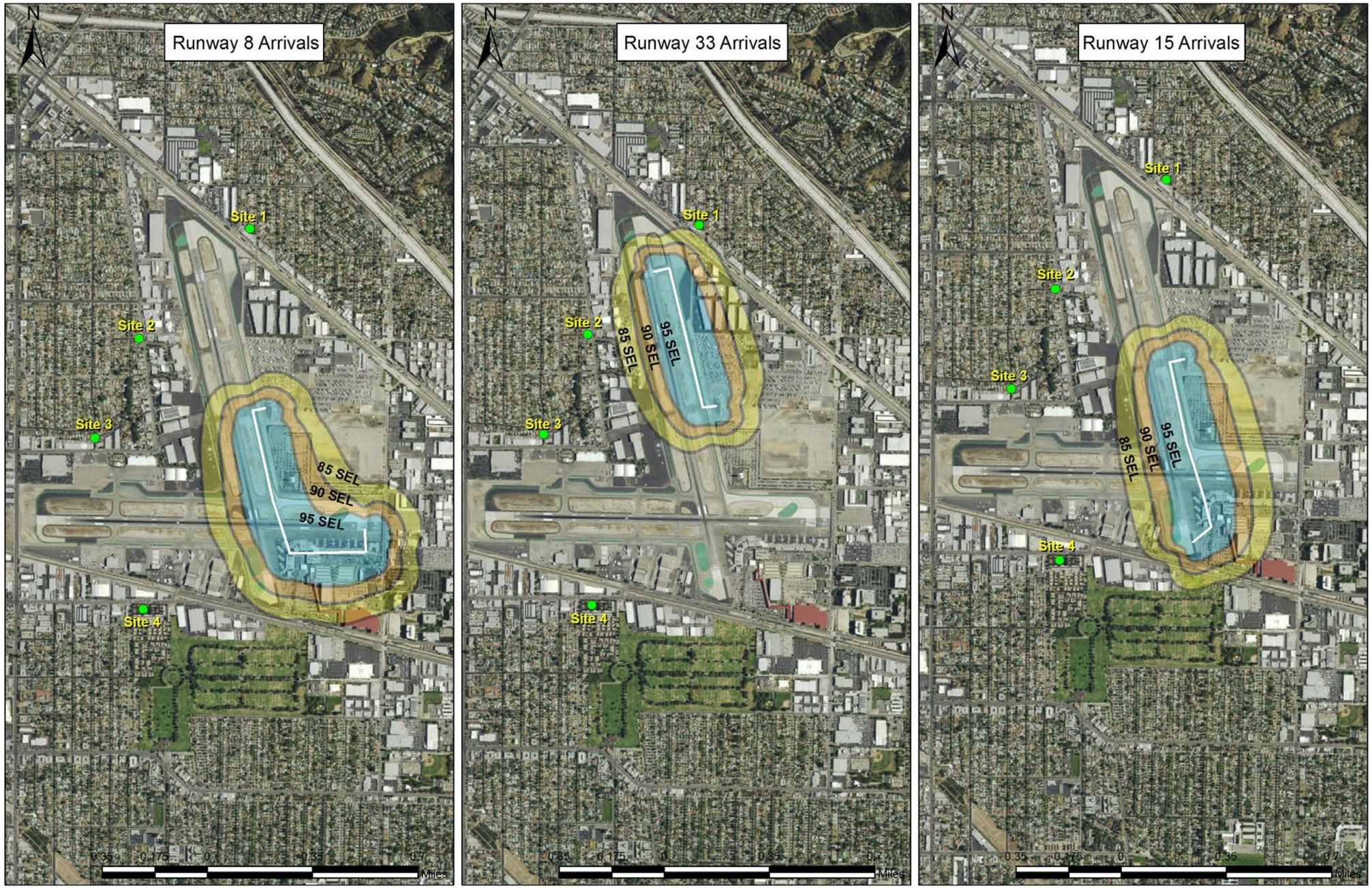


Figure K-8

ADJACENT PROPERTY FULL SIZE TERMINAL OPTION AIR CARRIER DEPARTURE TAXI PATTERN

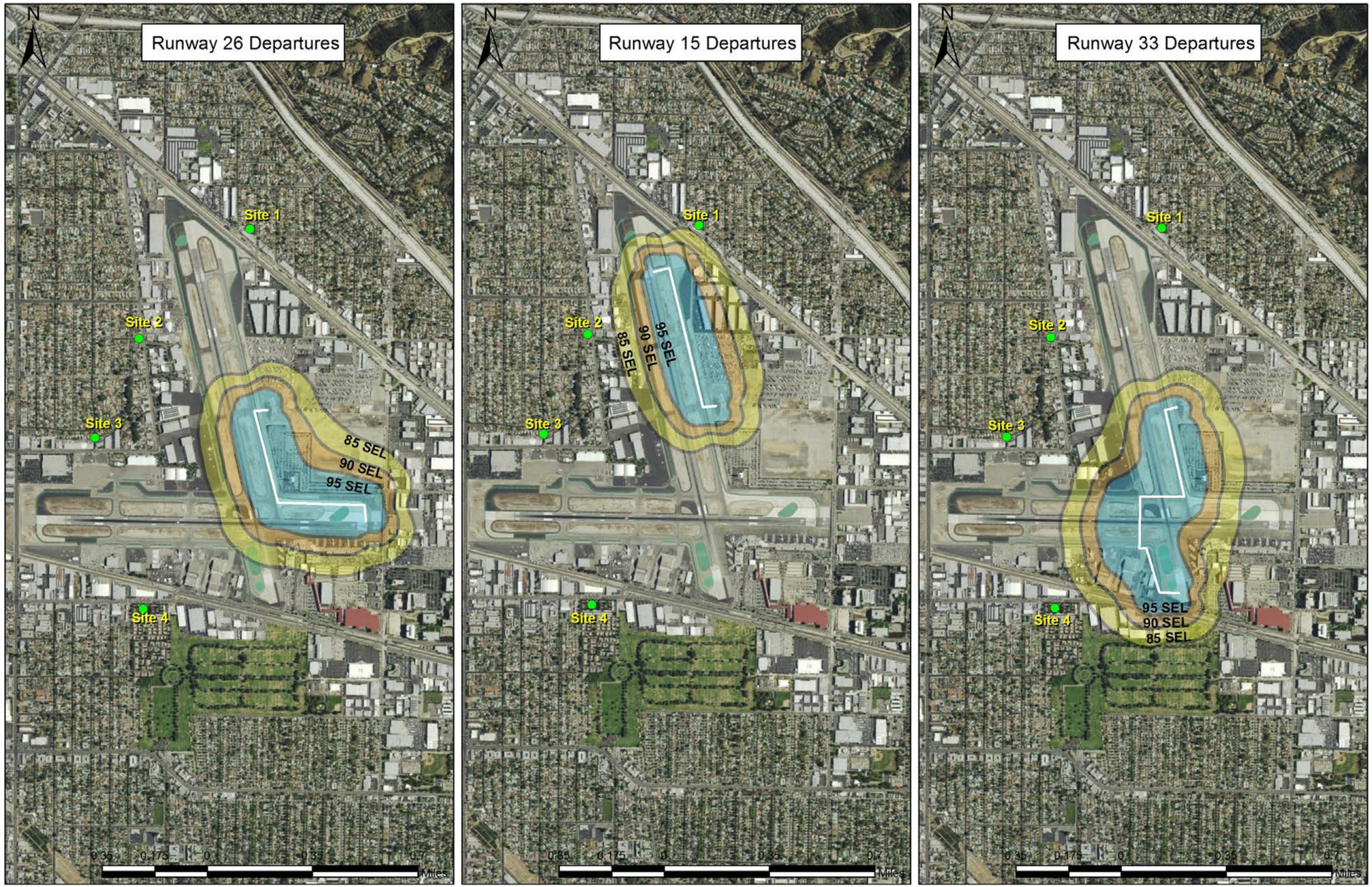


Figure K-9

SOUTHWEST QUADRANT FULL SIZE TERMINAL OPTION AIR CARRIER ARRIVAL TAXI PATTERN

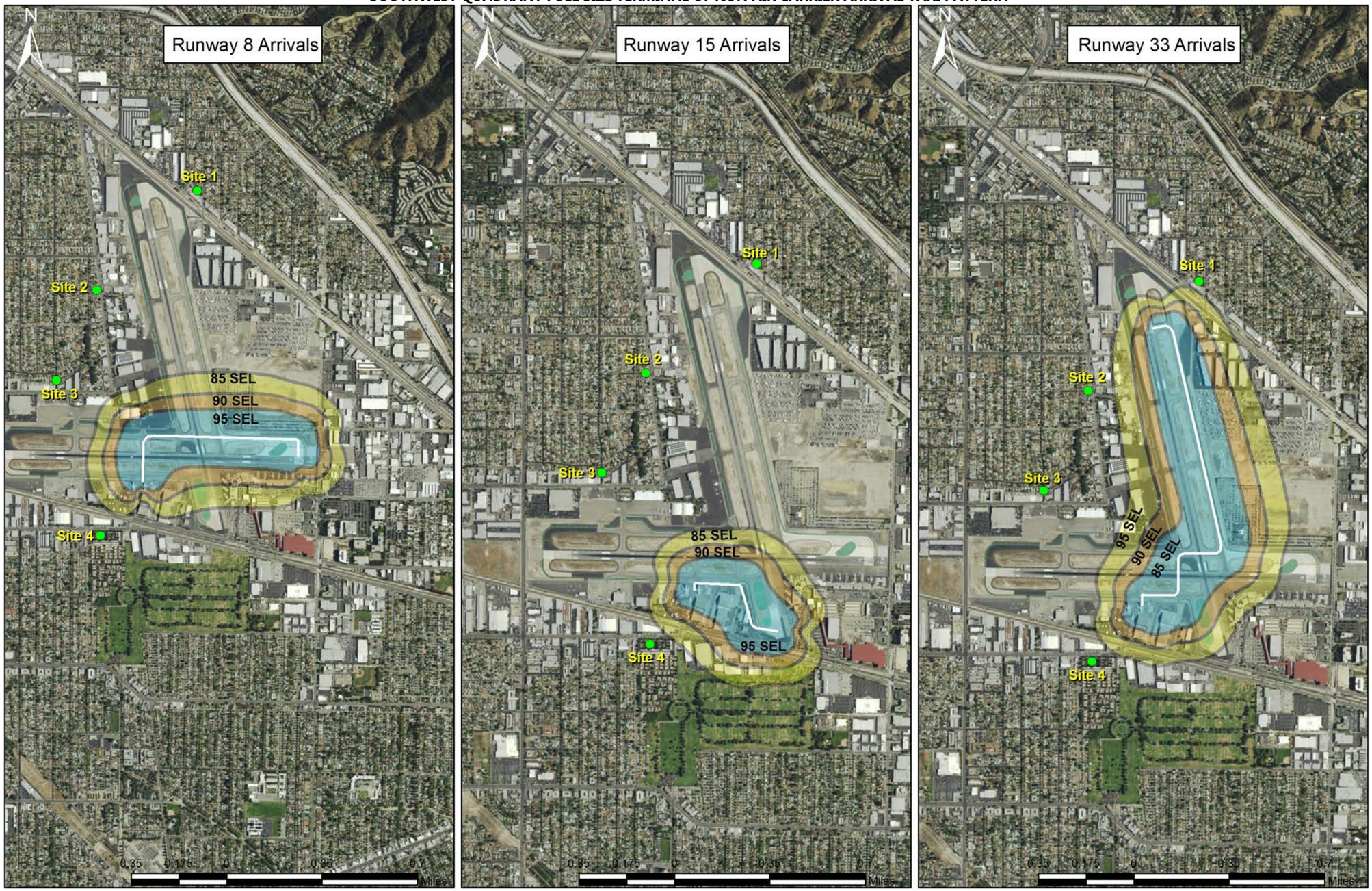


Figure K-10

SOUTHWEST QUADRANT FULL SIZE TERMINAL OPTION AIR CARRIER DEPARTURE TAXI PATTERN

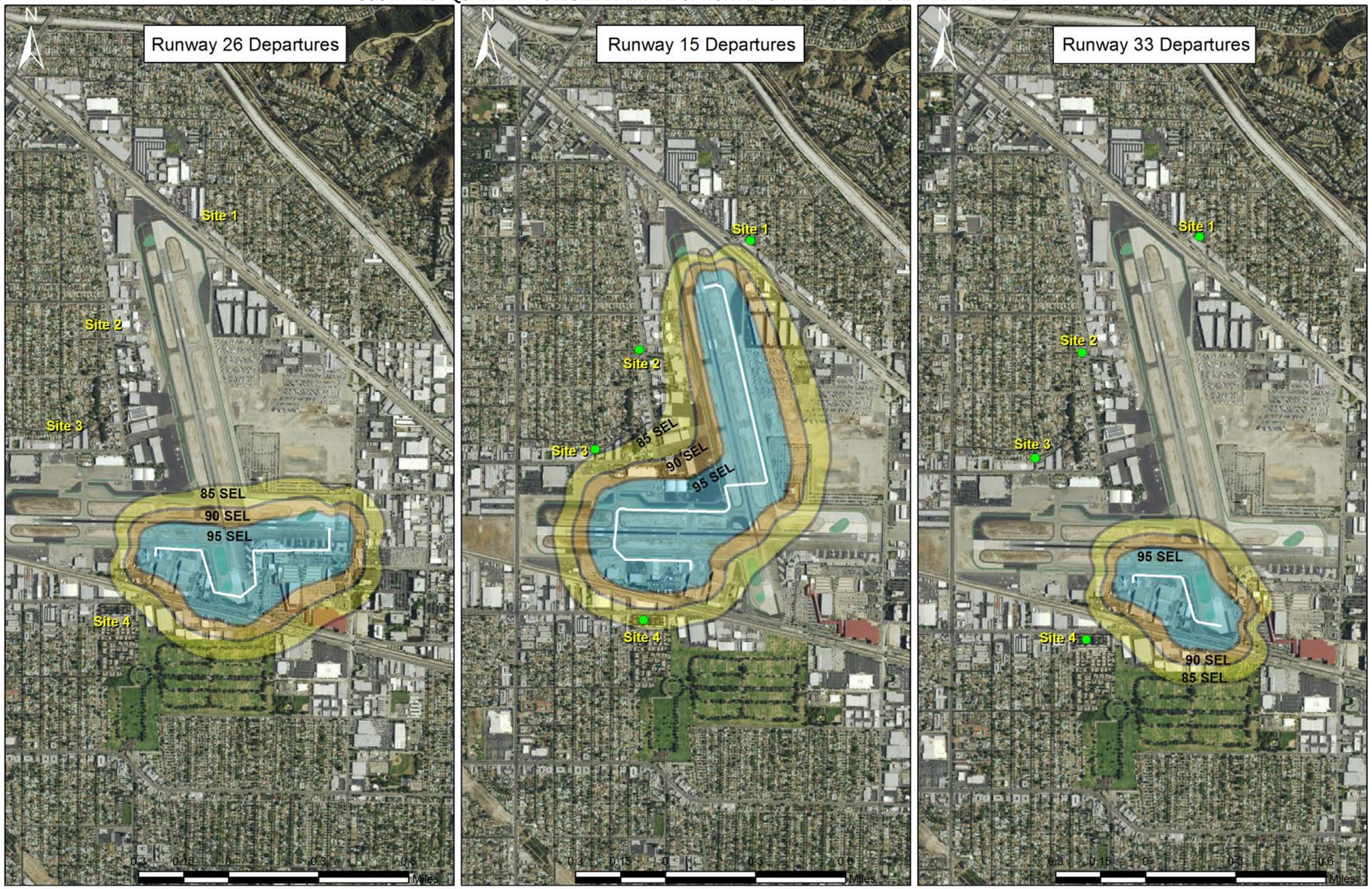


Figure K-11

SOUTHWEST QUADRANT SAME SIZE TERMINAL OPTION AIR CARRIER ARRIVAL TAXI PATTERNS

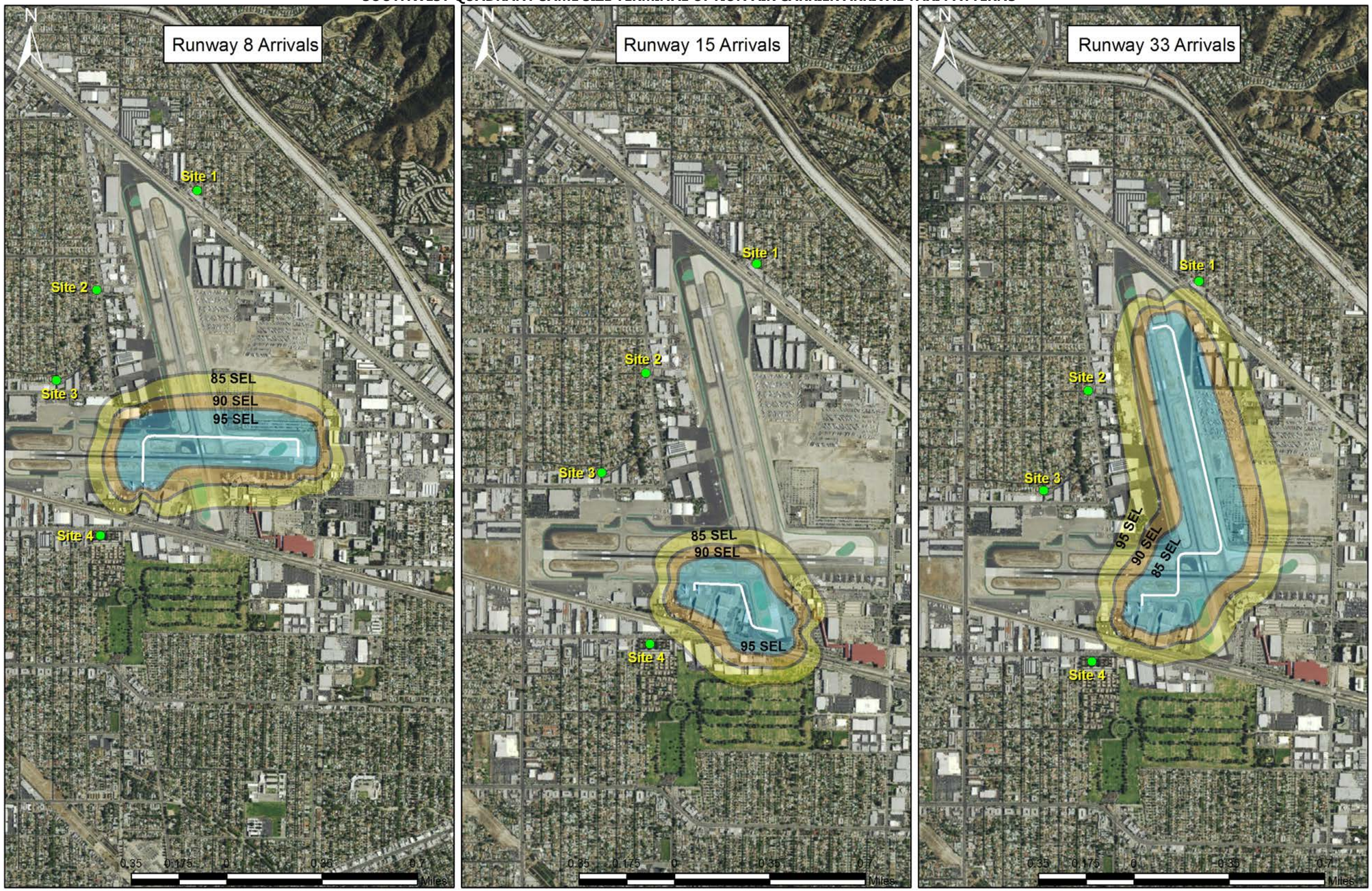


Figure K-12

SOUTHWEST QUADRANT SAME SIZE TERMINAL OPTION AIR CARRIER DEPARTURE TAXI PATTERNS

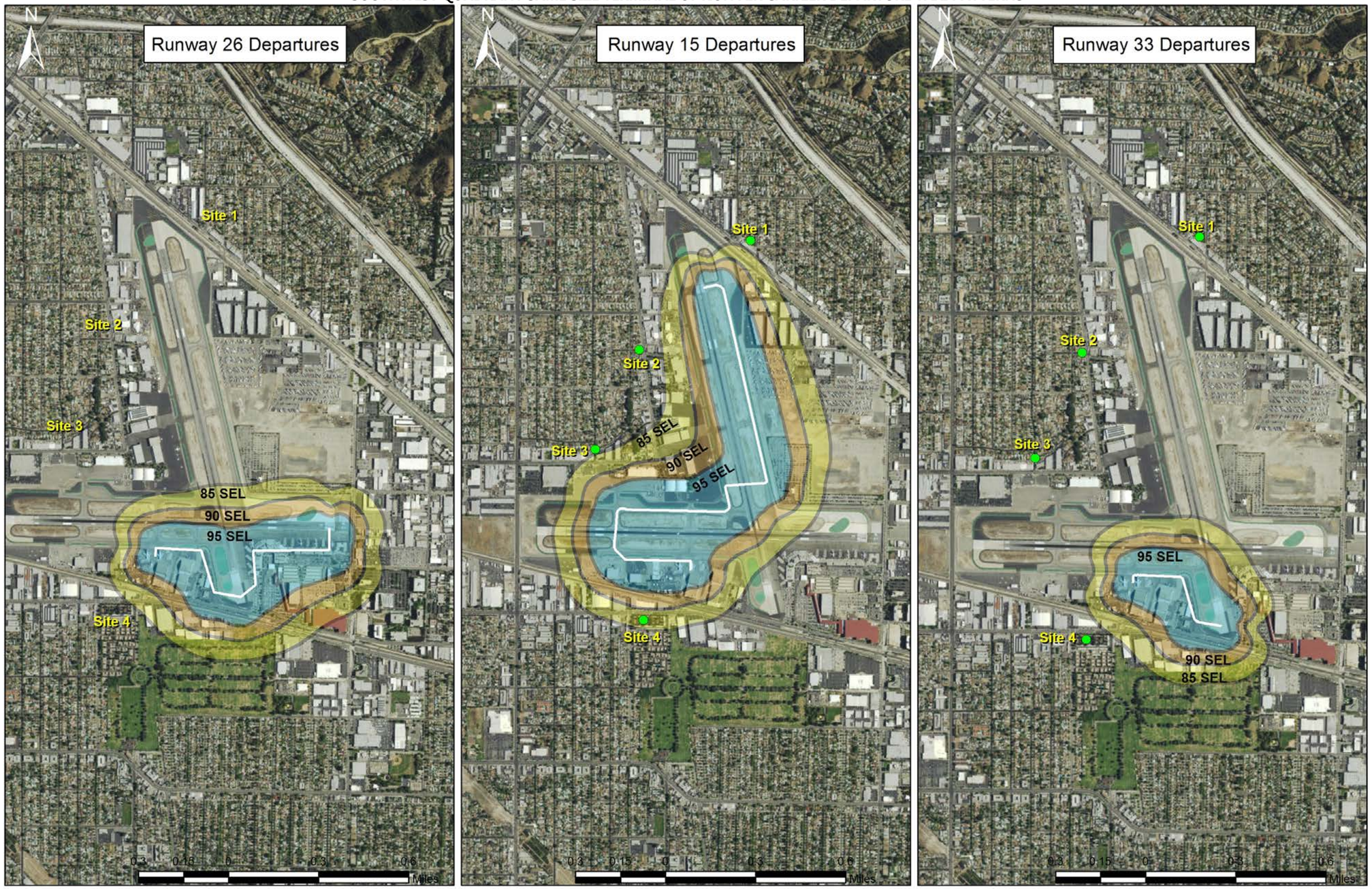


Figure K-13

ARRIVAL FLIGHT TRACKS[6]

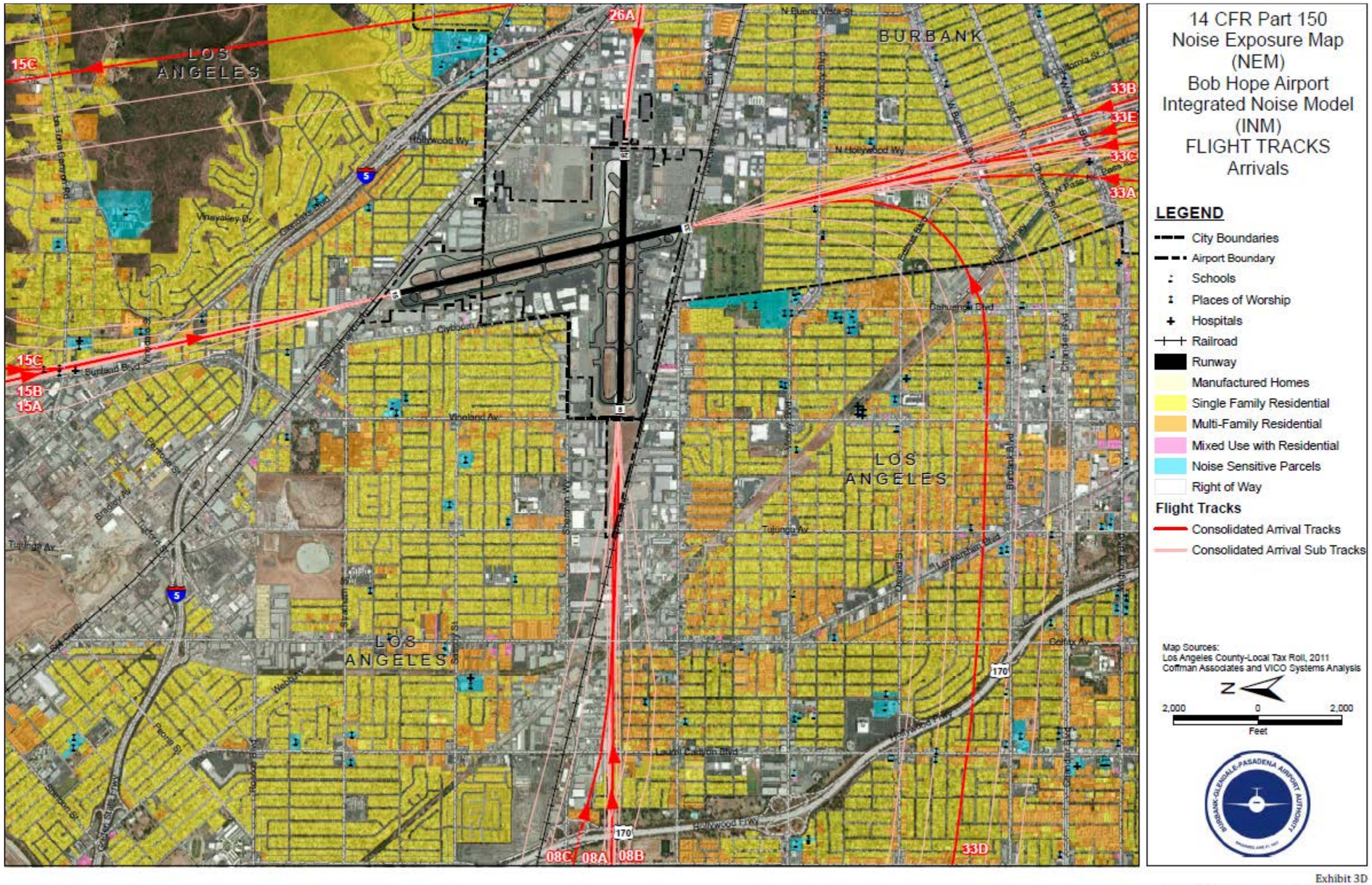


Exhibit 3D
Existing and Future Arrival Flight Tracks

[6] These flight tracks associated with the Part 150 Study were used for the noise analysis for the EIR because implementation of the Proposed Project would have no effect on arrival or departure flight tracks.

Figure K-14

DEPARTURE FLIGHT TRACKS[7]

Exhibit 3E
Existing and Future Departure Tracks

[7] Departures on Runway 8 are limited to aircraft less than 12,500 lbs.

Figure K-15

TOUCH AND GO AND TRAINING FLIGHT TRACKS

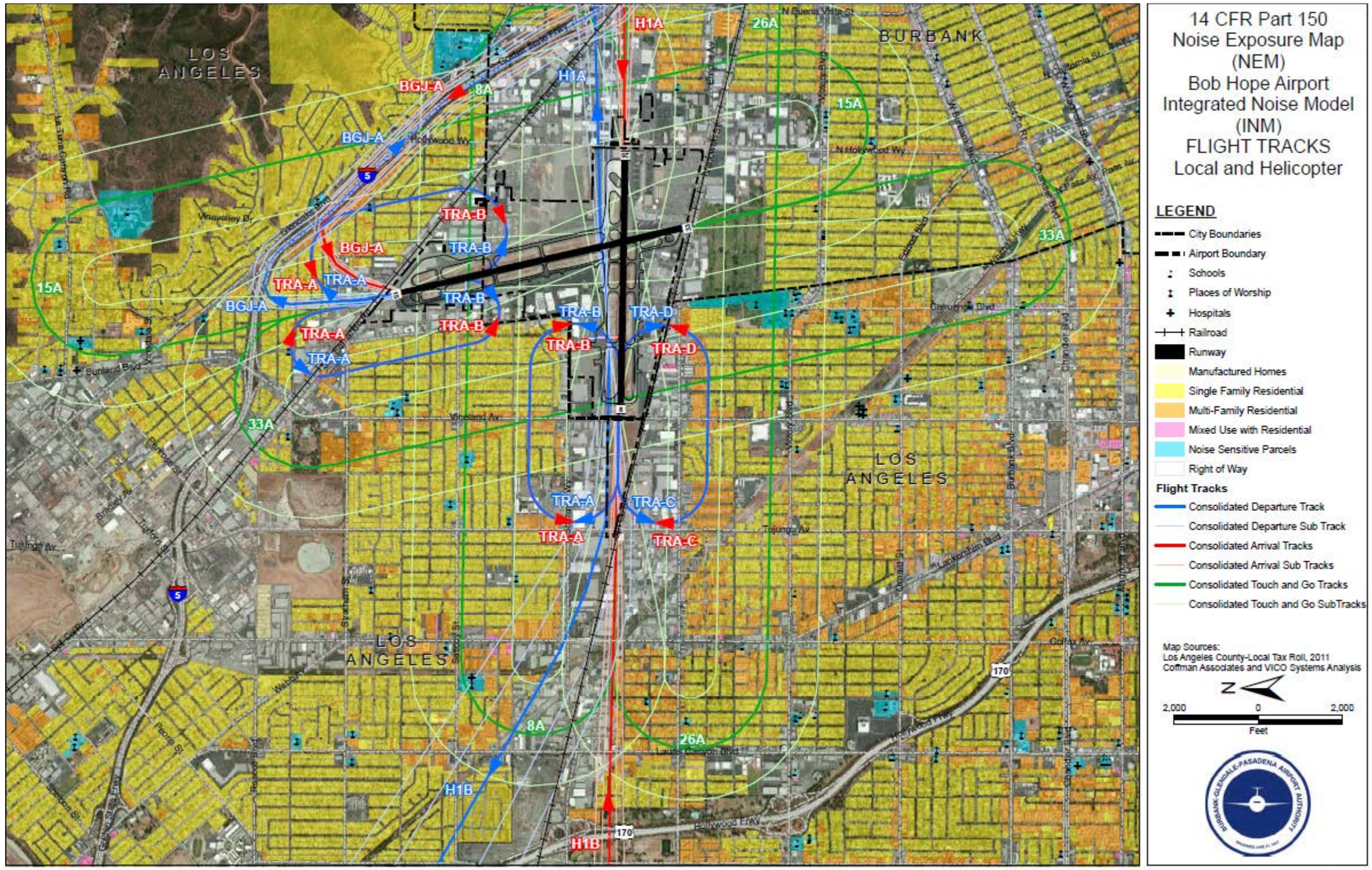


Exhibit 3F
Existing and Future Helicopter and Training Flight Tracks

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Table K-4
FLEET MIX

Aircraft Type	Replacement/Model Input ID	2015	2023	2025
Air Carrier User Class				
737900	737800	0.00%	0.49%	0.50%
EMB-175	EMB175	0.00%	0.98%	0.99%
737-800	737800	0.73%	9.77%	9.91%
A-320	A320-211	1.68%	1.47%	1.49%
MD-80	MD82	0.87%	0.00%	0.00%
737-300	737300	0.71%	0.00%	0.00%
737-700	737700	22.58%	17.09%	17.34%
737-500	737500	0.36%	0.00%	0.00%
A319	A319-131	0.74%	2.93%	2.97%
CRJ 900	CRJ9-ER	2.18%	2.93%	2.97%
Dash-8	DHC830	0.00%	0.00%	0.00%
CRJ 700	CRJ701	3.28%	0.98%	0.99%
CRJ 200	CL601	3.28%	0.00%	0.00%
Air Taxi and General Aviation				
Cessna Citation I	CNA500	0.19%	0.19%	0.19%
Cessna Citation III	CIT3	0.16%	0.17%	0.16%
MU-300 Diamond	MU3001	0.54%	0.55%	0.54%
Cessna Citation II	CNA55B	0.56%	0.57%	0.56%
Cessna Excel/Ultra	CNA560XL	1.38%	1.39%	1.38%
Cessna Citation X	CNA750	0.67%	0.67%	0.67%
Cessna Mustang	CNA510	0.32%	0.32%	0.32%
Cessna Sovereign	CNA680	0.33%	0.34%	0.33%
Canadair Challenger	CL600	1.52%	1.53%	1.52%
Lear 30/40/50 Series	LEAR35	1.69%	1.70%	1.69%
Lear 20 Series	LEAR25	0.00%	0.00%	0.00%
Falcon 20	FAL20	0.00%	0.00%	0.00%
Gulfstream II/III	GIIB	0.00%	0.00%	0.00%
Gulfstream IV	GIV	1.37%	1.38%	1.37%
Gulfstream V	GV	1.06%	1.07%	1.06%
Astra 1125	IA1125	0.51%	0.51%	0.51%
Falcon 50	F10062	0.09%	0.09%	0.09%
737-700	737700	0.12%	0.12%	0.12%
EMB-145	EMB145	0.09%	0.09%	0.09%
757-200	757PW	0.07%	0.08%	0.07%
Single Eng. Piston Fixed Wing	GASEPF	7.40%	7.45%	7.39%
Single Engine Piston Var	GASEPV	7.40%	7.45%	7.39%
Multi Engine Piston	BEC58P	1.32%	1.33%	1.32%
Single Turbo Prop	CNA208	2.11%	2.13%	2.11%

Table K-4
FLEET MIX (cont.)

Aircraft Type	Replacement/Model Input ID	2015	2023	2025
Air Taxi and General Aviation (cont.)				
Twin Turbo Prop	CNA441	3.70%	3.72%	3.70%
Twin Turbo Prop	DHC6	1.85%	1.86%	1.85%
Helicopter	R44	0.87%	0.88%	0.87%
Helicopter	H500D	0.87%	0.88%	0.87%
Helicopter	SA350D	5.98%	6.03%	5.98%
Air Cargo				
767-400	767400	0.05%	0.05%	0.05%
A-300	A300-622R	0.97%	0.86%	0.84%
757-200	757PW	0.02%	0.02%	0.02%
B-1900	1900D	0.29%	0.26%	0.25%
Lear 35	LEAR35	0.38%	0.34%	0.33%
SA227	SA227	1.15%	1.02%	1.00%
King Air 200	BEC200	0.30%	0.26%	0.26%
Beech 99	BEC99	0.70%	0.62%	0.60%
PA-31	PA31	0.80%	0.71%	0.70%
Beech Baron 58	BEC58P	0.15%	0.14%	0.13%
General Aviation - Local				
Single Engine Piston Fixed	GASEPF	3.16%	3.18%	3.16%
Single Engine Piston Var	GASEPV	3.16%	3.18%	3.16%
Multi-Engine Piston	BEC58P	1.58%	1.59%	1.58%
Helicopter	R22	7.91%	7.96%	7.91%
Military				
Fighter	F16A	0.13%	0.12%	0.12%
Helicopter	S70	0.67%	0.59%	0.58%

Source: Airport Records, 2016; Airport Part 150, 2013; Conway Consulting, 2015; RS&H, 2016
Prepared by: RS&H, 2016

K.5 ENGINE RUN-UP NOISE ANALYSIS

Engine run-ups do occur at the Airport at a designated location on Taxiway D. Consultation with the Airport indicated that ground run up operations would not change as a result of the Proposed Project. Therefore, ground run-ups were not analyzed in the noise analysis.

K.6 CONSTRUCTION NOISE ANALYSIS

Project construction would require the use of mobile heavy equipment with high noise-level characteristics. Even with implementation of the project characteristics cited above, individual pieces of construction equipment anticipated during project construction could produce maximum noise levels of 70 dBA to 85 dBA at a reference distance of 50 feet from the noise source, as shown in **Table K-4a**,. These maximum noise levels would occur when equipment is operating at full power. The estimated usage factor for the equipment is also shown in Table 3.13-5. The usage factors are based on FHWA's Roadway Construction Noise Model User's Guide. To more accurately and conservatively characterize construction-

period noise levels, the average (Hourly L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment used during each construction stage and represent multiple pieces of equipment operating simultaneously.

On-site construction noise impacts were evaluated by determining the noise levels generated by the different types of construction activity anticipated, calculating the construction-related noise level at nearby sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without construction noise) at those receptors. More, specifically, the following steps were undertaken to assess construction-period noise impacts.

1. Ambient noise levels at surrounding sensitive receptor locations were obtained by field measurement data (see **Table 3.13-2a** in **Section 3.13**);
2. Typical noise levels for each type of construction equipment were obtained from the Federal Highway Administration roadway construction noise model (see **Table K-4a**);
3. Distances between construction site locations (noise sources) and surrounding sensitive receptors were measured using project architectural drawings and site plans and Google Earth;
4. The construction noise level was then calculated, in terms of hourly Leq, for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance; and
5. Construction noise levels were then compared to the construction noise significance thresholds presented in **Section 3.13.1.1**.

Table K-4a
Construction Equipment Noise Levels

Equipment	Estimated Usage Factor, %	Maximum Noise Level at 50 feet from Equipment, dBA (Lmax)
Air Compressor	50	78
Backhoe	40	80
Concrete Saw	20	85
Concrete Boom Pump	20	81
Concrete Truck	40	79
Crane	40	81
Dozer	40	82
Dump Truck	20	76
Excavator	40	81
Forklift	10	75
Generator Set	50	81
Grader	40	85
Paver	50	77
Paving Equipment	20	70
Roller	20	80
Scraper	40	84
Tractor/Loader/Backhoe	25	80
Water Truck	10	80
Welder	40	74

Source: FHWA Roadway Construction Noise Model User's Guide, 2006.

Attachment A presents the calculations determine the anticipated L_{eq} at each sensitive receptor.

K.7 TRAFFIC NOISE ANALYSIS

To further characterize the project area's ambient noise environment, the CNEL noise levels attributed to existing traffic on local roadways were calculated using a noise prediction model which was developed based on calculation methodologies provided in the California Department of Transportation (Caltrans) Technical Noise Supplement (TeNS) document and traffic data provided in the project Traffic Study (see Appendix J of this Draft EIR). This methodology, considered an industry standard, allows for the definition of roadway configurations, barrier information (if any), and receiver locations.

A traffic model calibration test was performed to establish the noise prediction model's accuracy between 12 P.M. and 1 P.M. on December 15, 2015. The road segments included in the calibration test were along Hollywood Way, between I-5 Southbound Ramps and San Fernando Boulevard. At the noted locations, a 15-minute noise recording was made concurrent with logging of actual traffic volumes and auto fleet mix (i.e., standard automobile, medium duty truck, or heavy duty truck). The traffic counts were entered into the noise model along with the observed speed, lane configuration, and distance to the roadway to calculate the traffic noise levels. The results of the traffic noise model calibration are provided in Table 4.H-2, Traffic Noise Model Calibration Results. As indicated, the noise model results are within 1 dBA of the measured noise levels, which is within the industry standard tolerance of the noise prediction model. Therefore, the project specific traffic noise prediction model is considered accurate and reflective of the project's physical setting.

Table K-4b
Traffic Noise Model Calibration Results

Road Segment/ Noise Measurements Locations	Traffic Counts during noise readings, 15-minutes			Measured Traffic Noise Levels, L_{eq} (dBA)[c]	Project Traffic Noise Model Predicted Noise Levels, L_{eq} (dBA)	Difference between Predicted and Measured Levels, dBA
	Autos	Medium Trucks [a]	Heavy Trucks [b]			
Hollywood Way	363	10	3	69.4	69.5	-0.1

[a] *Medium Truck – 2 axle trucks based on field observations.*

[b] *Heavy Truck – 3 or more axle trucks and buses based on field observations.*

Source: PCR Services Corporation, 2016.

Because the monitoring data validates the use of a project-specific traffic noise prediction model, the ambient noise environment of the project vicinity can be characterized by 24-hour CNEL levels

attributable to existing traffic on local roadways. As indicated in **Table K-4c**, Predicted Existing Vehicular Traffic Noise Levels, the calculated CNEL (at a distance of 25 feet from the roadway right-of-way) from actual existing traffic volumes on the analyzed roadway segments ranged from 63.2 dBA to 72.1 dBA for residential areas and commercial areas. Anticipated traffic volumes for 2021 and 2025 were then used to develop noise models representing future conditions. The results of these models are presented in **Section 3.13** of the EIR.

Table K-4c
Predicted Existing Vehicular Traffic Noise Levels

Roadway Segment	Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way [a]
	25 Feet
Hollywood Way	
Between I-5 Southbound Ramps and San Fernando Boulevard	71.1
Between San Fernando Boulevard and Tulare Avenue	72.1
Between Tulare Avenue and Winona Avenue	72.0
Between Winona Avenue and Airport/Thornton Avenue	71.7
Between Airport/Thornton Avenue and Airport/Avon Avenue	71.8
Between Airport/Avon Avenue and Victory Boulevard	71.2
Between Victory Boulevard and Burbank Boulevard	70.6
Between Burbank Boulevard and Magnolia Boulevard	70.2
San Fernando Road	
Between Sunland Boulevard and Arvilla Avenue	68.0
Between Arvilla Avenue and Lockheed Drive	68.6
Between Lockheed Drive and Cohasset Street	66.0
San Fernando Boulevard	
Between Hollywood Way and Winona Avenue	65.6
Between Winona Avenue and Buena Vista Street	64.2
Empire Avenue	
Between Clybourn Avenue and Airport	67.7
Between Airport and Avon Avenue	66.9
Between Avon Avenue and Ontario Street	66.0
Between Ontario Street and Buena Vista Street	65.9
Winona Avenue	
Between Hollywood Way and Ontario Street	63.2
Thornton Avenue	
Between Hollywood Way and Ontario Street	63.7
Victory Boulevard	
West of Hollywood Way	71.2
East of Hollywood Way	70.6

[a] *Calculated based on existing traffic volumes.*

Source: PCR Services Corporation, 2016.

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ATTACHMENT A CONSTRUCTION NOISE CALCULATIONS

Burbank Airport Terminal Replacement Project

Draft EIR

Appendix, Noise Worksheets

1 Construction Noise Calculations

2 Off-Site Construction Traffic Noise Calculations

3 Traffic Noise Model Calibration Results

4 Off-Site Traffic Noise Calculations

Appendix 1
Construction Noise Calculations

- Adjacent Property Full-Size Terminal Option
- Southwest Quadrant Full-Size/Same-Size Terminal Option

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Demolition

Receptor: *R1*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Concrete/Industrial Saws	1	90	20%	740	10	50
Excavators	1	81	40%	740	10	44
Water Trucks	1	80	10%	740	10	37
Tractors/Loaders/Backhoes	1	80	25%	740	10	41
Rubber Tired Dozers	1	82	40%	740	10	45
Dump Truck (10 CY)	1	76	20%	740	10	36

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R1 **52 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Site Preparation

Receptor: *R1*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Rubber Tired Dozers	1	80	25%	740	10	41
Tractors/Loaders/Backhoes	1	82	40%	740	10	45

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R1 **46 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Grading

Receptor: *R1*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Excavators	1	81	40%	740	10	44
Graders	1	85	40%	740	10	48
Rubber Tired Dozers	1	82	40%	740	10	45
Scrapers	1	84	40%	740	10	47
Tractors/Loaders/Backhoes	1	80	25%	740	10	41
Water Truck	1	80	10%	740	10	37
Dump Trucks	1	76	20%	740	10	36
Pile Driver (Impact)	1	101	20%	740	10	61

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R1	**61 dBA, Leq**	Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Building Construction

Receptor: *R1*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Cranes	1	81	40%	740	10	44
Forklifts	1	75	10%	740	10	32
Generator Sets	1	81	50%	740	10	45
Tractors/Loaders/Backhoes	1	80	25%	740	10	41
Welders	1	74	40%	740	10	37
Concrete Boom Pump	1	81	20%	740	10	41
Concrete Trucks	1	79	40%	740	10	42

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R1 50 dBA, Leq

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Paving/Architectural Coatings

Receptor: *R1*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Pavers	1	77	50%	740	10	41
Paving Equipment	1	90	20%	740	10	50
Rollers	1	80	20%	740	10	40
Air Compressors	1	78	50%	740	10	42
Backhoes	1	80	40%	740	10	43
Concrete Trucks	1	79	40%	740	10	42

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R1 **52 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Demolition

Receptor: *R2*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Concrete/Industrial Saws	1	90	20%	410	10	55
Excavators	1	81	40%	410	10	49
Water Trucks	1	80	10%	410	10	42
Tractors/Loaders/Backhoes	1	80	25%	410	10	46
Rubber Tired Dozers	1	82	40%	410	10	50
Dump Truck (10 CY)	1	76	20%	410	10	41

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R2 **57 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Site Preparation

Receptor: *R2*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Rubber Tired Dozers	1	80	25%	410	10	46
Tractors/Loaders/Backhoes	1	82	40%	410	10	50

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R2 **51 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Grading

Receptor: *R2*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Excavators	1	81	40%	410	10	49
Graders	1	85	40%	410	10	53
Rubber Tired Dozers	1	82	40%	410	10	50
Scrapers	1	84	40%	410	10	52
Tractors/Loaders/Backhoes	1	80	25%	410	10	46
Water Truck	1	80	10%	410	10	42
Dump Trucks	1	76	20%	410	10	41
Pile Driver (Impact)	1	101	20%	410	10	66

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R2	**66 dBA, Leq**	Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Building Construction

Receptor: *R2*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Cranes	1	81	40%	410	10	49
Forklifts	1	75	10%	410	10	37
Generator Sets	1	81	50%	410	10	50
Tractors/Loaders/Backhoes	1	80	25%	410	10	46
Welders	1	74	40%	410	10	42
Concrete Boom Pump	1	81	20%	410	10	46
Concrete Trucks	1	79	40%	410	10	47

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R2 55 dBA, Leq

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Adjacent Property Full-Size Terminal Option

Construction Phase: Paving/Architectural Coatings

Receptor: *R2*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Pavers	1	77	50%	410	10	46
Paving Equipment	1	90	20%	410	10	55
Rollers	1	80	20%	410	10	45
Air Compressors	1	78	50%	410	10	47
Backhoes	1	80	40%	410	10	48
Concrete Trucks	1	79	40%	410	10	47

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R2 **57 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Southwest Quadrant Full Size and Same Size Terminal Options

Construction Phase: Demolition

Receptor: *R3*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Concrete/Industrial Saws	1	90	20%	420	7	58
Excavators	1	81	40%	420	7	52
Water Trucks	1	80	10%	420	7	45
Tractors/Loaders/Backhoes	1	80	25%	420	7	48
Rubber Tired Dozers	1	82	40%	420	7	53
Dump Truck (10 CY)	1	76	20%	420	7	44

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R3 **60 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Southwest Quadrant Full Size and Same Size Terminal Options

Construction Phase: Site Preparation

Receptor: *R3*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Rubber Tired Dozers	1	80	25%	420	7	48
Tractors/Loaders/Backhoes	1	82	40%	420	7	53

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R3 **54 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Southwest Quadrant Full Size and Same Size Terminal Options

Construction Phase: Grading

Receptor: *R3*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Excavators	1	81	40%	420	7	52
Graders	1	85	40%	420	7	56
Rubber Tired Dozers	1	82	40%	420	7	53
Scrapers	1	84	40%	420	7	55
Tractors/Loaders/Backhoes	1	80	25%	420	7	48
Water Truck	1	80	10%	420	7	45
Dump Trucks	1	76	20%	420	7	44
Pile Driver (Impact)	1	101	20%	420	7	69

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R3	**69 dBA, Leq**	Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Southwest Quadrant Full Size and Same Size Terminal Options

Construction Phase: Building Construction

Receptor: *R3*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Cranes	1	81	40%	420	7	52
Forklifts	1	75	10%	420	7	40
Generator Sets	1	81	50%	420	7	53
Tractors/Loaders/Backhoes	1	80	25%	420	7	48
Welders	1	74	40%	420	7	45
Concrete Boom Pump	1	81	20%	420	7	49
Concrete Trucks	1	79	40%	420	7	50

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R3 58 dBA, Leq

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Bob Hope Airport Replacement Terminal Project

Southwest Quadrant Full Size and Same Size Terminal Options

Construction Phase: Paving/Architectural Coatings

Receptor: *R3*

Construction Equipment	No. of Equip. (A)	Reference Noise Level at 50ft, Lmax (B)	Daily Usage Factor (C)	Distance to Receptor, ft (D)	Estimated Noise Shielding, dBA (E)	Construction Equipment Noise Level at A Sensitive Receptor Location (F)
Pavers	1	77	50%	420	7	49
Paving Equipment	1	90	20%	420	7	58
Rollers	1	80	20%	420	7	48
Air Compressors	1	78	50%	420	7	50
Backhoes	1	80	40%	420	7	51
Concrete Trucks	1	79	40%	420	7	50

Construction Noise Levels of Each Construction Equipment at A Sensitive Receptor

dBA, Leq = [AxB-20Log(De/50)-E+10Log(C/100)]

Construction Hour:

12	Hours during daytime (7 am to 7 pm)
0	Hours during evening (7 pm to 10 pm)
0	Hours during nighttime (10 pm to 7 am)

Construction Noise Level at R3 **60 dBA, Leq**

Combined Noise Levels of Each Construction Equipment Noise Level at A Sensitive Receptor Location

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Appendix 2

Off-Site Construction Traffic Noise Calculations

Project: 6220 West Yucca Street Mixed Use

Off-site Construction Traffic Noise

Roadway/Segment	Traffic Volumes AM	Traffic Volumes PM	Traffic Volumes ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Empire Avenue			60	58.1	55.7	54.1	55.1	52.7	51.1
Hollywood Way			60	57.1	55.0	53.7	54.1	52.0	50.7
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

Roadway/Segment	Traffic Volumes AM	Traffic Volumes PM	Traffic Volumes ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Vine Street			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-

Roadway/Segment	Traffic Volumes AM	Traffic Volumes PM	Traffic Volumes ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-

Summary	CNEL 25 ft. from ROW Project Increment	CNEL 25 ft. from ROW Cumulative Increment	CNEL At ROW Project Increment	CNEL At ROW Cumulative Increment
Roadway/Segment				
Empire Avenue	-	-	-	-
Hollywood Way	-	-	-	-
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-

Appendix 3

Traffic Noise Model Calibration Results

Project: Bob Hope Airport - Replacement Terminal

Traffic Noise Model Calibration

Existing

Roadway/Segment	Traffic Volumes AM	Traffic Volumes PM	Traffic Volumes ADT	Leq ROW	Leq 10 Feet	Leq 25 Feet	CNEL ROW	CNEL 10 Feet	CNEL 25 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernando Boulevard			18048	70.6	69.5	68.3	67.6	66.6	65.3
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Traffic Volumes AM	Traffic Volumes PM	Traffic Volumes ADT	Leq ROW	Leq 10 Feet	Leq 25 Feet	CNEL ROW	CNEL 10 Feet	CNEL 25 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernando Boulevard			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Traffic Volumes AM	Traffic Volumes PM	Traffic Volumes ADT	Leq ROW	Leq 10 Feet	Leq 25 Feet	CNEL ROW	CNEL 10 Feet	CNEL 25 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernando Boulevard			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	10 ft. from ROW Project Increment	10 ft. from ROW Cumulative Increment	At ROW Project Increment	At ROW Cumulative Increment
Hollywood Way, between I-5 Southbound Ramps and San Fernando Boulevard	-	-	-	-
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-

Appendix 4
Off-Site Traffic Noise Calculations

- Existing Conditions
- Adjacent Property Full-Size Terminal Option
- Southwest Quadrant Full-Size/Same-Size Terminal Option

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3156	3059	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3060	3038	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2909	2803	0	73.3	70.5	68.8	74.5	71.7	70.1
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2833	2775	0	73.6	70.6	68.9	74.8	71.8	70.1

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	4109	4222	0	73.8	71.5	70.0	75.0	72.7	71.2
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	5247	5251	0	75.9	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Tulare Ave and Winona Ave	40	5383	5464	0	76.1	73.3	71.6	77.3	74.5	72.8
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	5202	5201	0	75.8	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	5373	5433	0	76.4	73.4	71.7	77.6	74.7	72.9

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	4109	4222	0	73.8	71.5	70.0	75.0	72.7	71.2
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	5249	5252	0	75.9	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Tulare Ave and Winona Ave	40	5385	5465	0	76.1	73.3	71.6	77.3	74.5	72.8
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	5369	5380	0	76.0	73.2	71.5	77.2	74.4	72.7
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	5429	5491	0	76.5	73.5	71.7	77.7	74.7	72.9

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Hollywood Way, between I-5 Southbound Ramps and San Fernan	0.0	1.6	0.0	1.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	0.0	2.2	0.0	2.2
Hollywood Way, between Tulare Ave and Winona Ave	0.0	2.5	0.0	2.5
Hollywood Way, between Winona Ave and Airport/Thornton Ave	0.1	2.7	0.1	2.7
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	0.0	2.9	0.1	2.9

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2954	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	5180	5337	0	74.8	72.5	71.0	76.0	73.7	72.2
Hollywood Way, between Victory Blvd and Burbank Blvd	40	4622	4509	0	74.1	71.9	70.4	75.4	73.1	71.6
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	4395	4294	0	73.9	71.7	70.2	75.1	72.9	71.4
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	2657	2379	0	71.7	69.5	68.0	73.0	70.7	69.2
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	5161	5324	0	74.8	72.5	71.0	76.0	73.7	72.2
Hollywood Way, between Victory Blvd and Burbank Blvd	40	4622	4509	0	74.1	71.9	70.4	75.4	73.1	71.6
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	4395	4294	0	73.9	71.7	70.2	75.1	72.9	71.4
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	2657	2379	0	71.7	69.5	68.0	73.0	70.7	69.2
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	0.0	2.5	0.0	2.5
Hollywood Way, between Victory Blvd and Burbank Blvd	0.0	2.5	0.0	2.5
Hollywood Way, between Burbank Blvd and Magnolia Blvd	0.0	2.7	0.0	2.6
San Fernando Road, between Sunland Blvd and Arvilla Ave	0.0	2.7	0.0	2.8
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	735	556	0	67.7	64.8	63.0	69.0	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	681	412	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	491	463	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	2579	2279	0	73.2	70.2	68.5	74.4	71.4	69.7
San Fernando Road, between Lockheed Dr and Cohasset St	40	1364	1225	0	70.4	67.4	65.7	71.6	68.7	66.9
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	890	639	0	68.6	65.6	63.8	69.8	66.8	65.0
San Fernando Boulevard, between Winona Ave and Buena Vista	40	682	694	0	67.5	64.5	62.8	68.7	65.7	64.0
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	2579	2279	0	73.2	70.2	68.5	74.4	71.4	69.7
San Fernando Road, between Lockheed Dr and Cohasset St	40	1426	1292	0	70.6	67.6	65.9	71.8	68.8	67.1
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	912	663	0	68.7	65.7	63.9	69.9	66.9	65.1
San Fernando Boulevard, between Winona Ave and Buena Vista	40	704	718	0	67.6	64.6	62.9	68.9	65.9	64.1
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
San Fernando Road, between Arvilla Ave and Lockheed Dr	0.0	2.8	0.0	2.9
San Fernando Road, between Lockheed Dr and Cohasset St	0.1	2.8	0.2	2.8
San Fernando Boulevard, between Hollywood Wy and Winona Ave	0.1	1.3	0.1	1.3
San Fernando Boulevard, between Winona Ave and Buena Vista	0.2	1.7	0.2	1.7
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	826	1027	0	69.7	66.4	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	754	912	0	68.7	65.7	63.9	69.9	66.9	65.1
Empire Avenue, between Avon Ave and Ontario St	40	778	914	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	878	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	940	1192	0	70.3	67.1	65.3	71.5	68.3	66.5
Empire Avenue, between Airport and Avon Ave	40	1001	1308	0	70.2	67.3	65.5	71.5	68.5	66.7
Empire Avenue, between Avon Ave and Ontario St	40	1433	1643	0	69.7	67.4	65.9	70.9	68.6	67.1
Empire Avenue, between Ontario St and Buena Vista St	40	1382	1559	0	69.4	67.2	65.7	70.6	68.4	66.9
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	940	1192	0	70.3	67.1	65.3	71.5	68.3	66.5
Empire Avenue, between Airport and Avon Ave	40	834	1106	0	69.5	66.5	64.8	70.7	67.7	66.0
Empire Avenue, between Avon Ave and Ontario St	40	1393	1600	0	69.5	67.3	65.8	70.8	68.5	67.0
Empire Avenue, between Ontario St and Buena Vista St	40	1360	1536	0	69.4	67.1	65.6	70.6	68.3	66.8
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Empire Avenue, between Clybourn Ave and Airport	0.0	0.6	0.0	0.6
Empire Avenue, between Airport and Avon Ave	-0.8	0.8	-0.8	0.8
Empire Avenue, between Avon Ave and Ontario St	-0.1	2.5	-0.1	2.5
Empire Avenue, between Ontario St and Buena Vista St	-0.1	2.4	0.0	2.5
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	399	455	0	64.5	62.0	60.5	65.7	63.2	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	535	509	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2448	2987	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	473	526	0	65.1	62.7	61.1	66.3	63.9	62.3
Thornton Avenue, between Hollywood Wy and Ontario St	35	570	548	0	66.4	62.8	60.9	67.6	64.0	62.1
Victory Boulevard, w/o Hollywood Wy	40	2815	3440	0	72.9	70.6	69.1	74.1	71.8	70.3
Victory Boulevard, e/o Hollywood Wy	40	2620	2976	0	72.2	70.0	68.5	73.4	71.2	69.7
0	40			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	479	533	0	65.2	62.7	61.2	66.4	63.9	62.4
Thornton Avenue, between Hollywood Wy and Ontario St	35	566	545	0	66.3	62.8	60.8	67.6	64.0	62.1
Victory Boulevard, w/o Hollywood Wy	40	2815	3440	0	72.9	70.6	69.1	74.1	71.8	70.3
Victory Boulevard, e/o Hollywood Wy	40	2620	2976	0	72.2	70.0	68.5	73.4	71.2	69.7
0	40			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Winona Avenue, between Hollywood Wy and Ontario St	0.0	0.7	0.1	0.7
Thornton Avenue, between Hollywood Wy and Ontario St	0.0	0.3	0.0	0.3
Victory Boulevard, w/o Hollywood Wy	0.0	0.6	0.0	0.6
Victory Boulevard, e/o Hollywood Wy	0.0	0.6	0.0	0.6
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3156	3059	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3060	3038	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2909	2803	0	73.3	70.5	68.8	74.5	71.7	70.1
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2833	2775	0	73.6	70.6	68.9	74.8	71.8	70.1
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3157	3060	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3062	3039	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	3057	2928	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2895	2822	0	73.7	70.7	69.0	74.9	71.9	70.2

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	0.0	-	0.0	-
Hollywood Way, between San Fernando Blvd and Tulare Ave	0.0	-	0.0	-
Hollywood Way, between Tulare Ave and Winona Ave	0.0	-	0.0	-
Hollywood Way, between Winona Ave and Airport/Thornton Ave	0.3	-	0.3	-
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	0.1	-	0.1	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2954	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-

Existing With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2978	2942	0	72.2	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	0.0	-	0.0	-
Hollywood Way, between Victory Blvd and Burbank Blvd	0.0	-	0.0	-
Hollywood Way, between Burbank Blvd and Magnolia Blvd	0.0	-	0.0	-
San Fernando Road, between Sunland Blvd and Arvilla Ave	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	735	556	0	67.7	64.8	63.0	69.0	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	681	412	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	491	463	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

Existing With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	789	600	0	68.0	65.1	63.3	69.3	66.3	64.5
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	700	427	0	67.5	64.5	62.8	68.7	65.8	64.0
San Fernando Boulevard, between Winona Ave and Buena Vista	40	510	479	0	66.1	63.2	61.4	67.4	64.4	62.6
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
San Fernando Road, between Arvilla Ave and Lockheed Dr	0.0	-	0.0	-
San Fernando Road, between Lockheed Dr and Cohasset St	0.3	-	0.3	-
San Fernando Boulevard, between Hollywood Wy and Winona Ave	0.2	-	0.1	-
San Fernando Boulevard, between Winona Ave and Buena Vista	0.2	-	0.2	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	826	1027	0	69.7	66.4	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	754	912	0	68.7	65.7	63.9	69.9	66.9	65.1
Empire Avenue, between Avon Ave and Ontario St	40	778	914	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	878	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

Existing With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	831	1035	0	69.7	66.5	64.6	70.9	67.7	65.9
Empire Avenue, between Airport and Avon Ave	40	851	994	0	69.0	66.1	64.3	70.3	67.3	65.5
Empire Avenue, between Avon Ave and Ontario St	40	778	913	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	780	875	0	66.9	64.6	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Empire Avenue, between Clybourn Ave and Airport	0.0	-	0.0	-
Empire Avenue, between Airport and Avon Ave	0.4	-	0.4	-
Empire Avenue, between Avon Ave and Ontario St	0.0	-	0.0	-
Empire Avenue, between Ontario St and Buena Vista St	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

Adjacent Property Full-Size Terminal Option

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Winona Avenue, between Hollywood Wy and Ontario St	40	399	455	0	64.5	62.0	60.5	65.7	63.2	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	535	509	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2448	2987	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Winona Avenue, between Hollywood Wy and Ontario St	40	401	456	0	64.5	62.0	60.5	65.7	63.3	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	533	508	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2447	2986	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Winona Avenue, between Hollywood Wy and Ontario St	0.1	-	0.0	-
Thornton Avenue, between Hollywood Wy and Ontario St	0.0	-	0.0	-
Victory Boulevard, w/o Hollywood Wy	0.0	-	0.0	-
Victory Boulevard, e/o Hollywood Wy	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3156	3059	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3060	3038	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2909	2803	0	73.3	70.5	68.8	74.5	71.7	70.1
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2833	2775	0	73.6	70.6	68.9	74.8	71.8	70.1

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	4109	4222	0	73.8	71.5	70.0	75.0	72.7	71.2
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	5247	5251	0	75.9	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Tulare Ave and Winona Ave	40	5383	5464	0	76.1	73.3	71.6	77.3	74.5	72.8
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	5202	5201	0	75.8	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	5373	5433	0	76.4	73.4	71.7	77.6	74.7	72.9

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	4101	4212	0	73.7	71.5	70.0	75.0	72.7	71.2
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	5236	5238	0	75.9	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Tulare Ave and Winona Ave	40	5382	5465	0	76.1	73.3	71.6	77.3	74.5	72.8
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	5155	5150	0	75.8	73.0	71.3	77.0	74.2	72.5
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	5337	5394	0	76.4	73.4	71.7	77.6	74.6	72.9

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Hollywood Way, between I-5 Southbound Ramps and San Fernan	0.0	1.6	0.0	1.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	0.0	2.2	0.0	2.2
Hollywood Way, between Tulare Ave and Winona Ave	0.0	2.5	0.0	2.5
Hollywood Way, between Winona Ave and Airport/Thornton Ave	-0.1	2.5	-0.1	2.5
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	-0.1	2.8	0.0	2.8

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2954	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	5180	5337	0	74.8	72.5	71.0	76.0	73.7	72.2
Hollywood Way, between Victory Blvd and Burbank Blvd	40	4622	4509	0	74.1	71.9	70.4	75.4	73.1	71.6
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	4395	4294	0	73.9	71.7	70.2	75.1	72.9	71.4
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	2657	2379	0	71.7	69.5	68.0	73.0	70.7	69.2
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	5181	5330	0	74.8	72.5	71.0	76.0	73.7	72.2
Hollywood Way, between Victory Blvd and Burbank Blvd	40	4618	4504	0	74.1	71.9	70.4	75.4	73.1	71.6
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	4392	4291	0	73.9	71.7	70.2	75.1	72.9	71.4
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	2655	2376	0	71.7	69.5	68.0	73.0	70.7	69.2
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	0.0	2.5	0.0	2.5
Hollywood Way, between Victory Blvd and Burbank Blvd	0.0	2.5	0.0	2.5
Hollywood Way, between Burbank Blvd and Magnolia Blvd	0.0	2.7	0.0	2.6
San Fernando Road, between Sunland Blvd and Arvilla Ave	0.0	2.7	0.0	2.8
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	735	556	0	67.7	64.8	63.0	69.0	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	681	412	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	491	463	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	2579	2279	0	73.2	70.2	68.5	74.4	71.4	69.7
San Fernando Road, between Lockheed Dr and Cohasset St	40	1364	1225	0	70.4	67.4	65.7	71.6	68.7	66.9
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	890	639	0	68.6	65.6	63.8	69.8	66.8	65.0
San Fernando Boulevard, between Winona Ave and Buena Vista	40	682	694	0	67.5	64.5	62.8	68.7	65.7	64.0
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	2577	2276	0	73.2	70.2	68.4	74.4	71.4	69.7
San Fernando Road, between Lockheed Dr and Cohasset St	40	1363	1223	0	70.4	67.4	65.7	71.6	68.6	66.9
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	889	637	0	68.6	65.6	63.8	69.8	66.8	65.0
San Fernando Boulevard, between Winona Ave and Buena Vista	40	681	693	0	67.5	64.5	62.7	68.7	65.7	64.0
0	0			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
San Fernando Road, between Arvilla Ave and Lockheed Dr	0.0	2.8	0.0	2.9
San Fernando Road, between Lockheed Dr and Cohasset St	-0.1	2.6	0.0	2.6
San Fernando Boulevard, between Hollywood Wy and Winona Ave	0.0	1.2	0.0	1.2
San Fernando Boulevard, between Winona Ave and Buena Vista	0.0	1.5	0.0	1.5
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	826	1027	0	69.7	66.4	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	754	912	0	68.7	65.7	63.9	69.9	66.9	65.1
Empire Avenue, between Avon Ave and Ontario St	40	778	914	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	878	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	940	1192	0	70.3	67.1	65.3	71.5	68.3	66.5
Empire Avenue, between Airport and Avon Ave	40	1001	1308	0	70.2	67.3	65.5	71.5	68.5	66.7
Empire Avenue, between Avon Ave and Ontario St	40	1433	1643	0	69.7	67.4	65.9	70.9	68.6	67.1
Empire Avenue, between Ontario St and Buena Vista St	40	1382	1559	0	69.4	67.2	65.7	70.6	68.4	66.9
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	946	1199	0	70.3	67.1	65.3	71.6	68.3	66.5
Empire Avenue, between Airport and Avon Ave	40	1113	1432	0	70.6	67.7	65.9	71.9	68.9	67.1
Empire Avenue, between Avon Ave and Ontario St	40	1437	1647	0	69.7	67.4	65.9	70.9	68.6	67.1
Empire Avenue, between Ontario St and Buena Vista St	40	1488	1652	0	69.7	67.4	65.9	70.9	68.6	67.1
0	0			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Empire Avenue, between Clybourn Ave and Airport	0.0	0.6	0.1	0.7
Empire Avenue, between Airport and Avon Ave	0.4	2.0	0.4	2.0
Empire Avenue, between Avon Ave and Ontario St	0.0	2.6	0.0	2.6
Empire Avenue, between Ontario St and Buena Vista St	0.2	2.7	0.3	2.8
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	399	455	0	64.5	62.0	60.5	65.7	63.2	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	535	509	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2448	2987	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	473	526	0	65.1	62.7	61.1	66.3	63.9	62.3
Thornton Avenue, between Hollywood Wy and Ontario St	35	570	548	0	66.4	62.8	60.9	67.6	64.0	62.1
Victory Boulevard, w/o Hollywood Wy	40	2815	3440	0	72.9	70.6	69.1	74.1	71.8	70.3
Victory Boulevard, e/o Hollywood Wy	40	2620	2976	0	72.2	70.0	68.5	73.4	71.2	69.7
0	40			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	472	524	0	65.1	62.6	61.1	66.3	63.9	62.3
Thornton Avenue, between Hollywood Wy and Ontario St	35	568	546	0	66.4	62.8	60.9	67.6	64.0	62.1
Victory Boulevard, w/o Hollywood Wy	40	2814	3439	0	72.9	70.6	69.1	74.1	71.8	70.3
Victory Boulevard, e/o Hollywood Wy	40	2620	2976	0	72.2	70.0	68.5	73.4	71.2	69.7
0	40			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Winona Avenue, between Hollywood Wy and Ontario St	0.0	0.7	0.0	0.6
Thornton Avenue, between Hollywood Wy and Ontario St	0.0	0.3	0.0	0.3
Victory Boulevard, w/o Hollywood Wy	0.0	0.6	0.0	0.6
Victory Boulevard, e/o Hollywood Wy	0.0	0.6	0.0	0.6
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3156	3059	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3060	3038	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2909	2803	0	73.3	70.5	68.8	74.5	71.7	70.1
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2833	2775	0	73.6	70.6	68.9	74.8	71.8	70.1
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2897	2919	0	72.1	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3145	3045	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3056	3036	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2872	2764	0	73.3	70.5	68.8	74.5	71.7	70.0
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2802	2747	0	73.6	70.6	68.8	74.8	71.8	70.0

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	0.0	-	0.0	-
Hollywood Way, between San Fernando Blvd and Tulare Ave	0.0	-	0.0	-
Hollywood Way, between Tulare Ave and Winona Ave	0.0	-	0.0	-
Hollywood Way, between Winona Ave and Airport/Thornton Ave	0.0	-	0.0	-
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	0.0	-	0.0	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2954	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2949	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2623	2448	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2390	2222	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1415	1067	0	69.0	66.7	65.2	70.2	67.9	66.5
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	0.0	-	0.0	-
Hollywood Way, between Victory Blvd and Burbank Blvd	0.0	-	0.0	-
Hollywood Way, between Burbank Blvd and Magnolia Blvd	0.0	-	0.0	-
San Fernando Road, between Sunland Blvd and Arvilla Ave	-0.1	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	735	556	0	67.7	64.8	63.0	69.0	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	681	412	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	491	463	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1331	954	0	70.3	67.3	65.6	71.5	68.5	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	734	554	0	67.7	64.7	63.0	68.9	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	680	411	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	490	462	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
San Fernando Road, between Arvilla Ave and Lockheed Dr	-0.1	-	0.0	-
San Fernando Road, between Lockheed Dr and Cohasset St	0.0	-	-0.1	-
San Fernando Boulevard, between Hollywood Wy and Winona Ave	0.0	-	0.0	-
San Fernando Boulevard, between Winona Ave and Buena Vista	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Empire Avenue, between Clybourn Ave and Airport	40	826	1027	0	69.7	66.4	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	754	912	0	68.7	65.7	63.9	69.9	66.9	65.1
Empire Avenue, between Avon Ave and Ontario St	40	778	914	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	878	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Empire Avenue, between Clybourn Ave and Airport	40	831	1035	0	69.7	66.5	64.6	70.9	67.7	65.9
Empire Avenue, between Airport and Avon Ave	40	851	995	0	69.1	66.1	64.3	70.3	67.3	65.5
Empire Avenue, between Avon Ave and Ontario St	40	782	917	0	67.1	64.8	63.4	68.3	66.1	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	784	879	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Empire Avenue, between Clybourn Ave and Airport	0.0	-	0.0	-
Empire Avenue, between Airport and Avon Ave	0.4	-	0.4	-
Empire Avenue, between Avon Ave and Ontario St	0.1	-	0.0	-
Empire Avenue, between Ontario St and Buena Vista St	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT FULL-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	399	455	0	64.5	62.0	60.5	65.7	63.2	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	535	509	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2448	2987	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-

Existing With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	397	453	0	64.5	62.0	60.5	65.7	63.2	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	533	509	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2447	2986	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Winona Avenue, between Hollywood Wy and Ontario St	0.0	-	0.0	-
Thornton Avenue, between Hollywood Wy and Ontario St	0.0	-	0.0	-
Victory Boulevard, w/o Hollywood Wy	0.0	-	0.0	-
Victory Boulevard, e/o Hollywood Wy	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3156	3059	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3060	3038	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2909	2803	0	73.3	70.5	68.8	74.5	71.7	70.1
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2833	2775	0	73.6	70.6	68.9	74.8	71.8	70.1
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	4109	4222	0	73.8	71.5	70.0	75.0	72.7	71.2
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	5247	5251	0	75.9	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Tulare Ave and Winona Ave	40	5383	5464	0	76.1	73.3	71.6	77.3	74.5	72.8
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	5202	5201	0	75.8	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	5373	5433	0	76.4	73.4	71.7	77.6	74.7	72.9
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	4103	4215	0	73.7	71.5	70.0	75.0	72.7	71.2
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	5239	5243	0	75.9	73.1	71.4	77.1	74.3	72.6
Hollywood Way, between Tulare Ave and Winona Ave	40	5384	5464	0	76.1	73.3	71.6	77.3	74.5	72.8
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	5152	5147	0	75.8	73.0	71.3	77.0	74.2	72.5
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	5340	5398	0	76.4	73.4	71.7	77.6	74.6	72.9

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Hollywood Way, between I-5 Southbound Ramps and San Fernan	0.0	1.6	0.0	1.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	0.0	2.2	0.0	2.2
Hollywood Way, between Tulare Ave and Winona Ave	0.0	2.5	0.0	2.5
Hollywood Way, between Winona Ave and Airport/Thornton Ave	-0.1	2.5	-0.1	2.5
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	-0.1	2.8	0.0	2.8

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2954	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	5180	5337	0	74.8	72.5	71.0	76.0	73.7	72.2
Hollywood Way, between Victory Blvd and Burbank Blvd	40	4622	4509	0	74.1	71.9	70.4	75.4	73.1	71.6
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	4395	4294	0	73.9	71.7	70.2	75.1	72.9	71.4
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	2657	2379	0	71.7	69.5	68.0	73.0	70.7	69.2
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	5181	5333	0	74.8	72.5	71.0	76.0	73.7	72.2
Hollywood Way, between Victory Blvd and Burbank Blvd	40	4619	4506	0	74.1	71.9	70.4	75.4	73.1	71.6
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	4393	4292	0	73.9	71.7	70.2	75.1	72.9	71.4
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	2655	2377	0	71.7	69.5	68.0	73.0	70.7	69.2
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	0.0	2.5	0.0	2.5
Hollywood Way, between Victory Blvd and Burbank Blvd	0.0	2.5	0.0	2.5
Hollywood Way, between Burbank Blvd and Magnolia Blvd	0.0	2.7	0.0	2.6
San Fernando Road, between Sunland Blvd and Arvilla Ave	0.0	2.7	0.0	2.8
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	735	556	0	67.7	64.8	63.0	69.0	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	681	412	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	491	463	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	2579	2279	0	73.2	70.2	68.5	74.4	71.4	69.7
San Fernando Road, between Lockheed Dr and Cohasset St	40	1364	1225	0	70.4	67.4	65.7	71.6	68.7	66.9
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	890	639	0	68.6	65.6	63.8	69.8	66.8	65.0
San Fernando Boulevard, between Winona Ave and Buena Vista	40	682	694	0	67.5	64.5	62.8	68.7	65.7	64.0
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	2577	2277	0	73.2	70.2	68.4	74.4	71.4	69.7
San Fernando Road, between Lockheed Dr and Cohasset St	40	1363	1224	0	70.4	67.4	65.7	71.6	68.6	66.9
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	889	638	0	68.6	65.6	63.8	69.8	66.8	65.0
San Fernando Boulevard, between Winona Ave and Buena Vista	40	681	693	0	67.5	64.5	62.7	68.7	65.7	64.0
0	0			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
San Fernando Road, between Arvilla Ave and Lockheed Dr	0.0	2.8	0.0	2.9
San Fernando Road, between Lockheed Dr and Cohasset St	-0.1	2.6	0.0	2.6
San Fernando Boulevard, between Hollywood Wy and Winona Ave	0.0	1.2	0.0	1.2
San Fernando Boulevard, between Winona Ave and Buena Vista	0.0	1.5	0.0	1.5
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	826	1027	0	69.7	66.4	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	754	912	0	68.7	65.7	63.9	69.9	66.9	65.1
Empire Avenue, between Avon Ave and Ontario St	40	778	914	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	878	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	940	1192	0	70.3	67.1	65.3	71.5	68.3	66.5
Empire Avenue, between Airport and Avon Ave	40	1001	1308	0	70.2	67.3	65.5	71.5	68.5	66.7
Empire Avenue, between Avon Ave and Ontario St	40	1433	1643	0	69.7	67.4	65.9	70.9	68.6	67.1
Empire Avenue, between Ontario St and Buena Vista St	40	1382	1559	0	69.4	67.2	65.7	70.6	68.4	66.9
0	0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Empire Avenue, between Clybourn Ave and Airport	40	943	1197	0	70.3	67.1	65.3	71.6	68.3	66.5
Empire Avenue, between Airport and Avon Ave	40	1108	1210	0	69.9	66.9	65.2	71.1	68.1	66.4
Empire Avenue, between Avon Ave and Ontario St	40	1434	1426	0	69.1	66.8	65.3	70.3	68.0	66.5
Empire Avenue, between Ontario St and Buena Vista St	40	1485	1651	0	69.7	67.4	65.9	70.9	68.6	67.1
0	0			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Empire Avenue, between Clybourn Ave and Airport	0.0	0.6	0.1	0.7
Empire Avenue, between Airport and Avon Ave	-0.4	1.2	-0.4	1.2
Empire Avenue, between Avon Ave and Ontario St	-0.6	2.0	-0.6	2.0
Empire Avenue, between Ontario St and Buena Vista St	0.2	2.7	0.3	2.8
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	399	455	0	64.5	62.0	60.5	65.7	63.2	61.7
Thornton Avenue, between Hollywood Wy and Ontario St	35	535	509	0	66.1	62.5	60.6	67.3	63.7	61.8
Victory Boulevard, w/o Hollywood Wy	40	2448	2987	0	72.2	70.0	68.5	73.5	71.2	69.7
Victory Boulevard, e/o Hollywood Wy	40	2290	2588	0	71.6	69.4	67.9	72.8	70.6	69.1
0	40			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	473	526	0	65.1	62.7	61.1	66.3	63.9	62.3
Thornton Avenue, between Hollywood Wy and Ontario St	35	570	548	0	66.4	62.8	60.9	67.6	64.0	62.1
Victory Boulevard, w/o Hollywood Wy	40	2815	3440	0	72.9	70.6	69.1	74.1	71.8	70.3
Victory Boulevard, e/o Hollywood Wy	40	2620	2976	0	72.2	70.0	68.5	73.4	71.2	69.7
0	40			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
Winona Avenue, between Hollywood Wy and Ontario St	40	472	524	0	65.1	62.7	61.1	66.3	63.9	62.3
Thornton Avenue, between Hollywood Wy and Ontario St	35	568	546	0	66.4	62.8	60.9	67.6	64.0	62.1
Victory Boulevard, w/o Hollywood Wy	40	2814	3439	0	72.9	70.6	69.1	74.1	71.8	70.3
Victory Boulevard, e/o Hollywood Wy	40	2620	2976	0	72.2	70.0	68.5	73.4	71.2	69.7
0	40			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	Cumulative Increment	At ROW Project Increment	Cumulative Increment
Winona Avenue, between Hollywood Wy and Ontario St	0.0	0.7	0.0	0.6
Thornton Avenue, between Hollywood Wy and Ontario St	0.0	0.3	0.0	0.3
Victory Boulevard, w/o Hollywood Wy	0.0	0.6	0.0	0.6
Victory Boulevard, e/o Hollywood Wy	0.0	0.6	0.0	0.6
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2905	2929	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3156	3059	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3060	3038	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2909	2803	0	73.3	70.5	68.8	74.5	71.7	70.1
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2833	2775	0	73.6	70.6	68.9	74.8	71.8	70.1
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	40	2899	2922	0	72.2	69.9	68.4	73.4	71.1	69.6
Hollywood Way, between San Fernando Blvd and Tulare Ave	40	3148	3051	0	73.7	70.9	69.2	74.9	72.1	70.4
Hollywood Way, between Tulare Ave and Winona Ave	40	3058	3035	0	73.5	70.7	69.1	74.8	72.0	70.3
Hollywood Way, between Winona Ave and Airport/Thornton Ave	40	2868	2762	0	73.3	70.5	68.8	74.5	71.7	70.0
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	40	2803	2750	0	73.6	70.6	68.8	74.8	71.8	70.0

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Hollywood Way, between I-5 Southbound Ramps and San Fernan	0.0	-	0.0	-
Hollywood Way, between San Fernando Blvd and Tulare Ave	0.0	-	0.0	-
Hollywood Way, between Tulare Ave and Winona Ave	0.0	-	0.0	-
Hollywood Way, between Winona Ave and Airport/Thornton Ave	0.0	-	0.0	-
Hollywood Way, between Airport/Thornton Ave and Airport/Avon A	0.0	-	0.0	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2954	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2627	2452	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2393	2225	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1417	1070	0	69.0	66.7	65.3	70.2	68.0	66.5
0	0			0	-	-	-	-	-	-
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	40	2994	2952	0	72.3	70.0	68.5	73.5	71.2	69.7
Hollywood Way, between Victory Blvd and Burbank Blvd	40	2624	2449	0	71.7	69.4	67.9	72.9	70.6	69.1
Hollywood Way, between Burbank Blvd and Magnolia Blvd	40	2391	2223	0	71.3	69.0	67.5	72.5	70.2	68.7
San Fernando Road, between Sunland Blvd and Arvilla Ave	40	1415	1068	0	69.0	66.7	65.2	70.2	67.9	66.5
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Hollywood Way, between Airport/Avon Avenue and Victory Blvd	0.0	-	0.0	-
Hollywood Way, between Victory Blvd and Burbank Blvd	0.0	-	0.0	-
Hollywood Way, between Burbank Blvd and Magnolia Blvd	0.0	-	0.0	-
San Fernando Road, between Sunland Blvd and Arvilla Ave	-0.1	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1333	957	0	70.3	67.3	65.6	71.5	68.6	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	735	556	0	67.7	64.8	63.0	69.0	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	681	412	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	491	463	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

Existing With Project

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
San Fernando Road, between Arvilla Ave and Lockheed Dr	40	1331	955	0	70.3	67.3	65.6	71.5	68.5	66.8
San Fernando Road, between Lockheed Dr and Cohasset St	40	734	555	0	67.7	64.7	63.0	68.9	66.0	64.2
San Fernando Boulevard, between Hollywood Wy and Winona Ave	40	680	411	0	67.4	64.4	62.7	68.6	65.6	63.9
San Fernando Boulevard, between Winona Ave and Buena Vista	40	490	462	0	66.0	63.0	61.2	67.2	64.2	62.5
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
San Fernando Road, between Arvilla Ave and Lockheed Dr	-0.1	-	0.0	-
San Fernando Road, between Lockheed Dr and Cohasset St	0.0	-	-0.1	-
San Fernando Boulevard, between Hollywood Wy and Winona Ave	0.0	-	0.0	-
San Fernando Boulevard, between Winona Ave and Buena Vista	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Bob Hope Airport - Replacement Terminal

SOUTHWEST QUADRANT SAME-SIZE OPTION

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	25 Feet	50 Feet	CNEL ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Empire Avenue, between Clybourn Ave and Airport	40	826	1027	0	69.7	66.4	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	754	912	0	68.7	65.7	63.9	69.9	66.9	65.1
Empire Avenue, between Avon Ave and Ontario St	40	778	914	0	67.1	64.8	63.3	68.3	66.0	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	878	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**25 Feet**	**50 Feet**	**CNEL ROW**	**25 Feet**	**50 Feet**
Empire Avenue, between Clybourn Ave and Airport	40	829	1033	0	69.7	66.5	64.6	70.9	67.7	65.8
Empire Avenue, between Airport and Avon Ave	40	847	993	0	69.0	66.1	64.3	70.3	67.3	65.5
Empire Avenue, between Avon Ave and Ontario St	40	779	916	0	67.1	64.8	63.4	68.3	66.1	64.6
Empire Avenue, between Ontario St and Buena Vista St	40	782	877	0	66.9	64.7	63.2	68.1	65.9	64.4
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Empire Avenue, between Clybourn Ave and Airport	0.0	-	0.0	-
Empire Avenue, between Airport and Avon Ave	0.4	-	0.4	-
Empire Avenue, between Avon Ave and Ontario St	0.1	-	0.0	-
Empire Avenue, between Ontario St and Buena Vista St	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

APPENDIX L
TRANSPORTATION AND TRAFFIC

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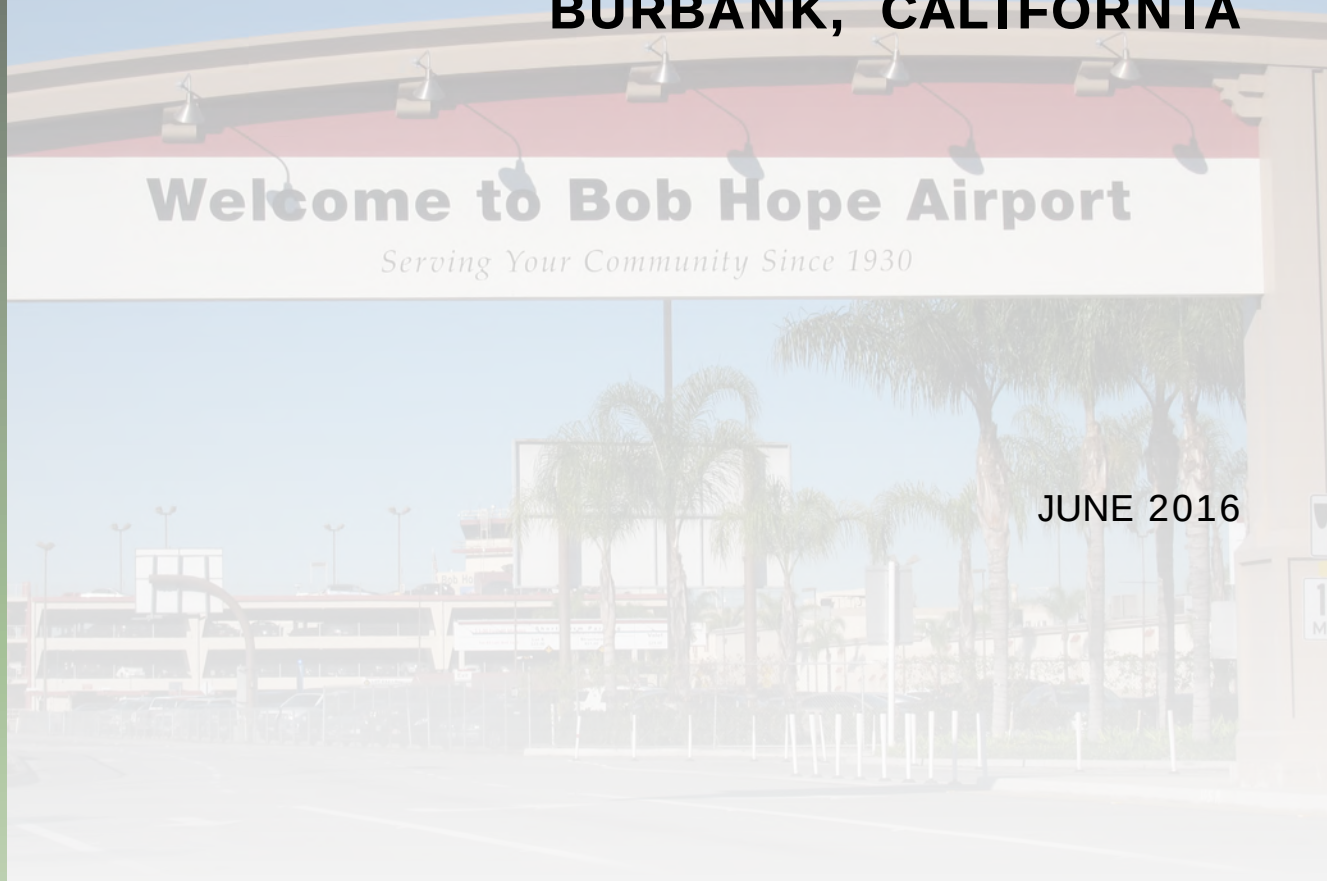
REVISED

TRAFFIC IMPACT STUDY FOR THE BURBANK BOB HOPE AIRPORT TERMINAL REPLACEMENT PROJECT

BURBANK, CALIFORNIA



JUNE 2016

PREPARED FOR

BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY

PREPARED BY

Gibson transportation consulting, inc.

REVISED

TRAFFIC IMPACT STUDY
FOR THE
BURBANK BOB HOPE AIRPORT
TERMINAL REPLACEMENT PROJECT

BURBANK, CALIFORNIA

June 2016

Prepared for:

BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY

Prepared by:

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Ref: J1417

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Chapter 1
Introduction

This study presents the traffic impact analysis for the proposed Burbank Bob Hope Airport Terminal Replacement Project ("Project") in the City of Burbank, California, as revised based on public comments received on *Environmental Impact Report for a Replacement Airline Passenger Terminal at Burbank Bob Hope Airport* (RS&H, April 2016), and specifically comments from the City of Burbank suggesting the use of the City's Travel Demand Model to forecast future baseline conditions. It includes a description of the existing Burbank Bob Hope Airport ("Airport"), a summary of the proposed Project (which includes three development options), and an analysis of the anticipated operational and construction traffic impacts of the Project.

EXISTING AIRPORT

The Airport primarily provides commercial passenger air service to regional destinations in the western United States (west of the Mississippi River). The existing passenger terminal has 14 gates and is located in the southeast quadrant of the Airport property. In year 2015, the Airport served nearly 4.0 million passengers. The Airport also provides private aircraft hangars and services and has air freighter operations for Federal Express ("FedEx") and United Parcel Service ("UPS"). Runway 15-33 is the Airport's primary departure runway, and is oriented approximately north-south to the west of the existing terminal. Runway 8/26 is the Airport's primary arrival runway, and is oriented east-west to the north of the existing terminal. The existing Airport facilities are diagrammed in Figure 1. Figure 1 also identifies the four quadrants of the Airport (northwest, northeast, southwest, and southeast), which are referred to throughout this document when giving a general description of the location of a particular facility. Detailed descriptions of existing operations, including access and parking, are described in Chapter 2.

PROPOSED PROJECT

The Airport's existing terminal does not meet Federal Aviation Administration ("FAA") design standards and portions of the terminal building to not meet modern California seismic safety design standards. It also does not provide adequate space or amenities to serve passengers. The Project, therefore, includes the replacement of the existing passenger terminal with a more modern facility that would enhance safety and would accommodate existing and forecasted future passenger levels. Three Project Options are proposed:

- Adjacent Property Full-Size Terminal Option: A 355,000-square-foot ("sf") replacement passenger terminal providing 14 gates constructed on a portion of the former Lockheed plant, which is in the northeast quadrant of the Airport ("Adjacent Property Option"), shown in Figure 2. This is the preferred alternative.

- Southwest Quadrant Full-Size Terminal Option: A 355,000 sf replacement passenger terminal providing 14 gates constructed in the southwest quadrant of the Airport ("SWQ Full-Size Option"), shown in Figure 3.

- Southwest Quadrant Same-Size Terminal Option: A 232,000 sf replacement passenger terminal providing 14 gates constructed in the southwest quadrant of the Airport ("SWQ Same-Size Option") shown in Figure 4.

Under each Project Option, the replacement terminal would be constructed and open to the public by year 2023, and ancillary improvements as part of the Project, including the demolition of the existing terminal and extension of taxiways in the area of the existing terminal, would be completed by year 2025. These three Project Options are discussed in greater detail in Chapter 2.

PROJECT LOCATION AND STUDY AREA

The Airport is located in the northwest corner of the City approximately two thirds of a mile southwest of the Interstate 5 ("I-5") freeway. It is generally bordered by San Fernando Road to the north, Hollywood Way to the East, Empire Avenue and Vanowen Street to the south, and Vineland Avenue, Sherman Way, and Clybourn Avenue to the west. It is primarily surrounded by residential areas to the north, south, and west and a commercial and industrial zone to the east. The northern part of the Airport is located within the City of Los Angeles.

Regional access to the Airport is primarily via I-5, though additional regional access comes from State Route 170 ("SR 170") located approximately three miles to the west and State Route 134 ("SR 134") located approximately three miles to the south. Local access is provided by surrounding arterial streets such as Hollywood Way, San Fernando Road, Empire Avenue, Vanowen Street, and Victory Boulevard.

As shown in Figure 5, the Project's traffic impact analysis Study Area includes a geographic area approximately four miles in the north-south direction (from the intersection of Sunland Avenue / Vineland Avenue & San Fernando Road at the north to Magnolia Avenue at the south) by 2.5 miles in the east-west direction (from Vineland Avenue at the west to I-5 at Empire Avenue at the east). A total of 33 intersections (including 25 signalized intersections and eight unsignalized intersections) were analyzed in detail within this 10 square mile Study Area, as shown in Figure 5 and listed in Table 1. As shown in Table 1, a total of four signalized and three unsignalized intersections are wholly within the City of Los Angeles or are on the border of the cities of Burbank and Los Angeles and, thus, share jurisdiction.

In addition to vehicular access, the Airport is served by the Burbank-Bob Hope Airport Metrolink Station, which is located adjacent to the parking area for the existing terminal. Metrolink provides commuter rail service between Ventura to the west and Union Station in downtown Los Angeles to the southeast, and continues southeast into Orange County from there. Also, the Los Angeles County Metropolitan Transportation Authority ("Metro") provides several bus routes along Hollywood Way, Empire Avenue, and San Fernando Road and BurbankBus provides two routes between the Airport and other parts of the City.

INTERSECTION ANALYSIS METHODOLOGY

The scope of analysis for this study was developed in consultation with the City of Burbank as well as from input received during the public scoping process in November and December 2015. The study analyzes the potential for Project-generated traffic impacts on the street system in the vicinity of the Project Site as a result of traffic shifts due to the relocation of the passenger terminal. Potential intersection impacts were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (4:30 PM to 7:30 PM) peak periods. Weekend peak hour analysis was

considered but determined to be unnecessary since both ambient traffic levels and Airport traffic volumes are lower on weekends and, therefore, any potentially significant impacts from the Project would be identified in the weekday analysis.

The base assumptions and technical methodologies are consistent with the City of Burbank traffic study guidelines. Signalized intersections were analyzed using the Critical Movement Analysis ("CMA") Planning Method (*Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, Transportation Research Board, 1980) ("*Transportation Research Circular No. 212*") and unsignalized intersections were analyzed using the *2000 Highway Capacity Manual* (Transportation Research Board, 2000) ("HCM 2000") methodology. Each of these methodologies results in a level of service ("LOS") calculation ranging from LOS A (free-flow traffic conditions) to LOS F (over capacity and severely congested). The CMA methodology calculates an intersection's volume-to-capacity ("V/C") ratio and the HCM 2000 methodology calculates the average or worst-case delay, in seconds, experienced by vehicles passing through the intersection. Table 2 summarizes LOS definitions and the corresponding ranges of the V/C ratio or delay.

The City of Los Angeles also requires that signalized intersections use the CMA methodology and unsignalized intersections use the HCM 2000 methodology within its jurisdiction.

Significant Impact Criteria

Burbank2035 General Plan (City of Burbank, 2014) sets a mobility goal of LOS D at all intersections in the City of Burbank. To this end, the City of Burbank has developed a sliding scale methodology in which the minimum allowable increase in the V/C ratio attributable to a project decreases as the V/C ratio of the intersection increases. Intersections operating at LOS A, B, or C are not significantly impacted regardless of the amount of project traffic at the intersection. Signalized intersections are considered to be significantly impacted at LOS D, E, or F based on the following criteria:

Intersection Conditions with Project Traffic		Significant Impact Threshold for Project-related Increase in V/C Ratio
LOS	**V/C**	
D	0.801 – 0.900	Equal to or greater than 0.02
E	0.901 – 1.00	Equal to or greater than 0.01
F	> 1.00	Equal to or greater than 0.005

Source: City of Burbank

Unsignalized intersections are significantly impacted at LOS D, E, or F based on the following criteria:

Intersection Conditions with Project Traffic		Significant Impact Threshold for Project-related Increase in Vehicle Trips Through Intersection
LOS	**Delay**	
D	25.0 – 35.0	Equal to or greater than 2% of total trips
E	35.0 – 50.0	Equal to or greater than 1% of total trips
F	> 50.0	5 or more project trips

Source: City of Burbank

The City of Los Angeles has similar significant impact criteria for signalized intersections:

Intersection Conditions with Project Traffic		Significant Impact Threshold for Project-related Increase in V/C Ratio
LOS	**V/C**	
C	0.701 – 0.800	Equal to or greater than 0.04
D	0.801 – 0.900	Equal to or greater than 0.02
E, F	> 0.900	Equal to or greater than 0.01

Source: City of Los Angeles.

Unsignalized intersections within the City of Los Angeles are not analyzed for potentially significant impacts, but are instead analyzed for the need for signalization. If an unsignalized intersections meets one or more signal warrants according to the *California Manual on Uniform Traffic Control Devices* (Caltrans, 2014) ("MUTCD"), the Los Angeles Department of Transportation ("LADOT") may issue a traffic control report authorizing the installation of traffic signal control.

TRAFFIC ANALYSIS SCENARIOS

This study includes the analysis of existing and future traffic conditions, with and without the traffic shifts anticipated as a result of the various Project options. The following scenarios, which are discussed fully in subsequent chapters, were analyzed:

- Existing Year 2016 Conditions – The analysis of existing traffic conditions provides a basis for the assessment of future traffic conditions. The Existing Year 2016 analysis includes a description of key area streets and highways, traffic volumes and current operating conditions, and transit service in the Study Area. Intersection turning movement counts were collected in February 2014, December 2015, and January 2016 and, for the purposes of this analysis, represent year 2016 conditions. Intersection lane configurations are provided in Attachment A, traffic count worksheets in Attachment B, and intersection level of service worksheets in Attachment C.

- Existing Year 2016 with Project Conditions – Adjacent Property Option – This analysis condition projects the potential intersection operating conditions that could be expected if the Adjacent Property Option were built under existing conditions. This analysis evaluates the potential Project-related traffic impacts as compared to Existing Year 2016 conditions.

- Existing Year 2016 with Project Conditions – SWQ Full-Size Option – This analysis condition projects the potential intersection operating conditions that could be expected if the SWQ Full-Size Option were built under existing conditions. This analysis evaluates the potential Project-related traffic impacts as compared to Existing Year 2016 conditions.

- Existing Year 2016 with Project Conditions – SWQ Same-Size Option – This analysis condition projects the potential intersection operating conditions that could be expected if the SWQ Same-Size Option were built under existing conditions. This analysis evaluates the potential Project-related traffic impacts as compared to Existing Year 2016 conditions.

- Interim Year 2023 without Project Conditions – This analysis projects the future traffic growth and intersection operating conditions that could be expected as a result of local and regional growth and infrastructure improvements in the Study Area by Year 2023, which is when the replacement terminal is expected to open under all Project Options. The Interim Year 2023 without Project traffic conditions were forecast using traffic growth projections from the City of Burbank Travel Demand Model and other sources, applied to Existing Year 2016 conditions. This analysis provides the conditions by which the Project impacts are evaluated in the Interim Year.

- Interim Year 2023 with Project Conditions – Adjacent Property Option – This analysis projects the potential intersection operating conditions that could be expected in year 2023 if the Adjacent Property Option were built. This analysis identifies the potential incremental impacts of the Project upon opening of the replacement terminal, prior to

mitigation, by adding the Project-generated traffic to the Interim Year 2023 without Project traffic forecasts.

- Interim Year 2023 with Project Conditions – SWQ Full-Size Option – This analysis projects the potential intersection operating conditions that could be expected in year 2023 if the SWQ Full-Size Option were built. This analysis identifies the potential incremental impacts of the Project upon opening of the replacement terminal, prior to mitigation, by adding the Project-generated traffic to the Interim Year 2023 without Project traffic forecasts.

- Interim Year 2023 with Project Conditions – SWQ Same-Size Option – This analysis projects the potential intersection operating conditions that could be expected in year 2023 if the SWQ Same-Size Option were built. This analysis identifies the potential incremental impacts of the Project upon opening of the replacement terminal, priormitigation, by adding the Project-generated traffic to the Interim Year 2023 without Project traffic forecasts.

- Completion Year 2025 without Project Conditions – This analysis projects the future traffic growth and intersection operating conditions that could be expected as a result of local and regional growth and infrastructure improvements in the Study Area by year 2025, which is when all Project Options are projected to be complete. Like Interim Year 2023 without Project traffic conditions, the Completion Year 2025 without Project traffic conditions were forecast using traffic growth projections from the City of Burbank Travel Demand Model and other sources, applied to Existing Year 2016 conditions. This analysis provides the conditions by which the Project impacts are evaluated in the Completion Year.

- Completion Year 2025 with Project Conditions – Adjacent Property Option – This analysis projects the potential intersection operating conditions that could be expected in year 2025 if the Adjacent Property Option were built. This analysis identifies the potential incremental impacts of the Project upon completion, prior to mitigation, by adding the Project-generated traffic to the Completion Year 2025 without Project traffic forecasts.

- Completion Year 2025 with Project Conditions – SWQ Full-Size Option – This analysis projects the potential intersection operating conditions that could be expected in year 2025 if the SWQ Full-Size Option were built. This analysis identifies the potential incremental impacts of the Project upon completion, prior to mitigation, by adding the Project-generated traffic to the Completion Year 2025 without Project traffic forecasts.

- Completion Year 2025 with Project Conditions – SWQ Same-Size Option – This analysis projects the potential intersection operating conditions that could be expected in year 2025 if the SWQ Same-Size Option were built. This analysis identifies the potential incremental impacts of the Project upon completion, prior to mitigation, by adding the Project-generated traffic to the Completion Year 2025 without Project traffic forecasts.

In addition, where significant traffic impacts were identified in the scenarios above, analysis was conducted at specific locations including the effects of traffic mitigation measures proposed in Chapter 6.

ADDITIONAL TRAFFIC ANALYSES

Congestion Management Program

An analysis also was conducted according to *2010 Los Angeles County Congestion Management Program* (Metro, 2010) ("CMP") guidelines. The CMP is a State-mandated program that serves as the monitoring and analytical basis for transportation funding decisions in the County made through the Regional Transportation Improvement Program ("RTIP") and State Transportation Improvement Program ("STIP") processes. The CMP requires that a Traffic Impact Analysis ("TIA") be performed (1) for all CMP arterial monitoring intersections where a project would add 50 or more trips during either the AM or PM weekday peak hours and (2) all mainline freeway monitoring locations where a project would add 150 or more trips (in either direction) during the AM or PM weekday peak hours. In addition, it requires a review of potential impacts to the regional transit system. The required CMP analyses were performed, as detailed in Chapter 7, in accordance with the TIA guidelines referenced in the CMP.

Caltrans Facilities

California Department of Transportation ("Caltrans') facilities were evaluated in Chapter 8 according to the guidelines found in *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002) (Caltrans TIS Guide).

Local Street Segment Analysis

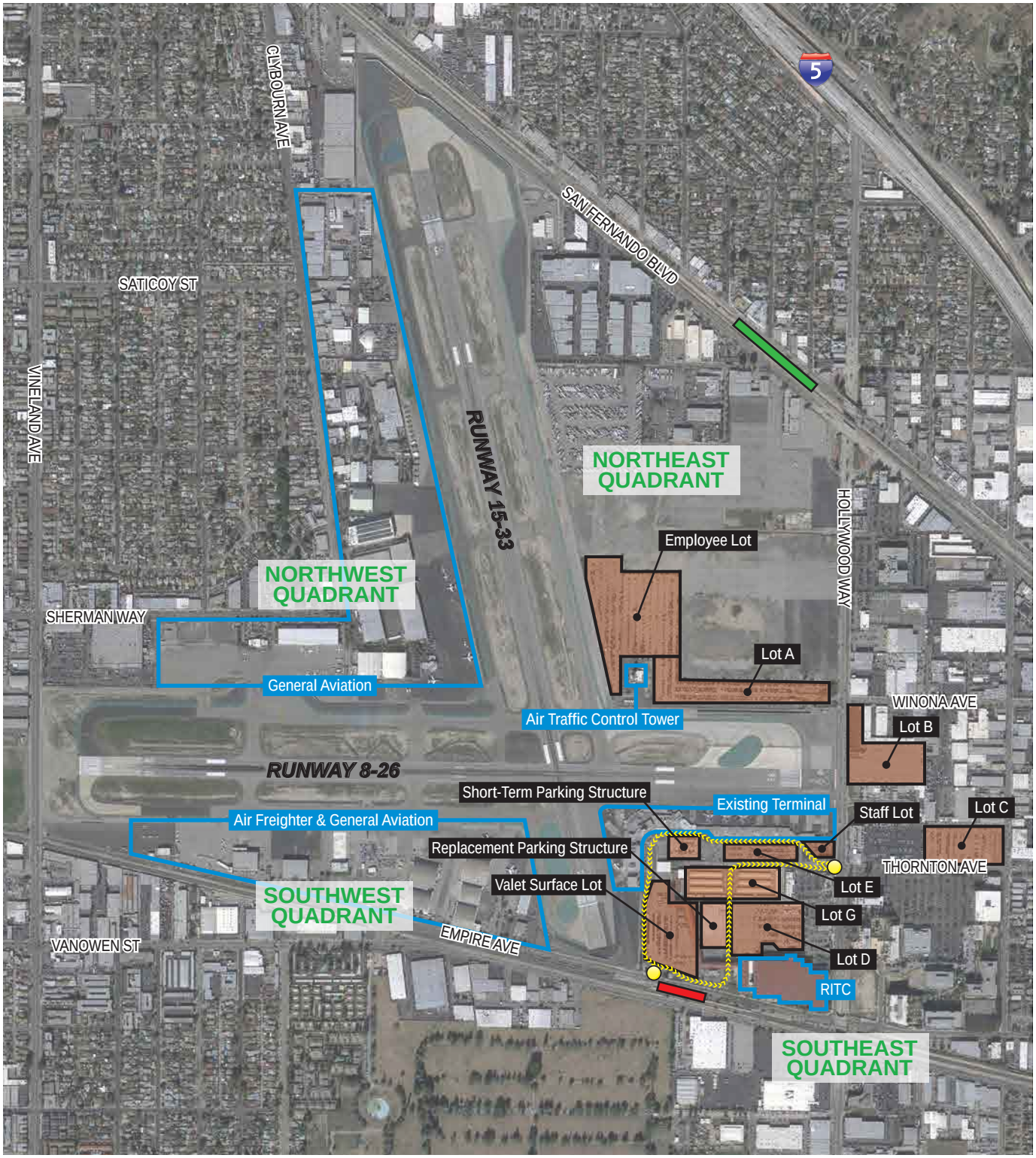
Chapter 9 provides an analysis of Cohasset Street, a local street as classified by the *Burbank2035 General Plan*, with the Project to determine whether it has sufficient capacity to accommodate increased traffic resulting from the Adjacent Property Option.

Construction Traffic Analysis

Chapter 10 provides an analysis of potential traffic impacts associated with the Project's construction.

ORGANIZATION OF REPORT

This report is divided into 10 chapters, including this introduction. Chapter 2 provides a detailed description of existing Airport operations and each proposed Project Option, along with the method by which traffic volumes were projected and distributed to the street system for each analysis scenario. Chapter 3 presents an analysis of Existing Year 2016 conditions and an analysis of potential Project impacts if the Project were completed this year. Chapter 4 presents an analysis of Interim Year 2023 conditions and an analysis of potential Project impacts upon completion of the replacement terminal for each Option. Chapter 5 presents an analysis of Completion Year 2025 conditions and an analysis of potential Project impacts upon completion of each Project Option. Chapter 6 describes the traffic improvement and mitigation program designed to reduce the impacts of Project traffic on study intersections. Chapter 7 presents the regional CMP analysis. Chapter 8 presents an analysis of Caltrans facilities. Chapter 9 presents the local street segment analysis. Chapter 10 presents the impacts associated with the construction phase of the Project. The Attachments contain supporting documentation and additional details of the technical analyses.



LEGEND

- Terminal Loop Round
- Terminal Access
- Burbank Bob Hope Airport Metrolink Station
- Proposed Bob Hope Airport Hollywood Way Metrolink Station

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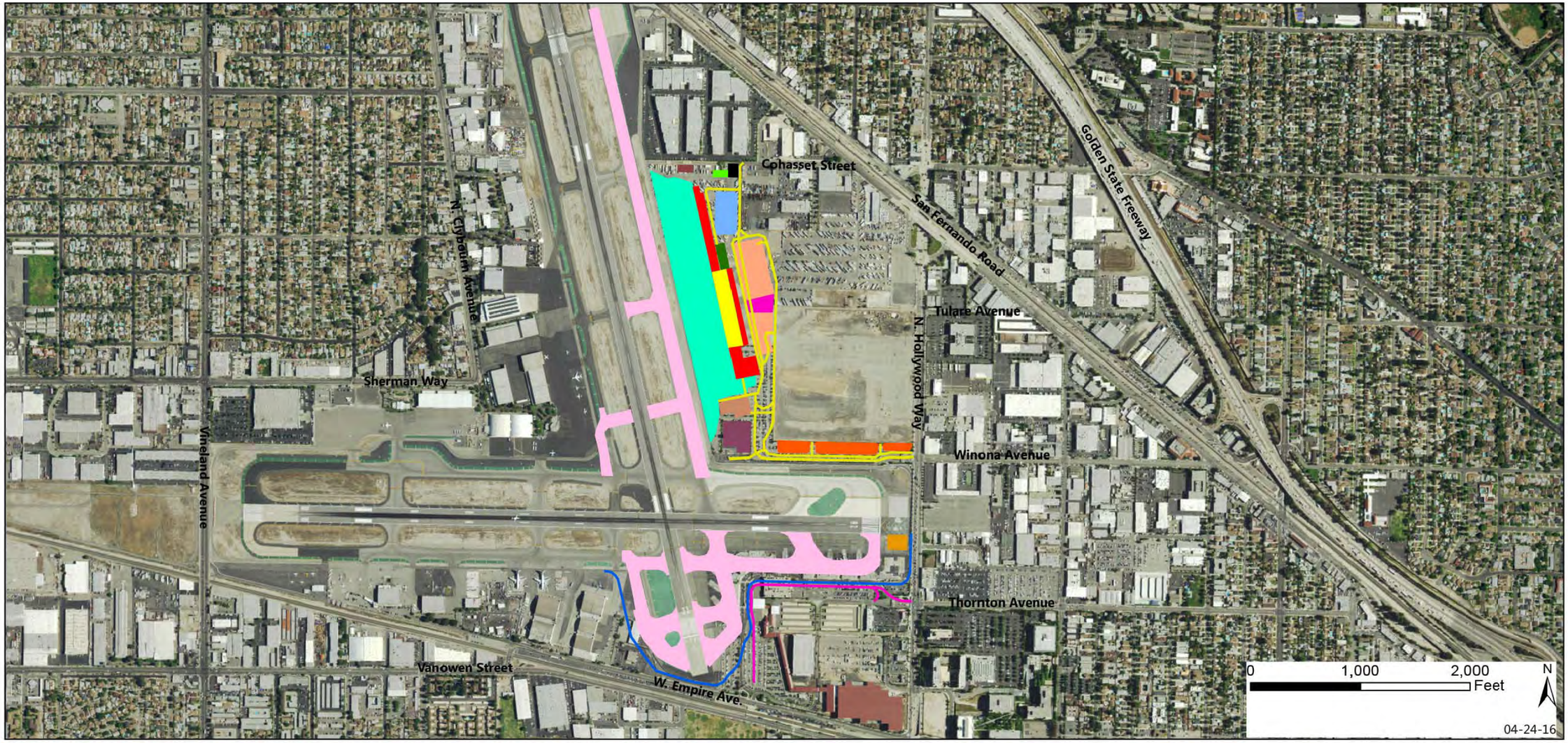
EXISTING AIRPORT OPERATIONS

FIGURE 1



Replacement Passenger Terminal Building - 1st Floor
Replacement Passenger Terminal Building - 2nd Floor (includes Central Utility Plant)
Terminal Access Road
Terminal Loop Road Realignment
Airport Service Road Realignment
Replacement Structured Employee Parking
Replacement Structured Public Parking
Valet Drop-off and Pick-up
Delivery Truck Staging
Replacement Air Cargo Facility
Electric Substation
Replacement ARFF
GSE Maintenance Building
Aircraft Ramp
Air Traffic Control Tower (ATCT)
Ground Access Vehicle Storage
Taxiway Improvements (see Figure 2-8 for Details)
Engineered Materials Arresting System (EMAS)

Source: Esri, 2016; Authority, 2016; RS&H, 2016.

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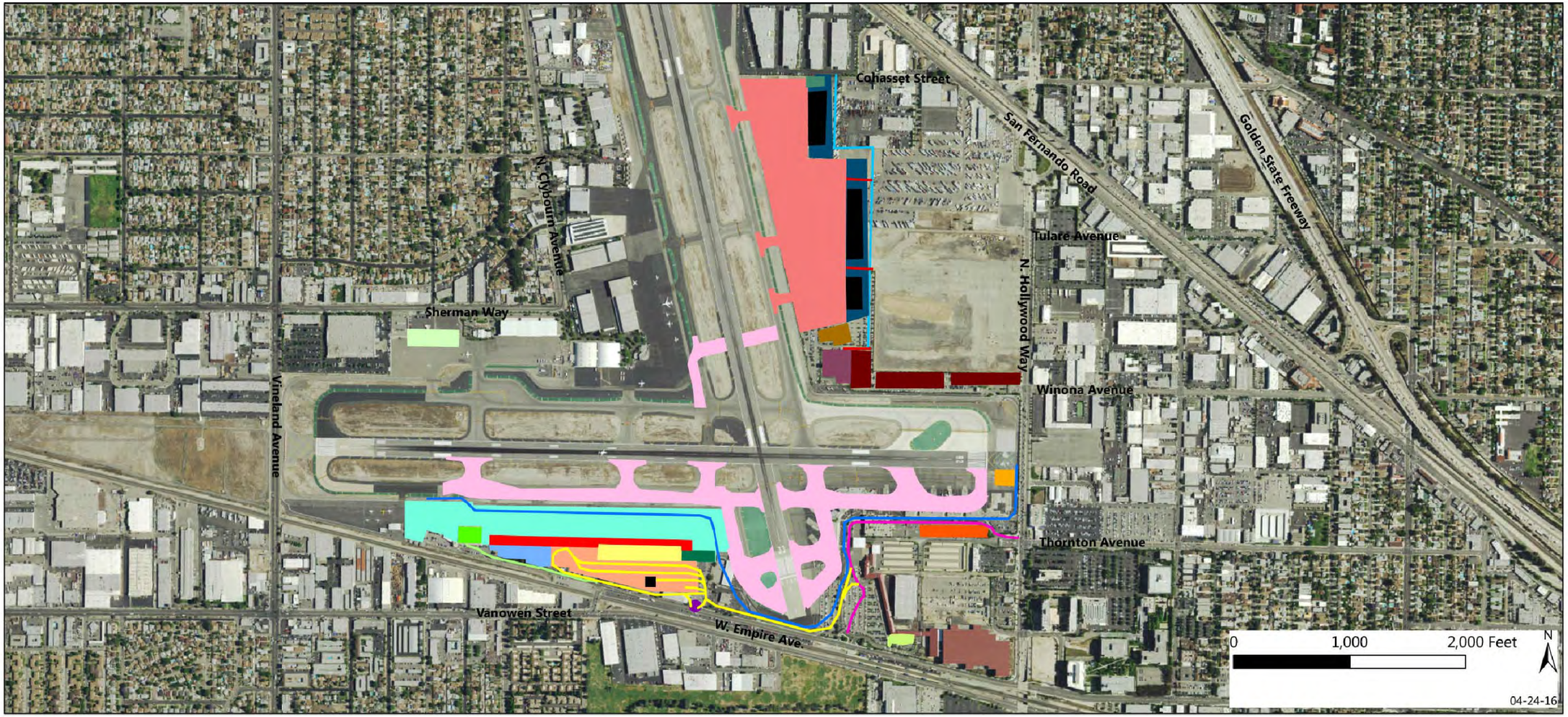
SITE PLAN - ADJACENT PROPERTY FULL-SIZE TERMINAL OPTION

FIGURE 2



- Replacement Passenger Terminal Building - 1st Floor
- Replacement Passenger Terminal Building - 2nd Floor (includes Central Utility Plant)
- Terminal Access Road
- Terminal Loop Road Realignment
- Airport Service Road Realignment
- Structured Employee Parking
- Structured Public Parking
- Delivery Truck Staging
- Aircraft Ramp
- Signalized Intersection
- Replacement Air Cargo/GSE Maintenance Facility
- Air Cargo Facility Access Road
- Shuttle Bus Drop-off and Pick-up Area
- Ground Access Vehicle Storage Area
- Air Freighter Facility
- Taxiway Improvements (see Figure 2-8 for Details)
- Engineered Materials Arresting System (EMAS)
- Replacement ARFF
- Air Traffic Control Tower (ATCT)
- Electric Substation
- General Aviation Ramp
- Airport Service Road
- General Aviation Hangar
- General Aviation Leasable Landside
- General Aviation Parcel Roadway
- Rental Car Storage Area
- Valet Drop-off and Pick-up

Source: Esri, 2016; Authority, 2016; RS&H, 2016.

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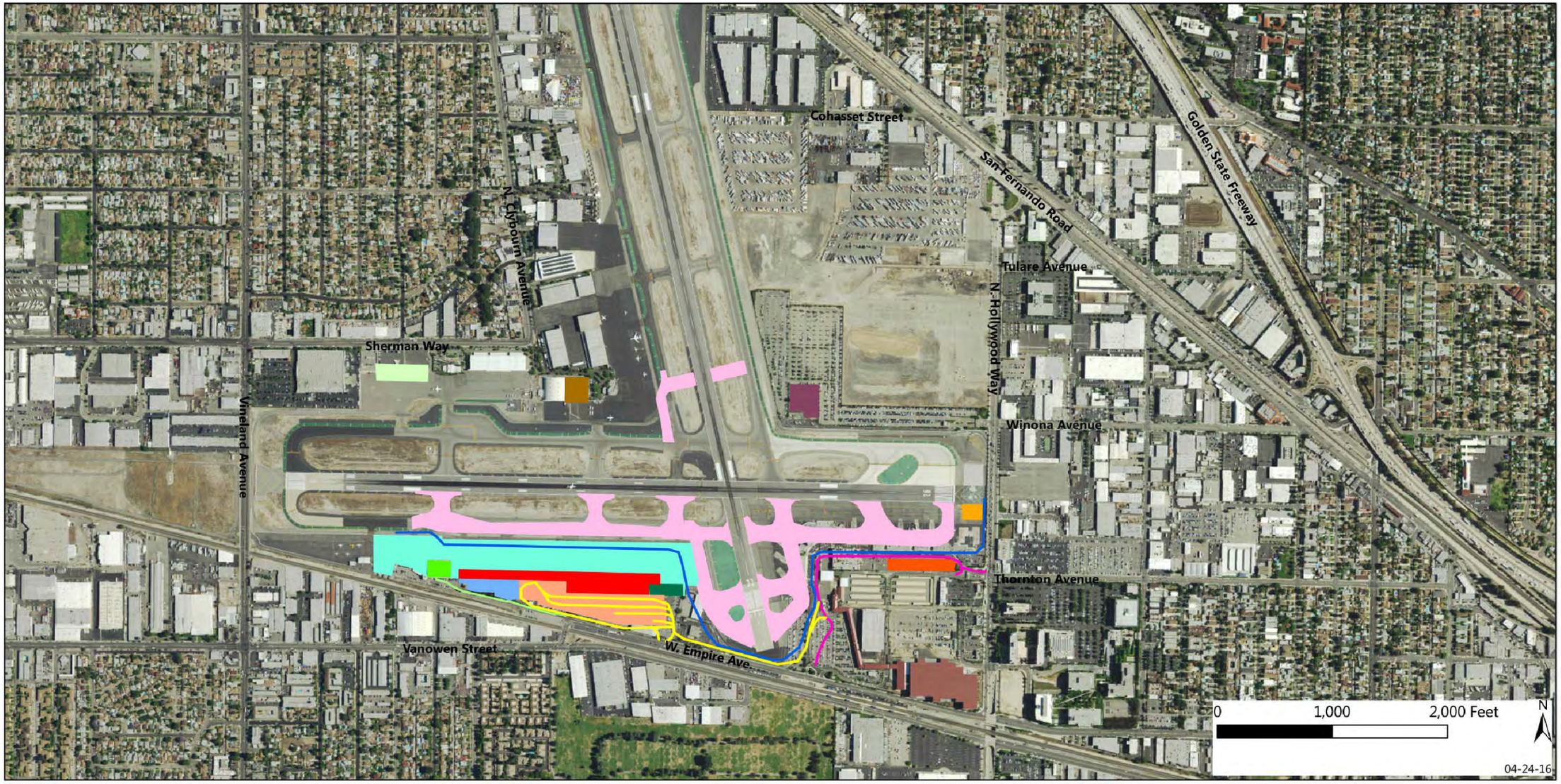
SITE PLAN - SOUTHWEST QUADRANT FULL-SIZE TERMINAL OPTION

FIGURE 3



Replacement Passenger Terminal Building (includes Central Utility Plant)
Terminal Access Road
Terminal Loop Road Realignment
Airport Service Road Realignment
Structured Employee Parking
Structured Public Parking
Delivery Truck Staging
Aircraft Ramp
Replacement Air Cargo/GSE Maintenance Facility
Air Cargo/GSE Maintenance Facility Access Road
Air Freighter Facility
Taxiway Improvements (see Figure 2-8 for Details)
Engineered Materials Arresting System (EMAS)
ARFF Building to Remain
Air Traffic Control Tower (ATCT)
Ground Access Vehicle Staging Area

Source: Esri, 2016; Authority, 2016; RS&H, 2016.

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SITE PLAN - SOUTHWEST QUADRANT SAME-SIZE TERMINAL OPTION

FIGURE 4

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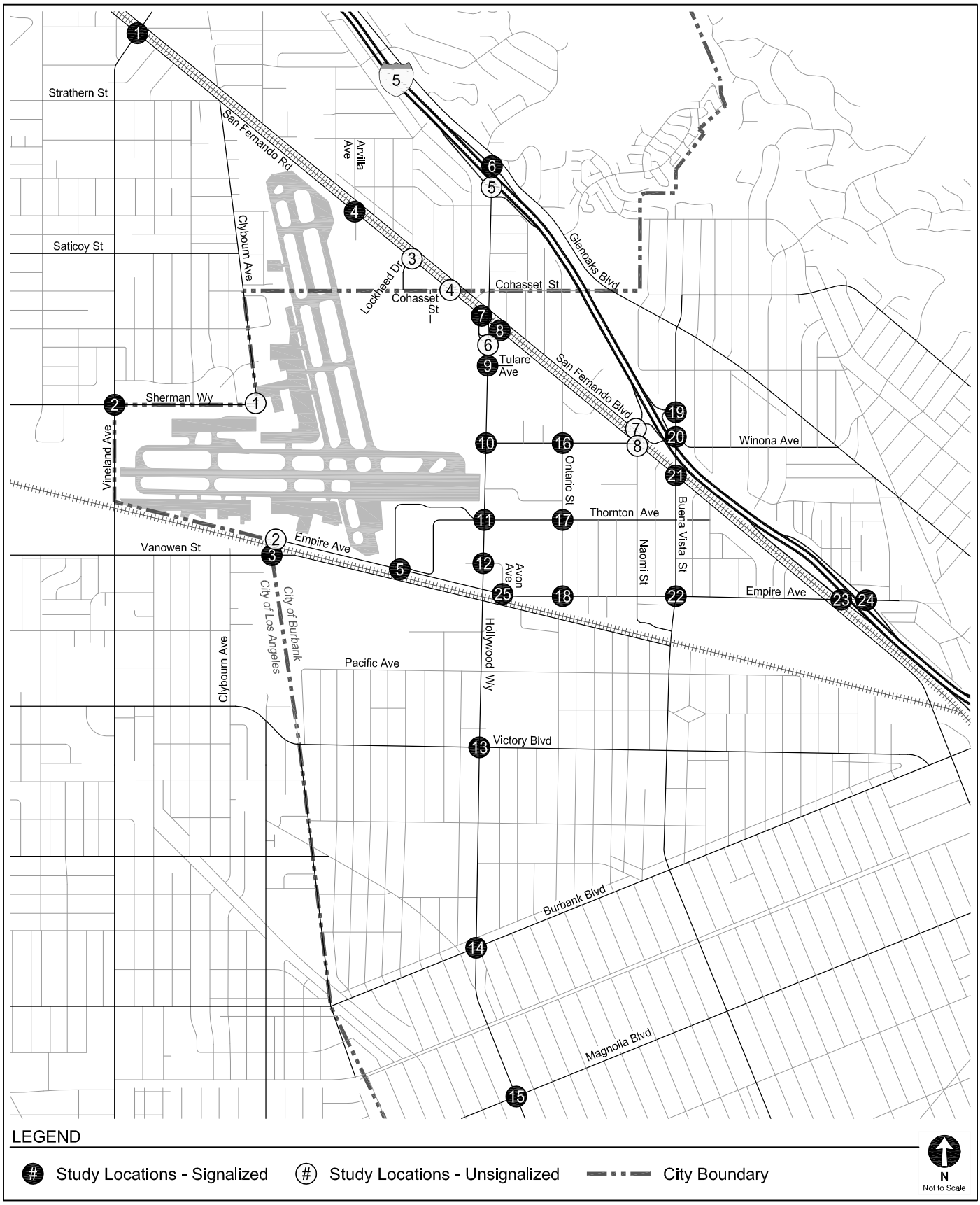

STUDY LOCATIONS

FIGURE 5

TABLE 1
LIST OF ANALYZED INTERSECTIONS

No.	North/South Street	East/West Street
Signalized Intersections		
1.	Sunland Boulevard	San Fernando Road
2.	Vineland Avenue	Sherman Way
3.	Clybourn Avenue	Vanowen Street
4.	Arvilla Avenue	San Fernando Road
5.	Airport	Empire Avenue
6.	Hollywood Way	I-5 Northbound Ramps
7.	Hollywood Way Southbound Ramps	San Fernando Boulevard
8.	Hollywood Way Northbound Ramps	San Fernando Boulevard
9.	Hollywood Way	Tulare Avenue
10.	Hollywood Way	Winona Avenue
11.	Hollywood Way	Airport / Thornton Avenue
12.	Hollywood Way	Airport / Avon Avenue
13.	Hollywood Way	Victory Boulevard
14.	Hollywood Way	Burbank Boulevard
15.	Hollywood Way	Magnolia Boulevard
16.	Ontario Street	Winona Avenue
17.	Ontario Street	Thornton Avenue
18.	Ontario Street	Empire Avenue
19.	Buena Vista Street	I-5 Northbound Ramps
20.	Buena Vista Street	Winona Avenue
21.	Buena Vista Street	San Fernando Boulevard
22.	Buena Vista Street	Empire Avenue
23.	I-5 Southbound Ramps	Empire Avenue
24.	I-5 Northbound Ramps	Empire Avenue
25.	Avon Avenue	Empire Avenue
Unsignalized Intersections		
1.	Clybourn Avenue	Sherman Way
2.	Clybourn Avenue	Empire Avenue
3.	Lockheed Drive	San Fernando Road
4.	San Fernando Boulevard	Cohasset Street
5.	Hollywood Way	I-5 Southbound Ramps
6.	Hollywood Way	San Fernando Boulevard Ramps
7.	I-5 Southbound Ramps	San Fernando Boulevard
8.	San Fernando Boulevard / Naomi Street	Winona Avenue

TABLE 2
LEVEL OF SERVICE DEFINITIONS FOR INTERSECTIONS

Level of Service	Signalized V/C Ratio [a]	Unsignalized Delay (seconds) [b]	Definition
A	0.000 - 0.600	0.0 - 10.0	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	10.1 - 15.0	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.800	15.1 - 25.0	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.900	25.1 - 35.0	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.000	35.1 - 50.0	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	> 50.0	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.

Notes

[a] *Transportation Research Circular No. 212, Interim Materials on Highway Capacity,* Transportation Research Board, 1980.

[b] *2010 Highway Capacity Manual,* Transportation Research Board, 2010.

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Chapter 2

Project Description and Traffic Shifts

This Chapter presents a detailed summary of the three Project Options and identifies the traffic generation and distribution assumptions that were used in the traffic impact analyses presented in subsequent chapters.

EXISTING AIRPORT OPERATIONS

As summarized in Chapter 1, the Airport primarily provides commercial passenger air service to regional destinations in the western United States. The existing terminal is in the southeast quadrant, south of Runway 8-26 and east of Runway 15-33. The existing air traffic control tower ("ATCT") is located east of Runway 15-33 to the south of the proposed location of the terminal under the Adjacent Property Option.

The existing terminal is accessed by a terminal loop road that connects to Hollywood Way at Thornton Avenue and to Empire Avenue to the south. Within the terminal area there are two parking structures and several surface parking lots – the Valet Lot, Lot D, Lot E, and Lot G – that provide short- and long-term Airport parking, including self-park and valet options. In total, these lots and structures provide 3,890 spaces in the terminal area, though not all of those spaces are currently open for passenger use. In the southeast corner of the terminal area is the Regional Intermodal Transportation Center ("RITC"), which is the site of all rental car operations for the Airport and also has a transit center on the ground floor providing access to BurbankBus and Metro bus lines. The Burbank-Bob Hope Airport Metrolink Station is across the street from the RITC.

Additional parking is provided at several locations away from the existing terminal. Lot A is located in the northeast quadrant and is accessed from Hollywood Way at Winona Avenue. Lot B is located on the east side of Hollywood Way between Winona Avenue and Thornton Avenue.

Lot C is located on the north side of Thornton Avenue east of Hollywood Way. These three lots combine to provide 2,747 spaces, bringing the total number of spaces provided by the Airport for public use to 6,637 spaces. Additionally, there are two staff parking lots – one within the terminal area and one adjacent to Lot A – providing a total of 612 spaces for employees.

The existing air freighter services (FedEx and UPS) operate in the southwest quadrant of the Airport with vehicular access provided from Empire Avenue at Clybourn Avenue. General aviation operations are located in the southwest and northwest quadrants, and are accessed via Empire Avenue (southwest quadrant) and Sherman Way and Clybourn Avenue (northwest quadrant). There are various other minor facilities at the Airport that do not generate measurable numbers of off-site peak hour trips, including the ground service maintenance garage within the existing air freighter building and the aircraft rescue and fire fighting station ("ARFF") in the northwest quadrant of the Airport.

PROJECT PURPOSE

The Project is proposed by the Burbank-Glendale-Pasadena Airport Authority ("Airport Authority"), the owner and operator of the Airport. The primary purpose of the Project is to enhance Airport safety through a replacement terminal that meets FAA airport design standards, Americans with Disabilities Act ("ADA") standards, and California seismic safety design standards. Other objectives are associated with providing a terminal that is efficient, cost-effective, and distinctive. The Project does not increase the number of aircraft gates, nor does it increase the number of parking spaces provided. However, an objective of the Project is to increase the level of passenger convenience compared to the existing terminal by substantially increasing the amount of public and common space, concession space, and space for security screening.

PROJECT OPTIONS

As summarized in Chapter 1, three Project Options are proposed, including the Adjacent Property Option (shown in Figure 2), the SWQ Full-Size Option (shown in Figure 3), and the SWQ Same-Size Option (shown in Figure 4). Each of the Options would replace the existing

232,000 sf, 14-gate terminal with a new 14-gate terminal with either 232,000 sf (the SWQ Same-Size Option) or 355,000 sf (the Adjacent Property Option and the SWQ Full-Size Option). The key characteristics of each Project Option are summarized in Table 3 and described in detail below.

Each Project Option would locate the majority of the terminal development on the first floor. In the SWQ Same-Size Option, the second floor would only house the terminal's central utility plant, while in the two larger Project Options the second floor would provide space for tenants, the Transportation Security Administration ("TSA"), the central utility plant and mechanical systems, Airport management staff, concessions, and public circulation.

Each Project Option would provide a 3,000-space parking garage adjacent to the replacement terminal and a total of 6,637 parking spaces (the same number currently provided) between all Airport public parking lots and structures. Lots A and B would be removed, while Lots C, D, and G would be retained in part or in whole. Each Project Option would provide 600 spaces for employees in a new employee parking structure.

Each Project Option would provide a continuous-loop airport shuttle between the RITC (including passengers using the Burbank-Bob Hope Airport Metrolink Station across the street from the RITC) to the terminal. These shuttles would operate frequently enough to ensure an average total travel time, including wait time, of approximately 10 minutes between the RITC and the terminal and vice versa. Upon completion of the proposed Hollywood Way Metrolink Station near the northeast quadrant of the Airport, an additional airport shuttle would provide service to and from that station, timed to coincide with the arrival and departure schedules of those trains. Adjacent to each terminal, a bus-only lane would be provided for pick-up and drop-off by airport shuttles, hotel shuttles, and any public transit buses that choose to travel through the terminal loop road as part of an established route.

Following construction of the replacement terminal, each Project Option includes the demolition of the existing terminal and the construction of taxiways in the southeast quadrant of the Airport.

Adjacent Property Option

The Adjacent Property Option would locate the replacement terminal in the northeast quadrant of the Airport east of Runway 15/33. Primary access to the Adjacent Property Option terminal would be via a new main driveway at the intersection of Hollywood Way & Winona Avenue, and secondary access would be to Cohasset Street to the north, through which vehicles could reach San Fernando Boulevard. There may also be a vehicular connection to the terminal loop road through a proposed future development at the former Lockheed parcel adjacent to the northeast quadrant of the Airport. Potential impacts from that connection would be studied in that development's traffic analysis. The Project analysis conservatively assumes that all Adjacent Property Option traffic would use the proposed access points on Hollywood Way at Winona Avenue or at Cohasset Street, which is the worst-case analysis in the event that the adjacent property is not developed or is not connected to the Airport terminal road. In this Option, air freighter operations and general aviation would remain in their current locations in the northwest and southwest quadrants of the Airport.

SWQ Full-Size Option

The SWQ Full-Size Option would locate the replacement terminal in the southwest quadrant of the Airport south of Runway 8/26. It would maintain the same access points as are available today for the existing terminal (that is, primary access at Hollywood Way & Thornton Avenue and secondary access on Empire Avenue) and would also add an additional signalized access point on Empire Avenue between Clybourn Avenue and the existing terminal loop road driveway. In this Project Option, air freighter access would be moved to the northwest quadrant with access from Sherman Way. The component of general aviation traffic that currently accesses the Airport from Empire Avenue would move to the northeast quadrant and would enter on Winona Avenue.

SWQ Same-Size Option

The SWQ Same-Size Option differs from the SWQ Full-Size Option in that the second floor of the replacement terminal would only provide the space required for the central utility plant. As a

result, the various passenger-serving facilities would be smaller and would be entirely housed on the first floor, and Airport management staff (approximately 45 employees) would be moved to an off-site office in another city, such as Pasadena, Glendale, or Los Angeles. Additionally, in this Option, the general aviation uses that were located within the southwest quadrant of the Airport would be removed entirely, and there would be no additional signalized access point on Empire Avenue.

TRAFFIC PROJECTION METHODOLOGY

The Project does not increase the capacity of the Airport for passenger travel. Whether or not the Project is constructed, Airport passenger volumes are expected to increase during the period analyzed (though the passenger volume forecasts through Completion Year 2025 are lower than historic high passenger levels at the Airport). Therefore, the Project is not expected to increase the number of vehicle trips associated with passenger travel to and from the Airport. Instead, the relocation of the terminal and other facilities would alter airport traffic patterns locally due to travel routes shifting from existing access points to proposed access points under each Project Option. However, it was important to accurately estimate the number of peak hour trips that the Airport generates by each trip source so that the effects of shifting traffic can be accurately measured and analyzed. To estimate peak hour trips associated with airline passengers, two steps were followed:

1. The peak hour traffic volumes associated with existing and future passenger levels were estimated for years 2016, 2023, and 2025. Similarly, traffic volumes associated with the various other users of the Airport, detailed below, were estimated.
2. The peak hour traffic volumes from Step 1 were reassigned from existing Airport access patterns to the new access patterns that would result from each Project Option. Airport passenger growth, projected to occur with or without the Project, was accounted for in the background traffic conditions through the use of the City's Travel Demand Model as described in detail in Chapter 4.

Each of these steps is described in greater detail below.

Step 1: Estimate Peak Hour Passenger Traffic Volumes

As stated in Chapter 1, the Airport currently serves approximately 4.0 million annual air carrier passengers. Air carrier passenger traffic is expected to grow in the future whether or not the Project is constructed. It is expected to reach 4.7 million annual air carrier passengers by year 2023 and 4.9 million annual air carrier passengers by year 2025 based on the forecast presented in Appendix E of the Draft Environmental Impact Report. Hourly passenger enplanements and deplanements were forecast using FlightAware[1]. The projections were then used to estimate the total peak hour passenger arrivals to and departures from the Airport (in terms of person-trips on the ground). Table 4 summarizes the estimated peak hour person-trips for years 2016, 2023, and 2025 based on FlightAware data. The detailed FlightAware data and the development of these peak hour numbers are summarized in greater detail in Attachment D.

Passengers travel to and from the Airport using a variety of modes, including:

- Driving and parking private automobiles (self park or valet)
- Dropped off or picked up by family or friends
- Driving rental cars
- Traveling by taxi
- Traveling by Uber or Lyft, known as Transportation Network Companies ("TNC")
- Traveling by airport shuttle or shared ride van
- Traveling by hotel shuttle
- Traveling by public transit

Travel mode split and average vehicle occupancy ("AVO") assumptions were developed based on data provided by Airport staff and based on results from *Bob Hope Airport Ground Access Study Data Collection and Analysis: Surveys of Airport Passengers and Employees* (Unison Consulting, Inc., Maroon Society, Montbury Consulting, Inc., and David Brownstone, Ph.D., August 2012) (the "Unison Survey"). From these mode splits and AVO values, shown in Table 5 for existing and future year conditions, passenger arrival and departure data were converted into various types of automobile trips. As shown in Table 5, the share of passengers driving private automobiles to and from the Airport is expected to decrease over time while the number of passengers taking TNCs to the Airport is expected to increase. All passenger automobiles

[1] FlightAware Aviation Data Service compiles flight plan information for aircraft that have filed instrument flight rules (IFR) flight plans. Air carrier operations usually file IFR flight plans. FlightAware does not reflect aircraft on Visual Flight Rules (VFR) flight plans or operating without filing a flight plan. The vehicular traffic associated with VFR flights are accounted for in the discussion on vehicular traffic generated by general aviation activities.

were assumed to carry an average of 1.2 passengers, while hotel shuttles were assumed to carry three passengers and shared vans were assumed to carry five passengers. In total, over 40% of passengers drive themselves to the Airport and over 50% of passengers get a ride. Only 1% or fewer passengers take public transit to the Airport.

These splits were then applied to the peak hour person-trip estimates shown in Table 4. The total passenger trip generation estimates are shown in Tables 6, 7, and 8 for years 2016, 2023, and 2025, respectively. As indicated in the tables, certain types of passenger trips result in both an arriving and departing trip (those in which the passenger is dropped off and the vehicle leaves), which was accounted for in the estimates.

Other types of traffic to and from the Airport are not expected to increase with the growth in passenger traffic. However, to the extent that any such increase were to occur by years 2023 or 2025, it would be sufficiently accounted for as part of the background traffic growth that is described in Chapter 4.

Step 2: Reassign Airport Traffic to Proposed Project Access Points

The various Project Options are not expected to result in increased traffic to or from the Airport. In fact, in the case of the SWQ Same-Size Option, some Airport traffic would be removed because of the loss of a portion of the Airport's general aviation space and the relocation of administrative staff away from the Airport. However, because the proposed Project Options change access to the terminal and parking and move some other services around the Airport property, there would be local traffic shifts to these new access points. Therefore, the traffic analysis for each Project Option included the removal of existing peak hour Airport traffic from the current access points and the reassignment of that traffic to the proposed access points.

As part of this reassignment effort, it was necessary to estimate the regional passenger trip distribution pattern, shown in Figure 6. This distribution pattern was consistent with Airport passenger ground access origin data from the Unison Survey, and generally consistent with a select zone analysis of the airport terminal zone from the City's Travel Demand Model. However, the specific regional passenger trip distribution pattern does not substantially affect the potential for significant intersection impacts as a result of Project traffic shifts. Project

impacts were measured based on the local shift of traffic between the existing and proposed terminal access points.

Currently, based on the traffic counts collected at the existing Project access points, approximately 70% of passenger traffic accesses the Airport via the access on Hollywood Way at Thornton Avenue, 24% via the access on Empire Avenue, and 6% to Lot A via Hollywood Way at Winona Avenue. With each Project Option, these patterns would change. For the purposes of this analysis, under the Adjacent Property Option, approximately 32% of passenger traffic was expected to use the access on Hollywood Way at Thornton Avenue, 55% of passenger traffic would use the access on Hollywood Way at Winona Avenue, and 13% would use the access to Cohasset Street. Under either SWQ Option, approximately 65% of passenger traffic was expected to use the access on Hollywood Way at Thornton Avenue and 35% would use one of the driveways on Empire Avenue.

In addition to passenger traffic, the Airport generates vehicle trips on the local and regional street system from a variety of sources, including:

- Employees (of the Airport, airlines, and commercial operators at the Airport)
- General aviation traffic
- Air freighter traffic (FedEx, UPS)
- Delivery vehicles

For each category of trip, peak hour trip generation estimates were prepared and the change in access was determined.

Passenger Traffic. The passenger traffic volumes for each analysis year are shown in Tables 6, 7, and 8. Under existing conditions, the passenger traffic accesses the Airport via Hollywood Way at Thornton Avenue (70%), Hollywood Way at Winona Avenue (6%), and Empire Avenue (24%). With the Project under the Adjacent Property Option, the traffic would shift such that it accesses the Airport via Hollywood Way at Winona Avenue (55%), Hollywood Way at Thornton Avenue (32%), and via Cohasset Street to San Fernando Boulevard (13%). With the Project under either SWQ Option, the traffic would shift such that it accesses the Airport via Hollywood Way at Thornton (65%) and via Empire Avenue (35%).

The percentages were determined based on a review of how the regional traffic distribution pattern (shown in Figure 6) complements the new access plans and the proposed locations of parking. For example, though traffic could access the terminal under either SWQ Option using Hollywood Way at Thornton Avenue in the same manner as under existing conditions, the new location of the terminal and the provision of an additional access point on Empire Avenue would encourage a higher percentage of traffic to access from Empire Avenue than under existing conditions, particularly traffic traveling to or from I-5 south of the Airport.

Airport Employee Traffic. The Airport employs numerous workers, many of whom drive to and from the Airport. However, the vast majority of the workers arrive and depart outside of the peak hours analyzed in this study. Major employment shifts begin at 5:00 AM and 2:00 PM, at which times approximately 250 employees change shifts. During these shift changes, dedicated employee shuttles operate to bring employees from the employee parking lot near Lot A to the terminal. In non-shift change times, employees ride the Lot A remote parking shuttle. These employees would move from Lot A to a new employee parking structure adjacent to the terminal under each Project Option. Peak hour trips associated with these employees were empirically estimated using electronic parking access records from the month of May, 2016. The average weekday peak hour arrivals and departures at that lot, which are substantially fewer than off-peak arrivals and departures, are summarized in Table 9.

Airport administrative employees, including the Airport Authority, currently park in a staff parking lot within the existing terminal area off of the terminal loop road. These employees work on more standard office schedules. They, too, would park in the new employee parking structure adjacent to the terminal under the Adjacent Property Option and the SWQ Full-Size Option. However, under the SWQ Same-Size Option, these administrative employees (approximately 45 in total based on information provided by the Airport) would move to an off-site office and would not travel to and from the Airport in a typical business day. Trips associated with these employees were estimated using standard office trip generation rates from *Trip Generation, 9th Edition* (Institute of Transportation Engineers (ITE), 2012), as shown in Table 9. These rates were validated by reviewing electronic parking access records for the terminal-area staff lot where these employees park, and it was determined that the ITE estimates were conservative.

These employee trips are assumed to have the same regional distribution pattern (shown in Figure 6) and local access pattern as for passengers under existing conditions and with each

Project Option. As noted above, under the SWQ Same-Size Option, the administrative employee trips were removed entirely as the administrative staff offices would no longer be located at the Airport.

General Aviation Traffic. General aviation includes civil operations such as non-scheduled air transport, flight training, and corporate jets. Airport data shows that approximately 350 general aviation flights occur each day, though that includes 128 from FedEx or UPS, the traffic from which is described separately below. Currently, general aviation is located partially in the southwest quadrant and partially in the northwest quadrant of the Airport. Traffic to and from general aviation accesses the airport from Empire Avenue at Clybourn Avenue (southwest quadrant) and from Sherman Way and Clybourn Avenue (northwest quadrant). Under the Adjacent Property Option, there would be no substantive change to general aviation, and therefore no traffic was assumed to shift. Under the SWQ Full-Size Option, the general aviation traffic to the southwest quadrant was assumed to move to the northeast quadrant with access on Hollywood Way at Winona Avenue. Under the SWQ Same-Size Option, the general aviation at the southwest quadrant would be removed entirely and, therefore, the traffic was removed but not reassigned.

Off-site vehicle trips associated with general aviation activities in the southwest quadrant of the Airport were estimated empirically based on peak period traffic counts conducted in June 2016 at four driveways along Empire Avenue serving general aviation uses (excluding driveways serving air freighter trips, which were separately accounted for below). The trip generation estimates are shown in Table 10.

Air Freighter Traffic. Air freighter operations for FedEx or UPS result in truck trips to and from the Airport. Airport data logs show an average of approximately 20 daily arrivals and departures by FedEx or UPS trucks, primarily within eight hours encompassing the morning and afternoon peak hours. For analysis purposes, it was conservatively assumed that four arrivals and four departures would occur during each peak hour.

Currently, air freighter operations are located in the southwest quadrant and the trucks access the Airport via Empire Avenue near Clybourn Avenue. Under the Adjacent Property Option, there would be no change to air freighter facilities. Under both SWQ Options, air freighter

operations would be relocated to the northwest quadrant off of Sherman Way, and all FedEx and UPS trucks would be relocated there.

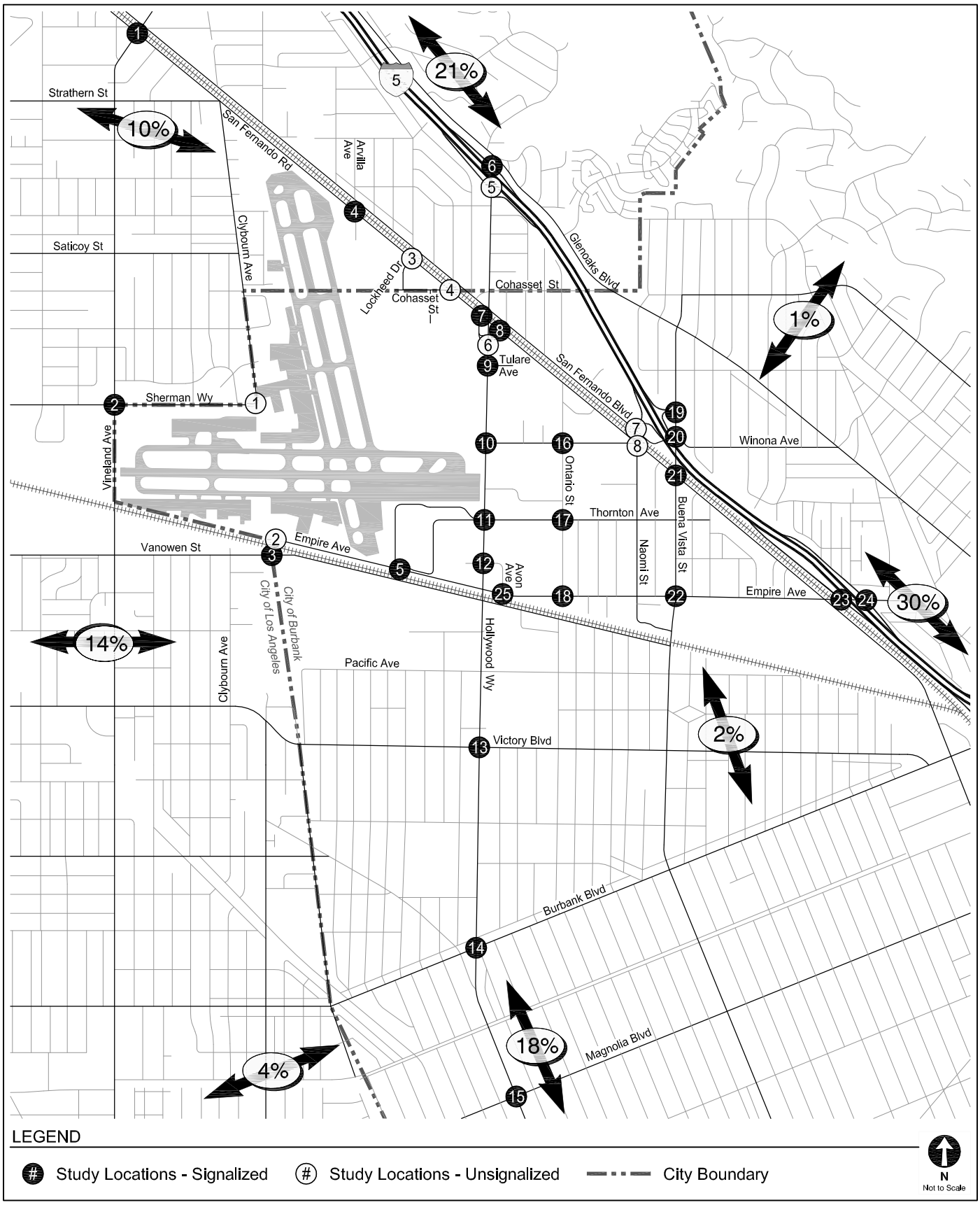
Airport Shuttles. Airport shuttles carrying passengers to and from remote parking lots operate on five-minute headways during peak hours. Under existing operations, the Airport operates 12 shuttles per hour each to Lots A and C from the terminal. Under all Project scenarios, Lot A would be removed and, therefore, so would the Lot A shuttle. The Lot C shuttle would remain. Also, an additional shuttle would be run between the RITC and the terminal for passengers using rental cars. This RITC Shuttle route would serve rental car customers, passengers who park their personal vehicles in the southeast quadrant parking facilities, train passengers, and bus passengers. The RITC shuttle would operate on five-minute headways in each direction using 40 to 45-foot buses and would have the ability to transport approximately 1,100 passengers per hour between the RITC and each terminal. Further, the RITC shuttle, which is anticipated to take approximately 10 minutes (including time waiting for the shuttle) for a one-way trip between the RITC and the terminal under each Project Option, would provide comparable travel time and superior comfort and convenience compared to the walk required between the RITC and the current passenger terminal.

For the Adjacent Property Option, the RITC Shuttle would travel on Hollywood Way to and from Winona Avenue and the Avon Street entrance to the RITC. For both SWQ Project Options, the RITC Shuttle would travel on an extended Airport Loop Road between the replacement terminal and the RITC, allowing direct access without traveling on City streets.

An additional shuttle, timed to coincide with train schedules, would travel between the terminal and the proposed Hollywood Way Metrolink Station upon its completion. This shuttle would travel on Hollywood Way between San Fernando Boulevard (where the train station would be located) and either Winona Avenue (Adjacent Property Option) or Thornton Avenue (both SWQ Project Options). It is estimated that this shuttle would provide approximately 3 round trips per peak hour based on the current schedule of Metrolink's Antelope Valley train.

Other Vehicles. Several other traffic sources were considered, but were deemed to result in too few trips to warrant including in this analysis. The ARFF station employs six people per day; the ATCT employs eight people per day; an average of eight deliveries are made per day (outside

of air freighter deliveries). The potential peak hour trips resulting from these users are too few to measure.



REGIONAL PASSENGER TRIP DISTRIBUTION

FIGURE 6

TABLE 3
COMPARISON OF PROJECT OPTIONS

Airport Feature	Existing	Adjacent Property Option	SWQ Full-Size Option	SWQ Same-Size Option
Terminal Size	232,000 sf	355,000 sf	355,000 sf	232,000 sf
Terminal Location	SEQ	NEQ	SWQ	SWQ
Terminal Loop Road Access Points				
Primary	Hollywood at Thornton	Hollywood at Winona	Hollywood at Thornton	Hollywood at Thornton
Secondary	Empire	Cohasset	Empire	Empire
Public Parking				
Existing Structure	438	removed	removed	removed
New Structure	does not exist	3,180	3,180	3,180
Lot A	1,592	closed	closed	closed
Lot B	638	closed	closed	closed
Lot C	517	517	517	517
Lot D	612	612	612	612
Lot E	201	closed	closed	closed
Lot G	253	253	253	253
Replacement Structure	1,043	1,043	1,043	1,043
Valet Surface Lot	1,343	1,032	1,032	1,032
Total Public Parking	***6,637***	***6,637***	***6,637***	***6,637***
Employee Parking				
East Authority Staff Lot	65	closed	closed	closed
Northeast Quadrant Lot	547	closed	closed	closed
New Employee Structure	0	600	600	600
Total Employee Parking	***612***	***600***	***600***	***600***
Air Freighter Location	Located in SWQ	Remains in SWQ	Moved to NWQ	Moved to NWQ
General Aviation Location	Partially in NWQ and partially in SWQ	Remains in place	SWQ portion is moved to NEQ	SWQ portion is removed
Airport Administrative Office	At existing terminal in SEQ	At proposed terminal in NEQ	At proposed terminal in SWQ	Relocated off-site

Note: SWQ = southwest quadrant; SEQ = southeast quadrant; NWQ = northwest quadrant; NEQ = northeast quadrant.

TABLE 4
EXISTING AND FORECAST PASSENGER PERSON-TRIPS

Year	Annual Passengers	Ground-Based Person Trips						
		Daily	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Year 2015 Forecast [a]	4,000,000	11,700	447	428	875	350	369	719
Year 2023 Forecast	4,700,000	14,300	478	479	957	431	604	1,035
Year 2025 Forecast	4,900,000	14,800	495	496	991	447	622	1,069

Note: Annual passenger forecasts and ground-based person-trip forecasts are based on Flightaware data. For details of the development of the data in this table, please refer to Attachment D.

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TABLE 5
GROUND-BASED PASSENGER TRANSPORTATION MODE SPLIT SUMMARY

Travel Mode	Existing	Future
Drive Self		
Self-park at Terminal	10%	8%
Self-park at Remote Lot (On- or Off-Airport)	6%	5%
Valet Park	4%	4%
Rental Car	25%	25%
Total Drive Self	**45%**	**42%**
Get a Ride		
Friend or Family	40%	40%
Taxi	3%	2%
Transportation Network Company (i.e., Uber or Lyft)	5%	10%
Hotel Shuttle	4%	4%
Airport Shuttle / Shared Van	2%	1%
Total Get a Ride	**54%**	**57%**
Other		
Public Transit	1%	1%
OVERALL TOTAL	**100%**	**100%**

Note: Mode split is the same for arriving (deplaning) and departing (emplaning) passengers.

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TABLE 6
PASSENGER TRIP GENERATION - EXISTING YEAR 2016

Travel Mode	Mode Split [a]	AVO [b]	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Person Trips [c]			**11,700**	**447**	**428**	**875**	**350**	**369**	**719**
Drive Self									
Self-park at Terminal	10%	1.2	975	37	36	73	29	31	60
Self-park at Remote Lot	6%	1.2	585	22	21	44	18	18	36
Valet Park	4%	1.2	390	15	14	29	12	12	24
Rental Car	25%	1.2	2,438	93	89	182	73	77	150
Total Drive Self	**45%**		**4,388**	**167**	**160**	**328**	**132**	**138**	**270**
Get a Ride									
Friend or Family	40%	1.2	3,900	149	143	292	117	123	240
Taxi	3%	1.2	293	11	11	22	9	9	18
TNC	5%	1.2	488	19	18	36	15	15	30
Hotel Shuttle	4%	3.0	156	6	6	12	5	5	10
Airport Shuttle / Van	2%	5.0	47	2	2	4	1	1	3
Total Get a Ride	**54%**		**4,884**	**187**	**180**	**366**	**147**	**153**	**301**
Other									
Public Transit	1%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
[d] Total Drive Self Trips - One-Way Only			4,388	167	160	328	132	138	270
[e] Total Get a Ride Trips - Two Way Trips			9,768	367	367	734	300	300	600
TOTAL PASSENGER TRIPS			**14,156**	**534**	**527**	**1,062**	**432**	**438**	**870**

[a] Existing mode split from Table 5.
[b] Average Vehicle Occupancy, the average number of airport passengers in each vehicle.
[c] Existing Year person trips from Table 4.
[d] For passengers who drive their own car, the Airport serves as either the origin or destination of their trip.
[e] For passengers who get a ride, the vehicle must travel both to and from the Aiport for each drop-off or pick-up, so the trip totals were doubled.

TABLE 7
PASSENGER TRIP GENERATION - INTERIM YEAR 2023

Travel Mode	Mode Split [a]	AVO [b]	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Person Trips [c]			**14,300**	**478**	**479**	**957**	**431**	**604**	**1,035**
Drive Self									
Self-park at Terminal	8%	1.2	953	32	32	64	29	40	69
Self-park at Remote Lot	5%	1.2	596	20	20	40	18	25	43
Valet Park	4%	1.2	477	16	16	32	14	20	35
Rental Car	25%	1.2	2,979	100	100	199	90	126	216
Total Drive Self	**42%**		**5,005**	**168**	**168**	**335**	**151**	**211**	**363**
Get a Ride									
Friend or Family	40%	1.2	4,767	159	160	319	144	201	345
Taxi	2%	1.2	238	8	8	16	7	10	17
TNC	10%	1.2	1,192	40	40	80	36	50	86
Hotel Shuttle	4%	3.0	191	6	6	13	6	8	14
Airport Shuttle / Van	1%	5.0	29	1	1	2	1	1	2
Total Get a Ride	**57%**		**6,417**	**214**	**215**	**430**	**194**	**270**	**464**
Other									
Public Transit	1%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
[d] Total Drive Self Trips - One-Way Only			5,005	168	168	335	151	211	363
[e] Total Get a Ride Trips - Two Way Trips			12,834	429	429	858	464	464	928
TOTAL PASSENGER TRIPS			**17,839**	**597**	**597**	**1,193**	**615**	**675**	**1,291**

[a] Future mode split from Table 5.
[b] Average Vehicle Occupancy, the average number of airport passengers in each vehicle.
[c] Interim Year person trips from Table 4.
[d] For passengers who drive their own car, the Airport serves as either the origin or destination of their trip.
[e] For passengers who get a ride, the vehicle must travel both to and from the Aiport for each drop-off or pick-up, so the trip totals were doubled.

TABLE 8
PASSENGER TRIP GENERATION - COMPLETION YEAR 2025

Travel Mode	Mode Split [a]	AVO [b]	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Person Trips [c]			**14,800**	**495**	**496**	**991**	**447**	**622**	**1,069**
Drive Self									
Self-park at Terminal	8%	1.2	987	33	33	66	30	41	71
Self-park at Remote Lot	5%	1.2	617	21	21	41	19	26	45
Valet Park	4%	1.2	493	17	17	33	15	21	36
Rental Car	25%	1.2	3,083	103	103	206	93	130	223
Total Drive Self	**42%**		**5,180**	**174**	**174**	**346**	**157**	**218**	**375**
Get a Ride									
Friend or Family	40%	1.2	4,933	165	165	330	149	207	356
Taxi	2%	1.2	247	8	8	17	7	10	18
TNC	10%	1.2	1,233	41	41	83	37	52	89
Hotel Shuttle	4%	3.0	197	7	7	13	6	8	14
Airport Shuttle / Van	1%	5.0	30	1	1	2	1	1	2
Total Get a Ride	**57%**		**6,640**	**222**	**222**	**445**	**200**	**278**	**479**
Other									
Public Transit	1%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
[d] Total Drive Self Trips - One-Way Only			5,180	174	174	346	157	218	375
[e] Total Get a Ride Trips - Two Way Trips			13,280	444	444	888	478	478	956
TOTAL PASSENGER TRIPS			**18,460**	**618**	**618**	**1,234**	**635**	**696**	**1,331**

[a] Future mode split from Table 5.
[b] Average Vehicle Occupancy, the average number of airport passengers in each vehicle.
[c] Completion year person trips from Table 4.
[d] For passengers who drive their own car, the Airport serves as either the origin or destination of their trip.
[e] For passengers who get a ride, the vehicle must travel both to and from the Aiport for each drop-off or pick-up, so the trip totals were doubled.

TABLE 9
AIRPORT EMPLOYEE TRIP GENERATION ESTIMATES

Description	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
General Employees (Currently Park in Lot A)								
Employee Trip Generation Estimate based on Empirical Count of Existing Parking Lot		522	9	1	10	5	14	19
Administrative Employees (Currently Park in Terminal-Area Staff Parking Lot)								
General Office Trip Generation Rate [a]	per Employee	3.32	88%	12%	0.48	17%	83%	0.46
Employee Trip Generation Estimate	45 Employees	149	19	3	22	4	17	21

[a] Trip generation rate from *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012). General Office is ITE land use code 710.

TABLE 10
GENERAL AVIATION TRIP GENERATION ESTIMATES

Description	Daily	Morning Peak Hour			Afternoon Peak Hour		
		In	Out	Total	In	Out	Total
General Aviation Trip Generation Estimate based on Empirical Counts of Existing Driveways in the Southwest Quadrant [a]	n/a	48	14	62	10	37	47

[a] Empirical traffic count data collected on Wednesday, June 15, 2016. Excludes driveways to FedEx and UPS.

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Chapter 3

Existing Year 2016 Analysis

This Chapter presents the analysis of study intersections based on Existing Year 2016 conditions. A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the Project Study Area. The Existing Conditions analysis includes an assessment of the existing freeway and street systems, an analysis of traffic volumes and current operating conditions, and an assessment of the existing public transit service, as well as pedestrian and bicycle circulation at the time of the Notice of Preparation ("NOP") issuance. It then analyzes potential impacts of each Project Option under the hypothetical scenario in which the Project were completed in year 2016.

STUDY AREA

As described previously, the Project's traffic impact analysis Study Area, shown in Figure 5, includes a geographic area approximately four miles (north-south) by 2.5 miles (east-west) that is generally bounded by Sunland Avenue / Vineland Avenue and San Fernando Road to the north, I-5 at Empire Avenue to the east, Magnolia Avenue to the south, and Vineland Avenue to the west. A total of 33 intersections (including 25 signalized intersections and eight unsignalized intersections were analyzed within this 10-square-mile Study Area, as shown in Figure 5 and listed in Table 1. As shown in Table 1, a total of four signalized and three unsignalized intersections are wholly within the City of Los Angeles or are on the border of the cities of Burbank and Los Angeles and thus share jurisdiction. It should also be noted that two of the study locations are proposed future signalized intersections at the Empire Avenue interchange, which is currently undergoing a complete reconstruction. Because those intersections do not currently exist, no traffic data was available for those locations. The Interim Year 2023 and Completion Year 2025 analyses include traffic volume forecasts for those locations.

A traffic analysis study area generally comprises all intersections that have potential to experience significant traffic impacts from Project traffic as defined by the City of Burbank impact criteria. In this case, the Study Area was established through a lengthy consultation with the City of Burbank, the Airport Authority, and the public through the public scoping process taking into consideration the Project's peak hour trip generation estimates, the anticipated distribution of Project traffic, and the existing operations of nearby intersections and corridors.

EXISTING STREET SYSTEM

The existing street system in the Study Area consists of a regional roadway system including Freeways, Major Arterials, Secondary Arterials, Collectors, and Local Streets in the City of Burbank and Freeways, Boulevards, Avenues, Collectors and Local Streets in the City of Los Angeles. These streets provide regional, sub-regional, or local access and circulation within the Study Area. Street classifications are designated in *Burbank2035 General Plan* and *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, May 2015) ("Los Angeles Mobility Plan").

The following is a brief description of the major roadways in the Study Area, including their classifications under their jurisdictions' general plan or mobility plan:

Freeways

- I-5: I-5 is an interstate freeway running in the northwest-southeast direction approximately 0.7 miles northeast of the Airport. To the north it goes to Santa Clarita and beyond, and to the south it goes to Glendale, downtown Los Angeles, and Orange County beyond. It provides access to the Study Area via interchanges at Sunland Boulevard, Hollywood Way, Buena Vista Street, and Empire Avenue (currently undergoing a major reconstruction) within and near to the Study Area. Based on published Caltrans data from year 2014, it carries approximately 200,000 daily trips through the Study Area.

- SR 170: SR 170 is a state highway running in the north-south direction approximately three miles west of the Airport. It travels between the US 101 / SR 134 / SR 170 interchange in North Hollywood and I-5 in Sun Valley. It provides access to the Study Area via interchanges at Victory Boulevard and Sherman Way. Based on published Caltrans data from year 2014, it carries approximately 180,000 daily trips past those interchanges.

- SR 134: SR 134 is a state highway running in the east-west direction approximately three miles south of the Airport. It travels between the US 101 / SR 134 / SR 170 interchange in North Hollywood and the I-210 / SR 134 interchange in Pasadena. It provides access to the Study Area via an interchange at Hollywood Way. Based on published Caltrans data from year 2014, it carries approximately 210,000 daily trips past that interchange.

Roadways

- Vineland Avenue: Vineland Avenue is a designated Boulevard II in the Los Angeles Mobility Plan and travels in the north-south direction adjacent to the westernmost edge of the Airport. It generally provides four travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided except immediately adjacent to the Airport. It provides dedicated bicycle lanes in both directions in the vicinity of the Airport.

- Sherman Way: Sherman Way is a designated Boulevard II in the Los Angeles Mobility Plan and travels in the east-west direction west of the Airport. It generally provides four travel lanes west of Vineland Avenue and three travel lanes east of Vineland Avenue with a center turn lane. It provides left-turn lanes at intersections and on-street parking is generally provided.

- Clybourn Avenue: Clybourn Avenue is a designated Boulevard II in the Los Angeles Mobility Plan and travels in the north-south direction northwest of the Airport. It generally provides three travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided. It provides dedicated bicycle lanes in both directions in the vicinity of the Airport.

- San Fernando Road / Boulevard: San Fernando Road is a designated Avenue I in the Los Angeles Mobility Plan north of Cohasset Street. South of Cohasset Street, within the City of Burbank, it is known as San Fernando Boulevard and is designated in *Burbank2035 General Plan* as a Secondary Arterial between Cohasset Street and Buena Vista Street and a designated Collector street south of Buena Vista Street. It travels in the northwest-southeast direction northeast of the Airport. It generally provides four travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is provided on some stretches but not adjacent to the north side of the Airport. Metrolink railroad tracks run adjacent to the north side of San Fernando Road / Boulevard and, as a result, there are a limited number of intersecting streets to the north.

- Lockheed Drive: Lockheed Drive is a designated Local Street in both the Los Angeles Mobility Plan and *Burbank2035 General Plan*. It travels in the north-south direction between Cohasset Street and San Fernando Boulevard northeast of the Airport. It generally provides two travel lanes and on-street parking. Under the Adjacent Property Option, Lockheed Drive would provide secondary access to the terminal by way of its connections to San Fernando Road and Cohasset Street.

- Cohasset Street: Cohasset Street is a designated Local Street in both the Los Angeles Mobility Plan and *Burbank2035 General Plan*. It travels in the east-west direction northeast of the Airport. It generally provides two travel lanes and on-street parking.

Under the Adjacent Property Option, Cohasset Street would provide secondary access to the terminal by way of San Fernando Boulevard.

- Hollywood Way: Hollywood Way is a designated Major Arterial in *Burbank2035 General Plan* and travels in the north-south direction east of the Airport. It generally provides six travel lanes north of San Fernando Boulevard, five travel lanes between San Fernando Boulevard and Thornton Avenue, and four travel lanes south of Thornton Avenue. Left-turn lanes are provided at intersections on-street parking is generally not provided in the vicinity of the Airport. Bicycle lanes are striped on both side of Hollywood Way in the vicinity of the Airport.

- Tulare Avenue: Tulare Avenue is a designated Local Street in *Burbank2035 General Plan*. It provides direct access to commercial / industrial parcels on the east and west sides of Hollywood Way. West of Hollywood Way, it would serve as the primary access point for the proposed development of the former Lockheed parcel adjacent to the northeast quadrant of the airport, as discussed in Chapter 4. It would also connect to the loop road servicing the proposed terminal under the Adjacent Property Option.

- Winona Avenue: Winona Avenue is a designated Collector Street in *Burbank2035 General Plan* and travels in the east-west direction east of Hollywood Way. It generally provides four travel lanes and on-street parking. It aligns with the existing driveway to Lot A and would provide primary access to the proposed terminal under the Adjacent Property Option.

- Thornton Avenue: Thornton Avenue is a designated Collector Street in *Burbank2035 General Plan* and travels in the east-west direction east of Hollywood Way. It generally provides two travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided. It aligns with the existing primary access to the terminal loop road and would remain a primary access point to the terminal under either SWQ Option.

- Avon Avenue: Avon Avenue is a designated Local Street in *Burbank2035 General Plan* and connects Hollywood Way to Empire Avenue east of the Airport. It connects to Hollywood Way in the east-west direction and connects to Empire Avenue in the north-south direction. It generally provides two travel lanes and does not provide on-street parking.

- Empire Avenue: Empire Avenue is designated as a Major Arterial in *Burbank2035 General Plan*. It travels in the east-west direction adjacent to the south side of the Airport. It generally provides three travel lanes (two westbound and one eastbound) with a center turn lane west of the existing terminal loop road driveway and four travel lanes east of that point with left-turn lanes at intersections. On-street parking is generally provided east of Avon Street. Metrolink railroad tracks run adjacent to the south side of Empire Avenue west of Hollywood Way and, as a result, there a limited number of intersecting streets to the south.

- Vanowen Street: Vanowen Street is a designated Collector Street in *Burbank2035 General Plan* and travels in the east-west direction south of the Airport. It generally provides between two to four travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided.

- Victory Boulevard: Victory Boulevard is a designated Major Arterial in *Burbank2035 General Plan* and travels in the east-west direction south of the Airport. It generally provides four travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided.

- Burbank Boulevard: Burbank Boulevard is a designated Secondary Arterial in *Burbank2035 General Plan* and travels in the east-west direction south of the Airport. It generally provides four travel lanes and left-turn lanes at intersections. On-street parking is generally provided.

- Magnolia Boulevard: Magnolia Boulevard is a designated Secondary Arterial in *Burbank2035 General Plan* and travels in the east-west direction south of the Airport. It generally provides four travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided.

- Ontario Street: Ontario Street is a designated Local street in *Burbank2035 General Plan* and travels in the north-south direction east of the Airport. It generally provides two travel lanes and on-street parking is generally provided.

- Buena Vista Street: Buena Vista Street is a designated Secondary Arterial in *Burbank2035 General Plan* and travels in the north-south direction east of the Airport. It generally provides four travel lanes with a center turn lane and left-turn lanes at intersections. On-street parking is generally provided.

EXISTING TRANSIT SYSTEM

The Airport is served by bus lines operated by Metro and BurbankBus as well as the Metrolink commuter train. The following provides a brief description of these lines:

- Metro Local 94: Route 94 is a local line that travels from Downtown Los Angeles to Sylmar via San Fernando Road. It provides average headways of 18 minutes during the weekday morning peak hour and 20 minutes during the afternoon peak hour. This line provides service to Chinatown, Glendale, and Burbank and travels along San Fernando Road, Hollywood Way, and Empire Avenue in the vicinity of the Airport. It stops adjacent to the existing terminal entrance on Hollywood Way.

- Metro Local 152: Route 152 is a local line that travels from Woodland Hills to North Hollywood via Fallbrook Avenue, Roscoe Boulevard, and Lankershim Boulevard. It provides average headways of 20 minutes the weekday morning peak hour and 15 minutes during the afternoon peak hour. This line provides service to Northridge, North Hills, Panorama City and Burbank and travels along Vineland Avenue in the vicinity of the Airport. It stops at the corner of Vineland Avenue & Sherman Way near the Airport.

- Metro Local 163: Route 163 is a local line that travels from Sun Valley to West Hills via Sherman Way and Lankershim Boulevard. It provides average headways of 20 minutes during both the weekday morning and afternoon peak hours. This line provides service to Canoga Park, Reseda, Van Nuys and North Hollywood and travels along Sherman Way, Vineland Avenue, and San Fernando Road in the vicinity of the Airport. It stops at the corner of Vineland Avenue & Sherman Way near the Airport.

- Metro Local 165: Route 165 is a local line that travels from West Hills to Burbank via Vanowen Street. It provides average headways of 20 minutes during the weekday morning and afternoon peak hours. This line provides service to Canoga Park, Reseda, Van Nuys and North Hollywood and travels along Vanowen Street, Empire Avenue, and Buena Vista Street in the vicinity of the Airport. It stops adjacent to the existing terminal entrance on Empire Avenue.

- Metro Local 169: Route 169 is a local line that travels directly from the RITC at the Airport to Woodland Hills via Saticoy Street and Valley Circle Boulevard. It provides average headways of 60 minutes during the weekday morning peak hour and 45 minutes during the afternoon peak hour. This line provides service to Warner Center, Canoga Park, Reseda, Van Nuys and Burbank and travels along Vineland Avenue, San Fernando Boulevard, and Hollywood Way in the vicinity of the Airport.

- Metro Local 222: Route 222 is a local line that travels from Sunland to Hollywood via Hollywood Way, Barham Boulevard, and Cahuenga Boulevard with average headways of approximately 45 minutes during both the weekday morning and afternoon peak hours. This line provides service to the Sun Valley and Burbank and travels along San Fernando Road and Hollywood Way in the vicinity of the Airport, and makes a stop at the RITC.

- Metro Rapid 794: Route 794 is a rapid line that travels from the Sylmar Station to Downtown Los Angeles via San Fernando Road with average headways of 20 minutes during both the weekday morning and afternoon peak hours. This line provides service to the Sun Valley and Burbank and travels along San Fernando Road, Hollywood Way, and Empire Avenue in the vicinity of the Airport. It stops adjacent to the existing terminal entrance on Hollywood Way.

- BurbankBus Empire / Downtown: BurbankBus Empire / Downtown route is a local line that travels in a loop from the Downtown Burbank Metrolink Station to the Airport. It provides average headways of 20 minutes in the clockwise direction during the weekday morning peak hour and 20 minutes in the counter-clockwise direction during the afternoon peak hour. This line travels along San Fernando Boulevard, Winona Avenue, Hollywood Way, Thornton Avenue and Empire Avenue in the vicinity of the Airport. It stops adjacent to the existing terminal entrance on Hollywood Way.

- BurbankBus North Hollywood / Airport: BurbankBus North Hollywood / Airport is a local line that travels from the North Hollywood Red Line / Orange Line Station to the Airport with average headways of 15 minutes in the southbound direction during both the weekday morning and afternoon peak hours. This line travels along Hollywood Way, Thornton Avenue and Empire Avenue in the vicinity of the Airport and makes a stop at the RITC.

In addition to the bus lines that provide service within the Project Site vicinity, Metrolink operates commuter rail in the Study Area. The Metrolink Ventura Line runs between Ventura and Union Station in Downtown Los Angeles and stops at the Burbank-Bob Hope Airport Metrolink Station along Empire Avenue immediately south of the existing terminal and transit center. Based on data from Airport staff, fewer than 1% of Airport passengers use public transit to and from the Airport. Another station, the Burbank-Bob Hope Airport – Hollywood Way Metrolink Station is currently being bid for construction adjacent to San Fernando Boulevard north of the airport. It would provide a stop at the Airport for the Antelope Valley Line, which travels between Lancaster and Palmdale to the north and Union Station in Downtown Los Angeles to the south. Upon the station's completion, the Authority has committed to provide an air carrier passenger shuttle between the terminal and the proposed Burbank-Bob Hope Airport – Hollywood Way Metrolink Station for each arriving and departing train.

BICYCLE AND PEDESTRIAN NETWORK

There are bicycle facilities on several streets within the traffic impact analysis Study Area, including dedicated bicycle lanes on Hollywood Way, Clybourn Avenue, Vineland Avenue, and Victory Boulevard. Most streets within the traffic impact analysis Study Area provide pedestrian sidewalks on both sides of the street and pedestrian crosswalks at controlled intersections. Exceptions include Empire Avenue, Vanowen Street, and San Fernando Boulevard, all of which travel adjacent to rail lines in some sections. Where these streets are adjacent to rail tracks, sidewalks are only provided on the far side of the street from the tracks to discourage pedestrians from walking near to the tracks. Based on anecdotal reports from Airport staff, a negligible number of Airport passengers and employees ride bicycles or walk to the Airport.

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

Intersection turning movement counts were collected at 31 of the 33 study intersections during the weekday morning (7:00 AM to 10:00 AM) and afternoon (4:30 PM to 7:30 PM) peak periods (two study intersections will be constructed with the Empire Interchange project). The intersection counts were collected in December 2015 and January 2016. After consultation with City staff, traffic count data from February 2014 was used at eight intersections along Empire Avenue and

Buena Vista Street, collected prior to the start of extensive construction and road closures in that area from the I-5 widening project, the Empire Interchange project, and the Buena Vista Street railroad grade separation project (discussed in more detail in Chapter 4). These traffic counts were used as a baseline because they reflect traffic patterns without the effects of major construction, which is a temporary condition. For the purposes of this analysis, the counts collectively represent year 2016 conditions. The existing intersection peak hour traffic volumes are illustrated in Figure 7. Traffic count worksheets are provided in Attachment B.

Table 11 summarizes the weekday morning and afternoon peak hour LOS results for each of the signalized study intersections under Existing Conditions, prior to any traffic growth or Project traffic shifts. Table 11 indicates that 24 of the 25 signalized study intersections currently operate at LOS D or better during both the morning and afternoon peak hours. The intersection of Hollywood Way & Victory Boulevard operates at LOS F during both peak hours.

Table 12 summarizes the weekday morning and afternoon peak hour LOS results for each of the unsignalized study intersections under Existing Conditions. Table 12 indicates that six of the eight unsignalized study intersections currently operate at LOS D or better during both the morning and afternoon peak hours. The intersections of Hollywood Way & I-5 Southbound Ramps and Hollywood Way & San Fernando Boulevard Ramps each operate at LOS F during the morning or afternoon peak hours.

The LOS calculation worksheets are provided in Attachment C.

EXISTING YEAR 2016 WITH PROJECT CONDITIONS

To estimate Existing Year 2016 with Project Conditions for each Project Option, the peak hour traffic shifts described in Chapter 2 were applied to the Existing Conditions traffic volumes. The traffic conditions and potential significant impacts are identified below. Potential traffic improvements and mitigation measures are described in Chapter 6.

Existing with Project Conditions – Adjacent Property Option

The cumulative traffic shifts associated with the Adjacent Property Option under Existing Year 2016 conditions are shown in Figure 8. The Existing Year 2016 with Project Conditions – Adjacent Property Option peak hour traffic volumes, which add the Project traffic shifts to Existing Year 2016 peak hour traffic volumes, are shown in Figure 9. Table 13 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 13 shows, the Adjacent Property Option would result in a significant traffic impact at the intersection of Hollywood Way and Winona Avenue during the afternoon peak hour. Table 14 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 14 shows, the Adjacent Property Option would result in a significant impact at the intersection of Hollywood Way and San Fernando Boulevard Ramps during both the morning and afternoon peak hours. The Adjacent Property Option would not significantly impact any other signalized or unsignalized study intersections.

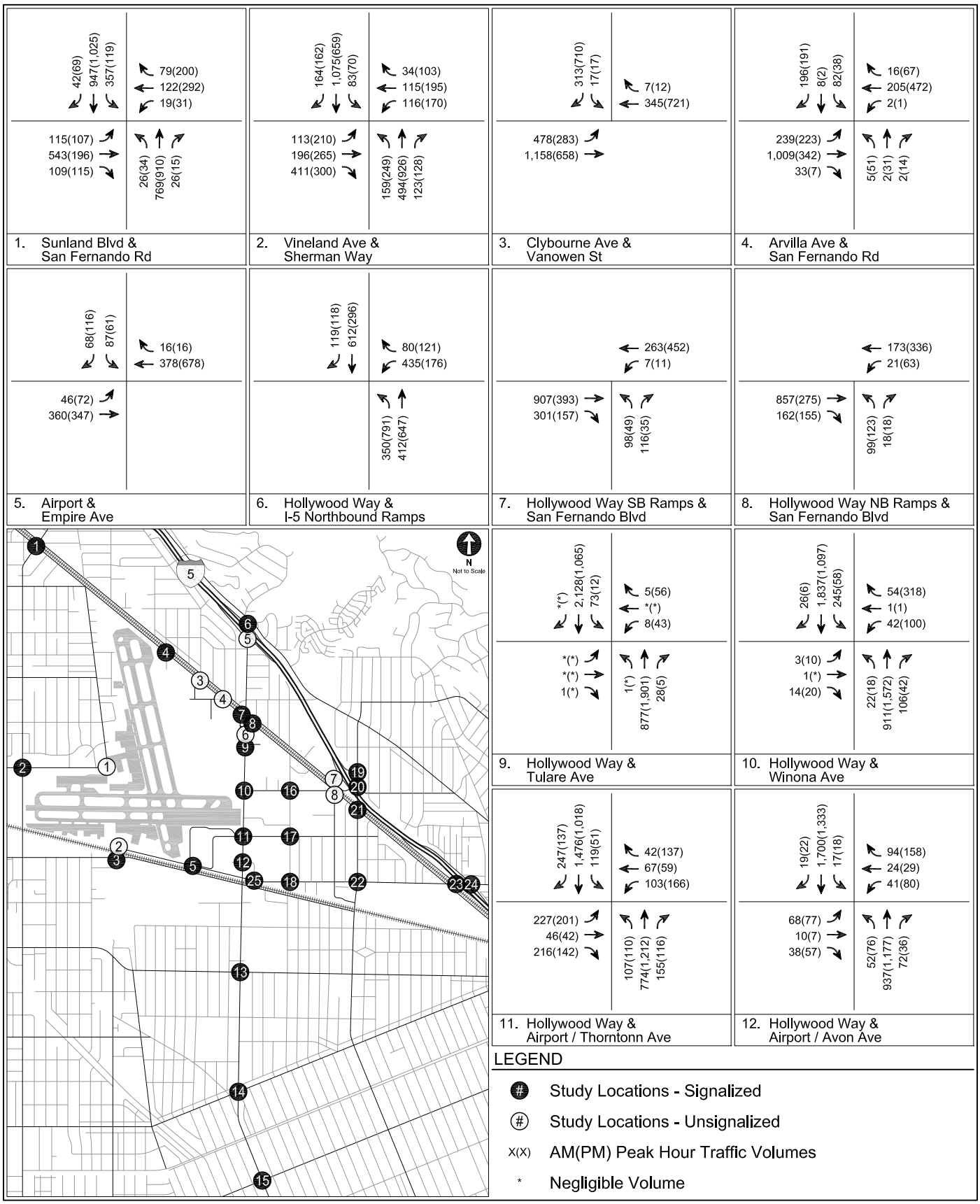
Existing with Project Conditions – SWQ Full-Size Option

The cumulative traffic shifts associated with the SWQ Full-Size Option under Existing Year 2016 conditions are shown in Figure 10. The Existing Year 2016 with Project Conditions – SWQ Full-Size Option peak hour traffic volumes are shown in Figure 11. Table 15 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 15 shows, the SWQ Full-Size Option would not result in significant traffic impacts at any study intersection. Table 16 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 16 shows, the SWQ Full-Size Option would result in a significant impact at the intersection of Hollywood Way and San Fernando Boulevard Ramps during both the morning and afternoon peak hours. The SWQ Full-Size Option would not significantly impact any other signalized or unsignalized study intersections.

Existing with Project Conditions – SWQ Same-Size Option

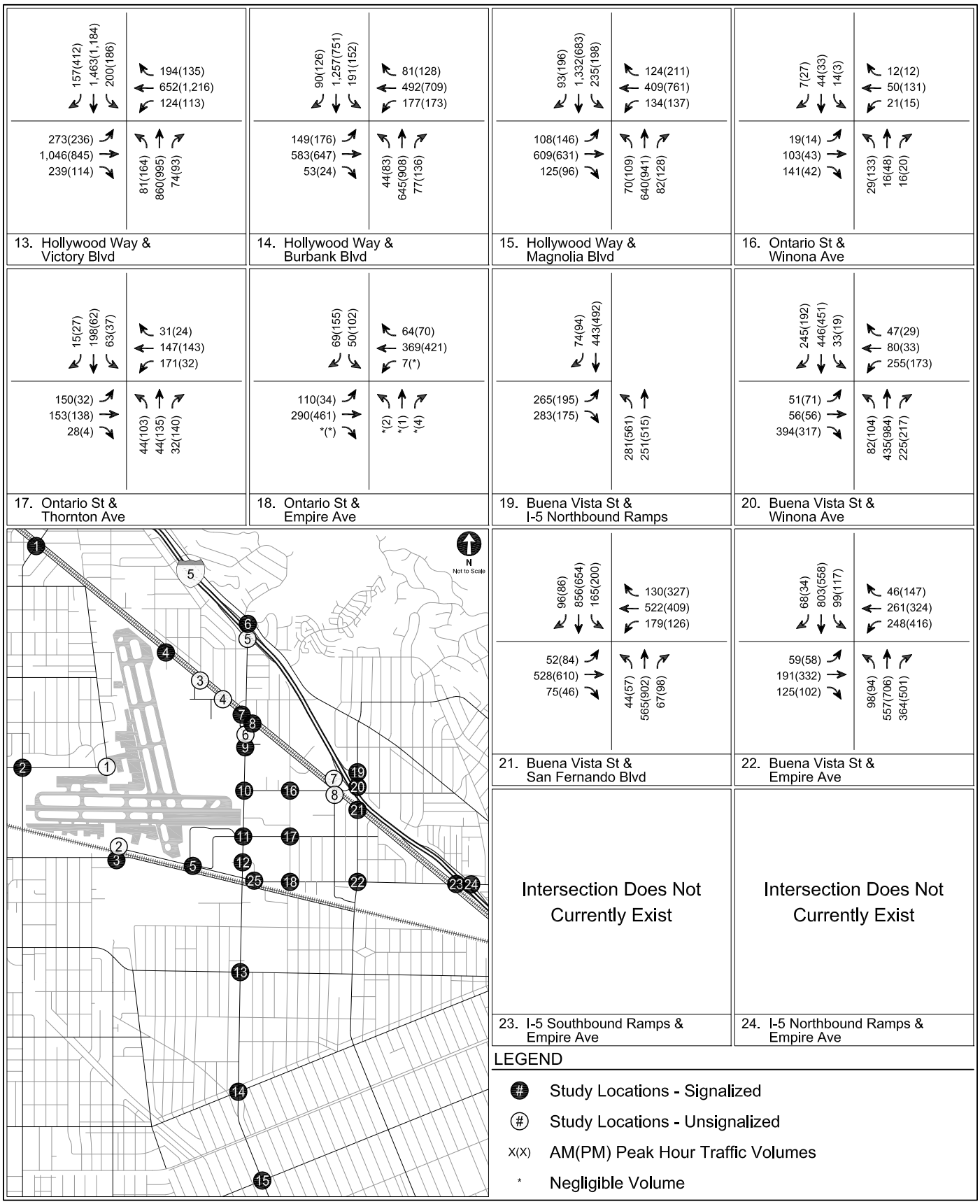
The cumulative traffic shifts associated with the SWQ Same-Size Option under Existing Year 2016 conditions are shown in Figure 12. The Existing Year 2016 with Project Conditions – SWQ

Same-Size Option peak hour traffic volumes are shown in Figure 13. Table 17 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 17 shows, the SWQ Same-Size Option would not result in significant traffic impacts at any study intersection. Table 18 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 18 shows, the SWQ Same-Size Option also would not result in significant traffic impacts at any study intersection.



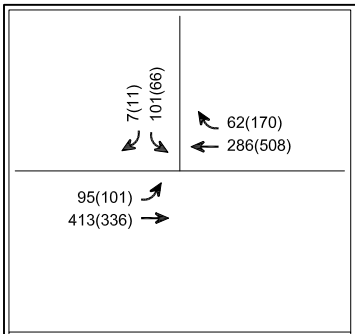
EXISTING YEAR 2016
PEAK HOUR TRAFFIC VOLUMES

FIGURE 7

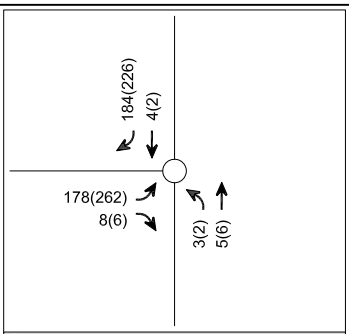


EXISTING YEAR 2016
PEAK HOUR TRAFFIC VOLUMES

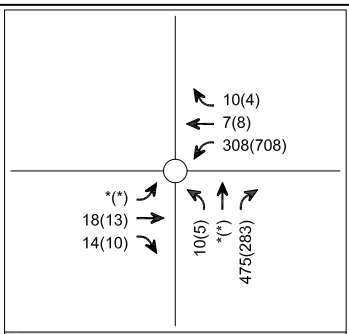
FIGURE
7 (CONT.)



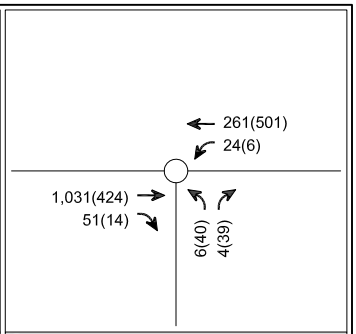
25. Avon Ave & Empire Ave



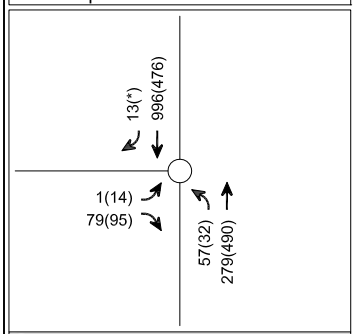
1. Clybourne Ave & Sherman Way



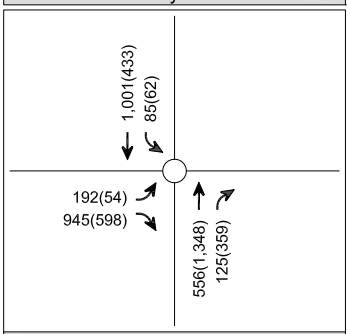
2. Clybourne Ave & Empire Ave



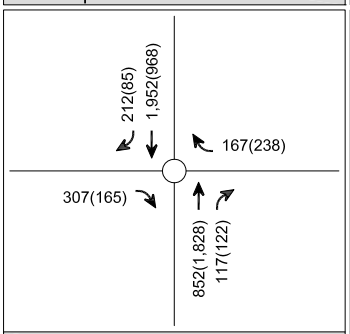
3. Lockheed Dr & San Fernando Rd



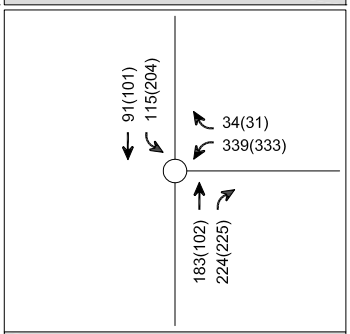
4. San Fernando Blvd & Cohasset St



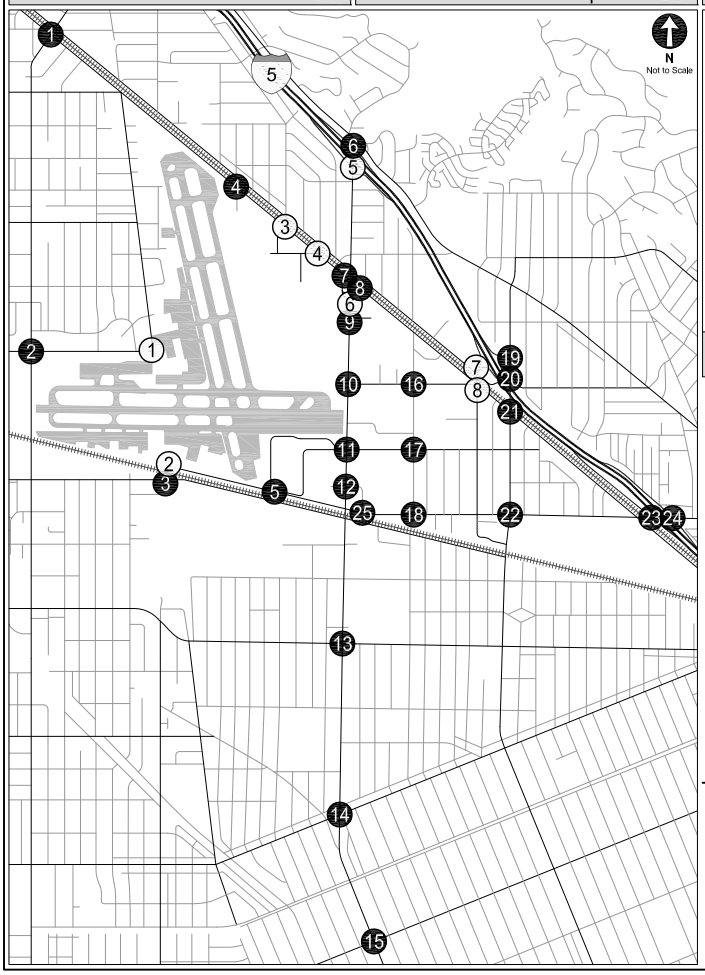
5. Hollywood Way & I-5 Southbound Ramps

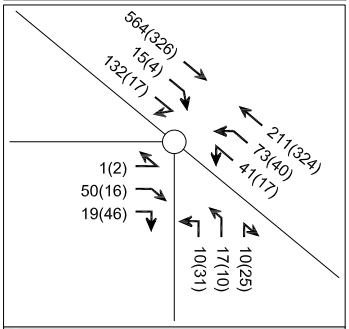


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

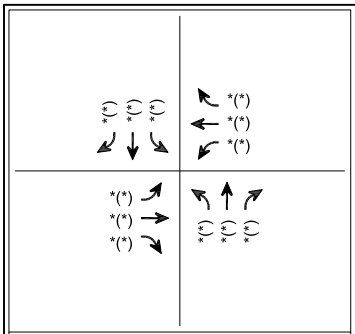
UNSIGNALIZED INTERSECTIONS

LEGEND

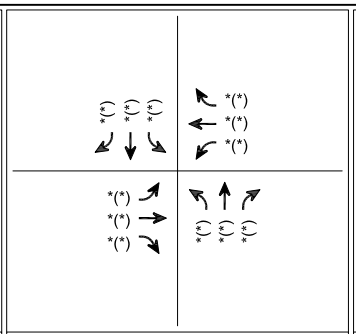
- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

EXISTING YEAR 2016
PEAK HOUR TRAFFIC VOLUMES

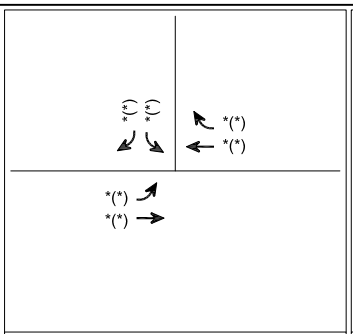
FIGURE 7 (CONT.)



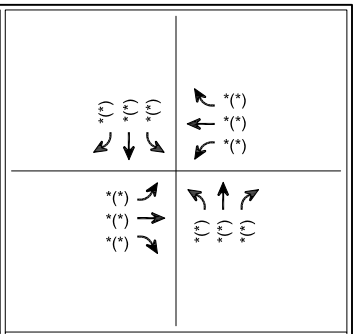
1. Sunland Blvd & San Fernando Rd



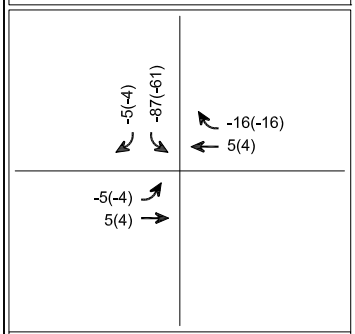
2. Vineland Ave & Sherman Way



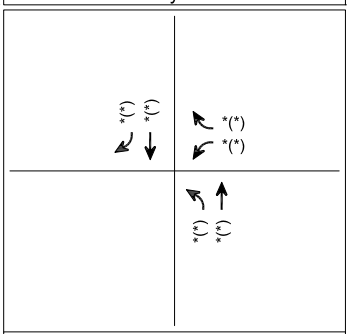
3. Clybourne Ave & Vanowen St



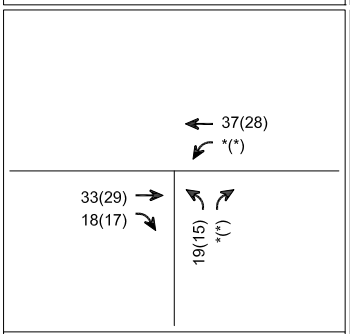
4. Arvilla Ave & San Fernando Rd



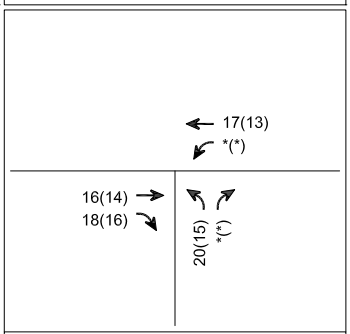
5. Airport & Empire Ave



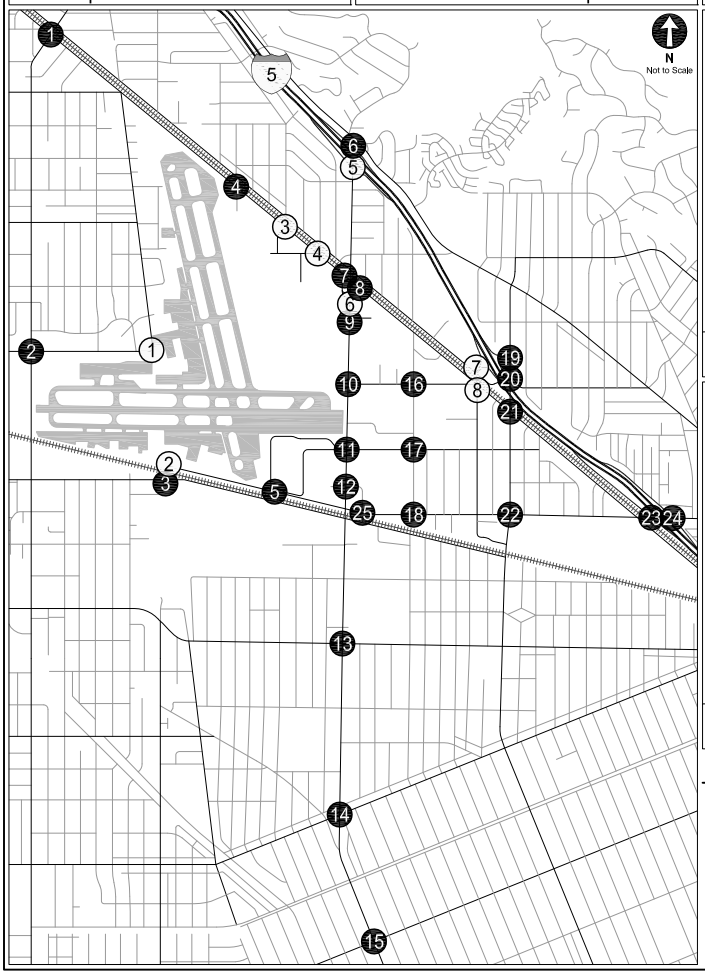
6. Hollywood Way & I-5 Northbound Ramps

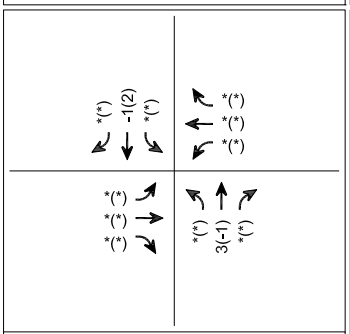


7. Hollywood Way SB Ramps & San Fernando Blvd

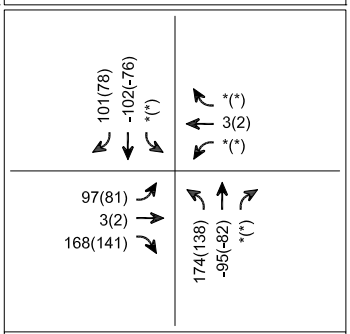


8. Hollywood Way NB Ramps & San Fernando Blvd

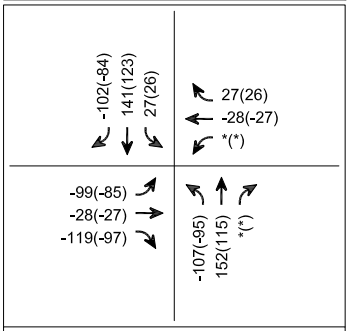




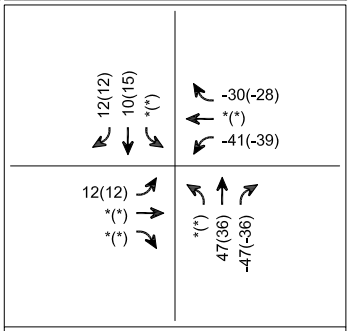
9. Hollywood Way & Tulare Ave



10. Hollywood Way & Winona Ave



11. Hollywood Way & Airport / Thorntonn Ave



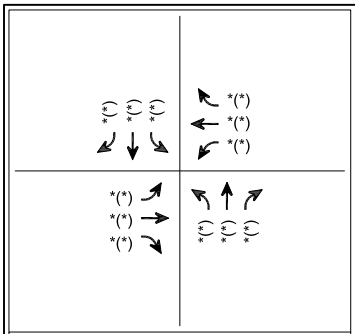
12. Hollywood Way & Airport / Avon Ave

LEGEND

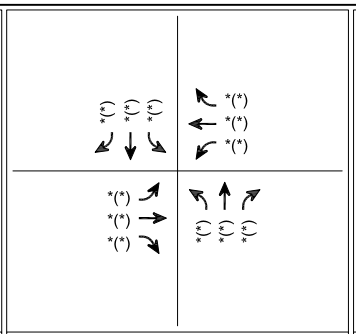
- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

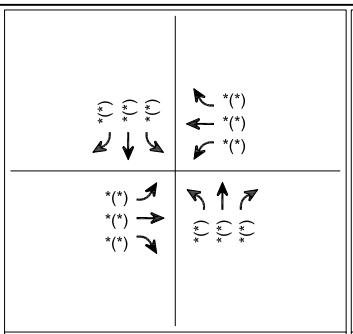
FIGURE 8



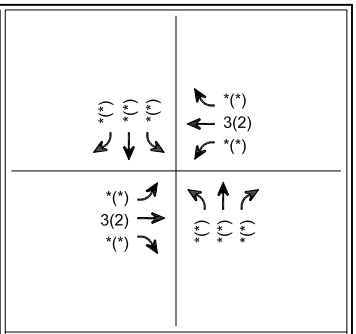
13. Hollywood Way & Victory Blvd



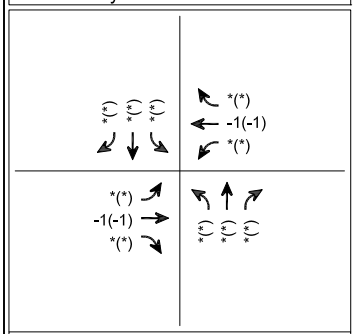
14. Hollywood Way & Burbank Blvd



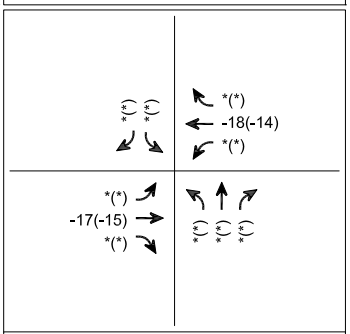
15. Hollywood Way & Magnolia Blvd



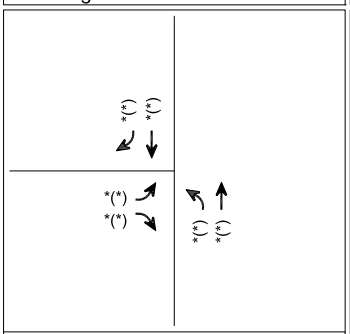
16. Ontario St & Winona Ave



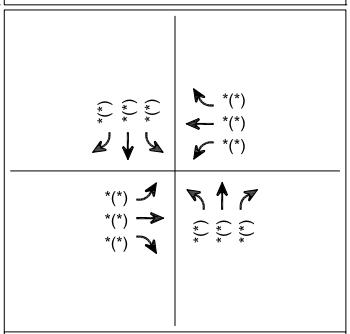
17. Ontario St & Thornton Ave



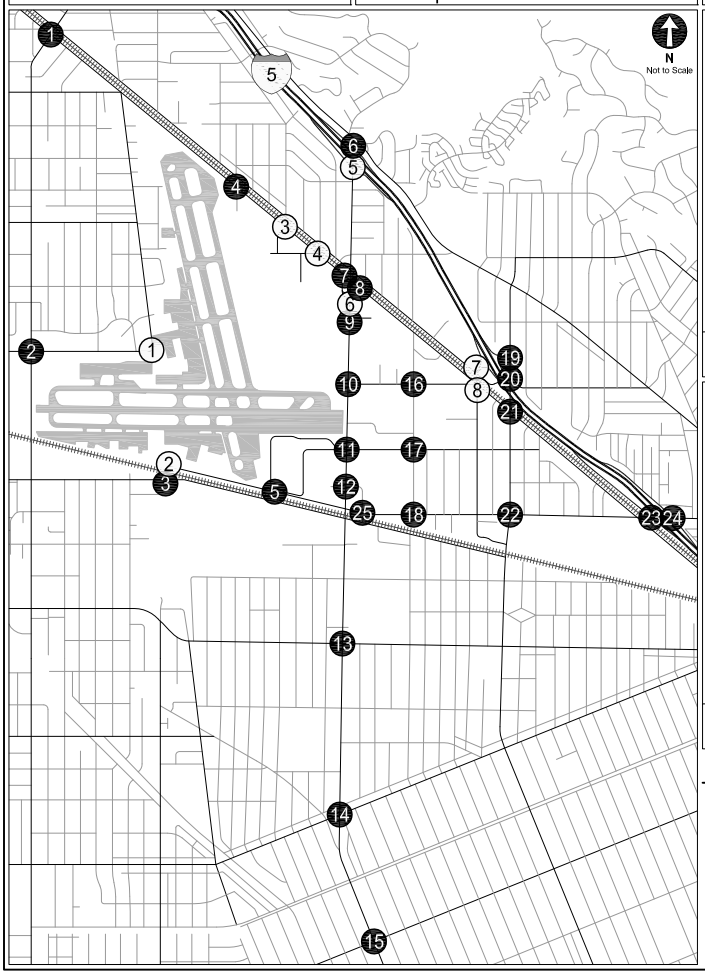
18. Ontario St & Empire Ave

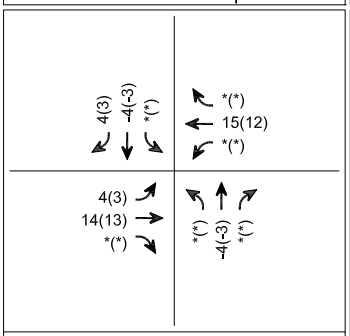


19. Buena Vista St & I-5 Northbound Ramps

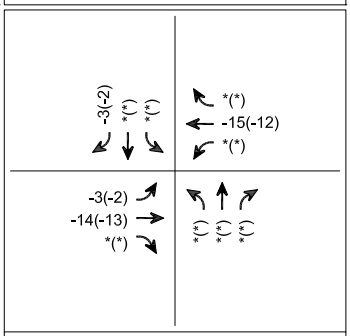


20. Buena Vista St & Winona Ave





21. Buena Vista St & San Fernando Blvd



22. Buena Vista St & Empire Ave

Intersection Does Not Currently Exist

23. I-5 Southbound Ramps & Empire Ave

Intersection Does Not Currently Exist

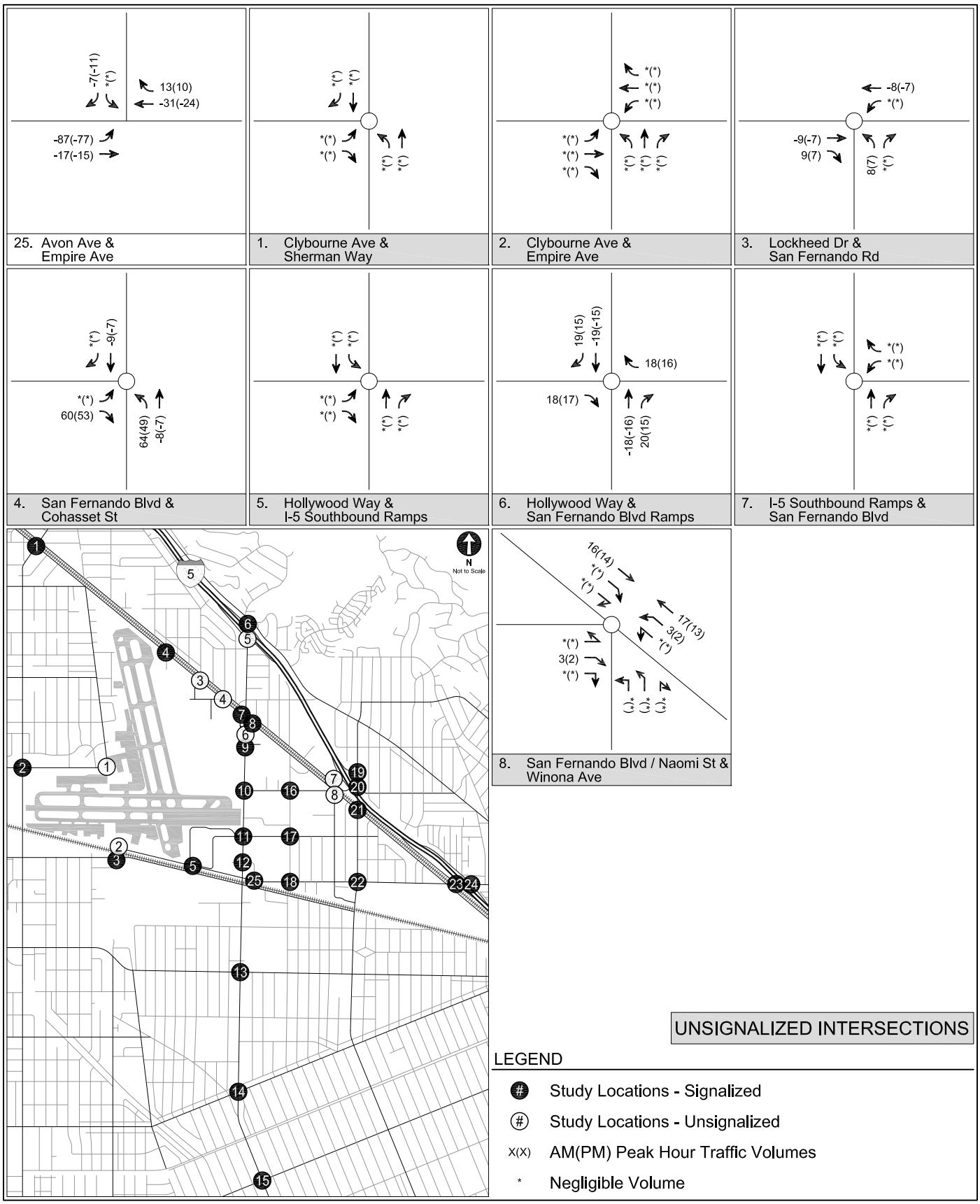
24. I-5 Northbound Ramps & Empire Ave

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

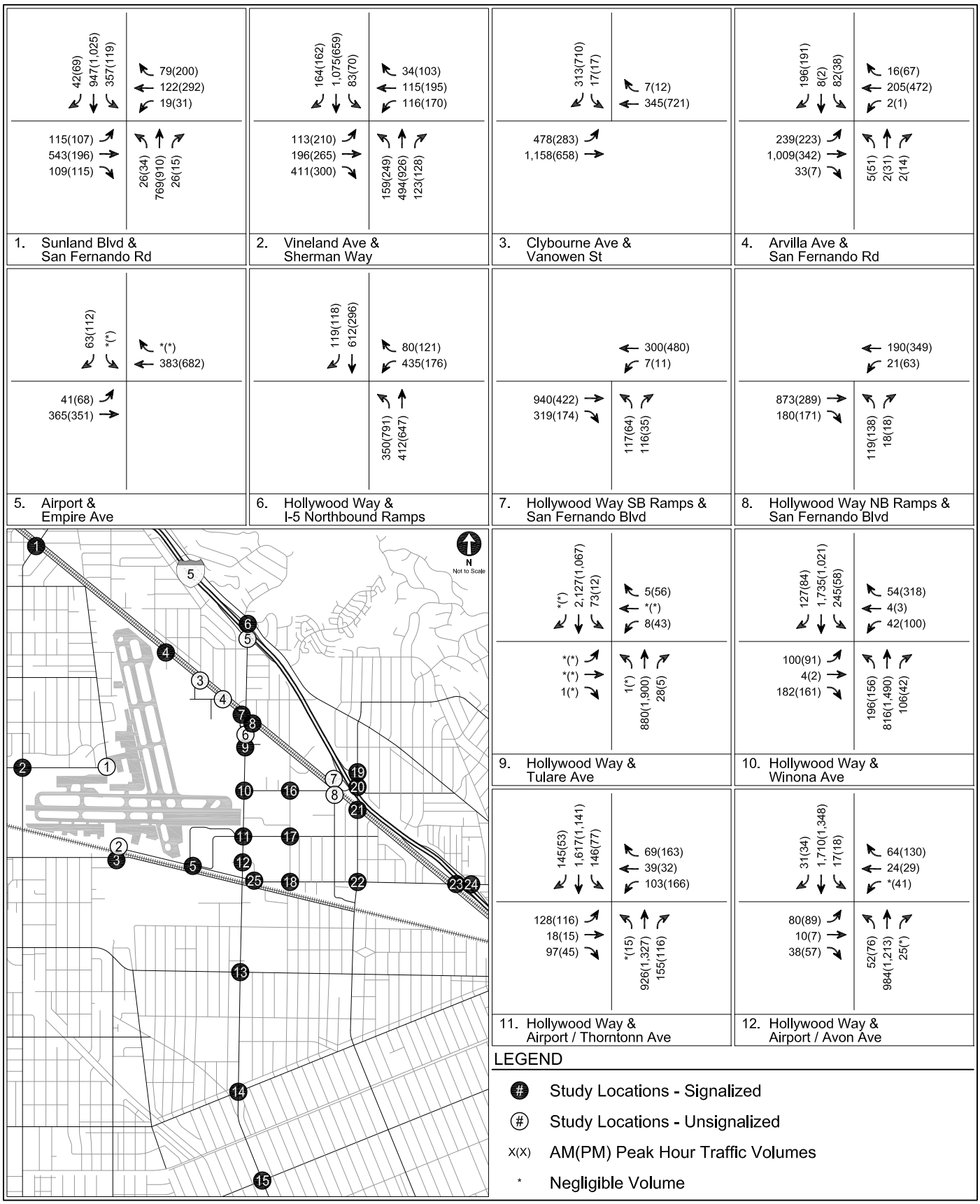
ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 8 (CONT.)



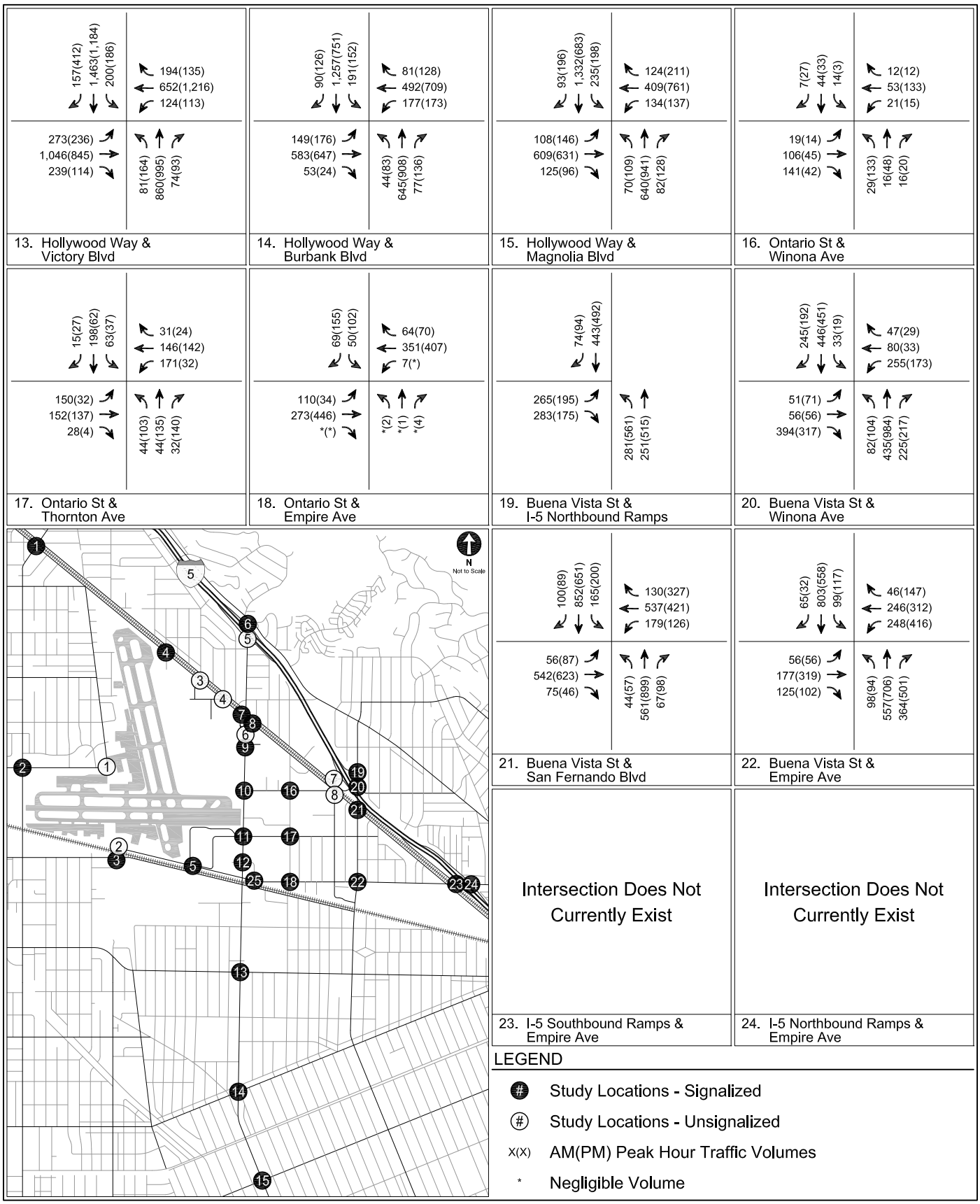
ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 8 (CONT.)



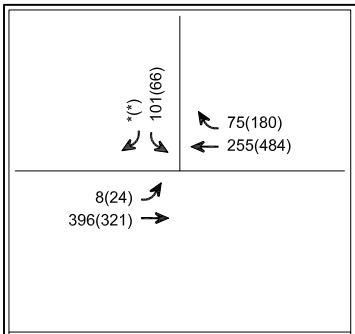
EXISTING YEAR 2016 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 9

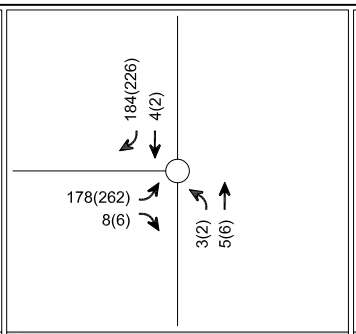


EXISTING YEAR 2016 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

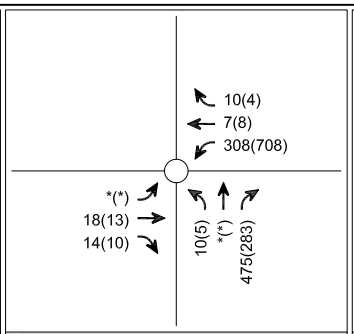
FIGURE 9 (CONT.)



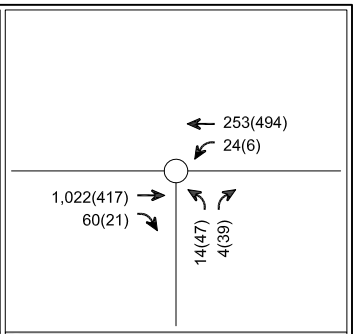
25. Avon Ave & Empire Ave



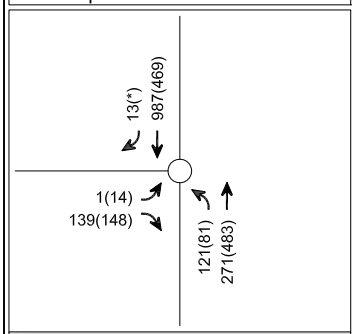
1. Clybourne Ave & Sherman Way



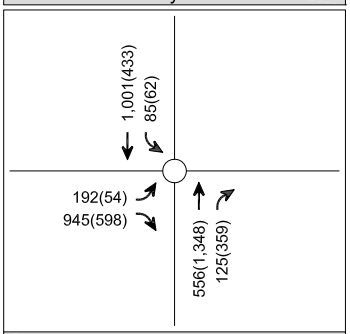
2. Clybourne Ave & Empire Ave



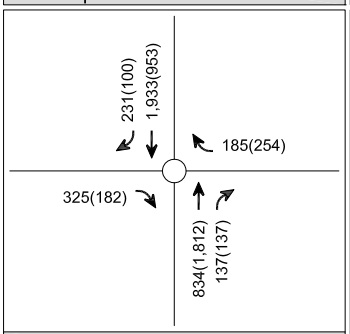
3. Lockheed Dr & San Fernando Rd



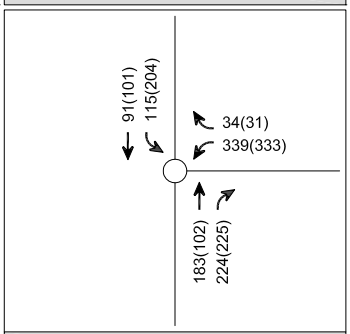
4. San Fernando Blvd & Cohasset St



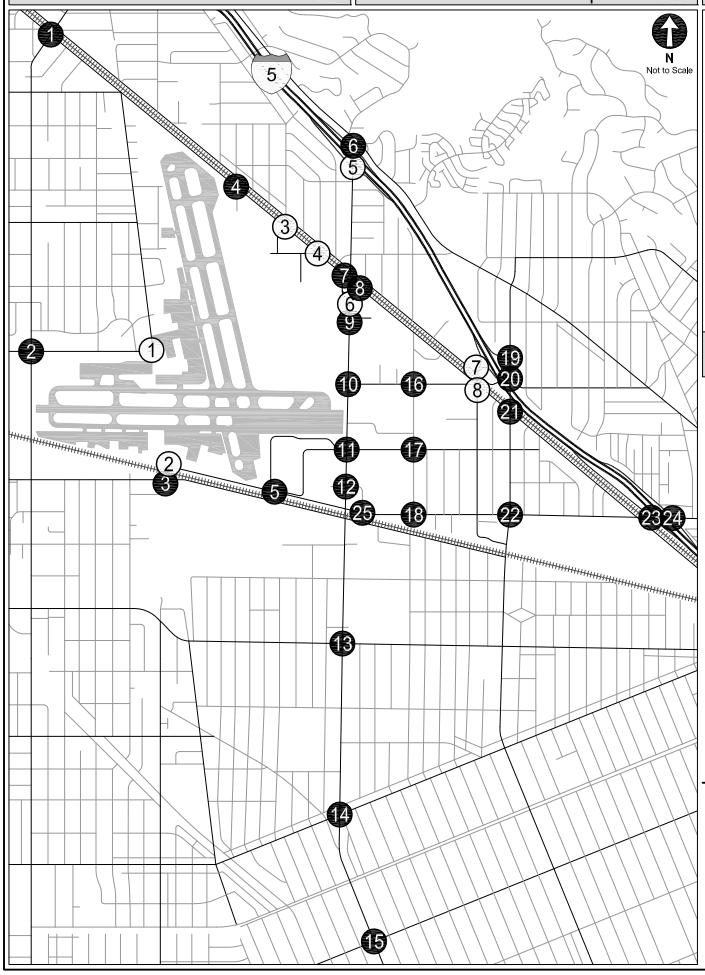
5. Hollywood Way & I-5 Southbound Ramps

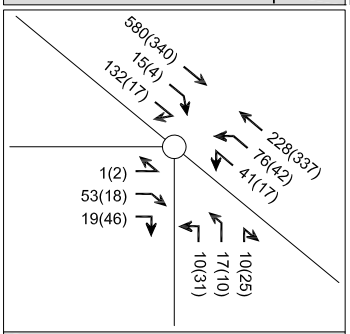


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

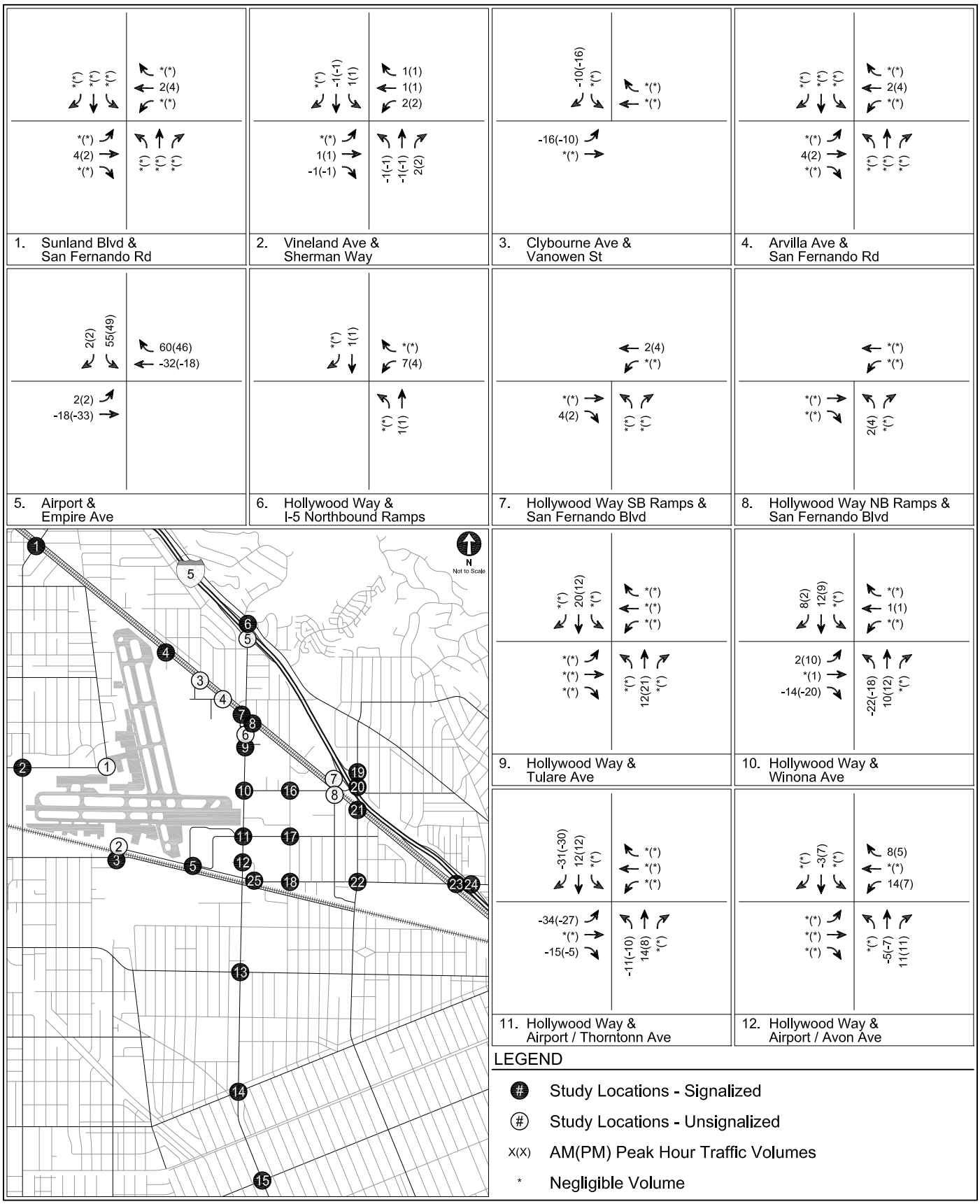
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

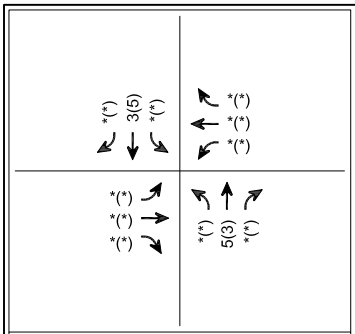
EXISTING YEAR 2016 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 9 (CONT.)

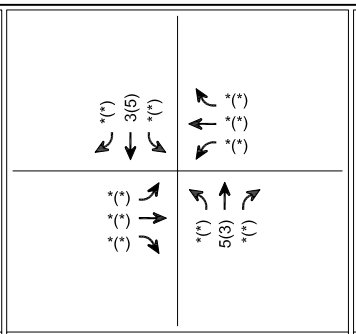


SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

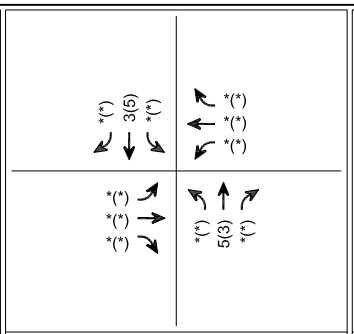
FIGURE 10



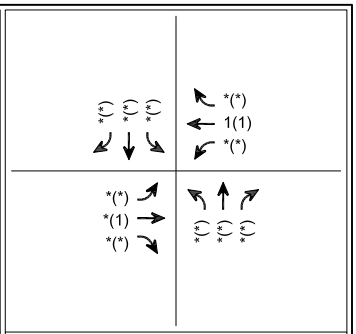
13. Hollywood Way & Victory Blvd



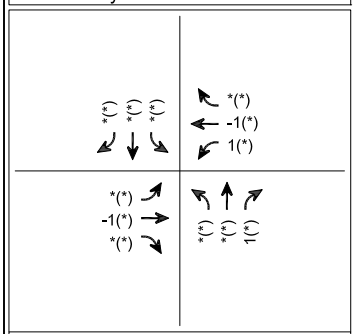
14. Hollywood Way & Burbank Blvd



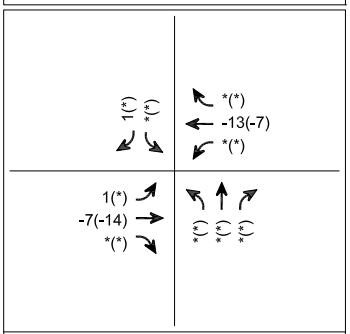
15. Hollywood Way & Magnolia Blvd



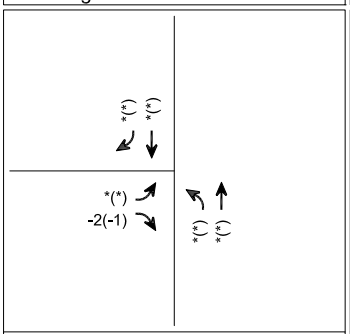
16. Ontario St & Winona Ave



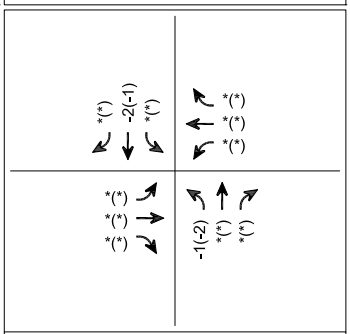
17. Ontario St & Thornton Ave



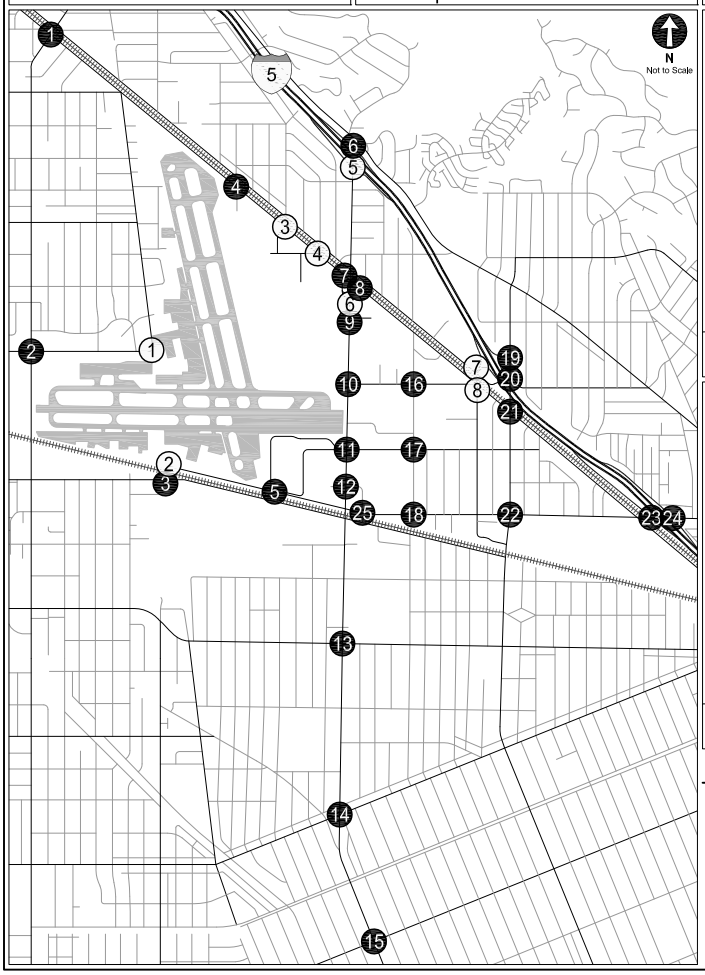
18. Ontario St & Empire Ave

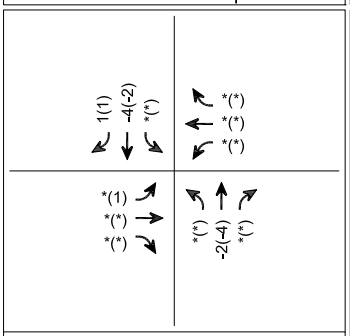


19. Buena Vista St & I-5 Northbound Ramps

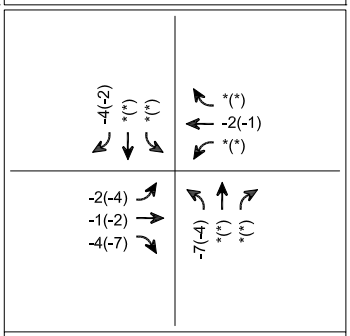


20. Buena Vista St & Winona Ave





21. Buena Vista St & San Fernando Blvd



22. Buena Vista St & Empire Ave

Intersection Does Not Currently Exist

23. I-5 Southbound Ramps & Empire Ave

Intersection Does Not Currently Exist

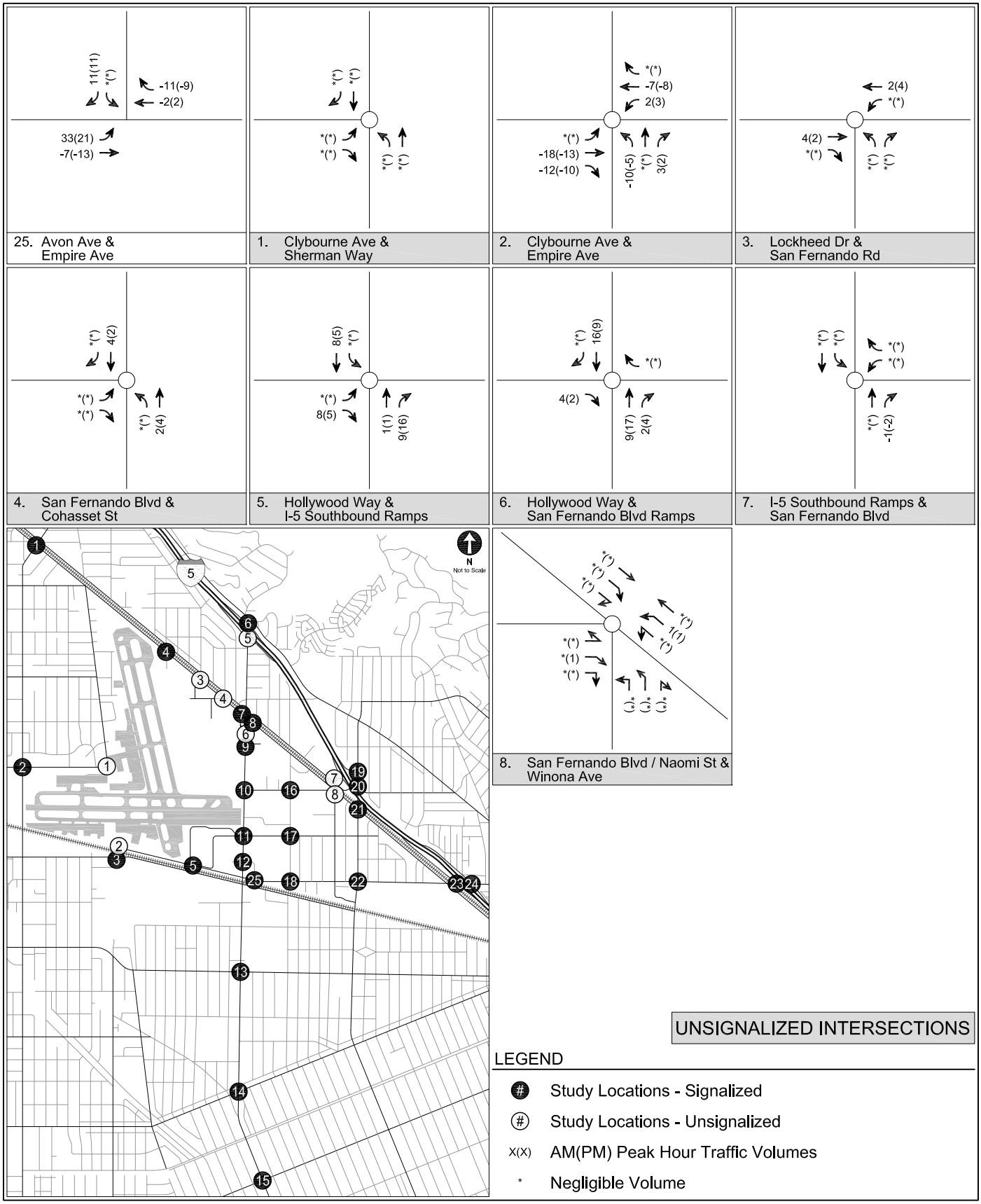
24. I-5 Northbound Ramps & Empire Ave

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

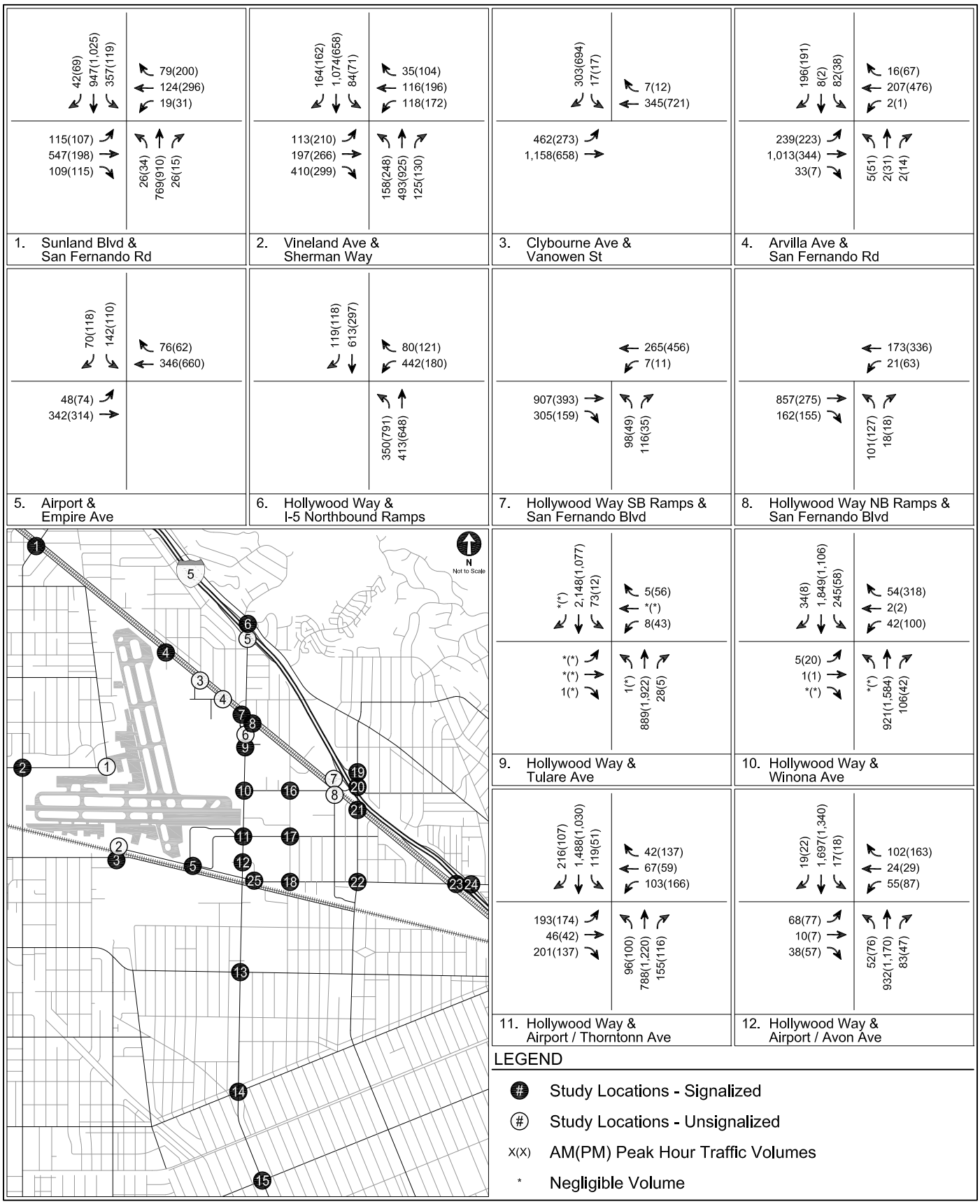
SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 10 (CONT.)



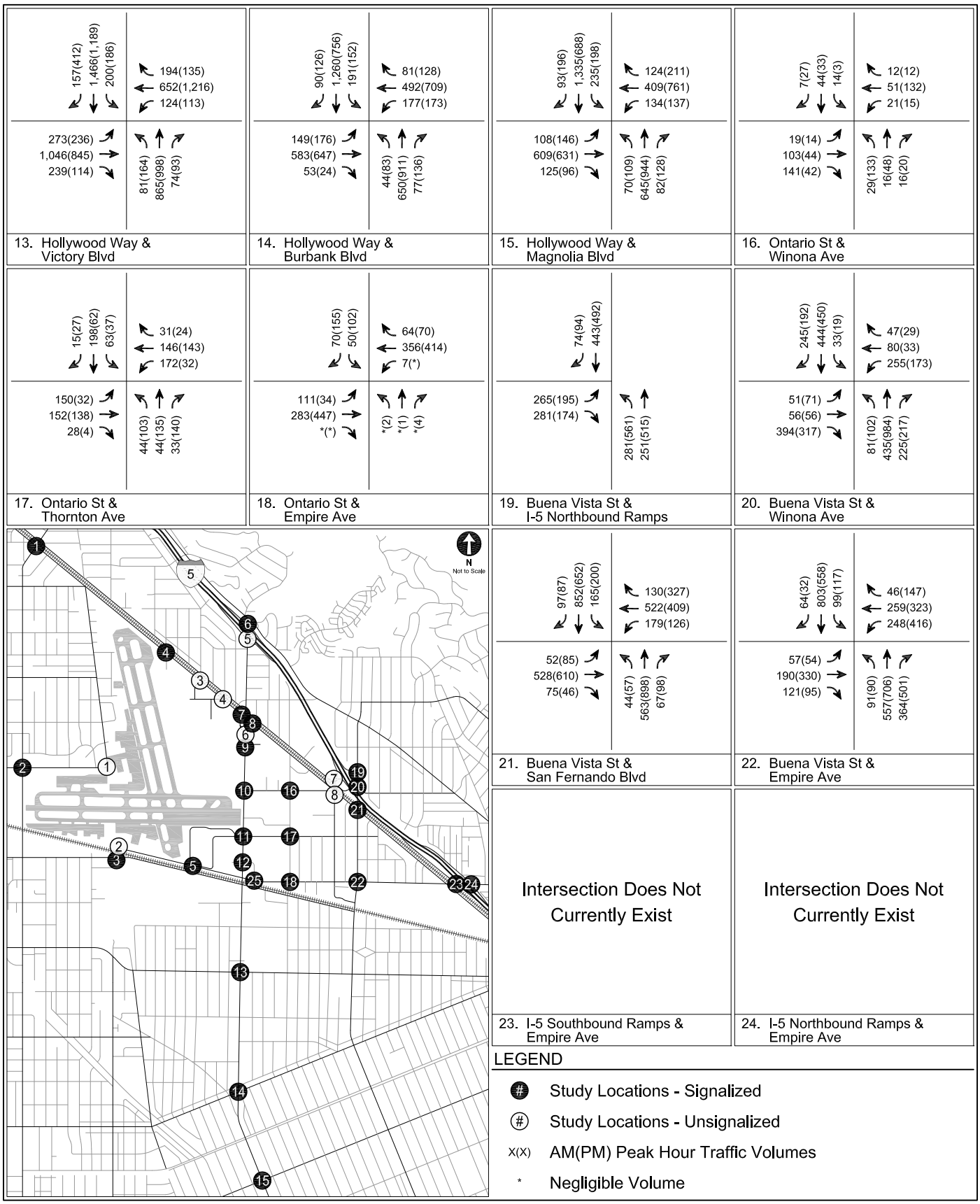
SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 10 (CONT.)



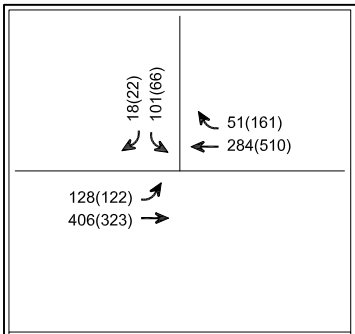
EXISTING YEAR 2016 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 11

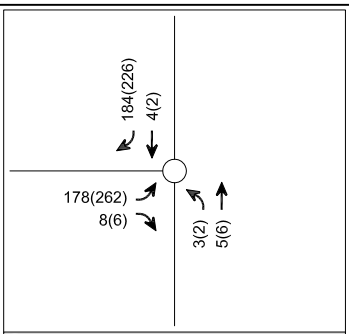


EXISTING YEAR 2016 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

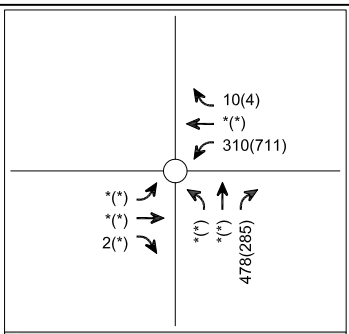
FIGURE 11 (CONT.)



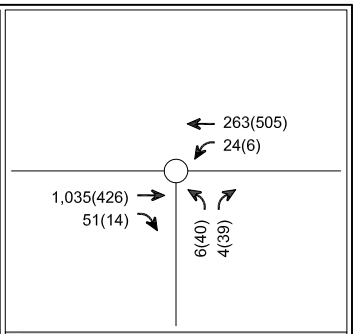
25. Avon Ave & Empire Ave



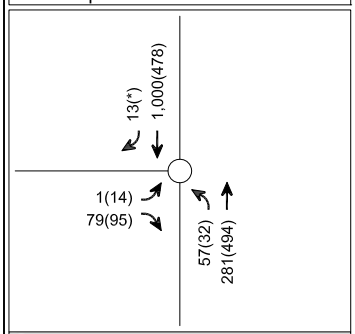
1. Clybourne Ave & Sherman Way



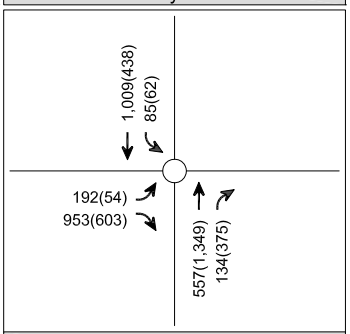
2. Clybourne Ave & Empire Ave



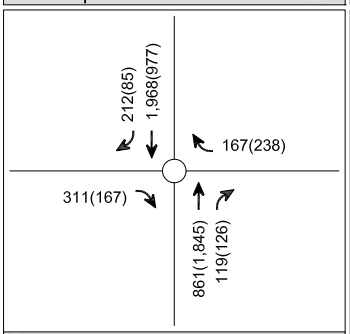
3. Lockheed Dr & San Fernando Rd



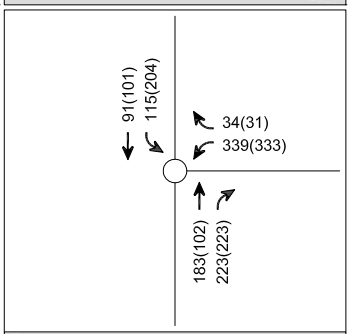
4. San Fernando Blvd & Cohasset St



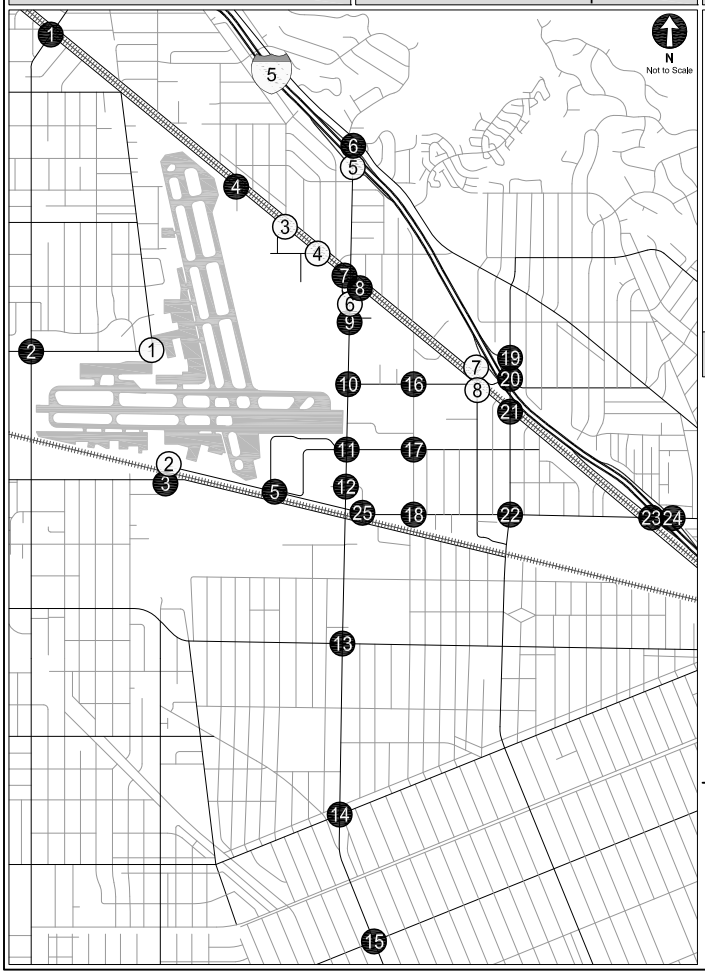
5. Hollywood Way & I-5 Southbound Ramps

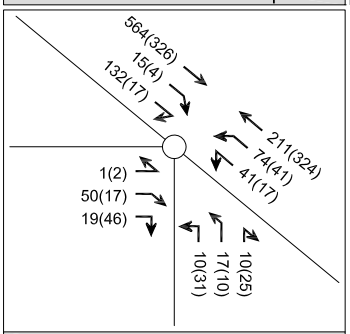


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

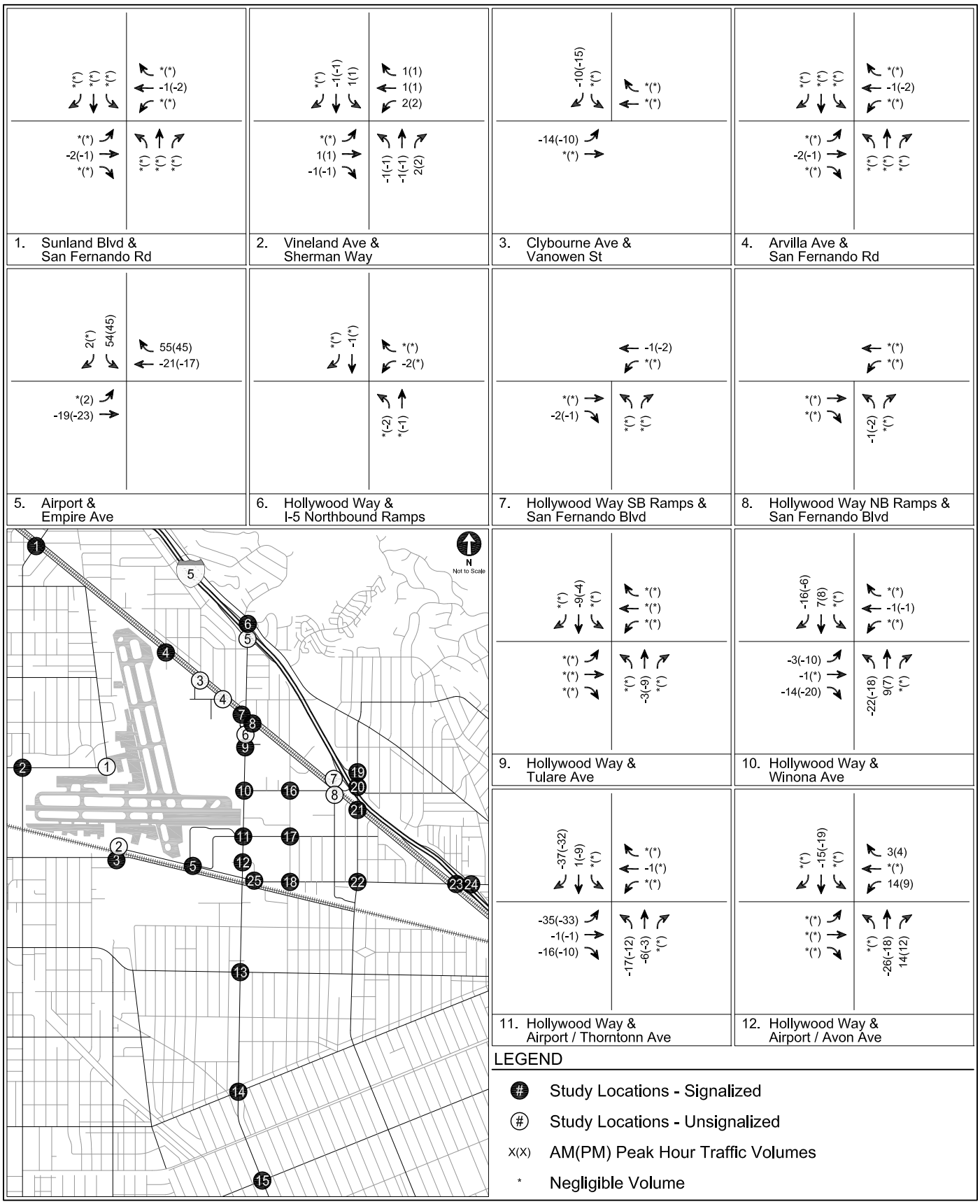
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

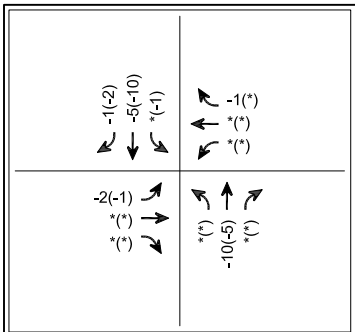
EXISTING YEAR 2016 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 11 (CONT.)

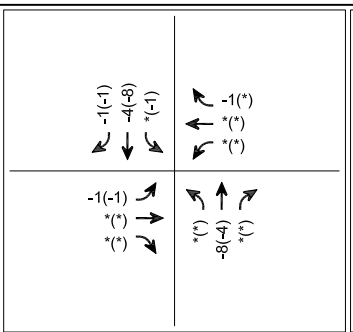


SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

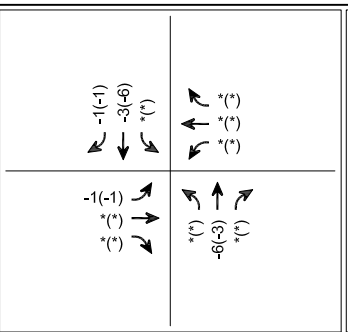
FIGURE 12



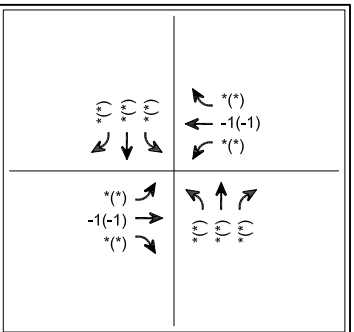
13. Hollywood Way & Victory Blvd



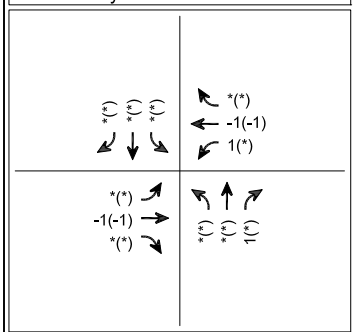
14. Hollywood Way & Burbank Blvd



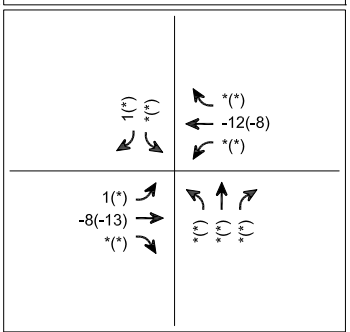
15. Hollywood Way & Magnolia Blvd



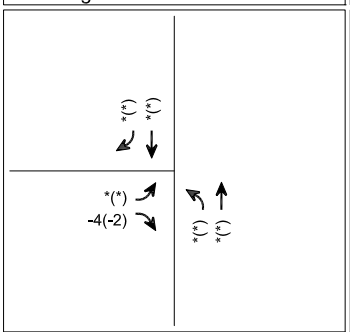
16. Ontario St & Winona Ave



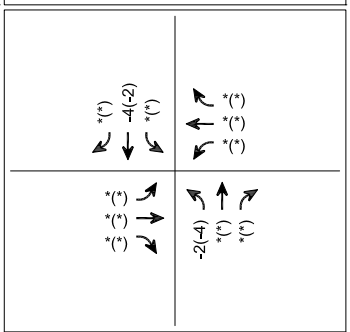
17. Ontario St & Thornton Ave



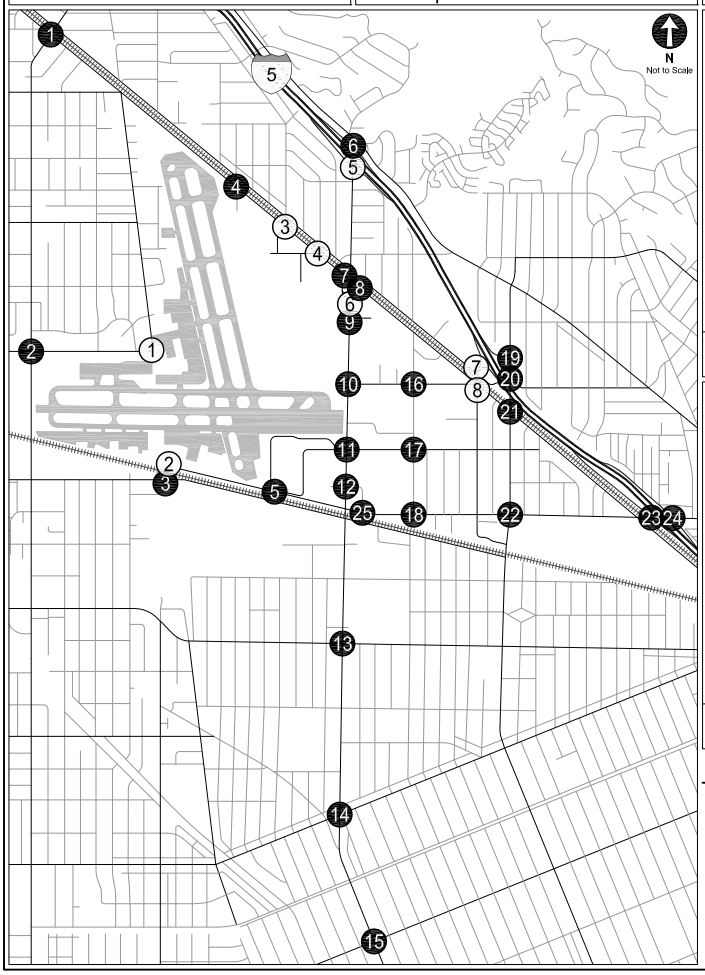
18. Ontario St & Empire Ave

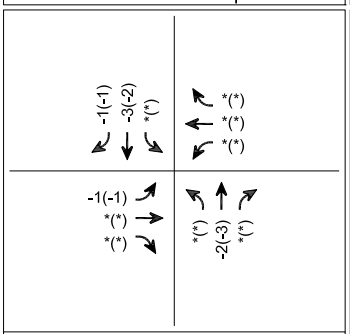


19. Buena Vista St & I-5 Northbound Ramps

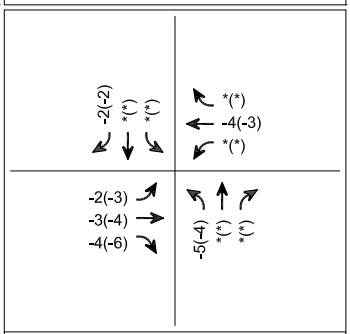


20. Buena Vista St & Winona Ave





21. Buena Vista St & San Fernando Blvd



22. Buena Vista St & Empire Ave

Intersection Does Not Currently Exist

23. I-5 Southbound Ramps & Empire Ave

Intersection Does Not Currently Exist

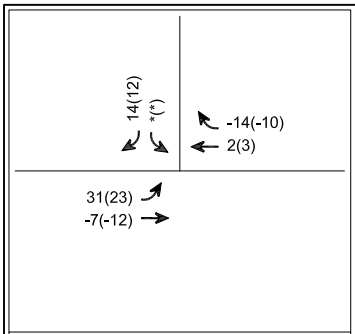
24. I-5 Northbound Ramps & Empire Ave

LEGEND

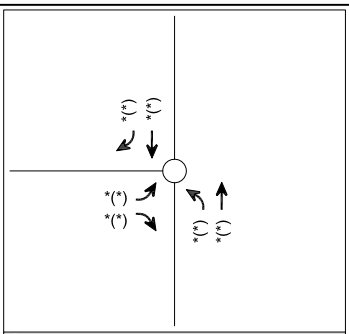
- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

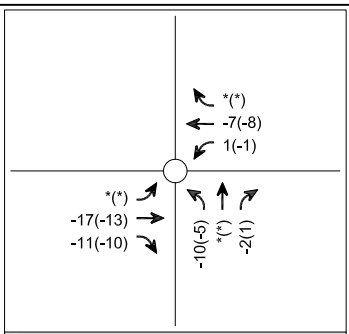
FIGURE 12 (CONT.)



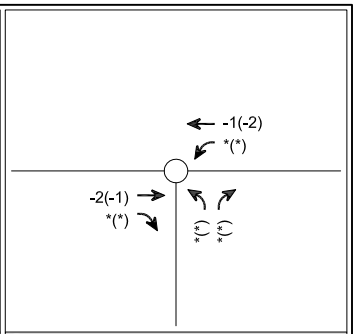
25. Avon Ave & Empire Ave



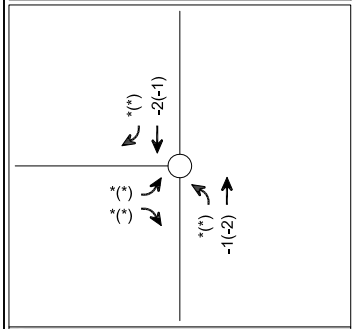
1. Clybourne Ave & Sherman Way



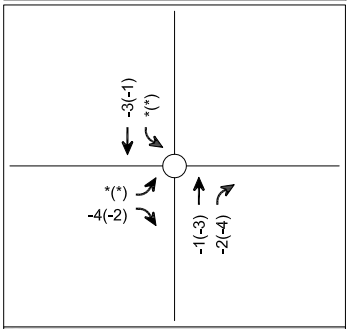
2. Clybourne Ave & Empire Ave



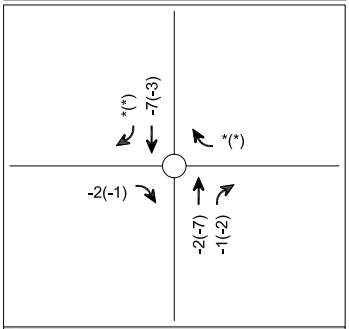
3. Lockheed Dr & San Fernando Rd



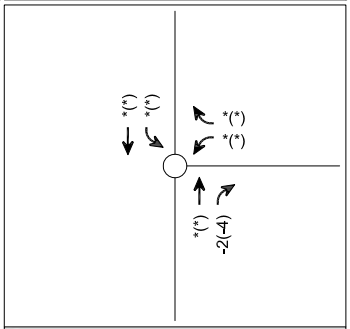
4. San Fernando Blvd & Cohasset St



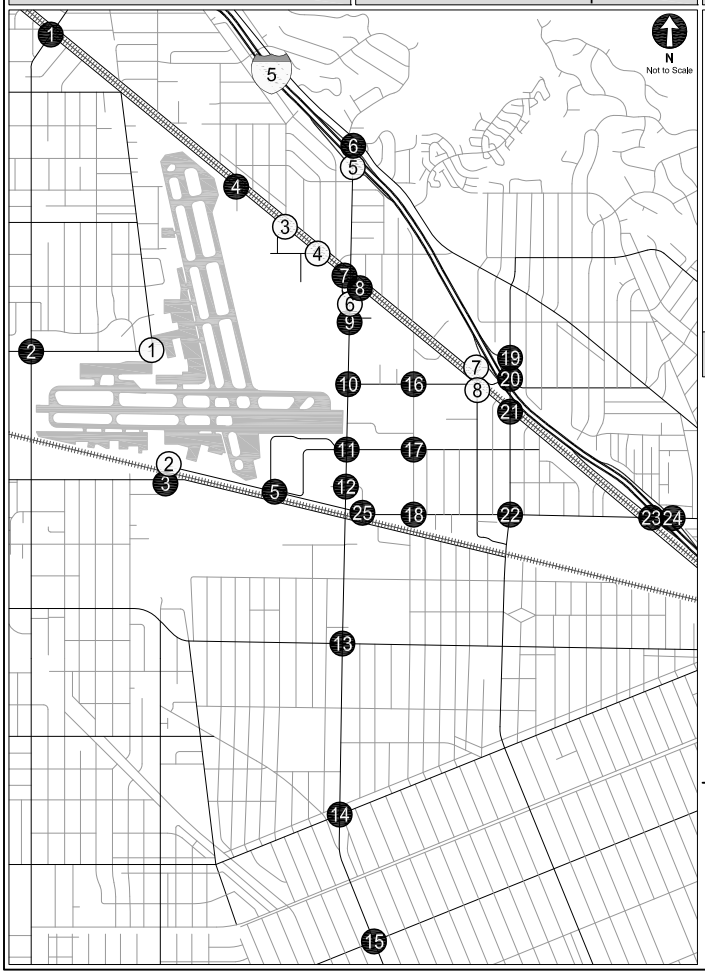
5. Hollywood Way & I-5 Southbound Ramps

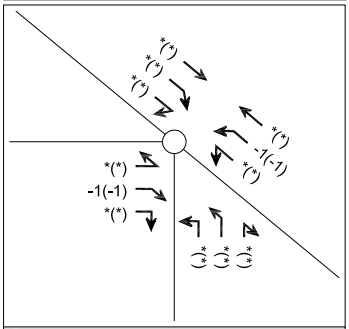


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

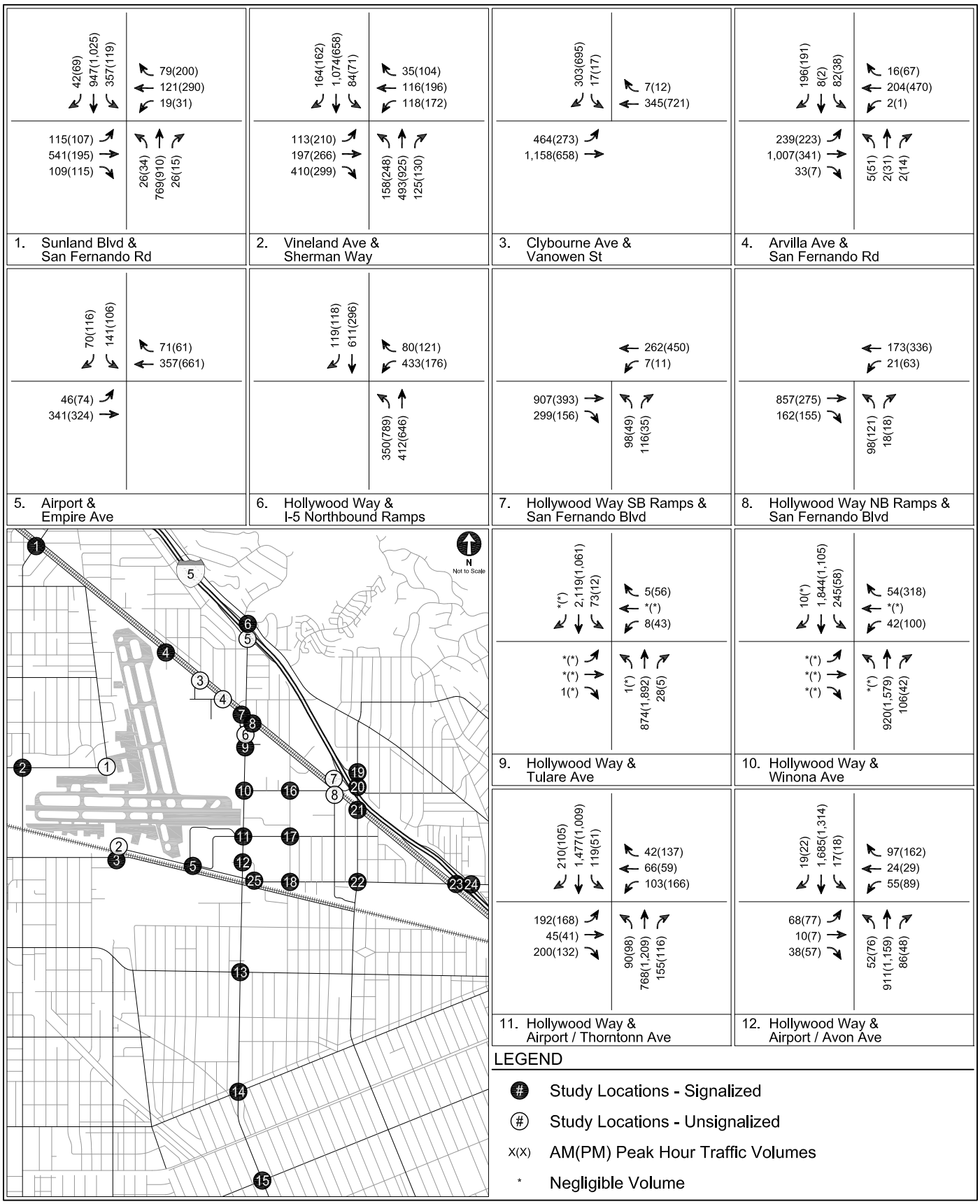
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

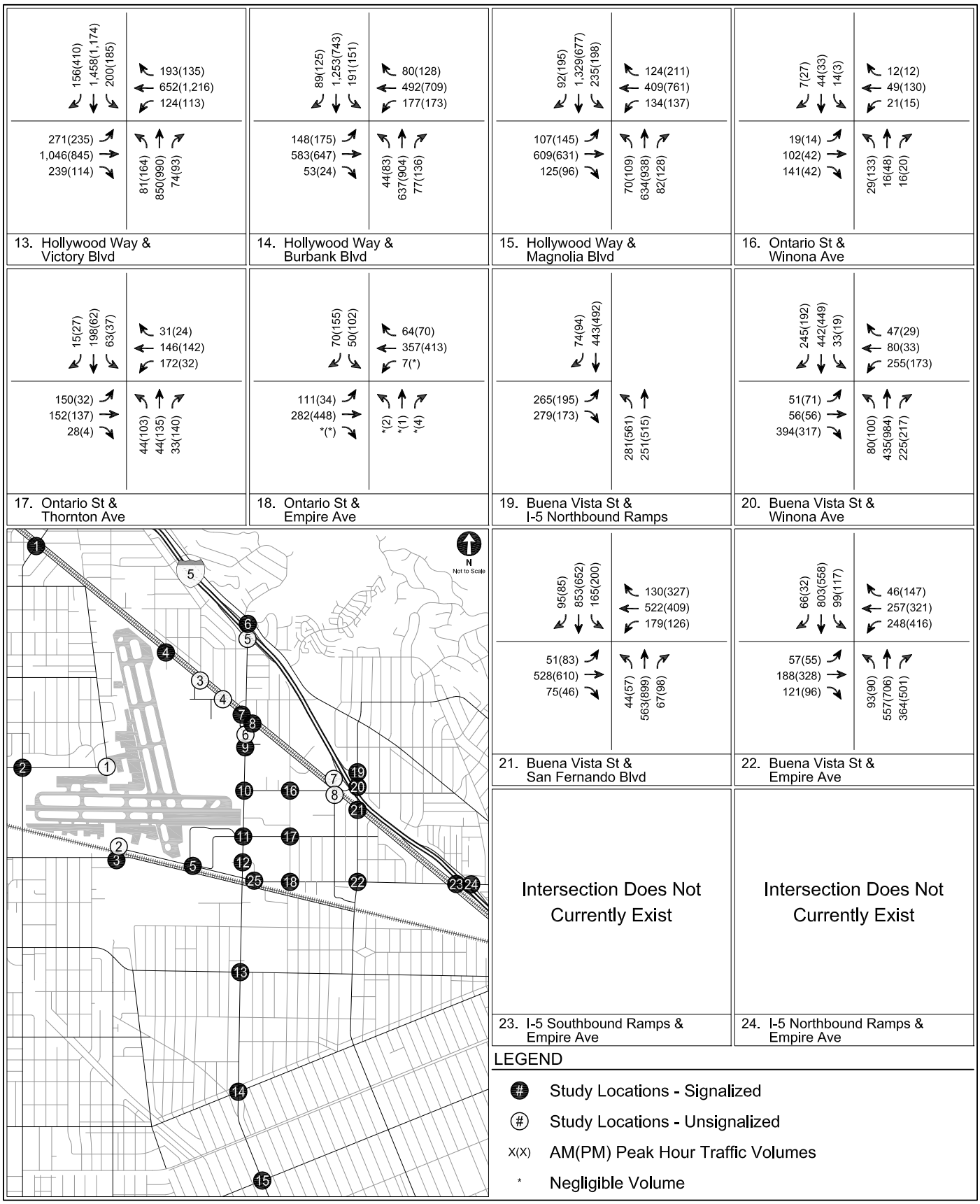
SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - EXISTING YEAR 2016 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 12 (CONT.)



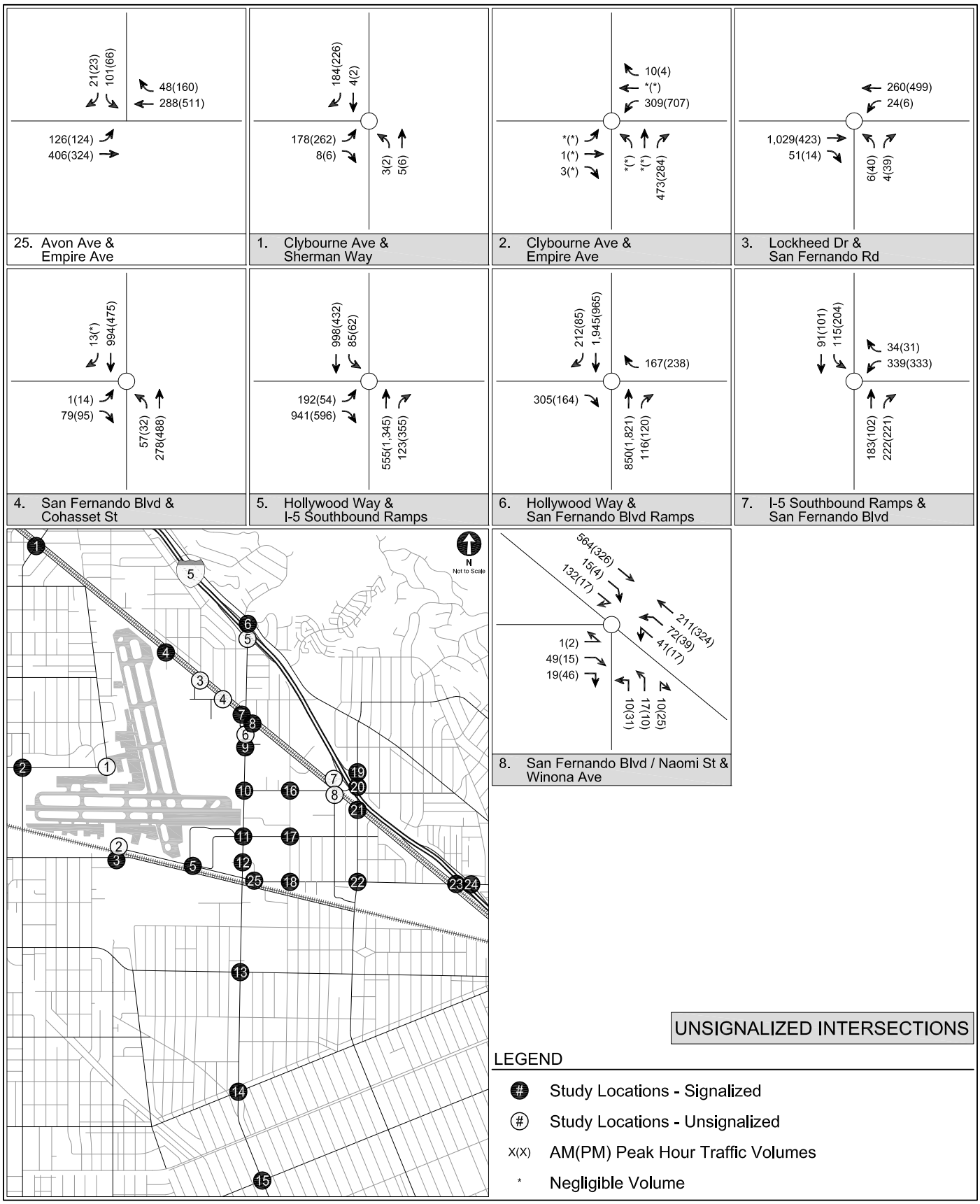
EXISTING YEAR 2016 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 13



EXISTING YEAR 2016 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 13 (CONT.)



EXISTING YEAR 2016 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 13 (CONT.)

TABLE 11
EXISTING YEAR 2016 CONDITIONS
SIGNALIZED INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Year 2016 Conditions	
			V/C	LOS
1.	Sunland Boulevard &	AM	0.758	C
[a]	San Fernando Road	PM	0.656	B
2.	Vineland Avenue &	AM	0.774	C
[a]	Sherman Way	PM	0.737	C
3.	Clybourn Avenue &	AM	0.586	A
[a]	Vanowen Street	PM	0.736	C
4.	Arvilla Avenue &	AM	0.573	A
[a]	San Fernando Road	PM	0.575	A
5.	Airport &	AM	0.310	A
	Empire Avenue	PM	0.376	A
6.	Hollywood Way &	AM	0.656	B
[a]	I-5 Northbound Ramps	PM	0.770	C
7.	Hollywood Way Southbound Ramps &	AM	0.369	A
	San Fernando Boulevard	PM	0.193	A
8.	Hollywood Way Northbound Ramps &	AM	0.354	A
	San Fernando Boulevard	PM	0.200	A
9.	Hollywood Way &	AM	0.505	A
	Tulare Avenue	PM	0.708	C
10.	Hollywood Way &	AM	0.568	A
	Winona Avenue	PM	0.837	D
11.	Hollywood Way &	AM	0.847	D
	Airport / Thornton Avenue	PM	0.701	C
12.	Hollywood Way &	AM	0.569	A
	Airport / Avon Avenue	PM	0.624	B
13.	Hollywood Way &	AM	1.061	F
	Victory Boulevard	PM	1.164	F
14.	Hollywood Way &	AM	0.882	D
	Burbank Boulevard	PM	0.876	D
15.	Hollywood Way &	AM	0.854	D
	Magnolia Boulevard	PM	0.869	D
16.	Ontario Street &	AM	0.166	A
	Winona Avenue	PM	0.185	A
17.	Ontario Street &	AM	0.448	A
	Thornton Avenue	PM	0.409	A
18.	Ontario Street &	AM	0.264	A
	Empire Avenue	PM	0.291	A
19.	Buena Vista Street &	AM	0.694	B
	I-5 Northbound Ramps	PM	0.876	D
20.	Buena Vista Street &	AM	0.723	C
	Winona Avenue	PM	0.731	C
21.	Buena Vista Street &	AM	0.699	B
	San Fernando Boulevard	PM	0.839	D
22.	Buena Vista Street &	AM	0.546	A
	Empire Avenue	PM	0.591	A
23.	I-5 Southbound Ramps &	AM	*Intersection has not yet been*	
	Empire Avenue	PM	*constructed.*	
24.	I-5 Northbound Ramps &	AM	*Intersection has not yet been*	
	Empire Avenue	PM	*constructed.*	
25.	Avon Avenue &	AM	0.260	A
	Empire Avenue	PM	0.355	A

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 12
EXISTING YEAR 2016 CONDITIONS
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Year 2016 Conditions	
			Delay	LOS
1. [a]	Clybourn Avenue & Sherman Way	AM PM	12.6 15.3	B C
2.	Clybourn Avenue & Empire Avenue	AM PM	11.8 11.9	B B
3. [a]	Lockheed Drive & San Fernando Road	AM PM	21.0 13.2	C B
4.	San Fernando Boulevard & Cohasset Street	AM PM	13.5 11.6	B B
5. [a]	Hollywood Way & I-5 Southbound Ramps	AM PM	overflow 23.6	F C
6.	Hollywood Way & San Fernando Boulevard Ramps	AM PM	54.7 62.3	F F
7.	I-5 Southbound Ramps & San Fernando Boulevard	AM PM	14.3 13.1	B B
8.	San Fernando Boulevard / Naomi Street & Winona Avenue	AM PM	17.5 16.9	C C

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 13
EXISTING YEAR 2016 WITH PROJECT CONDITIONS - ADJACENT PROPERTY OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 Conditions		Existing Year 2016 with Project Conditions - Adjacent Property Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.758	C	0.758	C	0.000	NO
[a]	San Fernando Road	PM	0.656	B	0.656	B	0.000	NO
2.	Vineland Avenue &	AM	0.774	C	0.774	C	0.000	NO
[a]	Sherman Way	PM	0.737	C	0.737	C	0.000	NO
3.	Clybourn Avenue &	AM	0.586	A	0.586	A	0.000	NO
[a]	Vanowen Street	PM	0.736	C	0.736	C	0.000	NO
4.	Arvilla Avenue &	AM	0.573	A	0.573	A	0.000	NO
[a]	San Fernando Road	PM	0.575	A	0.575	A	0.000	NO
5.	Airport &	AM	0.310	A	0.300	A	-0.010	NO
	Empire Avenue	PM	0.376	A	0.366	A	-0.010	NO
6.	Hollywood Way &	AM	0.656	B	0.656	B	0.000	NO
[a]	I-5 Northbound Ramps	PM	0.770	C	0.770	C	0.000	NO
7.	Hollywood Way Southbound Ramps &	AM	0.369	A	0.382	A	0.013	NO
	San Fernando Boulevard	PM	0.193	A	0.213	A	0.020	NO
8.	Hollywood Way Northbound Ramps &	AM	0.354	A	0.367	A	0.013	NO
	San Fernando Boulevard	PM	0.200	A	0.217	A	0.017	NO
9.	Hollywood Way &	AM	0.505	A	0.505	A	0.000	NO
	Tulare Avenue	PM	0.708	C	0.708	C	0.000	NO
10.	Hollywood Way &	AM	0.568	A	0.730	C	0.162	NO
	Winona Avenue	PM	0.837	D	0.865	D	0.028	**YES**
11.	Hollywood Way &	AM	0.847	D	0.733	C	-0.114	NO
	Airport / Thornton Avenue	PM	0.701	C	0.727	C	0.026	NO
12.	Hollywood Way &	AM	0.569	A	0.562	A	-0.007	NO
	Airport / Avon Avenue	PM	0.624	B	0.612	B	-0.012	NO
13.	Hollywood Way &	AM	1.061	F	1.061	F	0.000	NO
	Victory Boulevard	PM	1.164	F	1.164	F	0.000	NO
14.	Hollywood Way &	AM	0.882	D	0.882	D	0.000	NO
	Burbank Boulevard	PM	0.876	D	0.876	D	0.000	NO
15.	Hollywood Way &	AM	0.854	D	0.854	D	0.000	NO
	Magnolia Boulevard	PM	0.869	D	0.869	D	0.000	NO
16.	Ontario Street &	AM	0.166	A	0.166	A	0.000	NO
	Winona Avenue	PM	0.185	A	0.185	A	0.000	NO
17.	Ontario Street &	AM	0.448	A	0.447	A	-0.001	NO
	Thornton Avenue	PM	0.409	A	0.409	A	0.000	NO
18.	Ontario Street &	AM	0.264	A	0.258	A	-0.006	NO
	Empire Avenue	PM	0.291	A	0.286	A	-0.005	NO
19.	Buena Vista Street &	AM	0.694	B	0.694	B	0.000	NO
	I-5 Northbound Ramps	PM	0.876	D	0.876	D	0.000	NO
20.	Buena Vista Street &	AM	0.723	C	0.723	C	0.000	NO
	Winona Avenue	PM	0.731	C	0.731	C	0.000	NO
21.	Buena Vista Street &	AM	0.699	B	0.703	C	0.004	NO
	San Fernando Boulevard	PM	0.839	D	0.843	D	0.004	NO
22.	Buena Vista Street &	AM	0.546	A	0.545	A	-0.001	NO
	Empire Avenue	PM	0.591	A	0.586	A	-0.005	NO
23.	I-5 Southbound Ramps &	AM	*Intersection has not yet been constructed.*					
	Empire Avenue	PM						
24.	I-5 Northbound Ramps &	AM	*Intersection has not yet been constructed.*					
	Empire Avenue	PM						
25.	Avon Avenue &	AM	0.260	A	0.210	A	-0.050	NO
	Empire Avenue	PM	0.355	A	0.296	A	-0.059	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 14
EXISTING YEAR 2016 WITH PROJECT CONDITIONS - ADJACENT PROPERTY OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 with Project Conditions - Adjacent Property Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	12.6	B	382	0	0.0%	NO
[a]	Sherman Way	PM	15.3	C	504	0	0.0%	NO
2.	Clybourn Avenue &	AM	11.8	B	843	0	0.0%	NO
	Empire Avenue	PM	11.9	B	1,032	0	0.0%	NO
3.	Lockheed Drive &	AM	24.1	C	1,377	0	0.0%	NO
[a]	San Fernando Road	PM	13.5	B	1,024	0	0.0%	NO
4.	San Fernando Boulevard &	AM	14.7	B	1,532	107	7.0%	NO
	Cohasset Street	PM	12.1	B	1,195	88	7.4%	NO
5.	Hollywood Way &	AM	overflow	F	2,904	0	0.0%	NO
[a]	I-5 Southbound Ramps	PM	23.6	C	2,854	0	0.0%	NO
6.	Hollywood Way &	AM	64.7	F	3,645	38	1.0%	**YES**
	San Fernando Boulevard Ramps	PM	70.1	F	3,438	31	0.9%	**YES**
7.	I-5 Southbound Ramps &	AM	14.3	B	986	0	0.0%	NO
	San Fernando Boulevard	PM	13.1	B	996	0	0.0%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.0	C	1,182	38	3.2%	NO
	Winona Avenue	PM	17.4	C	889	31	3.5%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 15
EXISTING YEAR 2016 WITH PROJECT CONDITIONS - SWQ FULL-SIZE OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 Conditions		Existing Year 2016 with Project Conditions - SWQ Full-Size Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.758	C	0.760	C	0.002	NO
[a]	San Fernando Road	PM	0.656	B	0.657	B	0.001	NO
2.	Vineland Avenue &	AM	0.774	C	0.775	C	0.001	NO
[a]	Sherman Way	PM	0.737	C	0.738	C	0.001	NO
3.	Clybourn Avenue &	AM	0.586	A	0.571	A	-0.015	NO
[a]	Vanowen Street	PM	0.736	C	0.723	C	-0.013	NO
4.	Arvilla Avenue &	AM	0.573	A	0.574	A	0.001	NO
[a]	San Fernando Road	PM	0.575	A	0.576	A	0.001	NO
5.	Airport &	AM	0.310	A	0.319	A	0.009	NO
	Empire Avenue	PM	0.376	A	0.389	A	0.013	NO
6.	Hollywood Way &	AM	0.656	B	0.659	B	0.003	NO
[a]	I-5 Northbound Ramps	PM	0.770	C	0.772	C	0.002	NO
7.	Hollywood Way Southbound Ramps &	AM	0.369	A	0.370	A	0.001	NO
	San Fernando Boulevard	PM	0.193	A	0.194	A	0.001	NO
8.	Hollywood Way Northbound Ramps &	AM	0.354	A	0.354	A	0.000	NO
	San Fernando Boulevard	PM	0.200	A	0.202	A	0.002	NO
9.	Hollywood Way &	AM	0.505	A	0.509	A	0.004	NO
	Tulare Avenue	PM	0.708	C	0.715	C	0.007	NO
10.	Hollywood Way &	AM	0.568	A	0.574	A	0.006	NO
	Winona Avenue	PM	0.837	D	0.848	D	0.011	NO
11.	Hollywood Way &	AM	0.847	D	0.832	D	-0.015	NO
	Airport / Thornton Avenue	PM	0.701	C	0.701	C	0.000	NO
12.	Hollywood Way &	AM	0.569	A	0.574	A	0.005	NO
	Airport / Avon Avenue	PM	0.624	B	0.628	B	0.004	NO
13.	Hollywood Way &	AM	1.061	F	1.063	F	0.002	NO
	Victory Boulevard	PM	1.164	F	1.165	F	0.001	NO
14.	Hollywood Way &	AM	0.882	D	0.883	D	0.001	NO
	Burbank Boulevard	PM	0.876	D	0.877	D	0.001	NO
15.	Hollywood Way &	AM	0.854	D	0.855	D	0.001	NO
	Magnolia Boulevard	PM	0.869	D	0.870	D	0.001	NO
16.	Ontario Street &	AM	0.166	A	0.166	A	0.000	NO
	Winona Avenue	PM	0.185	A	0.185	A	0.000	NO
17.	Ontario Street &	AM	0.448	A	0.448	A	0.000	NO
	Thornton Avenue	PM	0.409	A	0.409	A	0.000	NO
18.	Ontario Street &	AM	0.264	A	0.261	A	-0.003	NO
	Empire Avenue	PM	0.291	A	0.289	A	-0.002	NO
19.	Buena Vista Street &	AM	0.694	B	0.694	B	0.000	NO
	I-5 Northbound Ramps	PM	0.876	D	0.876	D	0.000	NO
20.	Buena Vista Street &	AM	0.723	C	0.723	C	0.000	NO
	Winona Avenue	PM	0.731	C	0.733	C	0.002	NO
21.	Buena Vista Street &	AM	0.699	B	0.699	B	0.000	NO
	San Fernando Boulevard	PM	0.839	D	0.838	D	-0.001	NO
22.	Buena Vista Street &	AM	0.546	A	0.539	A	-0.007	NO
	Empire Avenue	PM	0.591	A	0.590	A	-0.001	NO
23.	I-5 Southbound Ramps &	AM	*Intersection has not yet been constructed.*					
	Empire Avenue	PM						
24.	I-5 Northbound Ramps &	AM	*Intersection has not yet been constructed.*					
	Empire Avenue	PM						
25.	Avon Avenue &	AM	0.260	A	0.278	A	0.018	NO
	Empire Avenue	PM	0.355	A	0.367	A	0.012	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 16
EXISTING YEAR 2016 WITH PROJECT CONDITIONS - SWQ FULL-SIZE OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 with Project Conditions - SWQ Full-Size Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	12.6	B	382	0	0.0%	NO
[a]	Sherman Way	PM	15.3	C	504	0	0.0%	NO
2.	Clybourn Avenue &	AM	8.7	A	801	-77	-9.6%	NO
	Empire Avenue	PM	0.0	A	1,001	-79	-7.9%	NO
3.	Lockheed Drive &	AM	21.1	C	1,383	7	0.5%	NO
[a]	San Fernando Road	PM	13.3	B	1,030	7	0.7%	NO
4.	San Fernando Boulevard &	AM	13.5	B	1,431	7	0.5%	NO
	Cohasset Street	PM	11.6	B	1,113	7	0.6%	NO
5.	Hollywood Way &	AM	overflow	F	2,930	25	0.9%	NO
[a]	I-5 Southbound Ramps	PM	24.2	C	2,881	26	0.9%	NO
6.	Hollywood Way &	AM	58.0	F	3,638	32	0.9%	**YES**
	San Fernando Boulevard Ramps	PM	64.8	F	3,438	33	1.0%	**YES**
7.	I-5 Southbound Ramps &	AM	14.3	B	985	-1	-0.1%	NO
	San Fernando Boulevard	PM	13.0	B	994	-2	-0.2%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	17.6	C	1,144	2	0.2%	NO
	Winona Avenue	PM	16.9	C	860	2	0.2%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 17
EXISTING YEAR 2016 WITH PROJECT CONDITIONS - SWQ SAME-SIZE OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 Conditions		Existing Year 2016 with Project Conditions - SWQ Same-Size Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.758	C	0.758	C	0.000	NO
[a]	San Fernando Road	PM	0.656	B	0.655	B	-0.001	NO
2.	Vineland Avenue &	AM	0.774	C	0.775	C	0.001	NO
[a]	Sherman Way	PM	0.737	C	0.738	C	0.001	NO
3.	Clybourn Avenue &	AM	0.586	A	0.572	A	-0.014	NO
[a]	Vanowen Street	PM	0.736	C	0.723	C	-0.013	NO
4.	Arvilla Avenue &	AM	0.573	A	0.572	A	-0.001	NO
[a]	San Fernando Road	PM	0.575	A	0.574	A	-0.001	NO
5.	Airport &	AM	0.310	A	0.318	A	0.008	NO
	Empire Avenue	PM	0.376	A	0.387	A	0.011	NO
6.	Hollywood Way &	AM	0.656	B	0.655	B	-0.001	NO
[a]	I-5 Northbound Ramps	PM	0.770	C	0.768	C	-0.002	NO
7.	Hollywood Way Southbound Ramps &	AM	0.369	A	0.368	A	-0.001	NO
	San Fernando Boulevard	PM	0.193	A	0.192	A	-0.001	NO
8.	Hollywood Way Northbound Ramps &	AM	0.354	A	0.353	A	-0.001	NO
	San Fernando Boulevard	PM	0.200	A	0.200	A	0.000	NO
9.	Hollywood Way &	AM	0.505	A	0.503	A	-0.002	NO
	Tulare Avenue	PM	0.708	C	0.705	C	-0.003	NO
10.	Hollywood Way &	AM	0.568	A	0.570	A	0.002	NO
	Winona Avenue	PM	0.837	D	0.833	D	-0.004	NO
11.	Hollywood Way &	AM	0.847	D	0.823	D	-0.024	NO
	Airport / Thornton Avenue	PM	0.701	C	0.693	B	-0.008	NO
12.	Hollywood Way &	AM	0.569	A	0.568	A	-0.001	NO
	Airport / Avon Avenue	PM	0.624	B	0.624	B	0.000	NO
13.	Hollywood Way &	AM	1.061	F	1.060	F	-0.001	NO
	Victory Boulevard	PM	1.164	F	1.159	F	-0.005	NO
14.	Hollywood Way &	AM	0.882	D	0.880	D	-0.002	NO
	Burbank Boulevard	PM	0.876	D	0.873	D	-0.003	NO
15.	Hollywood Way &	AM	0.854	D	0.853	D	-0.001	NO
	Magnolia Boulevard	PM	0.869	D	0.867	D	-0.002	NO
16.	Ontario Street &	AM	0.166	A	0.166	A	0.000	NO
	Winona Avenue	PM	0.185	A	0.184	A	-0.001	NO
17.	Ontario Street &	AM	0.448	A	0.448	A	0.000	NO
	Thornton Avenue	PM	0.409	A	0.409	A	0.000	NO
18.	Ontario Street &	AM	0.264	A	0.261	A	-0.003	NO
	Empire Avenue	PM	0.291	A	0.288	A	-0.003	NO
19.	Buena Vista Street &	AM	0.694	B	0.694	B	0.000	NO
	I-5 Northbound Ramps	PM	0.876	D	0.876	D	0.000	NO
20.	Buena Vista Street &	AM	0.723	C	0.722	C	-0.001	NO
	Winona Avenue	PM	0.731	C	0.734	C	0.003	NO
21.	Buena Vista Street &	AM	0.699	B	0.699	B	0.000	NO
	San Fernando Boulevard	PM	0.839	D	0.838	D	-0.001	NO
22.	Buena Vista Street &	AM	0.546	A	0.540	A	-0.006	NO
	Empire Avenue	PM	0.591	A	0.589	A	-0.002	NO
23.	I-5 Southbound Ramps &	AM	*Intersection has not yet been constructed.*					
	Empire Avenue	PM						
24.	I-5 Northbound Ramps &	AM	*Intersection has not yet been constructed.*					
	Empire Avenue	PM						
25.	Avon Avenue &	AM	0.260	A	0.277	A	0.017	NO
	Empire Avenue	PM	0.355	A	0.369	A	0.014	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 18
EXISTING YEAR 2016 WITH PROJECT CONDITIONS - SWQ SAME-SIZE OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 with Project Conditions - SWQ Same-Size Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	12.6	B	382	0	0.0%	NO
[a]	Sherman Way	PM	15.3	C	504	0	0.0%	NO
2.	Clybourn Avenue &	AM	9.6	A	797	-61	-7.7%	NO
	Empire Avenue	PM	0.0	A	996	-64	-6.4%	NO
3.	Lockheed Drive &	AM	20.9	C	1,374	-3	-0.2%	NO
[a]	San Fernando Road	PM	13.2	B	1,021	-4	-0.4%	NO
4.	San Fernando Boulevard &	AM	13.5	B	1,422	-3	-0.2%	NO
	Cohasset Street	PM	11.6	B	1,104	-4	-0.4%	NO
5.	Hollywood Way &	AM	overflow	F	2,894	-9	-0.3%	NO
[a]	I-5 Southbound Ramps	PM	23.4	C	2,844	-9	-0.3%	NO
6.	Hollywood Way &	AM	53.2	F	3,595	-13	-0.4%	NO
	San Fernando Boulevard Ramps	PM	61.3	F	3,393	-13	-0.4%	NO
7.	I-5 Southbound Ramps &	AM	14.3	B	984	-2	-0.2%	NO
	San Fernando Boulevard	PM	13.0	B	992	-4	-0.4%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	17.5	C	1,141	-1	-0.1%	NO
	Winona Avenue	PM	16.9	C	856	-1	-0.1%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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Chapter 4
Interim Year 2023 Analysis

This Chapter presents the analysis of study intersections based on Interim Year 2023 conditions. This analysis year corresponds to the year that the replacement terminal is expected to open, though other parts of the Project (most notably, the demolition of the existing terminal and the addition of new taxiways in the southeast quadrant of the Airport) would continue through year 2025. The Interim Year 2023 conditions include background traffic growth from regional development, proposed local developments within and around the traffic impact analysis Study Area (i.e., cumulative or related projects), and Airport passenger growth that is anticipated whether or not the Project is constructed. This Chapter also analyzes the potential impacts of each Project Option on Interim Year 2023 conditions.

BACKGROUND TRAFFIC GROWTH

There are two ways to forecast future traffic conditions. In the first method, local growth is accounted for by estimating trips and assigning traffic for all known potential future developments within the study area and regional growth is accounted for using an annual growth factor. The other method is to use a travel demand forecasting model that has been calibrated to existing conditions in the study area and validated for future year forecasts using the best available planning data.

At the request of City staff, future traffic forecasts for the Study Area were developed based on traffic growth projections from the City Travel Demand Model ("Model"). The Model was developed to provide travel demand forecasts for the Burbank2035 General Plan Mobility Element, as described in *Final Transportation Analysis Report: Burbank 2035 General Plan* (Fehr & Peers, July 2012). The Model was fully validated and calibrated to Caltrans and Federal Highway Administration (FHWA) standards based on year 2010 base conditions. It includes extensive land use data for both existing baseline conditions and future year forecasts (year

2035 in the Model). The Model incorporates both local and regional growth through its land use assumptions, and includes specific traffic analysis zones (TAZs) for larger existing or planned developments, including the Airport itself. It also incorporates major infrastructure improvements. Each are discussed below.

Related Projects

A list of Related Projects – those developments proposed, approved, or under construction in and around the Study Area, was compiled based on information provided by the City of Burbank and LADOT. They include all projects within a two-mile radius of the Project Site and a few large projects further away. Trip generation estimates for the Related Projects were provided by the City and LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation, 9th Edition*. The Related Projects and their trip generation estimates are detailed in Table 19 and their locations are shown in Figure 14. These projections are conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (transit, bicycle, walk, etc.) Further, they do not fully account for the internal capture trips within a multi-use development, nor the interaction of trips between multiple related projects within the traffic impact analysis Study Area, in which one Related Project serves as the origin for a trip destined for another Related Project. The Model, however, considers many of these factors when it forecasts trips between uses and into and out of the Study Area.

The most notable Related Project, with regard to its effect on the Airport due to its size and proximity, is the proposed development of the former Lockheed parcel adjacent to the northeast quadrant of the Airport (Related Project #11). The proposal would construct 940,000 sf of light industrial and manufacturing space, 130,000 sf of office, 175 hotel rooms, and a small amount of retail space with primary access on Hollywood Way at Tulare Avenue. A review of the land use and trip assumptions from the specific TAZs associated with this Related Project show that the Model fully and conservatively accounts for the proposed development of that site.

Airport Passenger Growth

Airport passenger growth was discussed extensively in Chapter 2. Between Existing Year 2016 and Completion Year 2025, annual passenger volume at the Airport is expected to increase from approximately 4.0 million passengers to 4.9 million passengers, an increase of approximately 22%. The Model assumes approximately 40% growth in Airport trip generation, and assumes far more peak hour trips would be generated by the Airport than shown by empirical data and the estimates described in Chapter 2. The Model assumes no change to the physical configuration of the Airport or its access, which is appropriate for the forecasting of future traffic conditions without the Project.

Future Infrastructure Improvements

The roadway network for the Interim Year without Project conditions within the Study Area is also affected by regional improvement plans, local specific plans, and programmed improvements. These improvements may result in changes to traffic patterns within the Study Area.

- I-5 Widening: Caltrans is in the midst of a major widening of I-5 within the Study Area. The I-5 Widening Project extends from Magnolia Boulevard to Buena Vista Street and includes the construction of new high-occupancy-vehicle ("HOV") lanes in each direction and a new interchange at Empire Avenue. This project would also eliminate at-grade railroad crossings of Buena Vista Street and of Empire Avenue at San Fernando Boulevard. Construction began in year 2014 and is expected to be completed in year 2019.

- Empire Avenue Interchange Project: The Empire Avenue Interchange Project includes the complete reconstruction of the interchange between I-5 and Empire Avenue. The improvement will bring Empire Avenue under the railroad tracks and I-5 to connect with San Fernando Boulevard to the east. A full diamond interchange will be constructed between I-5 and Empire Avenue / San Fernando Boulevard. Construction on this project began in year 2014 and is expected to be completed in year 2018. Two of the signalized intersections analyzed in this study are the future ramp intersections at this interchange.

- Clybourn Avenue Grade Separation: The Clybourn Avenue Grade Separation Project proposes to elevate the Metrolink railroad over Clybourn Avenue between Empire Avenue and Vanowen Street immediately south of the Airport. The SWQ Options of the Project would not preclude the construction of the Clybourn Avenue Grade Separation. Moreover, the proposed new access point on Empire Avenue for the SWQ Full-Size Option would be located approximately 800 feet east of Clybourn Avenue and, therefore, would not affect the operations of Clybourn Avenue, whether or not the grade separation were installed.

- Metrolink Hollywood Way Station: Metrolink proposes to construct a new rail station on San Fernando Boulevard at Cohasset Street and Hollywood Way. This station would improve access to the Airport for Metrolink passengers traveling to and from the Antelope Valley. Currently, passengers on the Antelope Valley Line have to travel to downtown Burbank and then take the BurbankBus Empire/Downtown Route to the Airport. It is anticipated to open in year 2017.

- Metrolink Station Pedestrian Bridge: Metro proposes to construct a pedestrian bridge over Empire Avenue between the Burbank-Bob Hope Airport Station and the transit center in the RITC. That Project is currently in design and is expected to be constructed by the end of year 2019.

The Model includes the I-5 Widening Project and the Empire Avenue Interchange Project. While it does not directly account for transit improvements, including grade separations, pedestrian overpasses, and new train stations, those types of changes are negligible factors in the Model's travel demand forecasting process.

Model Growth Implementation

The Model was used to forecast future traffic conditions by calculating annual traffic growth rates on each corridor included in the Model forecasts. The growth rates were calculated for each direction and for each peak hour based on the difference between the Model's base year conditions and its future year forecasts. In addition to arterial streets, growth rates were

calculated for the mainline segments of I-5 and for each on-ramp and off-ramp. Further, for streets that were not in the Model, or where Model data was not detailed enough to identify specific growth rates for a given street, an average growth rate for the Study Area was developed for each peak hour. These average rates were approximately 0.62% annually for the morning peak hour and 0.84% annually for the afternoon peak hour.

These growth rates were applied to the study intersections for each approach as applicable. For ramp locations, the ramp growth rates were applied to approach movements or departure movements rather than applying arterial growth rates (which tended to be lower) to turning movements onto or off of the ramps.

In consultation with City staff, intersection turning volume forecasts from *Final Traffic Impact Study for the 3401 Empire Office Project* (Fehr & Peers, February 2013) were also used in the development of the forecasts at several locations on Empire Avenue and Buena Vista Street. That traffic impact study, which projected Year 2019 conditions, provides the most up-to-date forecasts of traffic volumes (and, equally importantly, traffic patterns) at the intersections making up the Empire Avenue interchange with I-5, along with traffic patterns along Empire Avenue and Buena Vista Street after completion of construction on I-5 and the interchange. Those volumes were increased by the average annual growth rates from the Model to represent Interim Year 2023 conditions. The results were compared to the Model-based forecasts at the same intersections, and whichever result was higher was used at each turning movement.

Also, the Model growth implementation method described above does not adequately forecast turning movements at access points of major growth centers. Therefore, it was necessary to specifically account for traffic volumes at key “driveway” locations, including all Airport access points and the access points for the Related Project #11 on the former Lockheed property. The growth in Airport traffic based on the discussion in Chapter 2 was distributed through the Airport access points on Empire Avenue and Hollywood Way (including at Winona Avenue, the current entrance to Lot A) and directly added to the appropriate movements of those driveways. Similarly, the trip generation estimate for Related Project #11 in Table 19 was distributed through its proposed access points on Hollywood Way at Tulare Avenue and via an extension of Kenwood Street to Cohasset Street, and these volumes were added to the appropriate study intersections on Hollywood Way and San Fernando Road / San Fernando Boulevard.

In this way, the Interim Year 2023 traffic conditions were forecast using Model growth augmented by turning movement forecasts (which are much more detailed than the Model's corridor growth forecasts) at specific key locations. In this way, the effects of major infrastructure improvements as well as specific traffic growth generators that directly affect the Project were fully and accurately accounted for in the forecasts. The Interim Year 2023 without Project peak hour traffic volumes are shown in Figure 15.

INTERIM YEAR 2023 WITHOUT PROJECT LEVELS OF SERVICE

Table 20 summarizes the weekday morning and afternoon peak hour LOS results for each of the signalized study intersections under Interim Year 2023 without Project Conditions, prior to any Project traffic shifts. Table 20 indicates that 17 of the 25 signalized study intersections are projected to operate at LOS D or better during both the morning and afternoon peak hours. The remaining 8 intersections are projected to operate at LOS E or F during at least one analyzed peak hour under Interim Year 2023 without Project Conditions.

Table 21 summarizes the weekday morning and afternoon peak hour LOS results for each of the unsignalized study intersections under Interim Year 2023 without Project Conditions. Table 21 indicates that 6 of the 8 unsignalized study intersections are projected to operate at LOS D or better during both the morning and afternoon peak hours. The remaining two intersections, including Hollywood Way & I-5 Southbound Ramps and Hollywood Way & San Fernando Boulevard Ramps, are projected to operate at LOS F during at least one analyzed peak hour under Interim Year 2023 without Project Conditions.

The LOS calculation worksheets are provided in Attachment C.

INTERIM YEAR 2023 CUMULATIVE SIGNIFICANT IMPACTS

Tables 22 and 23 summarize Interim Year 2023 cumulative significant impacts for signalized and unsignalized intersections, respectively. The cumulative significant impacts are impacts identified on the basis of background traffic growth alone (i.e., without the effects of the Project) when compared to Existing Year 2016 conditions. As shown in Table 22, a total of 14 of the 25

signalized intersections would be significantly impacted from the cumulative effect of traffic growth between Existing Year 2016 and Interim Year 2023. As shown in Table 23, a total of three of the eight unsignalized intersections would be significantly impacted as well.

INTERIM YEAR 2023 WITH PROJECT CONDITIONS

To estimate Interim Year 2023 with Project Conditions for each Project Option, the peak hour traffic shifts described in Chapter 2 were applied to the Interim Year 2023 without Project Conditions traffic volumes. The traffic conditions and potential significant impacts are identified below. Potential traffic improvements and mitigation measures are described in Chapter 6.

Interim Year 2023 with Project Conditions – Adjacent Property Option

The cumulative traffic shifts associated with the Adjacent Property Option under Interim Year 2023 conditions are shown in Figure 16. The Interim Year 2023 with Project Conditions – Adjacent Property Option peak hour traffic volumes, which add the Project traffic shifts to Interim Year 2023 without Project peak hour traffic volumes, are shown in Figure 17. Table 24 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 24 shows, the Adjacent Property Option would result in a significant traffic impact at the intersection of Hollywood Way and Winona Avenue during the afternoon peak hour. Table 25 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 25 shows, the Adjacent Property Option would result in significant impacts at the intersections of San Fernando Boulevard and Cohasset Street and Hollywood Way and San Fernando Boulevard Ramps during both the morning and afternoon peak hours. The Adjacent Property Option would not significantly impact any other signalized or unsignalized study intersections.

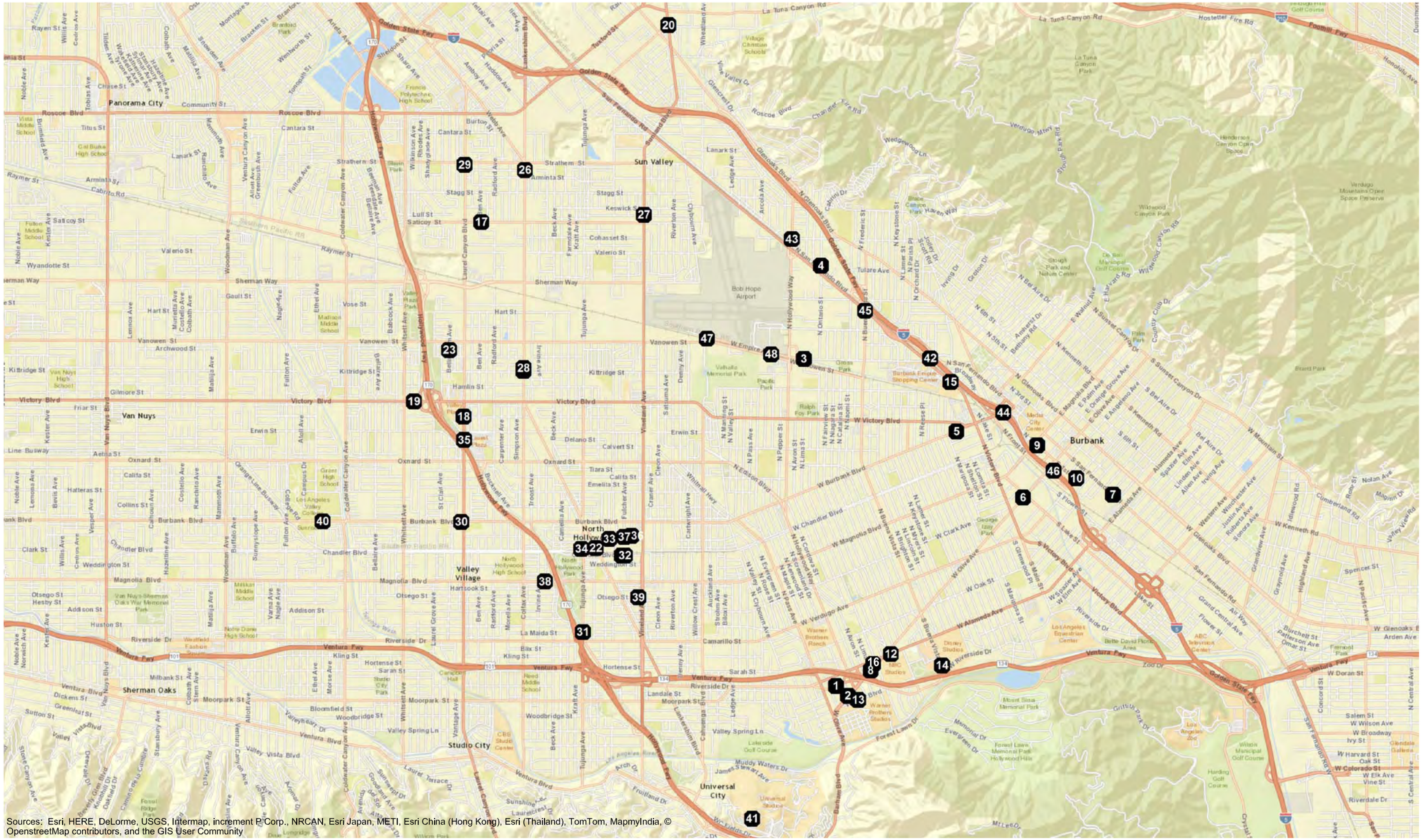
Interim Year 2023 with Project Conditions – SWQ Full-Size Option

The cumulative traffic shifts associated with the SWQ Full-Size Option under Interim Year 2023 conditions are shown in Figure 18. The Interim Year 2023 with Project Conditions – SWQ Full-Size Option peak hour traffic volumes are shown in Figure 19. Table 26 shows the intersection

LOS results and potential significant impacts for signalized intersections. As Table 26 shows, the SWQ Full-Size Option would not result in significant traffic impacts at any study intersection. Table 27 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 27 shows, the SWQ Full-Size Option would result in a significant impact at the intersection of Hollywood Way & San Fernando Boulevard Ramps during both the morning and afternoon peak hours. The SWQ Full-Size Option would not significantly impact any other signalized or unsignalized study intersections.

Interim Year 2023 with Project Conditions – SWQ Same-Size Option

The cumulative traffic shifts associated with the SWQ Same-Size Option under Interim Year 2023 conditions are shown in Figure 20. The Interim Year 2023 with Project Conditions – SWQ Same-Size Option peak hour traffic volumes are shown in Figure 21. Table 28 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 28 shows, the SWQ Same-Size Option would not result in significant traffic impacts at any study intersection. Table 29 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 29 shows, the SWQ Same-Size Option also would not result in significant traffic impacts at any unsignalized study intersection.



LEGEND

Related Project

N
Not to Scale

LOCATIONS OF RELATED PROJECTS

FIGURE 14

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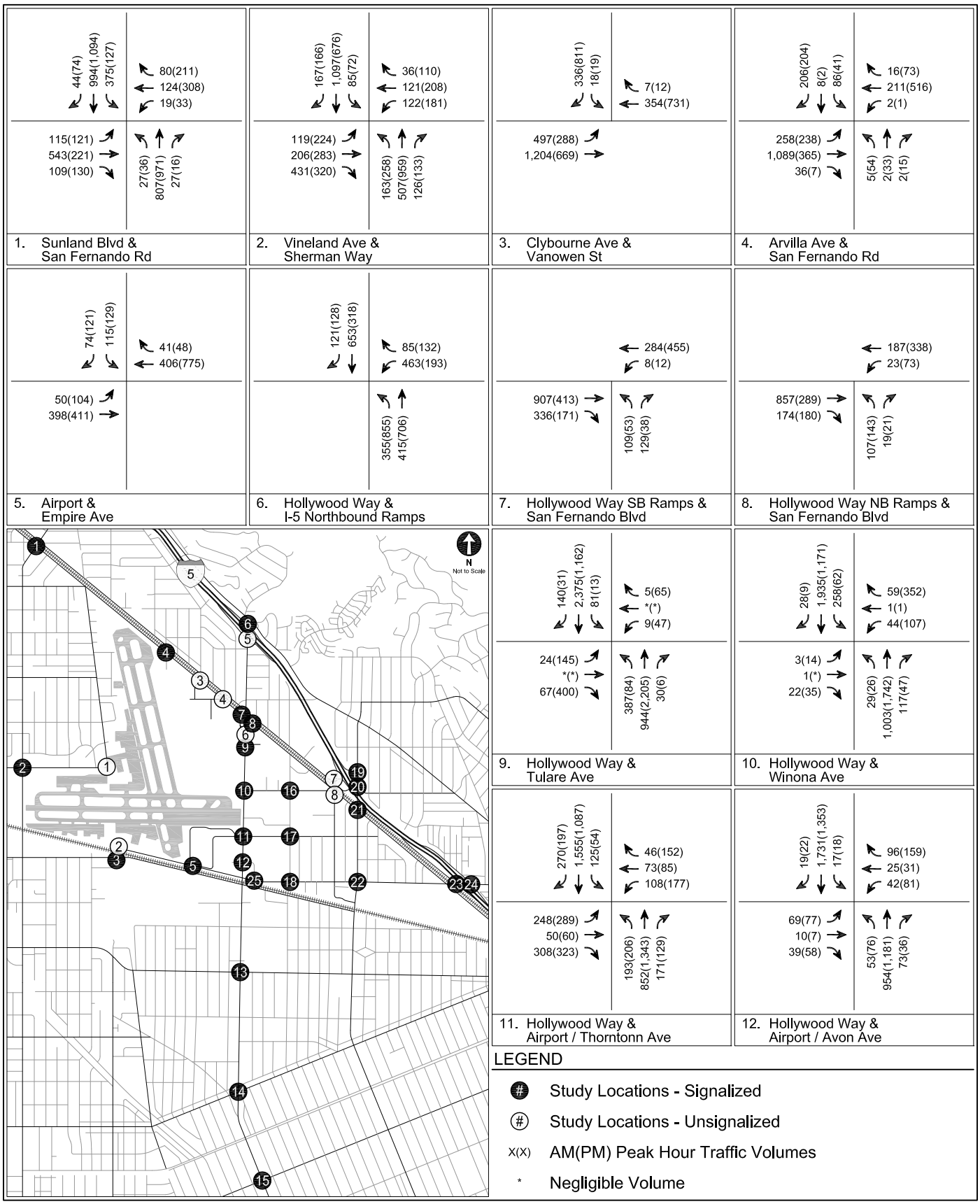
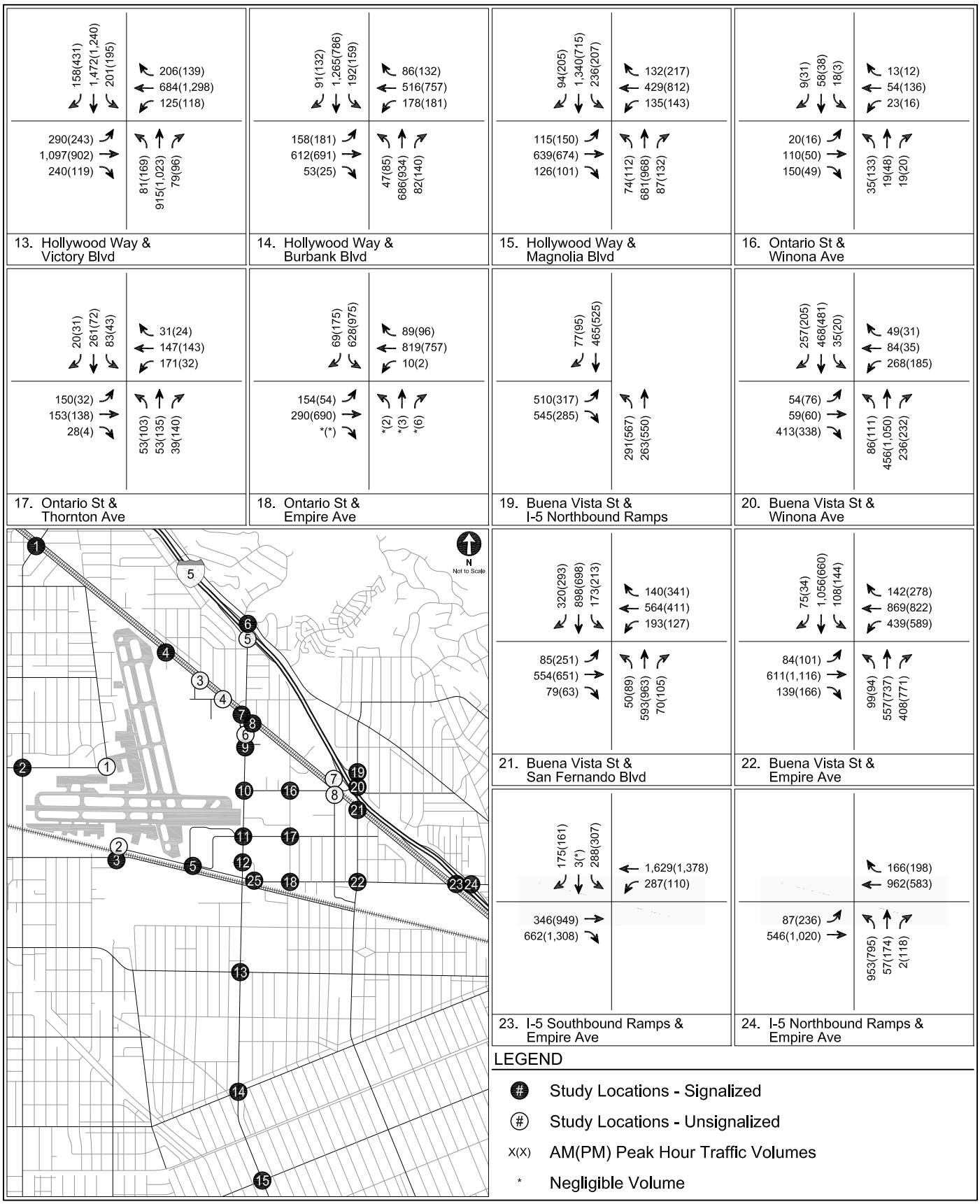


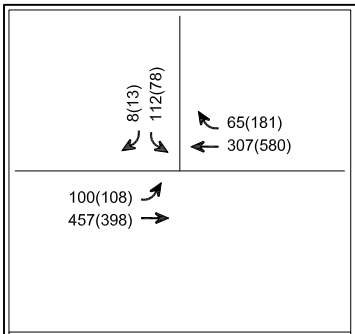
INTERIM YEAR 2023 WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

FIGURE 15

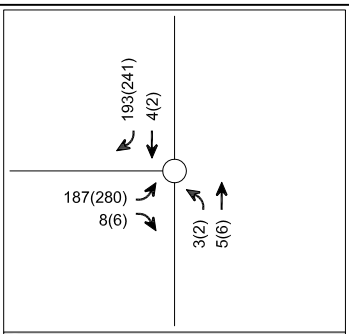


INTERIM YEAR 2023 WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

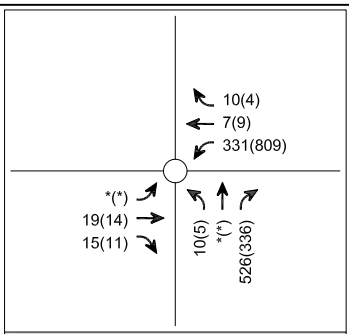
FIGURE 15 (CONT.)



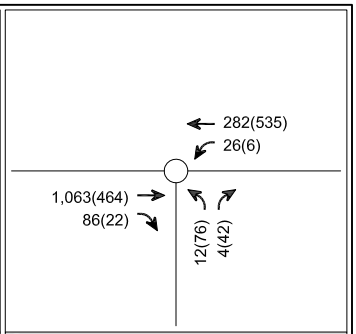
25. Avon Ave & Empire Ave



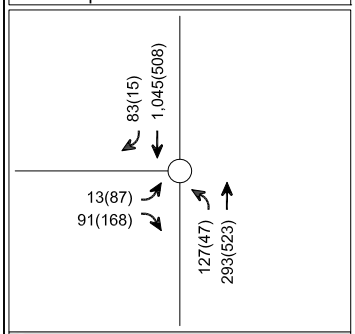
1. Clybourne Ave & Sherman Way



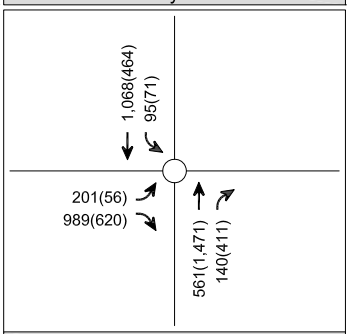
2. Clybourne Ave & Empire Ave



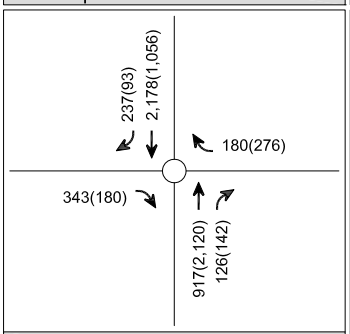
3. Lockheed Dr & San Fernando Rd



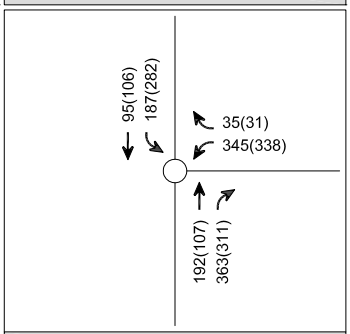
4. San Fernando Blvd & Cohasset St



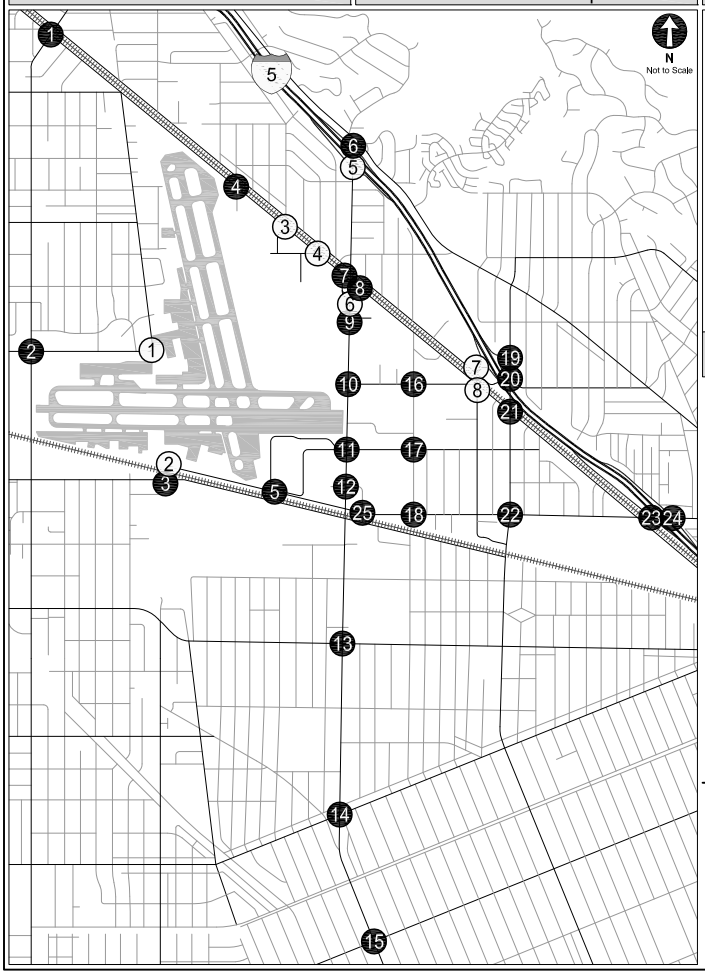
5. Hollywood Way & I-5 Southbound Ramps

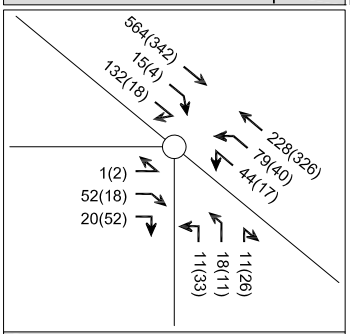


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

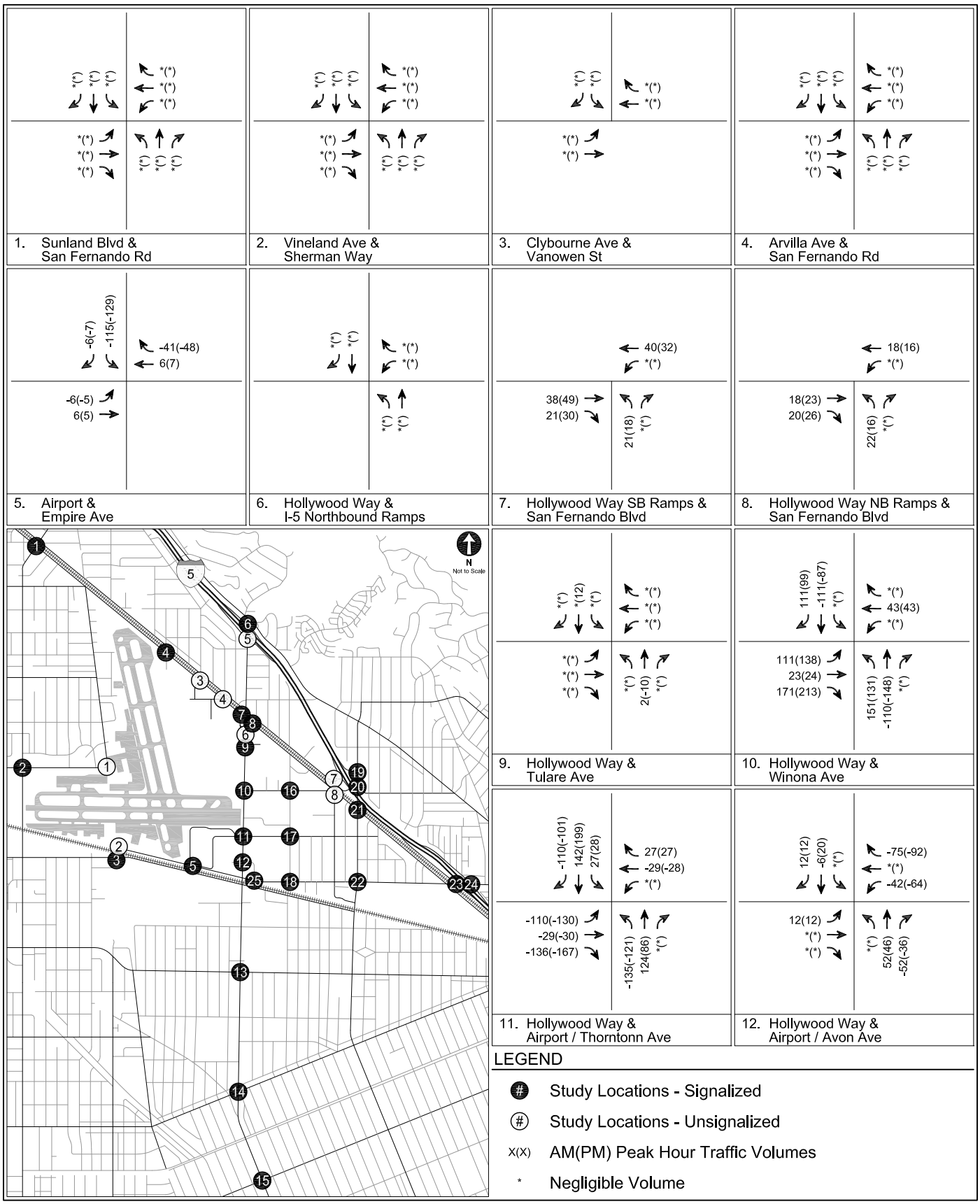
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

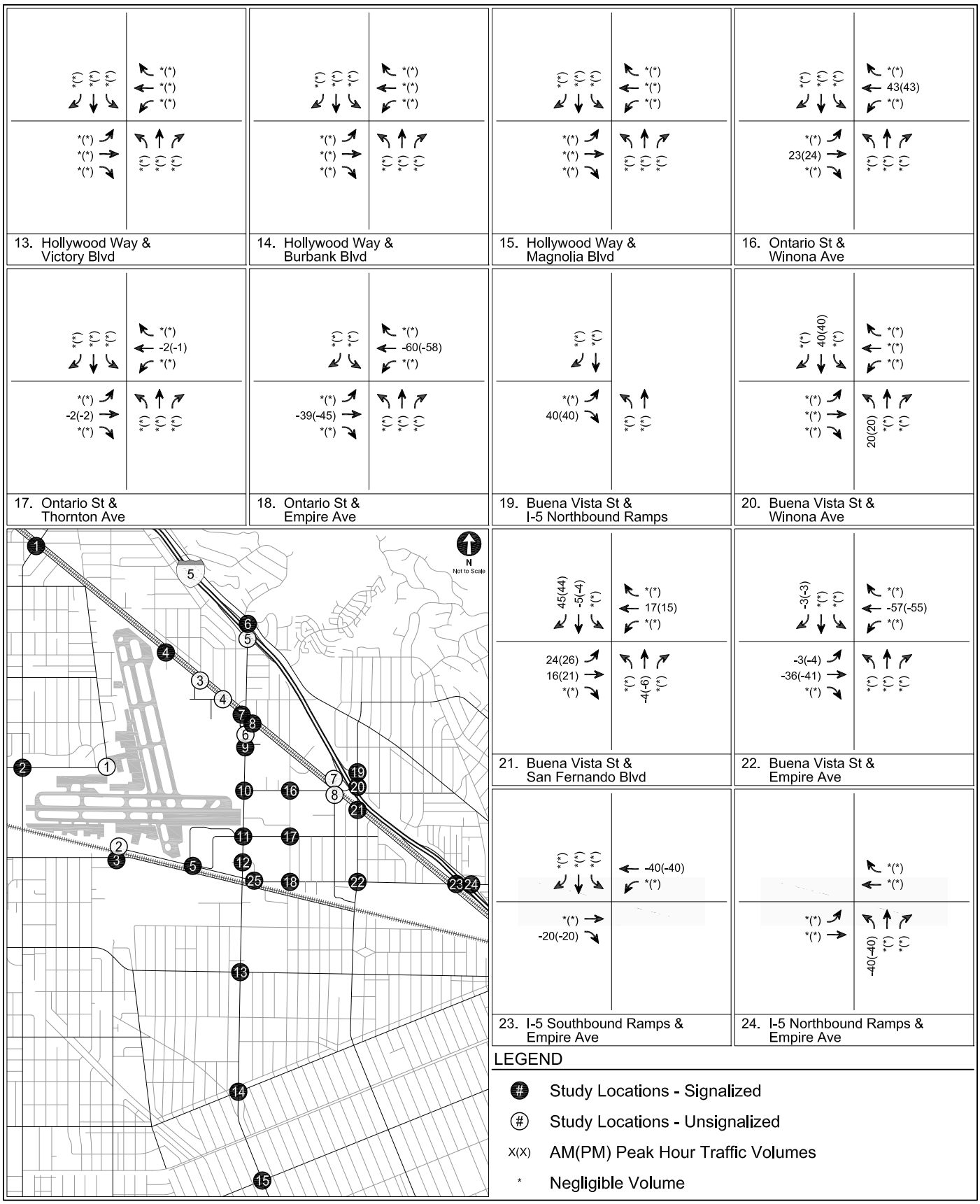
INTERIM YEAR 2023 WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

FIGURE 15 (CONT.)



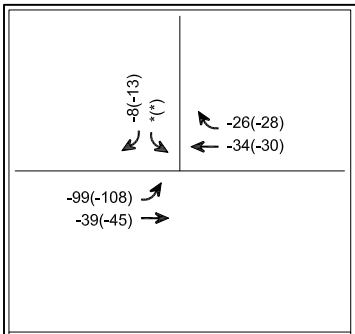
ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 16

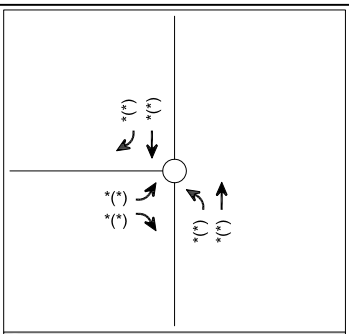


ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

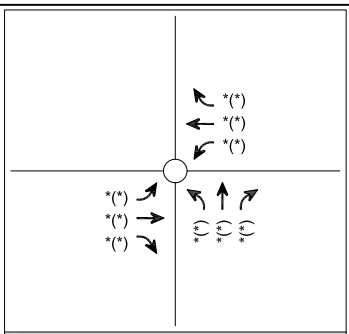
FIGURE 16 (CONT.)



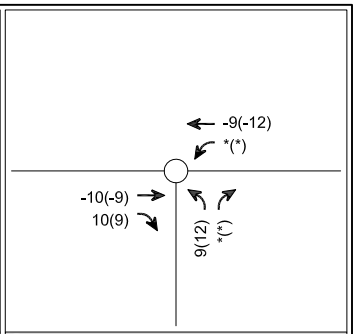
25. Avon Ave & Empire Ave



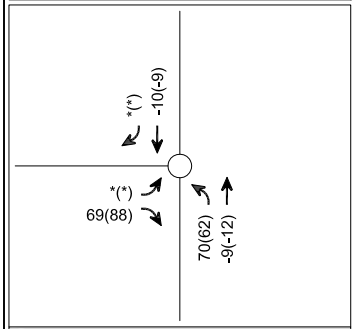
1. Clybourne Ave & Sherman Way



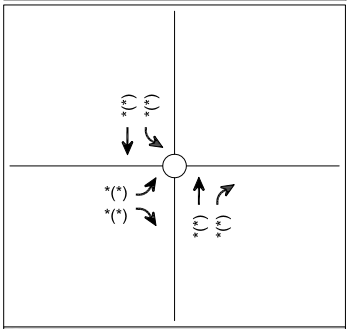
2. Clybourne Ave & Empire Ave



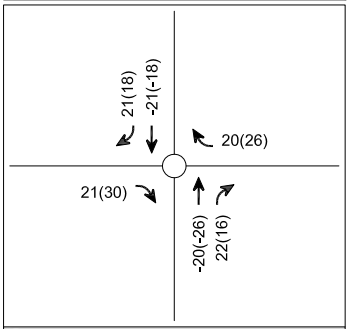
3. Lockheed Dr & San Fernando Rd



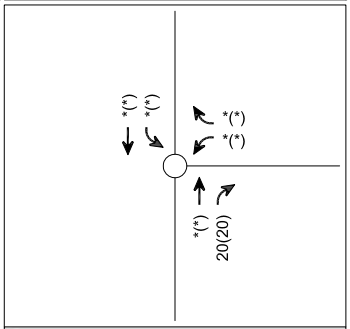
4. San Fernando Blvd & Cohasset St



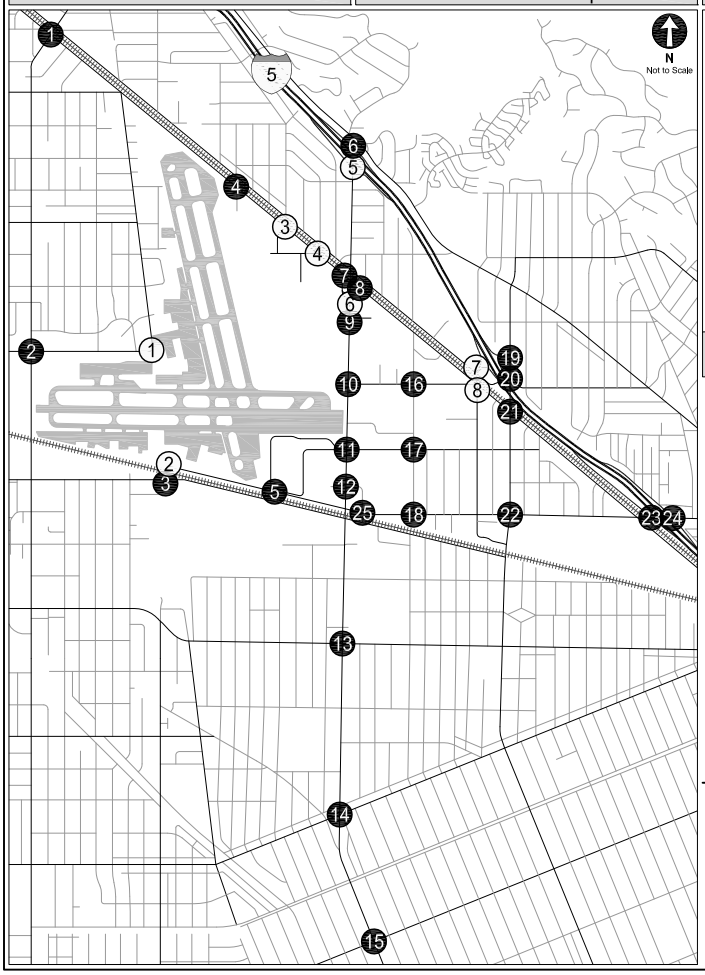
5. Hollywood Way & I-5 Southbound Ramps

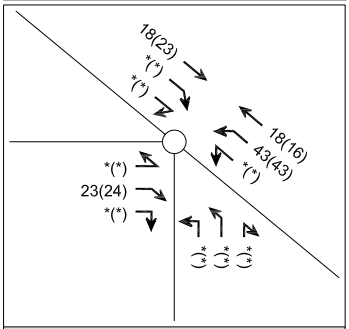


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

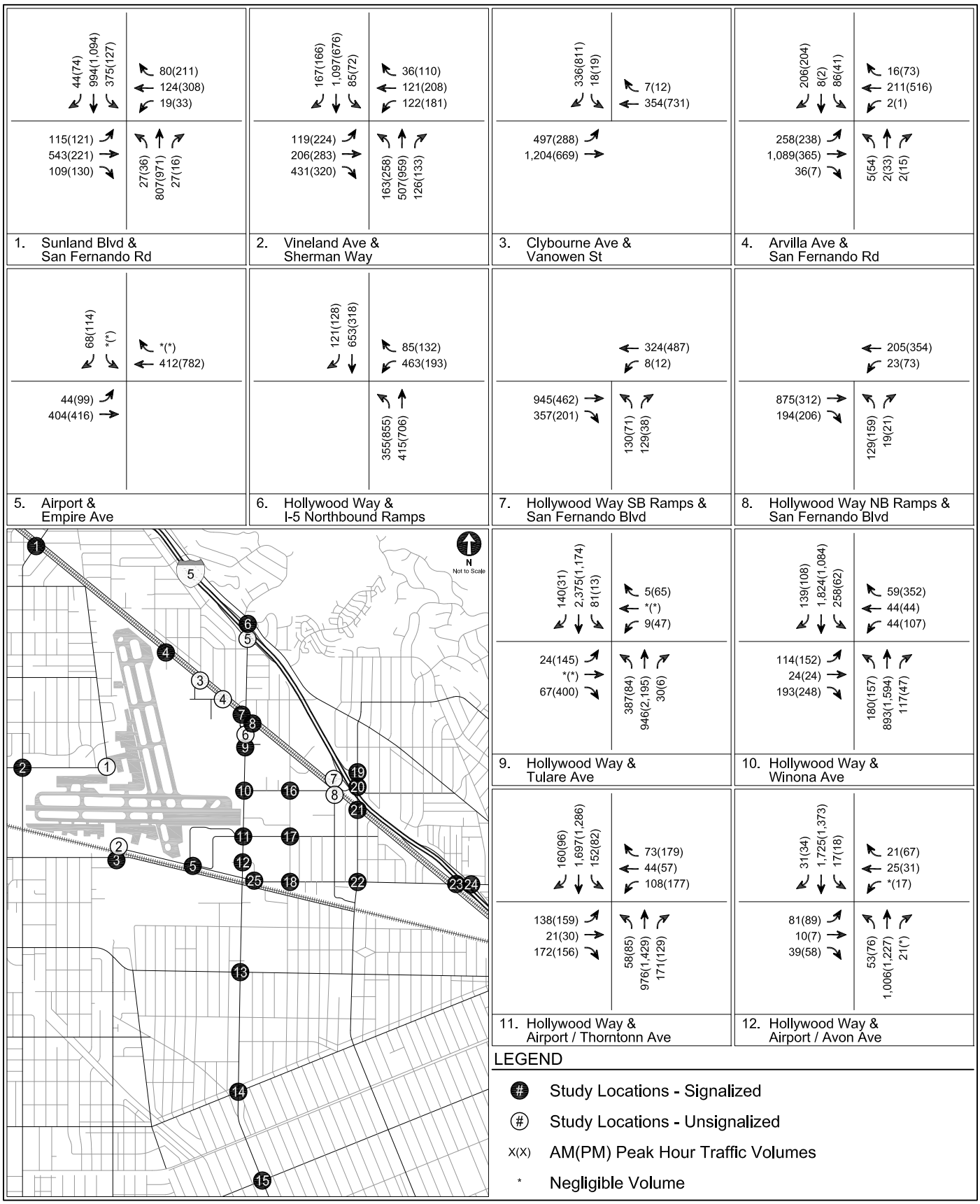
UNSIGNALIZED INTERSECTIONS

LEGEND

- (#) Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

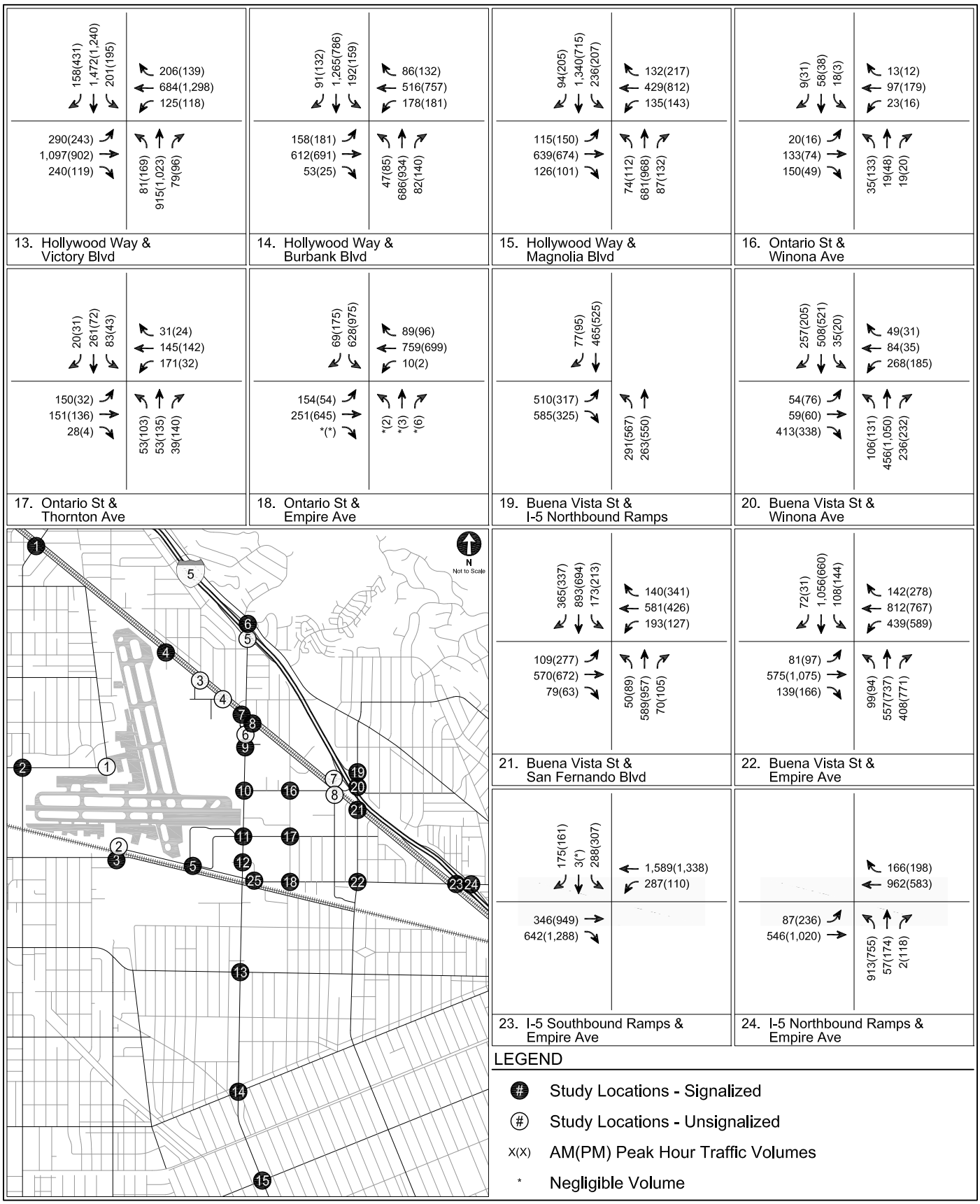
ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 16 (CONT.)



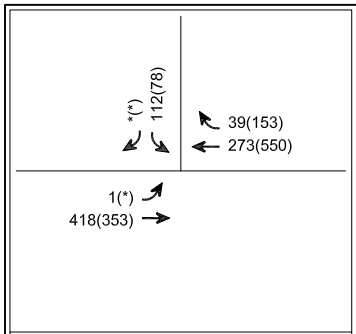
INTERIM YEAR 2023 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 17



INTERIM YEAR 2023 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 17 (CONT.)



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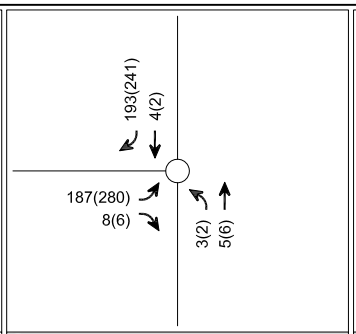

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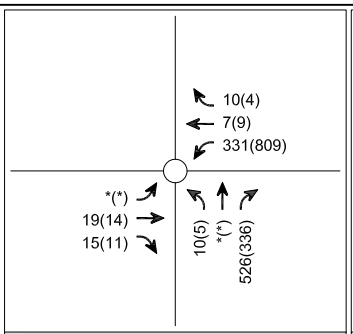
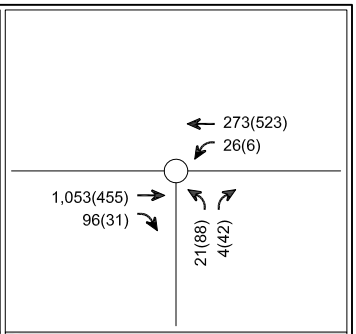
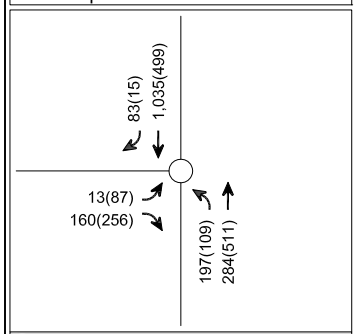


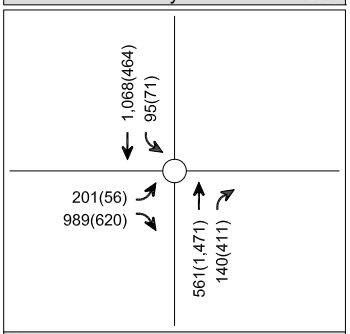
2. Clybourne Ave & Empire Ave



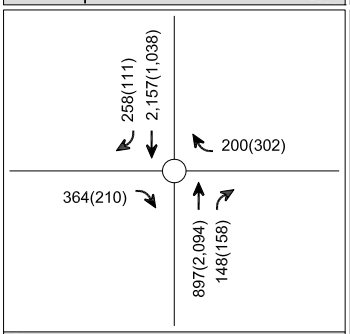
3. Lockheed Dr & San Fernando Rd



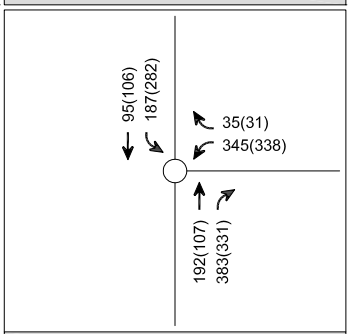
4. San Fernando Blvd & Cohasset St



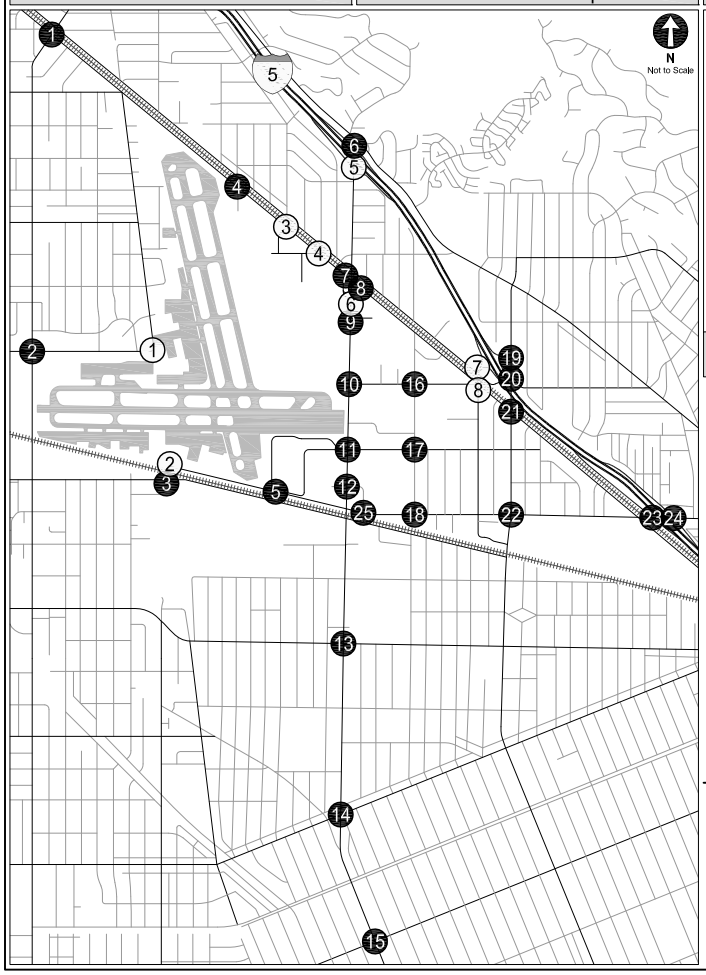
5. Hollywood Way & I-5 Southbound Ramps

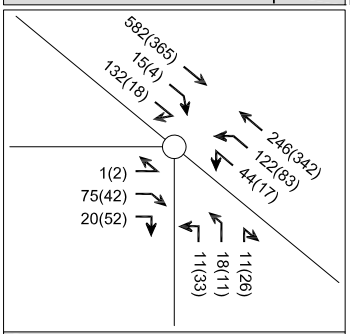


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

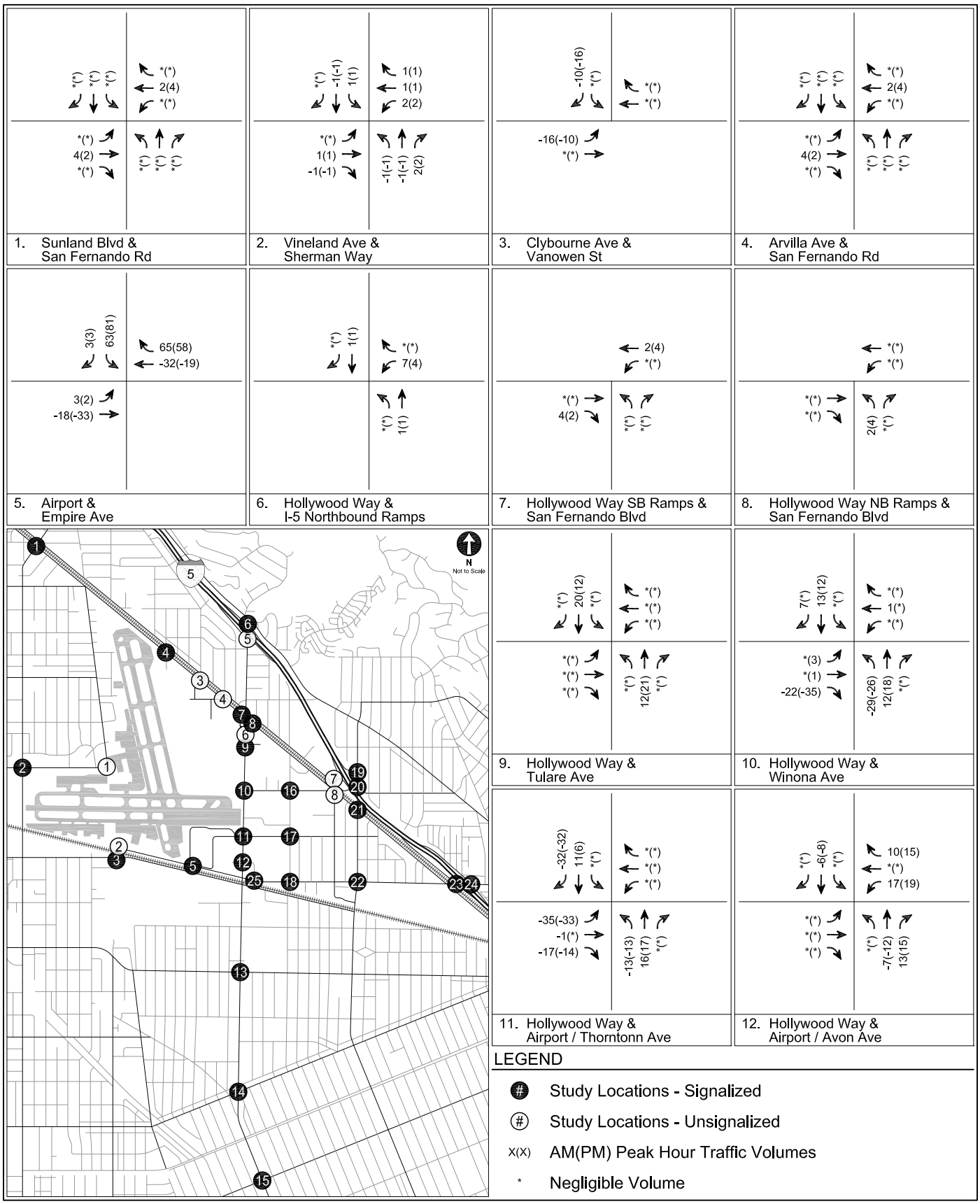
UNSIGNALIZED INTERSECTIONS

LEGEND

- (#) Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

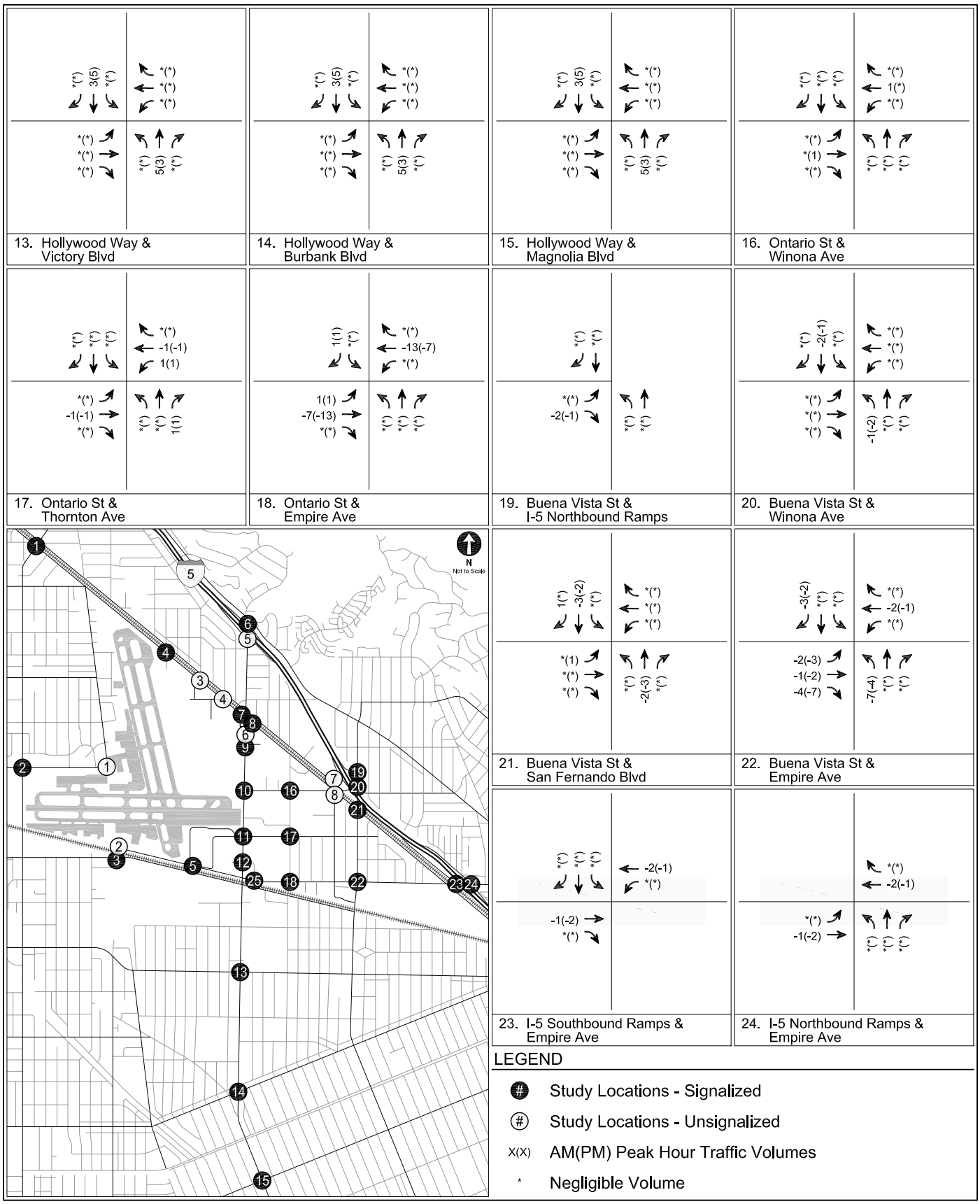
INTERIM YEAR 2023 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 17 (CONT.)



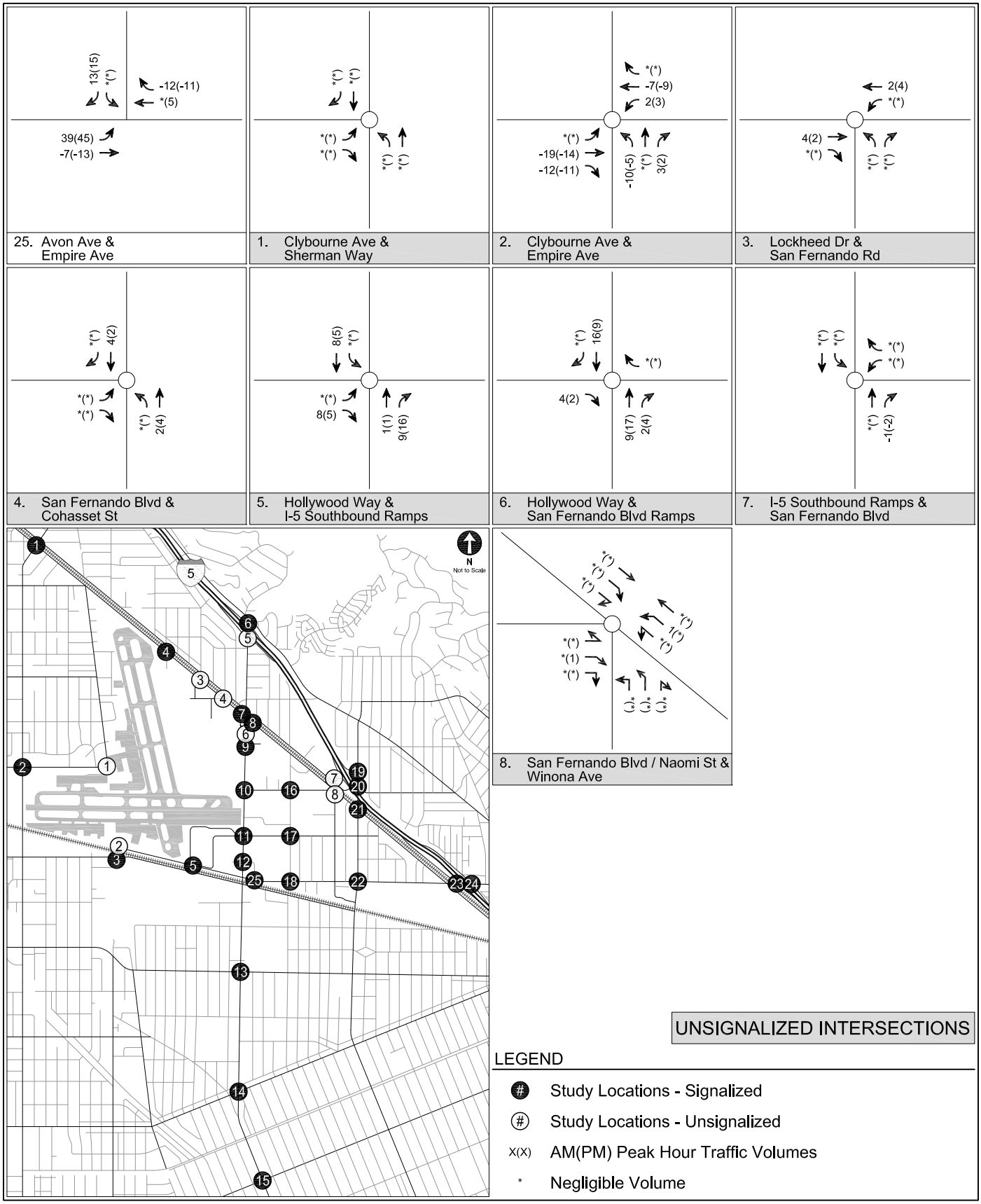
SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 18



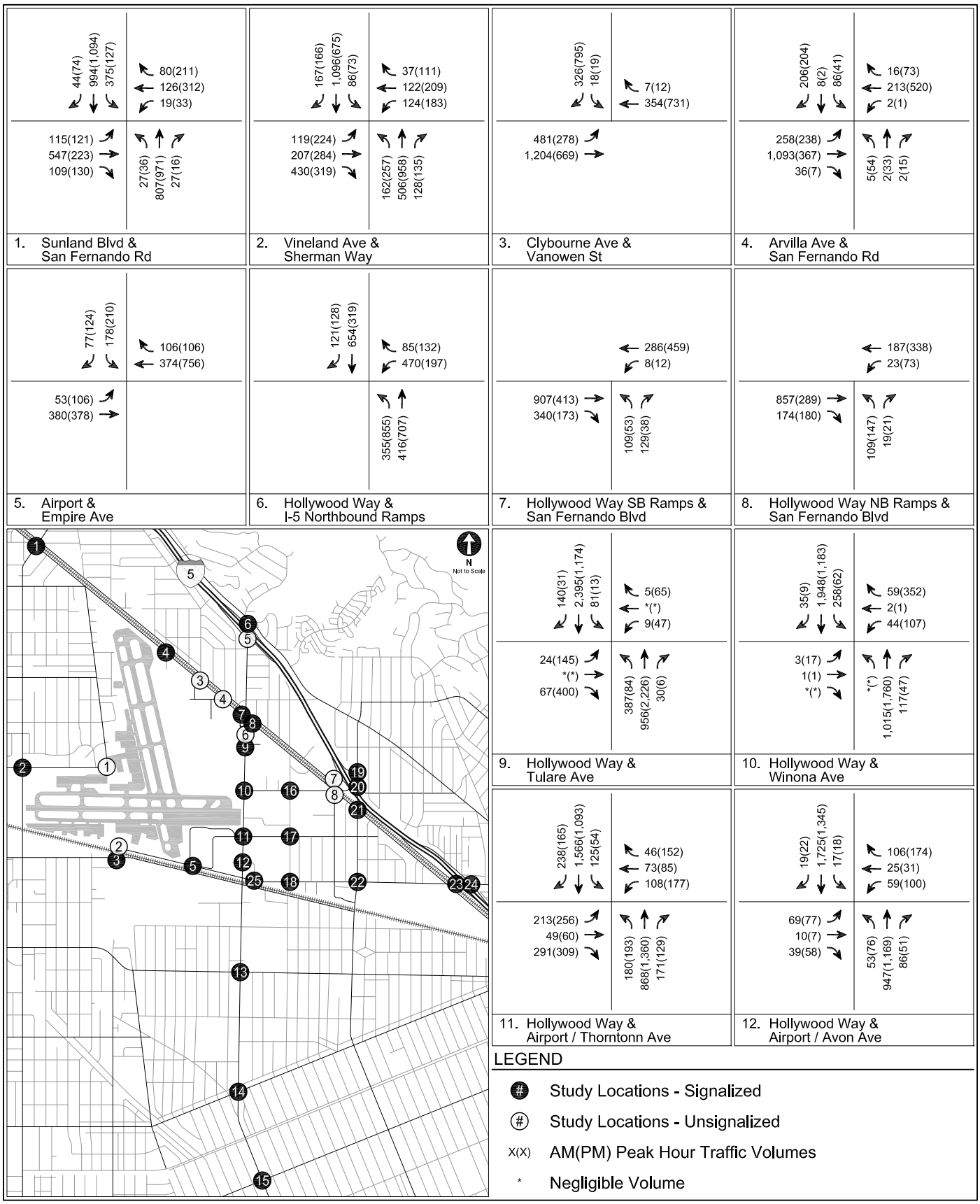
SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 18 (CONT.)



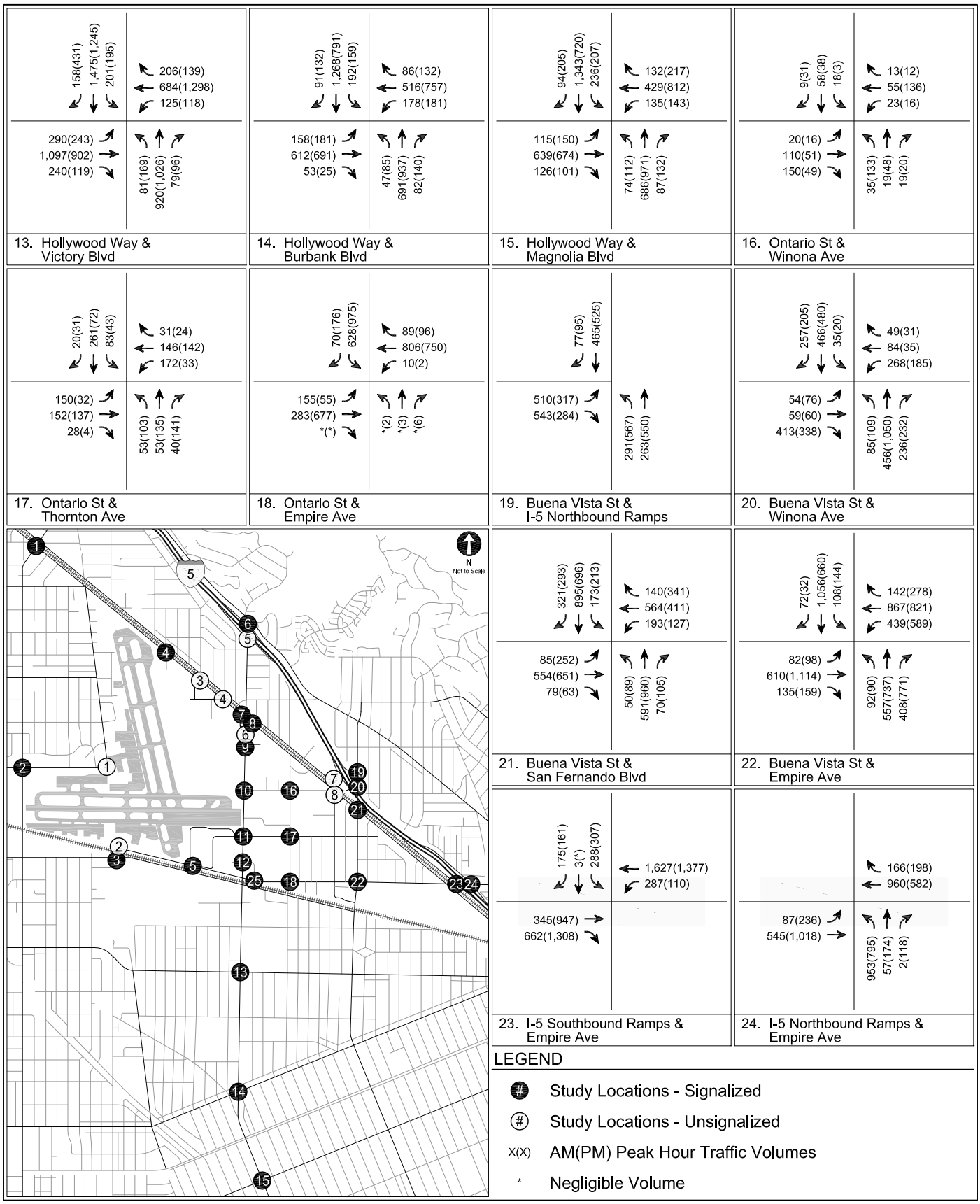
SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 18 (CONT.)



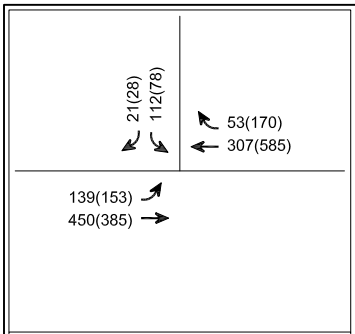
INTERIM YEAR 2023 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 19



INTERIM YEAR 2023 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 19 (CONT.)



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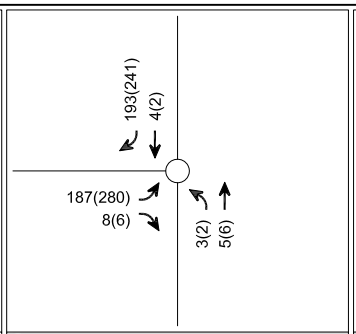

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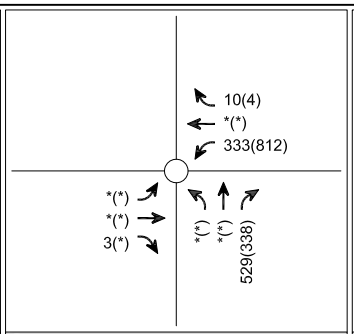

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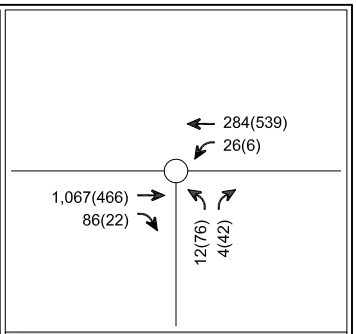

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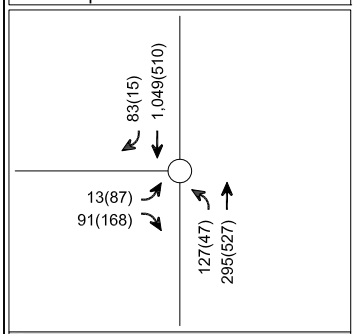
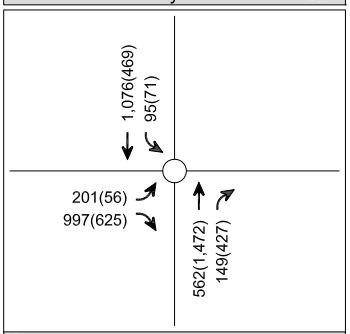
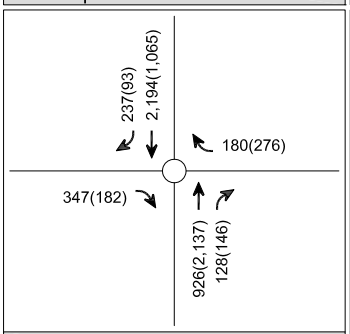


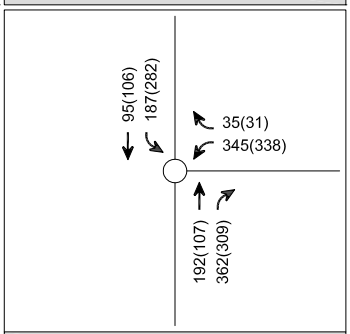
4. San Fernando Blvd & Cohasset St



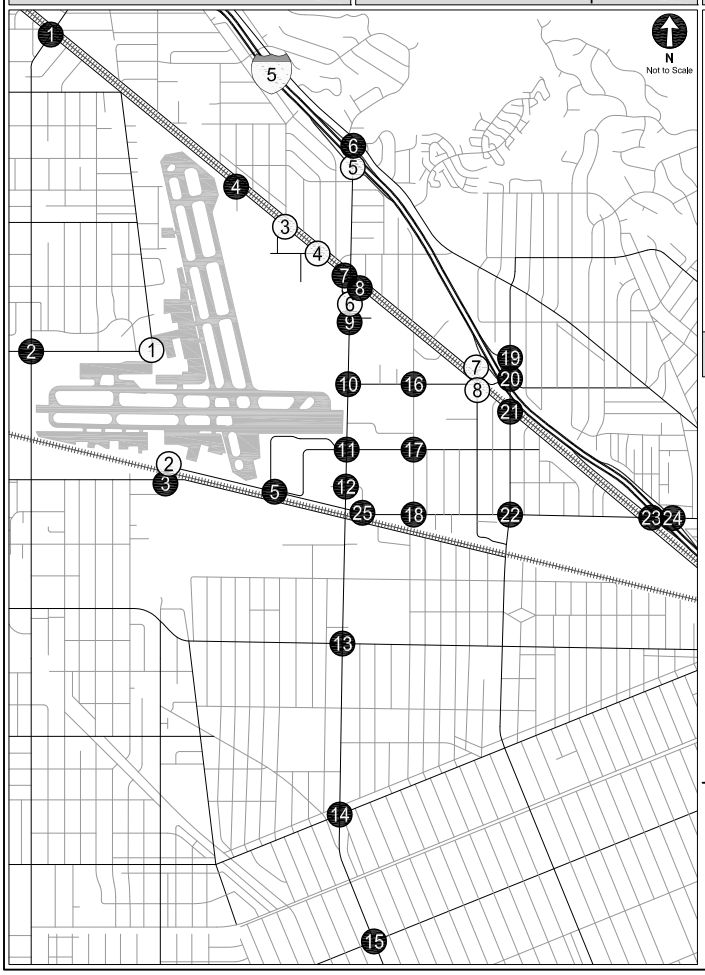
5. Hollywood Way & I-5 Southbound Ramps

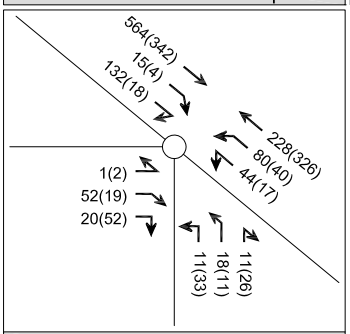


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

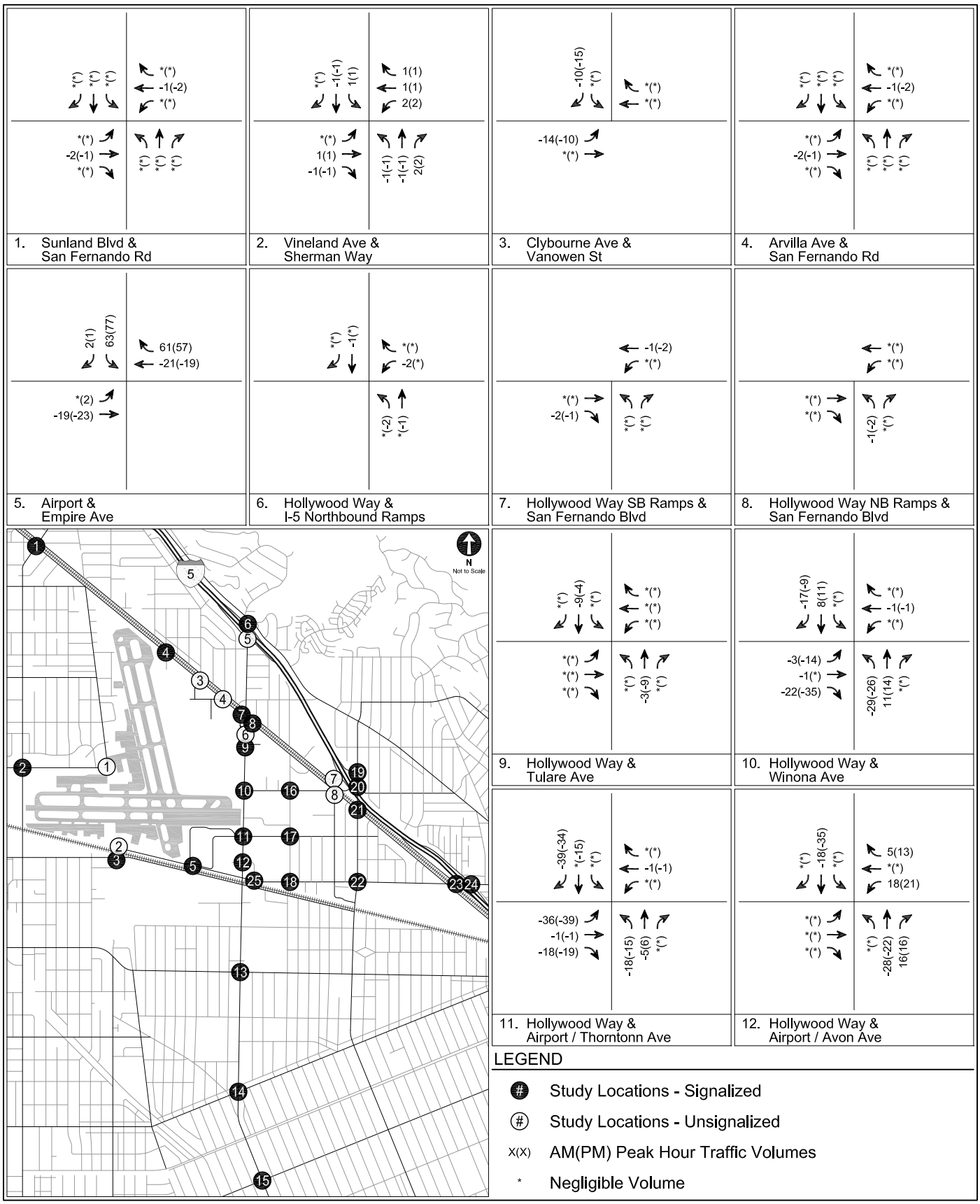
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

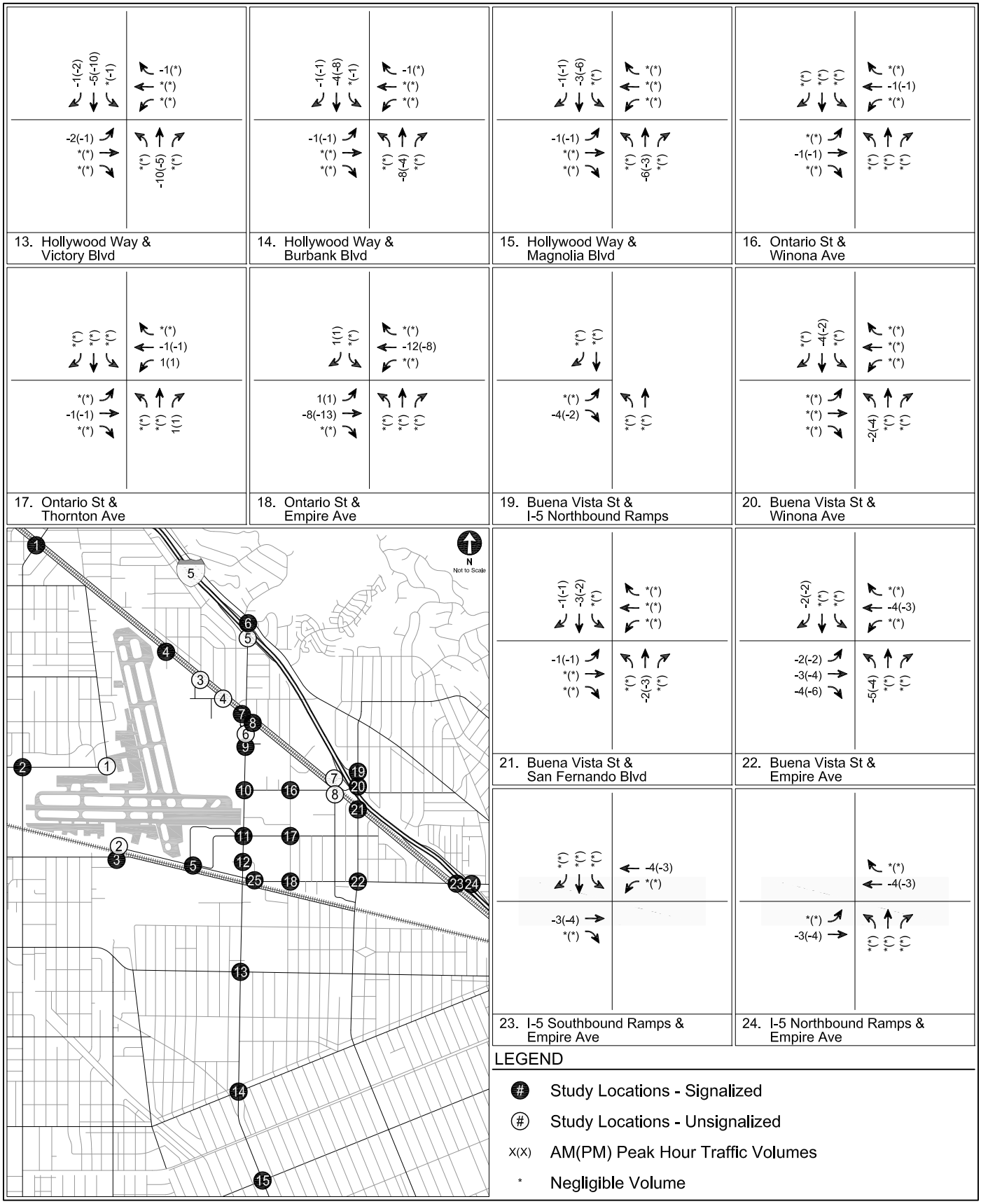
INTERIM YEAR 2023 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 19 (CONT.)



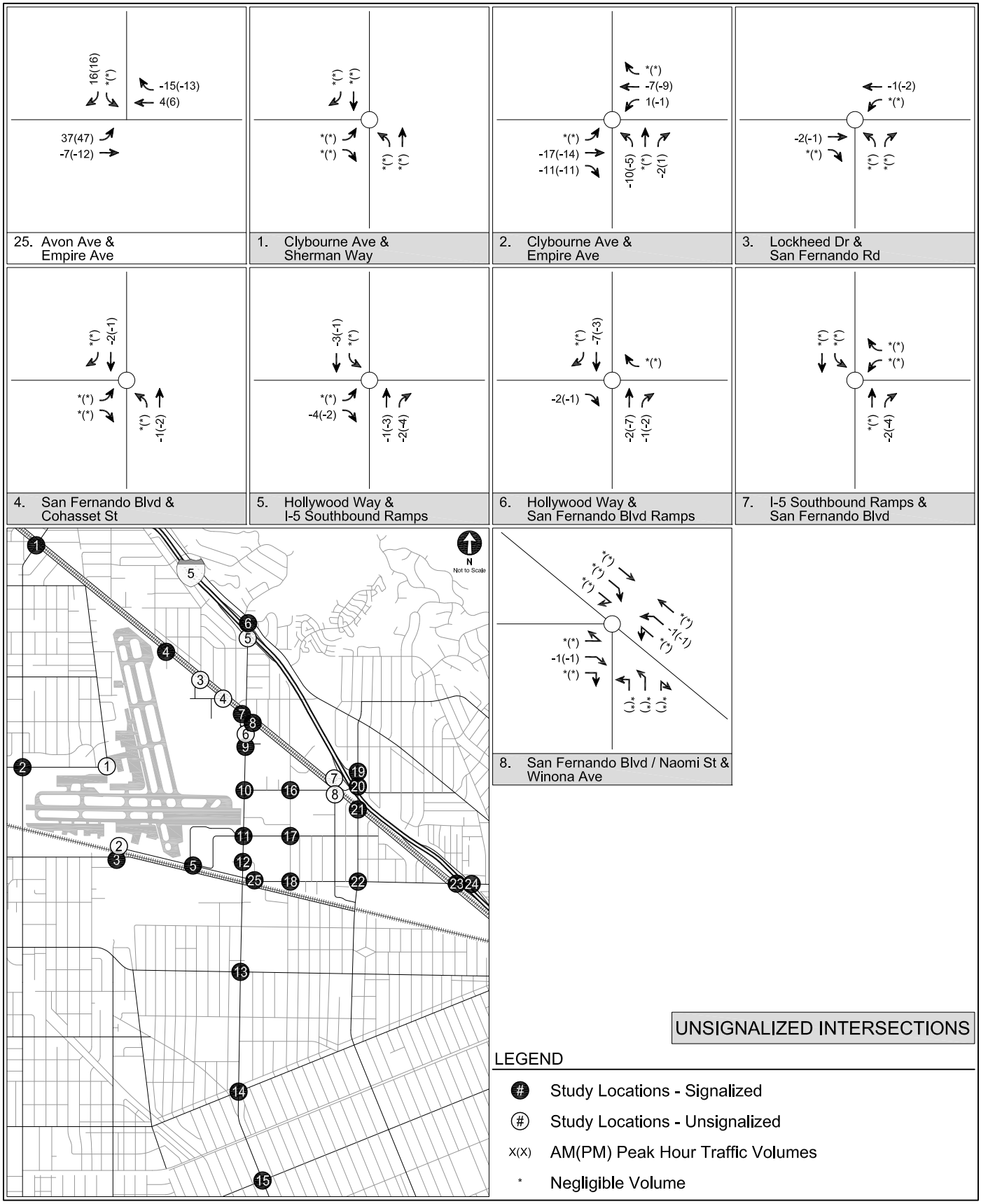
SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 20



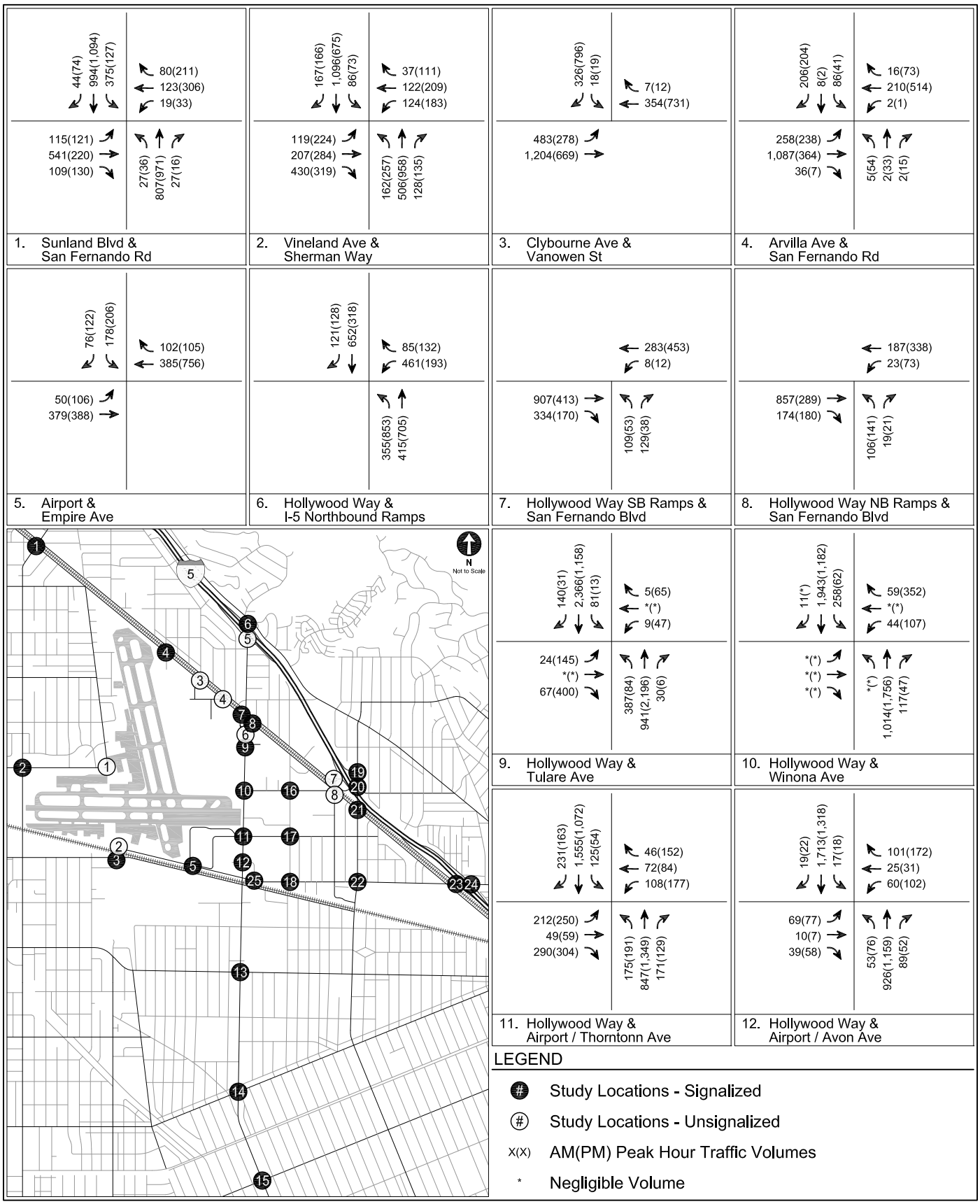
SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 20 (CONT.)



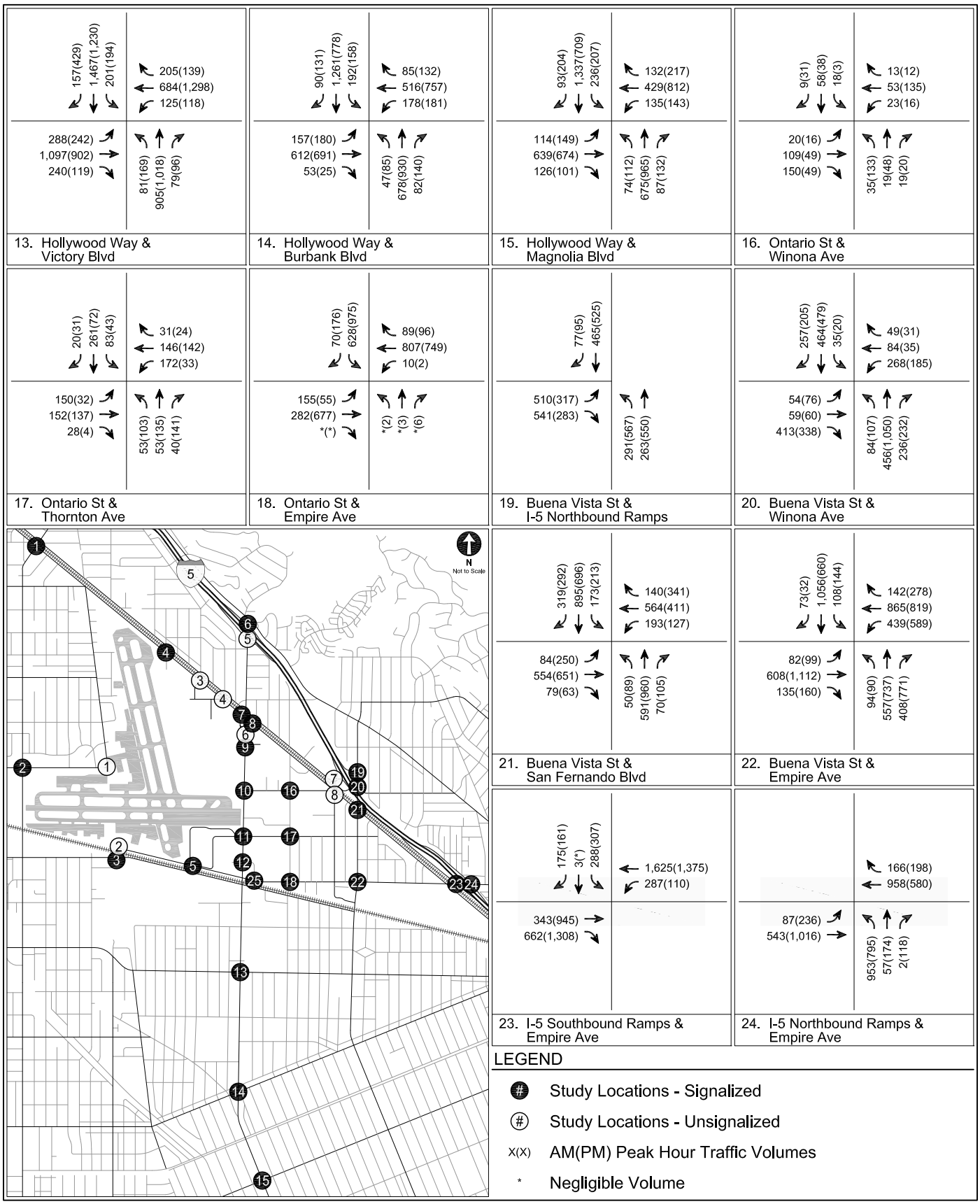
SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - INTERIM YEAR 2023 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 20 (CONT.)



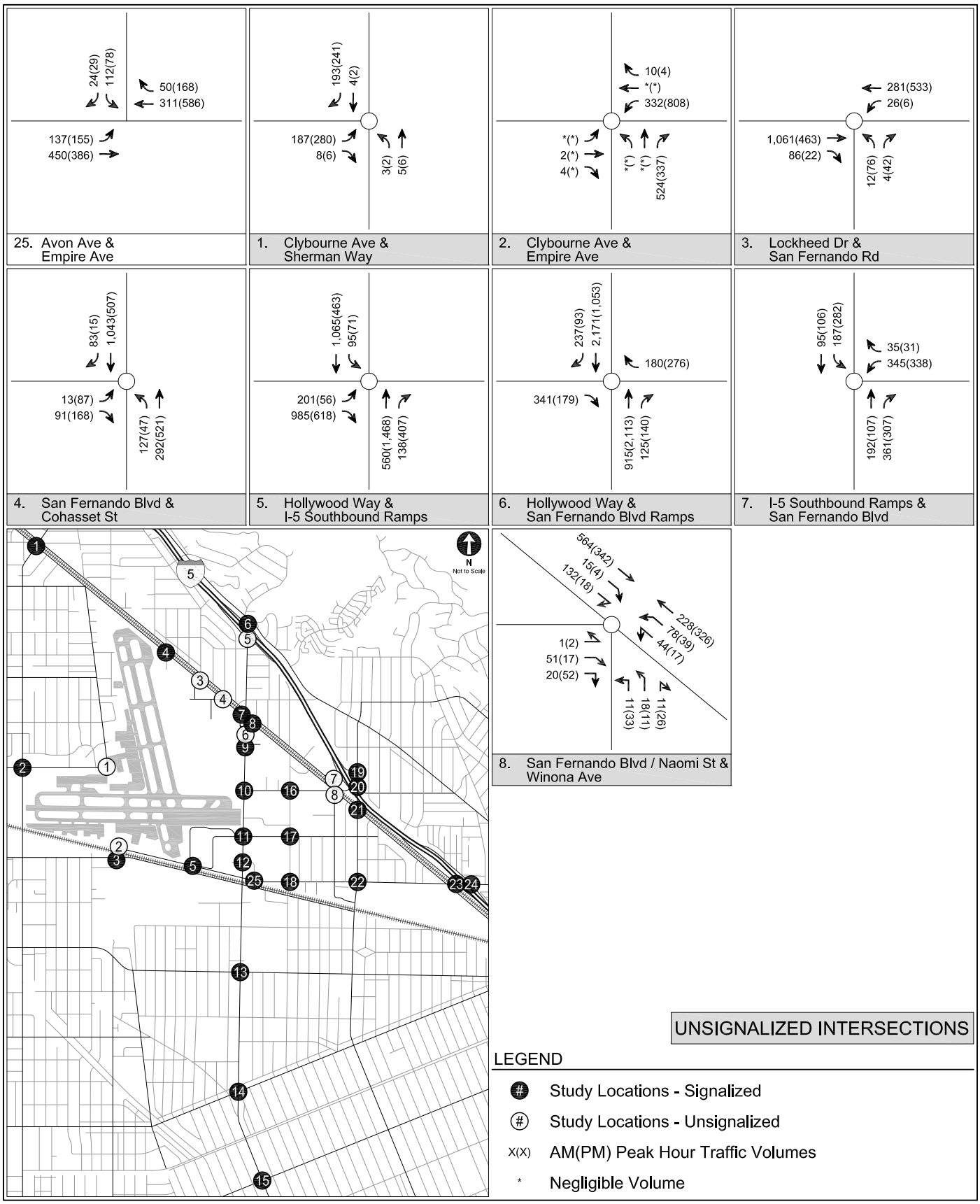
INTERIM YEAR 2023 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 21



INTERIM YEAR 2023 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 21 (CONT.)



INTERIM YEAR 2023 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 21 (CONT.)

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TABLE 19
RELATED PROJECTS

No.	Project Name & Location	Description	Net Daily Trips	Net Morning Peak Hour Trips			Net Afternoon Peak Hour Trips		
				In	Out	Total	In	Out	Total
City of Burbank									
1	Mixed-Use Project 3901 Riverside Drive	3,000 sf retail, 4,600 sf restaurant, and 4 apartment units	559	4	5	9	28	19	47
2	Mixed-Use Project 3805 Olive Avenue	14,600 sf restaurant and 1,800 sf coffee shop	2,570	76	71	147	101	61	162
3	Media Studios North Original Remaining Entitlement 3333 Empire Avenue	168,000 sf office	1,770	218	30	249	41	198	239
4	Former Weber Aircraft Site - Phase II 2820 Ontario Street	87,089 sf industrial park	934	93	20	113	24	91	115
5	Mixed-Use Project 1112 West Burbank Boulevard	2,500 sf medical office, 11,300 sf office, and 4,200 sf retail	448	31	7	38	21	54	71
6	Nickelodeon 203 West Olive Avenue	113,760 sf office	1,303	168	22	190	31	154	185
7	IKEA 805 S. San Fernando Boulevard	470,000 sf furniture store and warehouse	2,382	0	0	0	137	30	167
8	Talaria (Mixed-Use) 3401 West Olive Avenue	43,000 sf supermarket and 241 apartment units	3,204	75	151	226	189	141	330
9	First Street Village Mixed Use Project 333 N. 1st Street	220 apartment units and 9,265 sf restaurant	2,078	14	57	71	99	64	163
10	Premiere at First Street 103 East Verdugo Avenue	154 condominium units, 159,000 sf office, 19,078 sf retail, and 5,000 sf restaurant	2,032	159	71	230	67	154	221
11	Lockheed B-6 Site (Overton Moore Proposal) West side of Hollywood Way at Tulare Avenue	Up to 940,000 sf industrial, 130,000 sf office, 175 hotel rooms, and 12,000 sf retail	6,133	701	120	821	153	727	880
12	The Burbank Studios (formerly NBC) Remaining Entitlement 3000 W Alameda Avenue	1,059,621 OEGSF	11,688	1,454	199	1,653	268	1,310	1,578
13	Warner Brothers 4000 Warner Boulevard	2,757,596 OEGSF	30,417	3,785	517	4,302	698	3,411	4,109
14	Disney Buena Vista Studios Remaining Entitlement 500 S. Buena Vista Street	635,894 OEGSF	7,014	873	119	992	161	786	947
15	Empire Center - Walmart 1301 N Victory Place	144,000 sf discount store	7,650	134	106	240	325	339	664
16	Bob Hope Center Bounded by Olive Avenue, Alameda Avenue, and Lima Street	109,740 sf office	1,430	177	24	202	34	167	201

sf = square feet; OEGSF = office equivalent gross square feet

TABLE 19 (cont'd)
RELATED PROJECTS

No.	Project Name & Location	Description	Net Daily Trips	Net Morning Peak Hour Trips			Net Afternoon Peak Hour Trips		
				In	Out	Total	In	Out	Total
City of Los Angeles									
17	LAUSD VRE School #7 11967 Saticoy St	800-student elementary school	1,296	238	194	432	63	65	128
18	Valley Plaza and Laurel Plaza 6301 Laurel Canyon Blvd	572 condominium units, 170 apartment units, and 779,933 sf mixed-use commercial	3,456	(236)	158	(78)	82	(7)	75
19	Mixed-Use Project 12425 W Victory Blvd	54 condominium units, 3,850 sf retail, and 4,500 sf supermarket	460	3	21	24	28	16	44
20	Sun Valley Care Ministries 9000 Sunland Blvd	School and summer camp along with 32,080 sf of commercial uses and 2 single family homes	1,582	89	48	137	74	103	177
21	Mixed-Use Project 6605 Lankershim Blvd	71 apartment units and 20,000 sf of retail	(10)	(10)	33	23	37	30	67
22	No Ho Lankershim 5401 N Lankershim Blvd	25,000 sf office and 36,000 sf of retail and restaurant	1,826	36	15	51	70	65	135
23	LAUSD VR Bellingham Elementary Expansion 6728 Bellingham Ave	550-student school expansion	318	169	149	318	0	0	0
24	NoHo San Marino 11405 Chandler Blvd	73 apartment units	519	8	26	34	28	18	46
25	New NoHo Artwalk Project 11126 Chandler Blvd	240 condominium units and 9,400 sf of retail	903	(27)	67	40	61	2	63
26	60,000 SF Shopping Center 7934 Lankershim Blvd	60,000 sf of commercial space	3,195	74	74	148	138	138	276
27	Mixed-use Project 7634 Vineland Ave	10,750 sf of retail and 11,950 sf of office	466	20	5	25	11	25	36
28	Carl's Jr. 6601 Lankershim Blvd	6,903 sf of mixed-use commercial	1,535	71	68	139	53	50	103
29	7-Eleven 7955 Laurel Canyon Blvd	4,500 sf convenience store	586	35	37	72	14	12	26
30	Starbucks with Drive Thru 12106 Burbank Blvd	2,500 sf coffee shop	2,000	150	150	300	75	75	150
31	Wesley School, North Hollywood 4832 Tujunga Ave	90-student school expansion	244	45	37	82	13	15	28
32	Apartment Building 11120 W Chandler Blvd	324 apartment units and 4,316 sf of retail	2,082	38	119	157	114	61	175

sf = square feet; OEGSF = office equivalent gross square feet

TABLE 19 (cont'd)
RELATED PROJECTS

No.	Project Name & Location	Description	Net Daily Trips	Net Morning Peak Hour Trips			Net Afternoon Peak Hour Trips		
				In	Out	Total	In	Out	Total
33	84 Unit Apartment Building 5500 N Klump Ave	84 apartment units	559	9	34	43	34	18	52
34	NoHo San Marino 11405 W Chandler Blvd	82 apartment units and 1,000 sf retail	588	9	34	43	35	20	55
35	NOHOWEST Project 6150 N Laurel Canyon Blvd	Apartments, retail, movie theater, office, and retail	7,270	423	287	710	239	520	759
36	90 Unit Apartment Building 5513 Case Ave	90 apartment units	599	9	37	46	36	20	56
37	46 Unit Apartment / Condominiums 5508 N Fulcher Ave	46 apartment and condominium units	306	5	18	23	19	10	29
38	Expansion of School Enrollment 11600 W Magnolia Blvd	78-student school expansion	164	38	23	61	17	25	42
39	144 Unit Apartments 11011 Otsego St	144 apartment units	885	14	53	67	53	29	82
40	Special Need Persons School 13042 Burbank Blvd	130-student school	0	29	23	52	24	28	52
41	NBC Universal Evolution Plan Alternative 10 100 Universal City Plaza	2,677,186 sf of studio, office, entertainment (including theme park), retail, and hotel space	19,139	1,271	489	1,760	307	1,391	1,698
Infrastructure Projects									
42	Empire Avenue Interchange Project	Rebuild interchange							
43	Metrolink Station - Bob Hope Airport (Hollywood & Cohasset)	Metrolink Station							
44	Burbank Boulevard Interchange Project	Rebuild intersection							
45	Buena Vista Rail Separation	Grade separation at Buena Vista Street and San Fernando Boulevard							
46	I-5 Widening and High Occupany Vehicle Lane Project	Widen I-5 and install High Occupancy Vehicle lanes between Buena Vista Street and Magnolia Boulevard							
47	Clybourn Avenue Grade Separation	Elevate the Metrolink railroad over Clybourn Avenue between Empire Avenue and Vanowen Street							
48	Metrolink Pedestrian Bridge	Construct a pedestrian bridge over Empire Avenue between the Metrolink Bob Hope Airport Station and the transit center in the RITC							

sf = square feet; OEGSF = office equivalent gross square feet

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TABLE 20
INTERIM YEAR 2023 WITHOUT PROJECT CONDITIONS
SIGNALIZED INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Interim Year 2023 without Project Conditions	
			V/C	LOS
1.	Sunland Boulevard &	AM	0.785	C
[a]	San Fernando Road	PM	0.702	C
2.	Vineland Avenue &	AM	0.801	D
[a]	Sherman Way	PM	0.771	C
3.	Clybourn Avenue &	AM	0.611	B
[a]	Vanowen Street	PM	0.782	C
4.	Arvilla Avenue &	AM	0.612	B
[a]	San Fernando Road	PM	0.619	B
5.	Airport &	AM	0.350	A
	Empire Avenue	PM	0.454	A
6.	Hollywood Way &	AM	0.687	B
[a]	I-5 Northbound Ramps	PM	0.833	D
7.	Hollywood Way Southbound Ramps &	AM	0.387	A
	San Fernando Boulevard	PM	0.197	A
8.	Hollywood Way Northbound Ramps &	AM	0.358	A
	San Fernando Boulevard	PM	0.233	A
9.	Hollywood Way &	AM	0.875	D
	Tulare Avenue	PM	0.877	D
10.	Hollywood Way &	AM	0.620	B
	Winona Avenue	PM	0.928	E
11.	Hollywood Way &	AM	1.008	F
	Airport / Thornton Avenue	PM	0.909	E
12.	Hollywood Way &	AM	0.580	A
	Airport / Avon Avenue	PM	0.627	B
13.	Hollywood Way &	AM	1.084	F
	Victory Boulevard	PM	1.223	F
14.	Hollywood Way &	AM	0.899	D
	Burbank Boulevard	PM	0.913	E
15.	Hollywood Way &	AM	0.872	D
	Magnolia Boulevard	PM	0.907	E
16.	Ontario Street &	AM	0.189	A
	Winona Avenue	PM	0.188	A
17.	Ontario Street &	AM	0.513	A
	Thornton Avenue	PM	0.413	A
18.	Ontario Street &	AM	0.824	D
	Empire Avenue	PM	0.978	E
19.	Buena Vista Street &	AM	0.888	D
	I-5 Northbound Ramps	PM	0.989	E
20.	Buena Vista Street &	AM	0.759	C
	Winona Avenue	PM	0.780	C
21.	Buena Vista Street &	AM	0.737	C
	San Fernando Boulevard	PM	0.895	D
22.	Buena Vista Street &	AM	0.852	D
	Empire Avenue	PM	1.024	F
23.	I-5 Southbound Ramps &	AM	0.694	B
	Empire Avenue	PM	0.602	B
24.	I-5 Northbound Ramps &	AM	0.817	D
	Empire Avenue	PM	0.733	C
25.	Avon Avenue &	AM	0.279	A
	Empire Avenue	PM	0.398	A

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 21
INTERIM YEAR 2023 WITHOUT PROJECT CONDITIONS
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Interim Year 2023 without Project Conditions	
			Delay	LOS
1. [a]	Clybourn Avenue & Sherman Way	AM PM	12.9 16.1	B C
2.	Clybourn Avenue & Empire Avenue	AM PM	12.3 12.7	B B
3. [a]	Lockheed Drive & San Fernando Road	AM PM	25.3 16.2	D C
4.	San Fernando Boulevard & Cohasset Street	AM PM	21.5 20.7	C C
5. [a]	Hollywood Way & I-5 Southbound Ramps	AM PM	overflow 28.0	F D
6.	Hollywood Way & San Fernando Boulevard Ramps	AM PM	overflow overflow	F F
7.	I-5 Southbound Ramps & San Fernando Boulevard	AM PM	24.1 16.3	C C
8.	San Fernando Boulevard / Naomi Street & Winona Avenue	AM PM	18.2 17.5	C C

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 22
INTERIM YEAR 2023 CUMULATIVE SIGNIFICANT IMPACTS
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 Conditions		Interim Year 2023 without Project Conditions			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.758	C	0.785	C	0.027	NO
[a]	San Fernando Road	PM	0.656	B	0.702	C	0.046	**YES**
2.	Vineland Avenue &	AM	0.774	C	0.801	D	0.027	**YES**
[a]	Sherman Way	PM	0.737	C	0.771	C	0.034	NO
3.	Clybourn Avenue &	AM	0.586	A	0.611	B	0.025	NO
[a]	Vanowen Street	PM	0.736	C	0.782	C	0.046	NO
4.	Arvilla Avenue &	AM	0.573	A	0.612	B	0.039	NO
[a]	San Fernando Road	PM	0.575	A	0.619	B	0.044	NO
5.	Airport &	AM	0.310	A	0.350	A	0.040	NO
	Empire Avenue	PM	0.376	A	0.454	A	0.078	NO
6.	Hollywood Way &	AM	0.656	B	0.687	B	0.031	NO
[a]	I-5 Northbound Ramps	PM	0.770	C	0.833	D	0.063	**YES**
7.	Hollywood Way Southbound Ramps &	AM	0.369	A	0.387	A	0.018	NO
	San Fernando Boulevard	PM	0.193	A	0.197	A	0.004	NO
8.	Hollywood Way Northbound Ramps &	AM	0.354	A	0.358	A	0.004	NO
	San Fernando Boulevard	PM	0.200	A	0.233	A	0.033	NO
9.	Hollywood Way &	AM	0.505	A	0.875	D	0.370	**YES**
	Tulare Avenue	PM	0.708	C	0.877	D	0.169	**YES**
10.	Hollywood Way &	AM	0.568	A	0.620	B	0.052	NO
	Winona Avenue	PM	0.837	D	0.928	E	0.091	**YES**
11.	Hollywood Way &	AM	0.847	D	1.008	F	0.161	**YES**
	Airport / Thornton Avenue	PM	0.701	C	0.909	E	0.208	**YES**
12.	Hollywood Way &	AM	0.569	A	0.580	A	0.011	NO
	Airport / Avon Avenue	PM	0.624	B	0.627	B	0.003	NO
13.	Hollywood Way &	AM	1.061	F	1.084	F	0.023	**YES**
	Victory Boulevard	PM	1.164	F	1.223	F	0.059	**YES**
14.	Hollywood Way &	AM	0.882	D	0.899	D	0.017	NO
	Burbank Boulevard	PM	0.876	D	0.913	E	0.037	**YES**
15.	Hollywood Way &	AM	0.854	D	0.872	D	0.018	NO
	Magnolia Boulevard	PM	0.869	D	0.907	E	0.038	**YES**
16.	Ontario Street &	AM	0.166	A	0.189	A	0.023	NO
	Winona Avenue	PM	0.185	A	0.188	A	0.003	NO
17.	Ontario Street &	AM	0.448	A	0.513	A	0.065	NO
	Thornton Avenue	PM	0.409	A	0.413	A	0.004	NO
18.	Ontario Street &	AM	0.264	A	0.824	D	0.560	**YES**
	Empire Avenue	PM	0.291	A	0.978	E	0.687	**YES**
19.	Buena Vista Street &	AM	0.694	B	0.888	D	0.194	**YES**
	I-5 Northbound Ramps	PM	0.876	D	0.989	E	0.113	**YES**
20.	Buena Vista Street &	AM	0.723	C	0.759	C	0.036	NO
	Winona Avenue	PM	0.731	C	0.780	C	0.049	NO
21.	Buena Vista Street &	AM	0.699	B	0.737	C	0.038	NO
	San Fernando Boulevard	PM	0.839	D	0.895	D	0.056	**YES**
22.	Buena Vista Street &	AM	0.546	A	0.852	D	0.306	**YES**
	Empire Avenue	PM	0.591	A	1.024	F	0.433	**YES**
23.	I-5 Southbound Ramps &	AM	0.000	A	0.694	B	0.694	NO
	Empire Avenue	PM	0.000	A	0.602	B	0.602	NO
24.	I-5 Northbound Ramps &	AM	0.000	A	0.817	D	0.817	**YES**
	Empire Avenue	PM	0.000	A	0.733	C	0.733	NO
25.	Avon Avenue &	AM	0.260	A	0.279	A	0.019	NO
	Empire Avenue	PM	0.355	A	0.398	A	0.043	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 23
INTERIM YEAR 2023 CUMULATIVE SIGNIFICANT IMPACTS
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 without Project Conditions					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Growth From Existing	Percent Increase	Cumulative Impact
1.	Clybourn Avenue &	AM	12.9	B	400	18	4.5%	NO
[a]	Sherman Way	PM	16.1	C	537	33	6.1%	NO
2.	Clybourn Avenue &	AM	12.3	B	919	76	8.3%	NO
	Empire Avenue	PM	12.7	B	1,189	157	13.2%	NO
3.	Lockheed Drive &	AM	25.3	D	1,473	96	6.5%	**YES**
[a]	San Fernando Road	PM	16.2	C	1,145	121	10.6%	NO
4.	San Fernando Boulevard &	AM	21.5	C	1,652	227	13.7%	NO
	Cohasset Street	PM	20.7	C	1,348	241	17.9%	NO
5.	Hollywood Way &	AM	overflow	F	3,054	150	4.9%	**YES**
[a]	I-5 Southbound Ramps	PM	28.0	D	3,093	239	7.7%	**YES**
6.	Hollywood Way &	AM	overflow	F	3,981	374	9.4%	**YES**
	San Fernando Boulevard Ramps	PM	overflow	F	3,867	461	11.9%	**YES**
7.	I-5 Southbound Ramps &	AM	24.1	C	1,217	231	19.0%	NO
	San Fernando Boulevard	PM	16.3	C	1,175	179	15.2%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.2	C	1,175	32	2.7%	NO
	Winona Avenue	PM	17.5	C	889	31	3.5%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 24
INTERIM YEAR 2023 WITH PROJECT CONDITIONS - ADJACENT PROPERTY OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 without Project Conditions		Interim Year 2023 with Project Conditions - Adjacent Property Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.785	C	0.785	C	0.000	NO
[a]	San Fernando Road	PM	0.702	C	0.702	C	0.000	NO
2.	Vineland Avenue &	AM	0.801	D	0.801	D	0.000	NO
[a]	Sherman Way	PM	0.771	C	0.771	C	0.000	NO
3.	Clybourn Avenue &	AM	0.611	B	0.611	B	0.000	NO
[a]	Vanowen Street	PM	0.782	C	0.782	C	0.000	NO
4.	Arvilla Avenue &	AM	0.612	B	0.612	B	0.000	NO
[a]	San Fernando Road	PM	0.619	B	0.619	B	0.000	NO
5.	Airport &	AM	0.350	A	0.331	A	-0.019	NO
	Empire Avenue	PM	0.454	A	0.425	A	-0.029	NO
6.	Hollywood Way &	AM	0.687	B	0.687	B	0.000	NO
[a]	I-5 Northbound Ramps	PM	0.833	D	0.833	D	0.000	NO
7.	Hollywood Way Southbound Ramps &	AM	0.387	A	0.401	A	0.014	NO
	San Fernando Boulevard	PM	0.197	A	0.213	A	0.016	NO
8.	Hollywood Way Northbound Ramps &	AM	0.358	A	0.373	A	0.015	NO
	San Fernando Boulevard	PM	0.233	A	0.257	A	0.024	NO
9.	Hollywood Way &	AM	0.875	D	0.875	D	0.000	NO
	Tulare Avenue	PM	0.877	D	0.874	D	-0.003	NO
10.	Hollywood Way &	AM	0.620	B	0.752	C	0.132	NO
	Winona Avenue	PM	0.928	E	0.973	E	0.045	**YES**
11.	Hollywood Way &	AM	1.008	F	0.863	D	-0.145	NO
	Airport / Thornton Avenue	PM	0.909	E	0.821	D	-0.088	NO
12.	Hollywood Way &	AM	0.580	A	0.537	A	-0.043	NO
	Airport / Avon Avenue	PM	0.627	B	0.574	A	-0.053	NO
13.	Hollywood Way &	AM	1.084	F	1.084	F	0.000	NO
	Victory Boulevard	PM	1.223	F	1.223	F	0.000	NO
14.	Hollywood Way &	AM	0.899	D	0.899	D	0.000	NO
	Burbank Boulevard	PM	0.913	E	0.913	E	0.000	NO
15.	Hollywood Way &	AM	0.872	D	0.872	D	0.000	NO
	Magnolia Boulevard	PM	0.907	E	0.907	E	0.000	NO
16.	Ontario Street &	AM	0.189	A	0.189	A	0.000	NO
	Winona Avenue	PM	0.188	A	0.202	A	0.014	NO
17.	Ontario Street &	AM	0.513	A	0.511	A	-0.002	NO
	Thornton Avenue	PM	0.413	A	0.413	A	0.000	NO
18.	Ontario Street &	AM	0.824	D	0.804	D	-0.020	NO
	Empire Avenue	PM	0.978	E	0.958	E	-0.020	NO
19.	Buena Vista Street &	AM	0.888	D	0.888	D	0.000	NO
	I-5 Northbound Ramps	PM	0.989	E	0.989	E	0.000	NO
20.	Buena Vista Street &	AM	0.759	C	0.773	C	0.014	NO
	Winona Avenue	PM	0.780	C	0.766	C	-0.014	NO
21.	Buena Vista Street &	AM	0.737	C	0.742	C	0.005	NO
	San Fernando Boulevard	PM	0.895	D	0.901	E	0.006	NO
22.	Buena Vista Street &	AM	0.852	D	0.834	D	-0.018	NO
	Empire Avenue	PM	1.024	F	1.009	F	-0.015	NO
23.	I-5 Southbound Ramps &	AM	0.694	B	0.680	B	-0.014	NO
	Empire Avenue	PM	0.602	B	0.588	A	-0.014	NO
24.	I-5 Northbound Ramps &	AM	0.817	D	0.802	D	-0.015	NO
	Empire Avenue	PM	0.733	C	0.718	C	-0.015	NO
25.	Avon Avenue &	AM	0.279	A	0.225	A	-0.054	NO
	Empire Avenue	PM	0.398	A	0.301	A	-0.097	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 25
INTERIM YEAR 2023 WITH PROJECT CONDITIONS - ADJACENT PROPERTY OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 with Project Conditions - Adjacent Property Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	12.9	B	400	0	0.0%	NO
[a]	Sherman Way	PM	16.1	C	537	0	0.0%	NO
2.	Clybourn Avenue &	AM	12.3	B	919	0	0.0%	NO
	Empire Avenue	PM	12.7	B	1,189	0	0.0%	NO
3.	Lockheed Drive &	AM	27.6	D	1,473	0	0.0%	NO
[a]	San Fernando Road	PM	16.7	C	1,145	0	0.0%	NO
4.	San Fernando Boulevard &	AM	26.3	D	1,772	120	6.8%	**YES**
	Cohasset Street	PM	29.6	D	1,477	130	8.8%	**YES**
5.	Hollywood Way &	AM	overflow	F	3,054	0	0.0%	NO
[a]	I-5 Southbound Ramps	PM	28.0	D	3,093	0	0.0%	NO
6.	Hollywood Way &	AM	overflow	F	4,024	43	1.1%	**YES**
	San Fernando Boulevard Ramps	PM	overflow	F	3,913	46	1.2%	**YES**
7.	I-5 Southbound Ramps &	AM	26.6	D	1,237	20	1.6%	NO
	San Fernando Boulevard	PM	17.0	C	1,195	20	1.7%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	19.7	C	1,277	102	8.0%	NO
	Winona Avenue	PM	19.6	C	995	106	10.7%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 26
INTERIM YEAR 2023 WITH PROJECT CONDITIONS - SWQ FULL-SIZE OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 without Project Conditions		Interim Year 2023 with Project Conditions - SWQ Full-Size Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.785	C	0.786	C	0.001	NO
[a]	San Fernando Road	PM	0.702	C	0.704	C	0.002	NO
2.	Vineland Avenue &	AM	0.801	D	0.801	D	0.000	NO
[a]	Sherman Way	PM	0.771	C	0.772	C	0.001	NO
3.	Clybourn Avenue &	AM	0.611	B	0.596	A	-0.015	NO
[a]	Vanowen Street	PM	0.782	C	0.769	C	-0.013	NO
4.	Arvilla Avenue &	AM	0.612	B	0.613	B	0.001	NO
[a]	San Fernando Road	PM	0.619	B	0.620	B	0.001	NO
5.	Airport &	AM	0.350	A	0.362	A	0.012	NO
	Empire Avenue	PM	0.454	A	0.502	A	0.048	NO
6.	Hollywood Way &	AM	0.687	B	0.690	B	0.003	NO
[a]	I-5 Northbound Ramps	PM	0.833	D	0.835	D	0.002	NO
7.	Hollywood Way Southbound Ramps &	AM	0.387	A	0.388	A	0.001	NO
	San Fernando Boulevard	PM	0.197	A	0.198	A	0.001	NO
8.	Hollywood Way Northbound Ramps &	AM	0.358	A	0.359	A	0.001	NO
	San Fernando Boulevard	PM	0.233	A	0.234	A	0.001	NO
9.	Hollywood Way &	AM	0.875	D	0.880	D	0.005	NO
	Tulare Avenue	PM	0.877	D	0.885	D	0.008	NO
10.	Hollywood Way &	AM	0.620	B	0.622	B	0.002	NO
	Winona Avenue	PM	0.928	E	0.936	E	0.008	NO
11.	Hollywood Way &	AM	1.008	F	0.991	E	-0.017	NO
	Airport / Thornton Avenue	PM	0.909	E	0.891	D	-0.018	NO
12.	Hollywood Way &	AM	0.580	A	0.585	A	0.005	NO
	Airport / Avon Avenue	PM	0.627	B	0.639	B	0.012	NO
13.	Hollywood Way &	AM	1.084	F	1.085	F	0.001	NO
	Victory Boulevard	PM	1.223	F	1.224	F	0.001	NO
14.	Hollywood Way &	AM	0.899	D	0.900	D	0.001	NO
	Burbank Boulevard	PM	0.913	E	0.914	E	0.001	NO
15.	Hollywood Way &	AM	0.872	D	0.873	D	0.001	NO
	Magnolia Boulevard	PM	0.907	E	0.908	E	0.001	NO
16.	Ontario Street &	AM	0.189	A	0.189	A	0.000	NO
	Winona Avenue	PM	0.188	A	0.188	A	0.000	NO
17.	Ontario Street &	AM	0.513	A	0.513	A	0.000	NO
	Thornton Avenue	PM	0.413	A	0.413	A	0.000	NO
18.	Ontario Street &	AM	0.824	D	0.820	D	-0.004	NO
	Empire Avenue	PM	0.978	E	0.976	E	-0.002	NO
19.	Buena Vista Street &	AM	0.888	D	0.888	D	0.000	NO
	I-5 Northbound Ramps	PM	0.989	E	0.989	E	0.000	NO
20.	Buena Vista Street &	AM	0.759	C	0.758	C	-0.001	NO
	Winona Avenue	PM	0.780	C	0.782	C	0.002	NO
21.	Buena Vista Street &	AM	0.737	C	0.737	C	0.000	NO
	San Fernando Boulevard	PM	0.895	D	0.894	D	-0.001	NO
22.	Buena Vista Street &	AM	0.852	D	0.847	D	-0.005	NO
	Empire Avenue	PM	1.024	F	1.023	F	-0.001	NO
23.	I-5 Southbound Ramps &	AM	0.694	B	0.694	B	0.000	NO
	Empire Avenue	PM	0.602	B	0.602	B	0.000	NO
24.	I-5 Northbound Ramps &	AM	0.817	D	0.816	D	-0.001	NO
	Empire Avenue	PM	0.733	C	0.733	C	0.000	NO
25.	Avon Avenue &	AM	0.279	A	0.302	A	0.023	NO
	Empire Avenue	PM	0.398	A	0.427	A	0.029	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 27
INTERIM YEAR 2023 WITH PROJECT CONDITIONS - SWQ FULL-SIZE OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 with Project Conditions - SWQ Full-Size Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	12.9	B	400	0	0.0%	NO
[a]	Sherman Way	PM	16.1	C	537	0	0.0%	NO
2.	Clybourn Avenue &	AM	8.7	A	876	-77	-8.8%	NO
	Empire Avenue	PM	0.0	A	1,155	-79	-6.8%	NO
3.	Lockheed Drive &	AM	25.4	D	1,479	7	0.5%	NO
[a]	San Fernando Road	PM	16.3	C	1,151	7	0.6%	NO
4.	San Fernando Boulevard &	AM	21.6	C	1,658	7	0.4%	NO
	Cohasset Street	PM	20.9	C	1,354	7	0.5%	NO
5.	Hollywood Way &	AM	overflow	F	3,080	25	0.8%	NO
[a]	I-5 Southbound Ramps	PM	28.8	D	3,120	26	0.8%	NO
6.	Hollywood Way &	AM	overflow	F	4,012	32	0.8%	**YES**
	San Fernando Boulevard Ramps	PM	overflow	F	3,899	33	0.8%	**YES**
7.	I-5 Southbound Ramps &	AM	23.9	C	1,216	-1	-0.1%	NO
	San Fernando Boulevard	PM	16.3	C	1,173	-2	-0.2%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.2	C	1,176	2	0.2%	NO
	Winona Avenue	PM	17.5	C	890	1	0.1%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 28
INTERIM YEAR 2023 WITH PROJECT CONDITIONS - SWQ SAME-SIZE OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 without Project Conditions		Interim Year 2023 with Project Conditions - SWQ Same-Size Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.785	C	0.784	C	-0.001	NO
[a]	San Fernando Road	PM	0.702	C	0.702	C	0.000	NO
2.	Vineland Avenue &	AM	0.801	D	0.801	D	0.000	NO
[a]	Sherman Way	PM	0.771	C	0.772	C	0.001	NO
3.	Clybourn Avenue &	AM	0.611	B	0.598	A	-0.013	NO
[a]	Vanowen Street	PM	0.782	C	0.770	C	-0.012	NO
4.	Arvilla Avenue &	AM	0.612	B	0.611	B	-0.001	NO
[a]	San Fernando Road	PM	0.619	B	0.618	B	-0.001	NO
5.	Airport &	AM	0.350	A	0.361	A	0.011	NO
	Empire Avenue	PM	0.454	A	0.499	A	0.045	NO
6.	Hollywood Way &	AM	0.687	B	0.686	B	-0.001	NO
[a]	I-5 Northbound Ramps	PM	0.833	D	0.831	D	-0.002	NO
7.	Hollywood Way Southbound Ramps &	AM	0.387	A	0.386	A	-0.001	NO
	San Fernando Boulevard	PM	0.197	A	0.196	A	-0.001	NO
8.	Hollywood Way Northbound Ramps &	AM	0.358	A	0.358	A	0.000	NO
	San Fernando Boulevard	PM	0.233	A	0.232	A	-0.001	NO
9.	Hollywood Way &	AM	0.875	D	0.873	D	-0.002	NO
	Tulare Avenue	PM	0.877	D	0.874	D	-0.003	NO
10.	Hollywood Way &	AM	0.620	B	0.619	B	-0.001	NO
	Winona Avenue	PM	0.928	E	0.923	E	-0.005	NO
11.	Hollywood Way &	AM	1.008	F	0.982	E	-0.026	NO
	Airport / Thornton Avenue	PM	0.909	E	0.880	D	-0.029	NO
12.	Hollywood Way &	AM	0.580	A	0.579	A	-0.001	NO
	Airport / Avon Avenue	PM	0.627	B	0.634	B	0.007	NO
13.	Hollywood Way &	AM	1.084	F	1.082	F	-0.002	NO
	Victory Boulevard	PM	1.223	F	1.218	F	-0.005	NO
14.	Hollywood Way &	AM	0.899	D	0.897	D	-0.002	NO
	Burbank Boulevard	PM	0.913	E	0.910	E	-0.003	NO
15.	Hollywood Way &	AM	0.872	D	0.871	D	-0.001	NO
	Magnolia Boulevard	PM	0.907	E	0.905	E	-0.002	NO
16.	Ontario Street &	AM	0.189	A	0.189	A	0.000	NO
	Winona Avenue	PM	0.188	A	0.188	A	0.000	NO
17.	Ontario Street &	AM	0.513	A	0.513	A	0.000	NO
	Thornton Avenue	PM	0.413	A	0.413	A	0.000	NO
18.	Ontario Street &	AM	0.824	D	0.821	D	-0.003	NO
	Empire Avenue	PM	0.978	E	0.976	E	-0.002	NO
19.	Buena Vista Street &	AM	0.888	D	0.888	D	0.000	NO
	I-5 Northbound Ramps	PM	0.989	E	0.989	E	0.000	NO
20.	Buena Vista Street &	AM	0.759	C	0.757	C	-0.002	NO
	Winona Avenue	PM	0.780	C	0.783	C	0.003	NO
21.	Buena Vista Street &	AM	0.737	C	0.737	C	0.000	NO
	San Fernando Boulevard	PM	0.895	D	0.894	D	-0.001	NO
22.	Buena Vista Street &	AM	0.852	D	0.847	D	-0.005	NO
	Empire Avenue	PM	1.024	F	1.023	F	-0.001	NO
23.	I-5 Southbound Ramps &	AM	0.694	B	0.693	B	-0.001	NO
	Empire Avenue	PM	0.602	B	0.601	B	-0.001	NO
24.	I-5 Northbound Ramps &	AM	0.817	D	0.816	D	-0.001	NO
	Empire Avenue	PM	0.733	C	0.732	C	-0.001	NO
25.	Avon Avenue &	AM	0.279	A	0.301	A	0.022	NO
	Empire Avenue	PM	0.398	A	0.428	A	0.030	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 29
INTERIM YEAR 2023 WITH PROJECT CONDITIONS - SWQ SAME-SIZE OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Interim Year 2023 with Project Conditions - SWQ Same-Size Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	12.9	B	400	0	0.0%	NO
[a]	Sherman Way	PM	16.1	C	537	0	0.0%	NO
2.	Clybourn Avenue &	AM	10.0	A	873	-61	-7.0%	NO
	Empire Avenue	PM	0.0	A	1,150	-64	-5.6%	NO
3.	Lockheed Drive &	AM	25.2	D	1,470	-3	-0.2%	NO
[a]	San Fernando Road	PM	16.2	C	1,142	-4	-0.4%	NO
4.	San Fernando Boulevard &	AM	21.4	C	1,649	-3	-0.2%	NO
	Cohasset Street	PM	20.7	C	1,345	-4	-0.3%	NO
5.	Hollywood Way &	AM	overflow	F	3,044	-9	-0.3%	NO
[a]	I-5 Southbound Ramps	PM	27.8	D	3,083	-9	-0.3%	NO
6.	Hollywood Way &	AM	overflow	F	3,969	-13	-0.3%	NO
	San Fernando Boulevard Ramps	PM	overflow	F	3,854	-13	-0.3%	NO
7.	I-5 Southbound Ramps &	AM	23.8	C	1,215	-2	-0.2%	NO
	San Fernando Boulevard	PM	16.2	C	1,171	-4	-0.3%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.2	C	1,173	-1	-0.1%	NO
	Winona Avenue	PM	17.5	C	887	-2	-0.2%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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Chapter 5
Completion Year 2025 Analysis

This Chapter presents the analysis of study intersections based on Completion Year 2025 conditions. This analysis year corresponds to the year that all Project construction is expected to be completed and the Project is fully operational. Like the Interim Year 2023 conditions, the Completion Year 2025 conditions include background traffic growth from regional development, proposed local developments within and around the Study Area, and Airport passenger growth that is anticipated whether or not the Project is constructed. This Chapter also analyzes the potential impacts of each Project Option on Completion Year 2025 conditions.

BACKGROUND TRAFFIC GROWTH

The Completion Year 2025 conditions were developed using the same Model-based traffic forecasting methodology as described in Chapter 4. The annual growth factors developed from the Model were applied for an additional 2 years, and the Airport traffic applied directly to the access points was based on Completion Year 2025 passenger traffic volume forecasts from Table 8. The resulting Completion Year 2025 without Project peak hour traffic volumes are shown in Figure 22.

COMPLETION YEAR 2025 WITHOUT PROJECT LEVELS OF SERVICE

Table 30 summarizes the weekday morning and afternoon peak hour LOS results for each of the signalized study intersections under Completion Year 2025 without Project Conditions, prior to any Project traffic shifts. Table 30 indicates that 15 of the 25 signalized study intersections are projected to operate at LOS D or better during both the morning and afternoon peak hours. The remaining 10 intersections are projected to operate at LOS E or F during at least one analyzed peak hour under Completion Year 2025 without Project Conditions.

Table 31 summarizes the weekday morning and afternoon peak hour LOS results for each of the unsignalized study intersections under Completion Year 2025 without Project Conditions. Table 31 indicates that six of the eight unsignalized study intersections are projected to operate at LOS D or better during both the morning and afternoon peak hours. The remaining two intersections, including Hollywood Way & I-5 Southbound Ramps and Hollywood Way & San Fernando Boulevard Ramps, are projected to operate at LOS F during at least one analyzed peak hour under Completion Year 2025 without Project Conditions.

The LOS calculation worksheets are provided in Attachment C.

COMPLETION YEAR 2025 CUMULATIVE SIGNIFICANT IMPACTS

Tables 32 and 33 summarize Completion Year 2025 cumulative significant impacts for signalized and unsignalized intersections, respectively. The cumulative significant impacts are impacts identified on the basis of background traffic growth alone (i.e., without the effects of the Project) when compared to Existing Year 2016 conditions. As shown in Table 32, a total of 14 of the 25 signalized intersections would be significantly impacted from the cumulative effect of traffic growth between Existing Year 2016 and Completion Year 2025. As shown in Table 33, a total of three of the eight unsignalized intersections would be significantly impacted as well.

COMPLETION YEAR 2025 WITH PROJECT CONDITIONS

To estimate Completion Year 2025 with Project Conditions for each Project Option, the peak hour traffic shifts described in Chapter 2 were applied to the Completion Year without Project Conditions traffic volumes. The traffic conditions and potential significant impacts are identified below. Potential traffic improvements and mitigation measures are described in Chapter 6.

Completion Year 2025 with Project Conditions – Adjacent Property Option

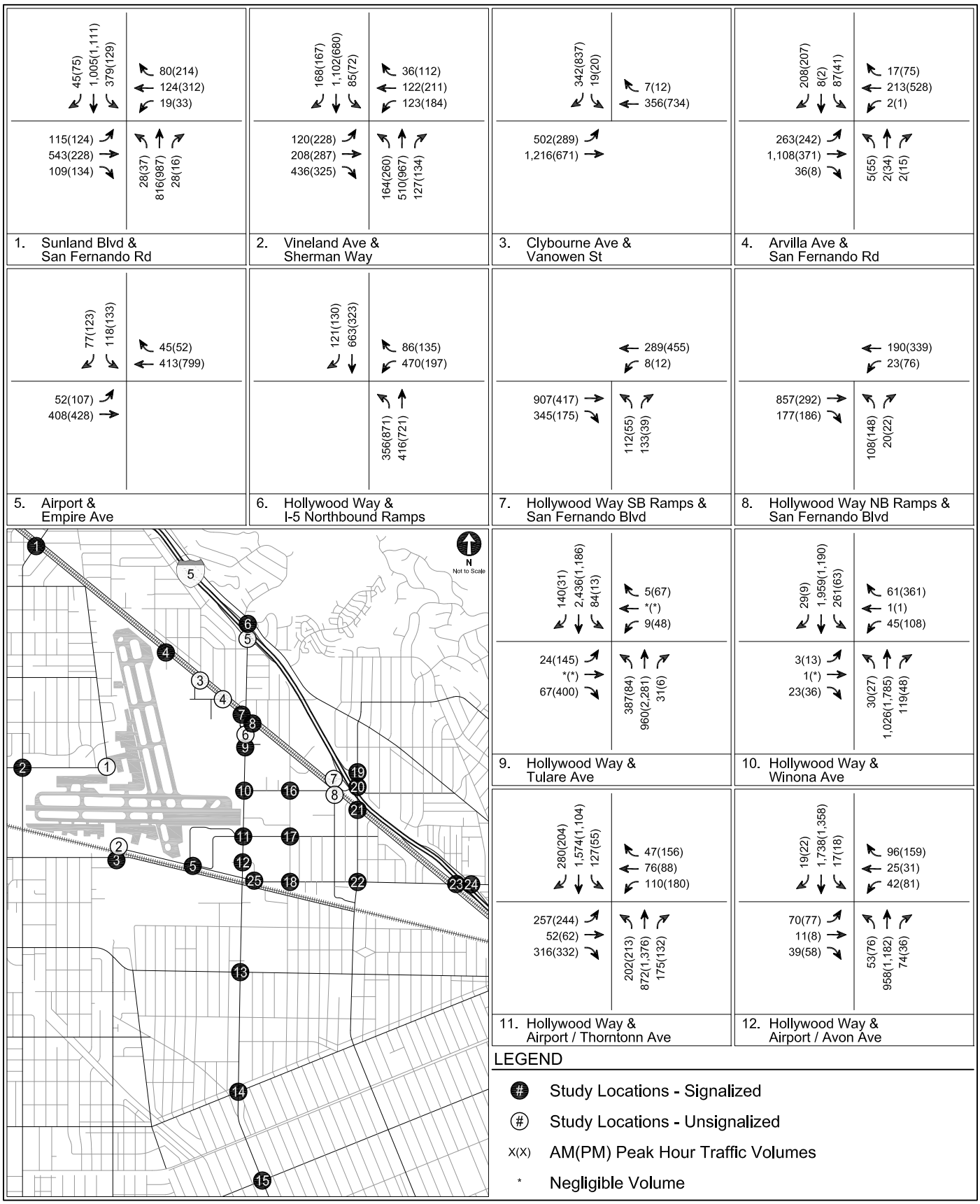
The cumulative traffic shifts associated with the Adjacent Property Option under Completion Year 2025 conditions are shown in Figure 23. The Completion Year 2025 with Project Conditions – Adjacent Property Option peak hour traffic volumes, which add the Project traffic shifts to Completion Year 2025 without Project peak hour traffic volumes, are shown in Figure 24. Table 34 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 34 shows, the Adjacent Property Option would result in a significant traffic impact at the intersection of Hollywood Way & Winona Avenue during the afternoon peak hour. Table 35 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 35 shows, the Adjacent Property Option would result in significant impacts at the intersections of San Fernando Boulevard & Cohasset Street and Hollywood Way & San Fernando Boulevard Ramps during both the morning and afternoon peak hours. The Adjacent Property Option would not significantly impact any other signalized or unsignalized study intersections.

Completion Year 2025 with Project Conditions – SWQ Full-Size Option

The cumulative traffic shifts associated with the SWQ Full-Size Option under Completion Year 2025 conditions are shown in Figure 25. The Completion Year 2025 with Project Conditions – SWQ Full-Size Option peak hour traffic volumes are shown in Figure 26. Table 36 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 36 shows, the SWQ Full-Size Option would not result in significant traffic impacts at any study intersection. Table 37 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 37 shows, the SWQ Full-Size Option would result in a significant impact at the intersection of Hollywood Way & San Fernando Boulevard Ramps during both the morning and afternoon peak hours. The SWQ Full-Size Option would not significantly impact any other signalized or unsignalized study intersections.

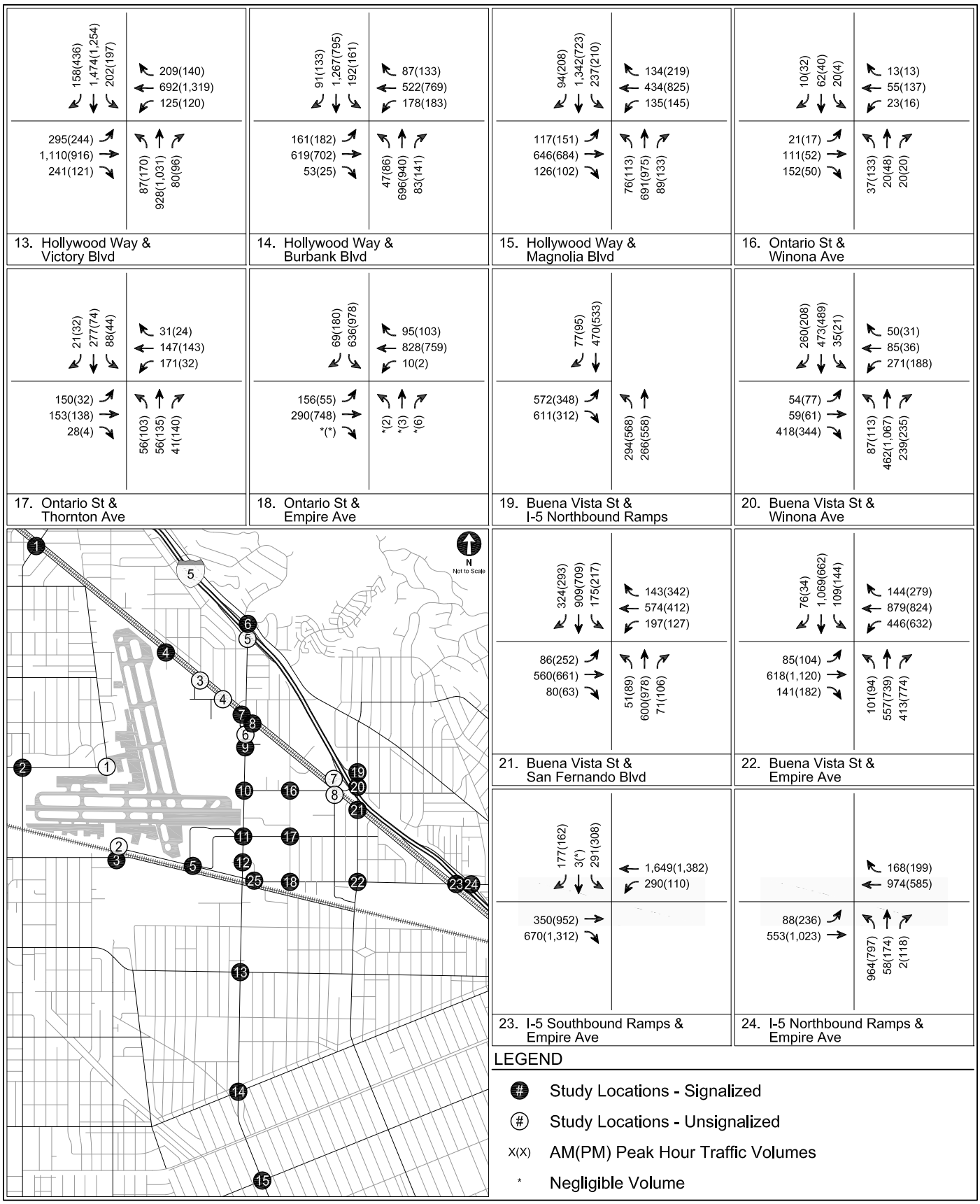
Completion Year 2025 with Project Conditions – SWQ Same-Size Option

The cumulative traffic shifts associated with the SWQ Same-Size Option under Completion Year 2025 conditions are shown in Figure 27. The Completion Year 2025 with Project Conditions – SWQ Same-Size Option peak hour traffic volumes are shown in Figure 28. Table 38 shows the intersection LOS results and potential significant impacts for signalized intersections. As Table 38 shows, the SWQ Same-Size Option would not result in significant traffic impacts at any study intersection. Table 39 shows the LOS results and potential significant impacts for unsignalized intersections. As Table 39 shows, the SWQ Same-Size Option also would not result insignificant traffic impacts at any unsignalized study intersection.



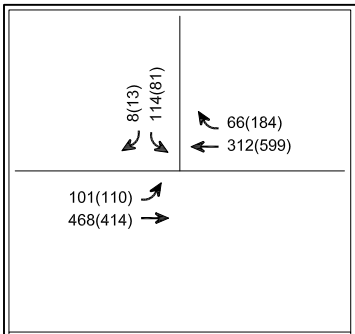
COMPLETION YEAR 2025 WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

FIGURE 22

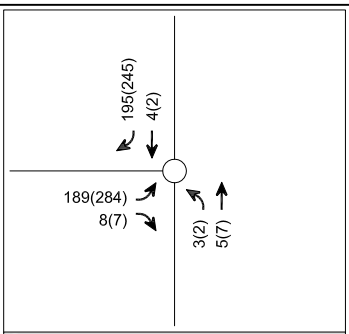


COMPLETION YEAR 2025 WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

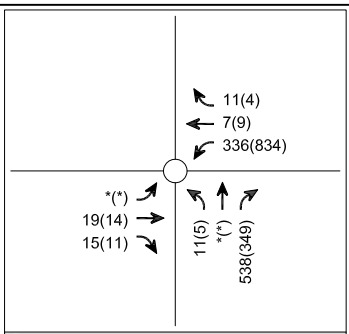
FIGURE 22 (CONT.)



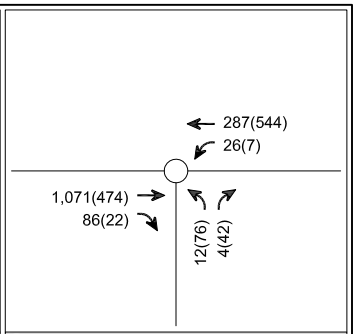
25. Avon Ave & Empire Ave



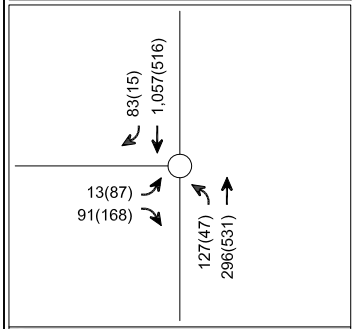
1. Clybourne Ave & Sherman Way



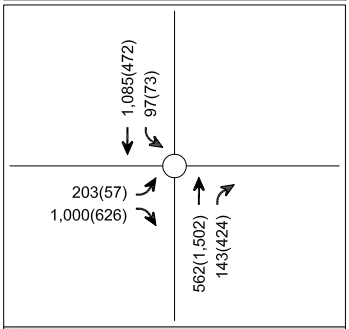
2. Clybourne Ave & Empire Ave



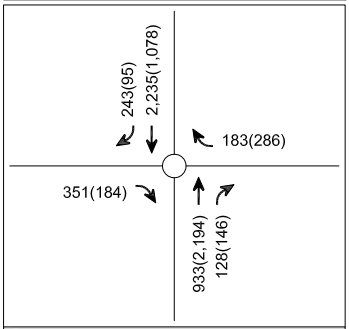
3. Lockheed Dr & San Fernando Rd



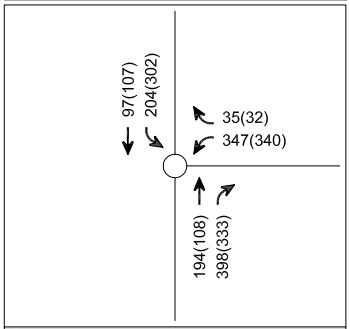
4. San Fernando Blvd & Cohasset St



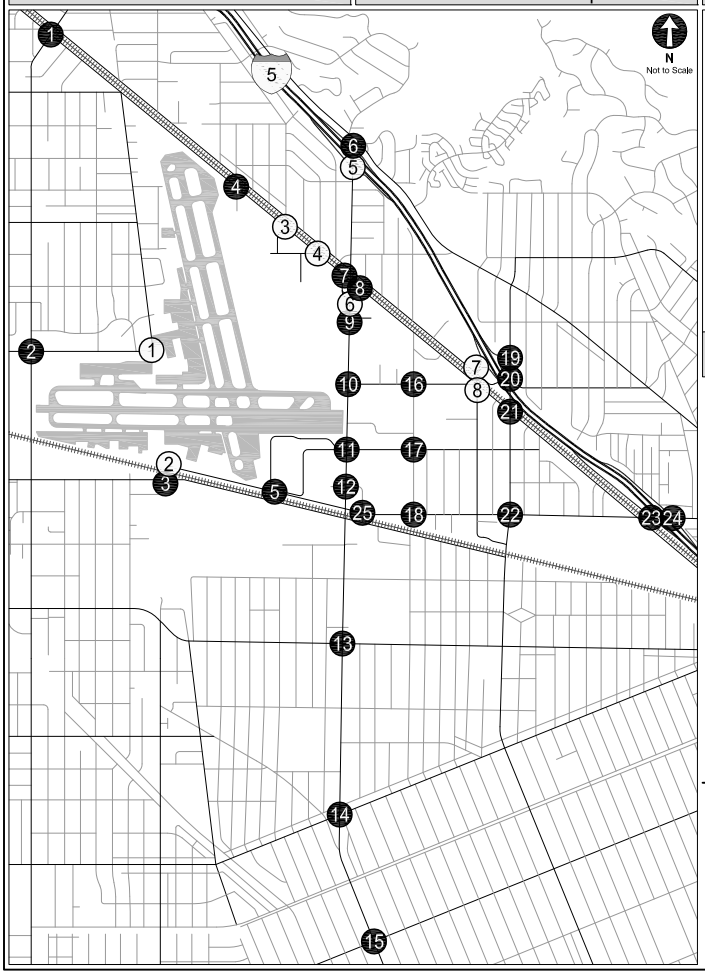
5. Hollywood Way & I-5 Southbound Ramps

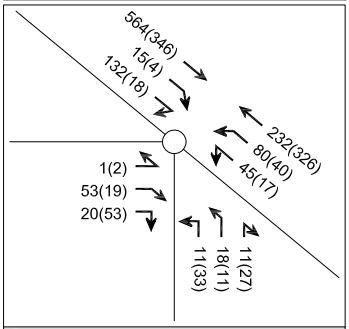


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

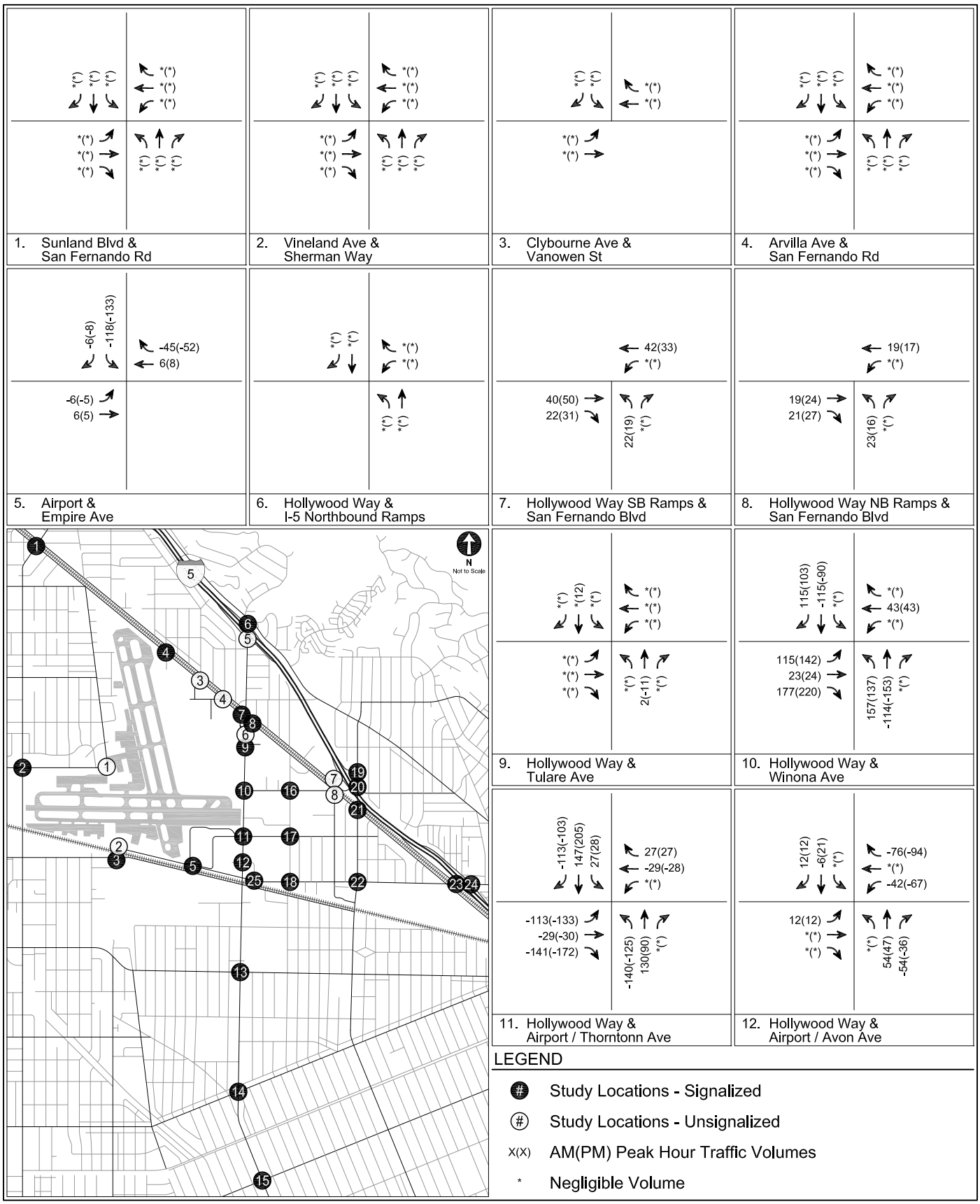
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

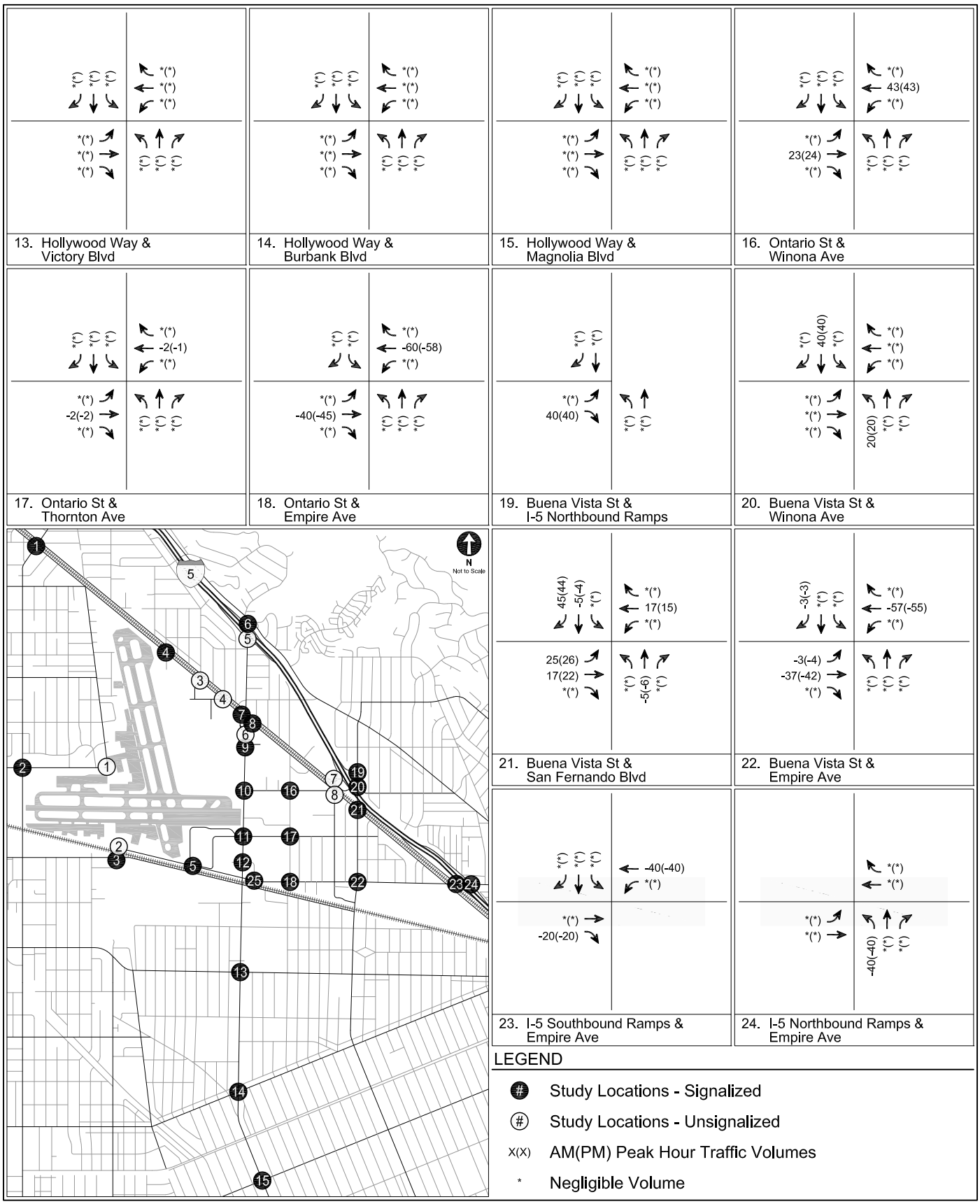
COMPLETION YEAR 2025 WITHOUT PROJECT
PEAK HOUR TRAFFIC VOLUMES

FIGURE 22 (CONT.)



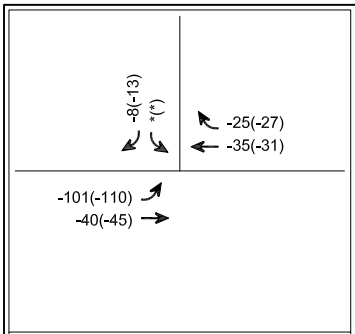
ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 23

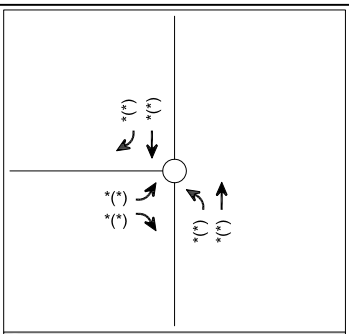


ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

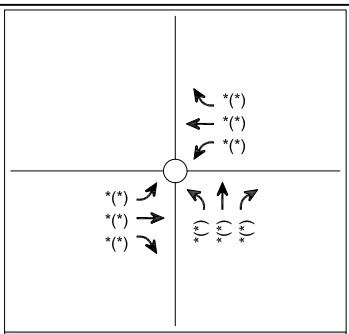
FIGURE 23 (CONT.)



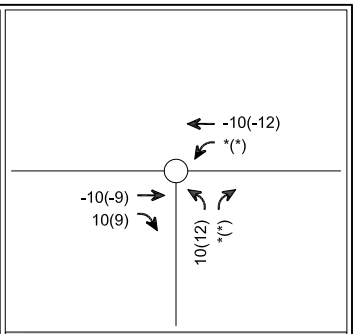
25. Avon Ave & Empire Ave



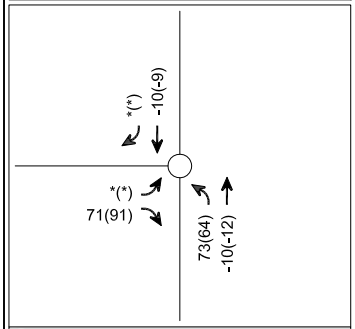
1. Clybourne Ave & Sherman Way



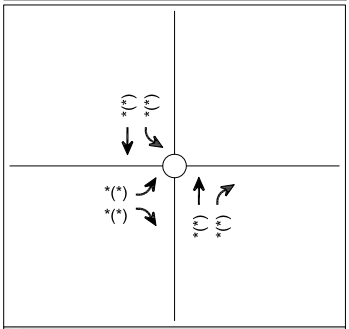
2. Clybourne Ave & Empire Ave



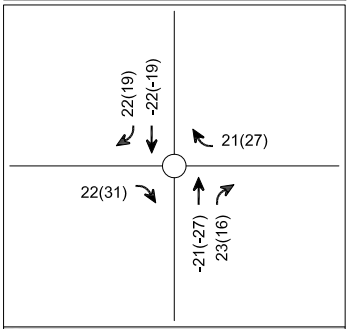
3. Lockheed Dr & San Fernando Rd



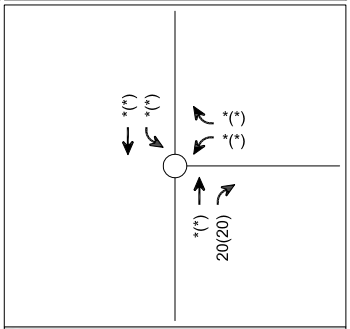
4. San Fernando Blvd & Cohasset St



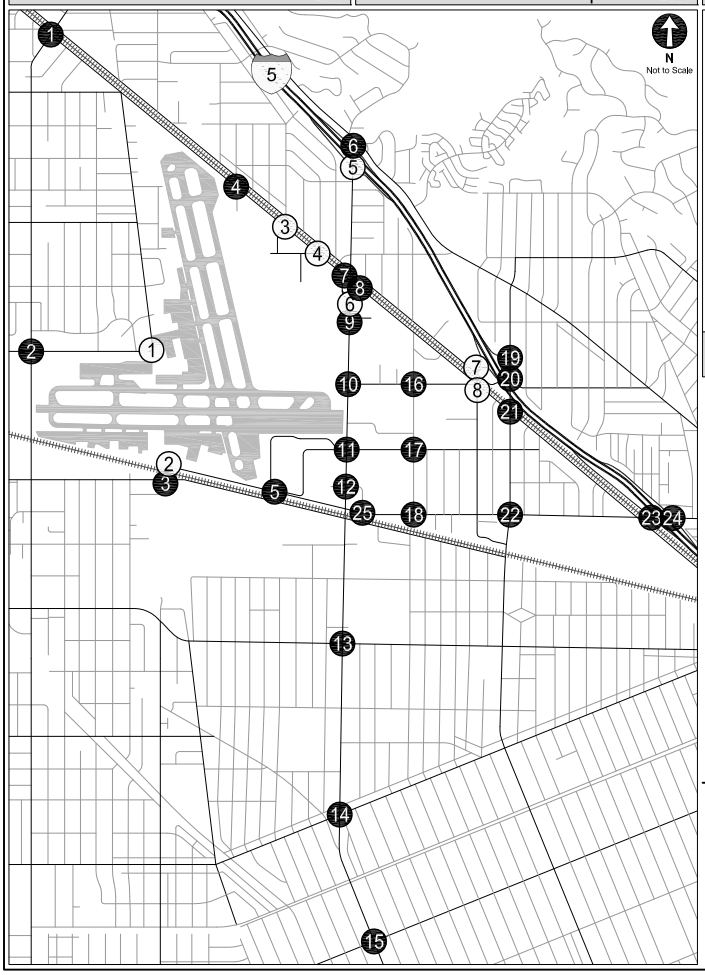
5. Hollywood Way & I-5 Southbound Ramps

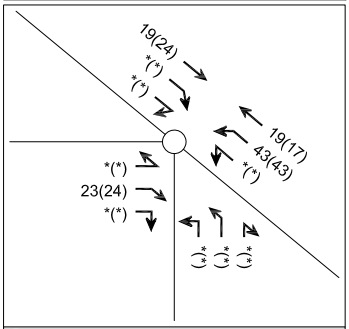


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

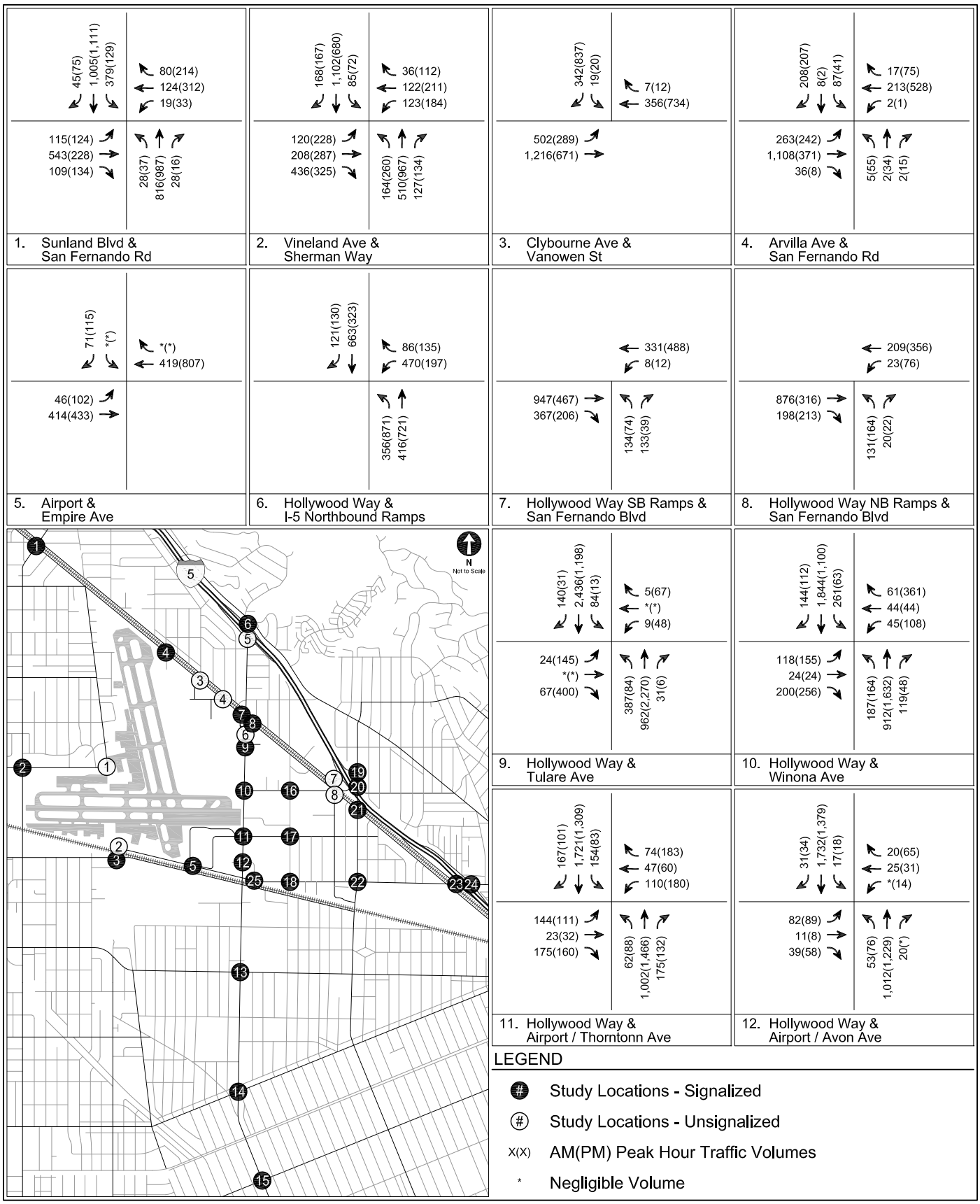
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

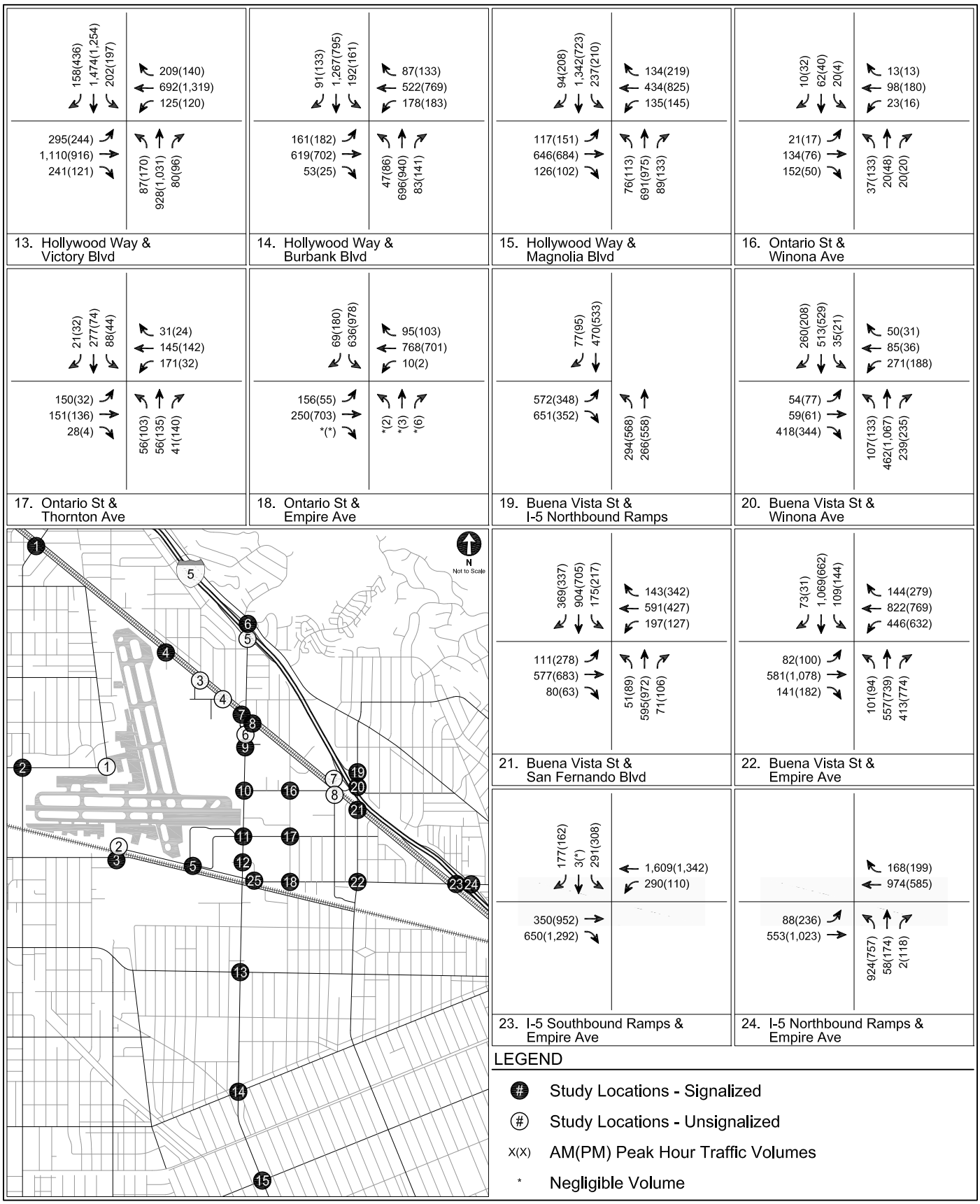
ADJACENT PROPERTY OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 23 (CONT.)



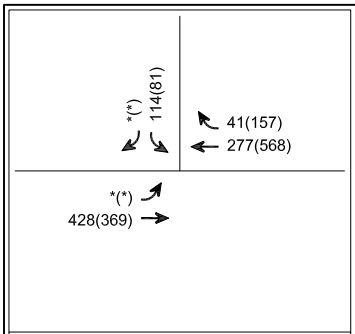
COMPLETION YEAR 2025 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 24

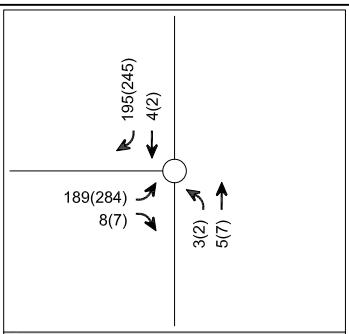


COMPLETION YEAR 2025 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

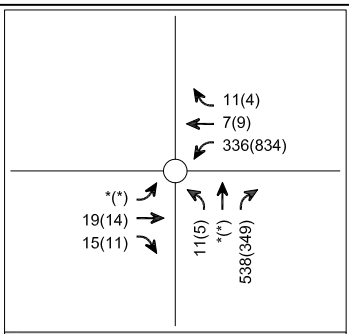
FIGURE 24 (CONT.)



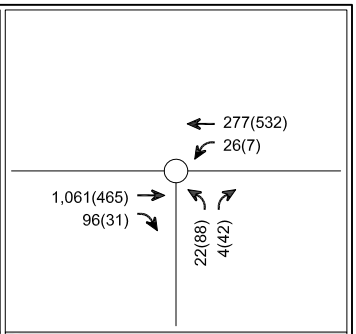
25. Avon Ave & Empire Ave



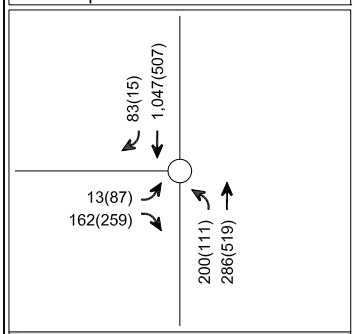
1. Clybourne Ave & Sherman Way



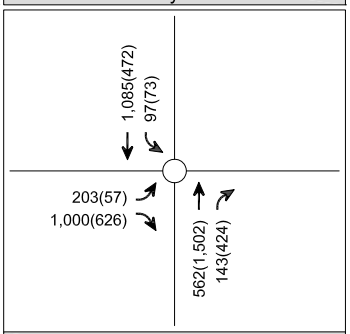
2. Clybourne Ave & Empire Ave



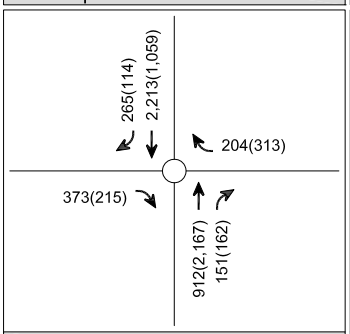
3. Lockheed Dr & San Fernando Rd



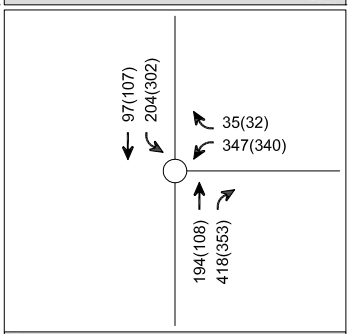
4. San Fernando Blvd & Cohasset St



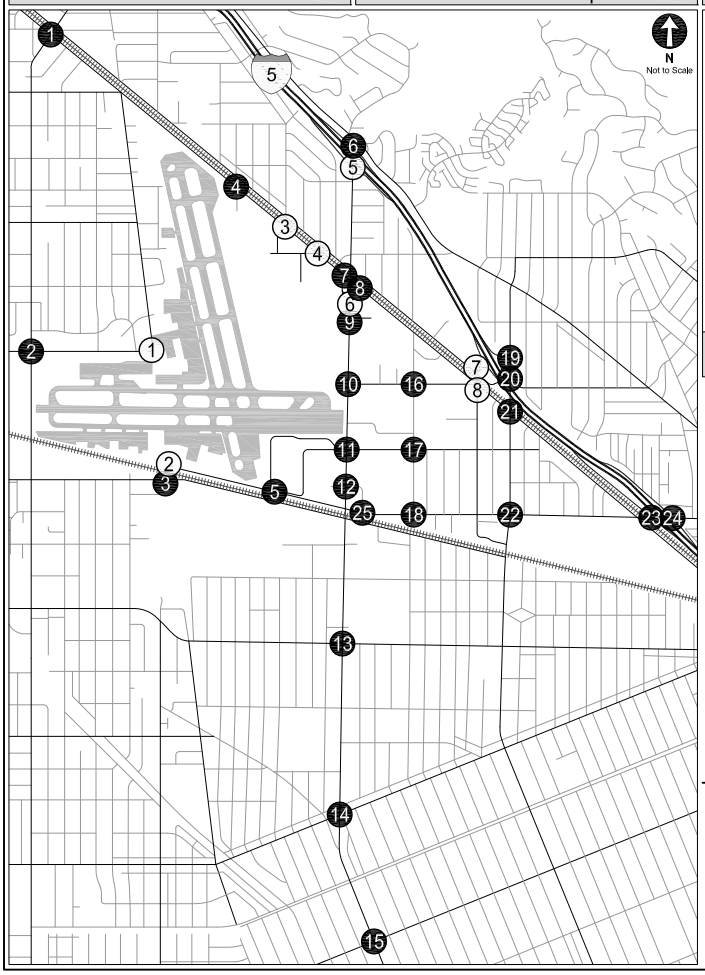
5. Hollywood Way & I-5 Southbound Ramps

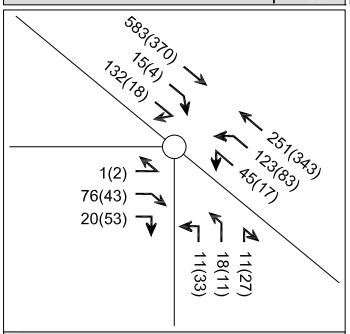


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

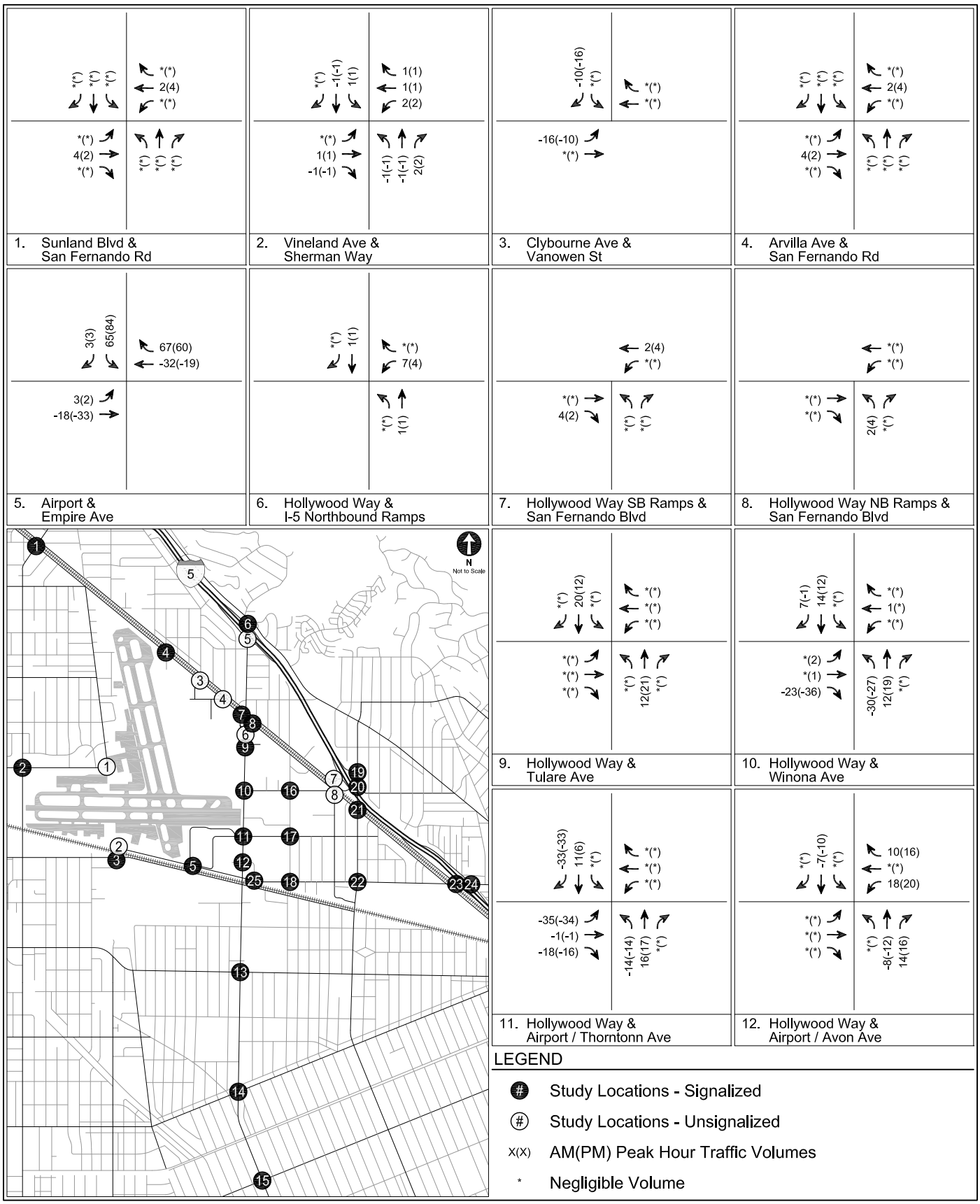
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

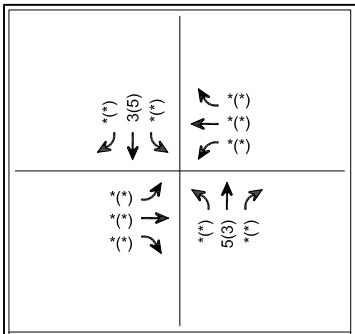
COMPLETION YEAR 2025 WITH PROJECT - ADJACENT PROPERTY OPTION
PEAK HOUR TRAFFIC VOLUMES

FIGURE 24 (CONT.)

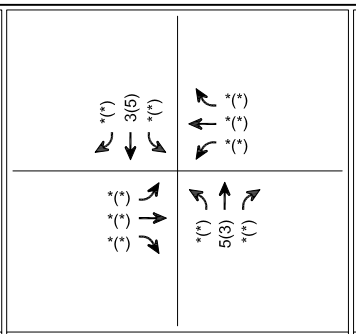


SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

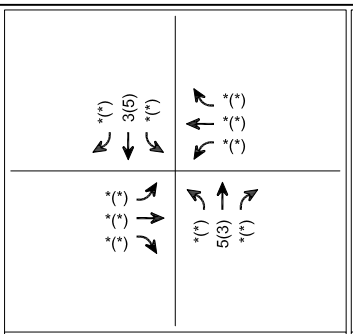
FIGURE 25



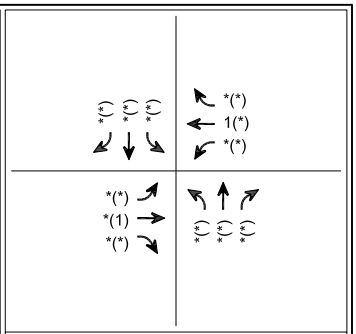
13. Hollywood Way & Victory Blvd



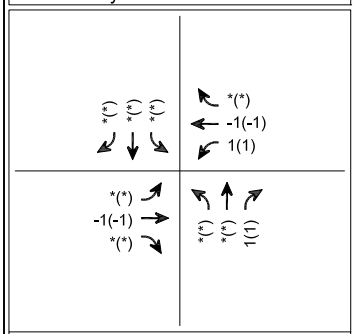
14. Hollywood Way & Burbank Blvd



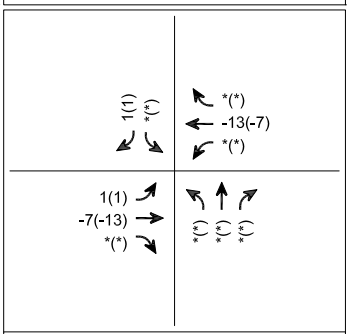
15. Hollywood Way & Magnolia Blvd



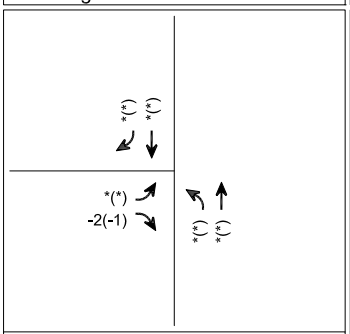
16. Ontario St & Winona Ave



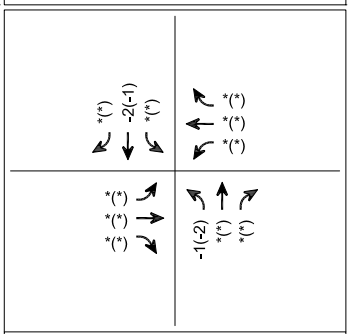
17. Ontario St & Thornton Ave



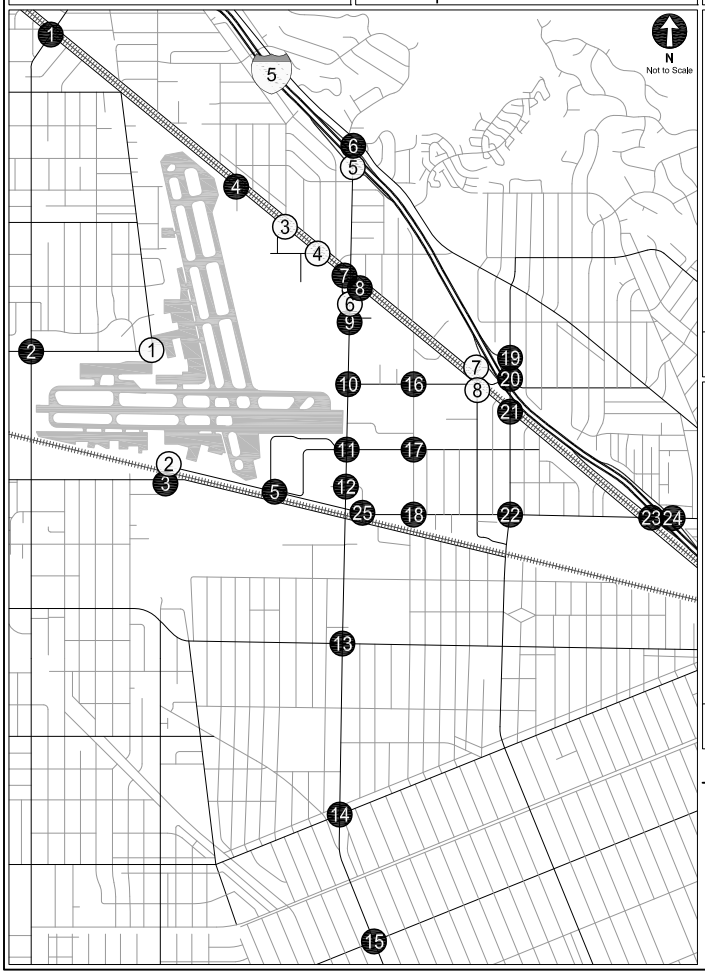
18. Ontario St & Empire Ave

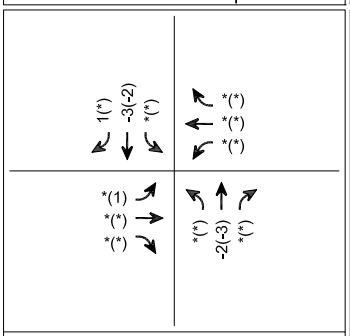


19. Buena Vista St & I-5 Northbound Ramps

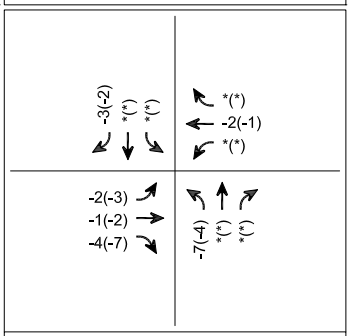


20. Buena Vista St & Winona Ave

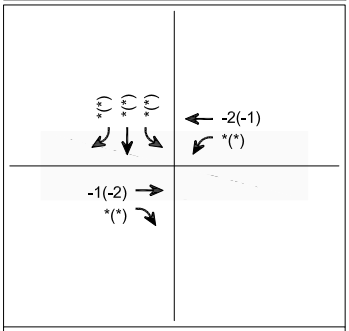




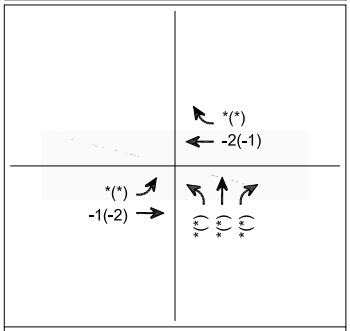
21. Buena Vista St & San Fernando Blvd



22. Buena Vista St & Empire Ave



23. I-5 Southbound Ramps & Empire Ave



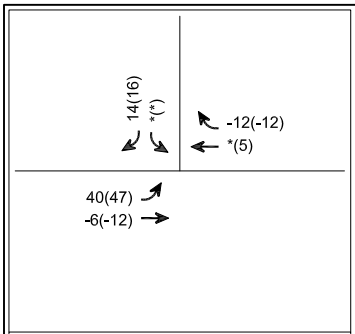
24. I-5 Northbound Ramps & Empire Ave

LEGEND

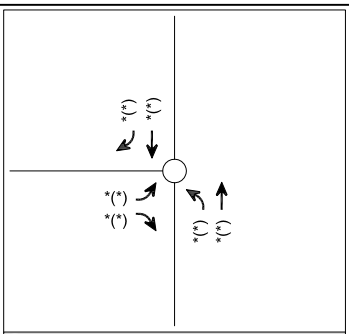
- (#) Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

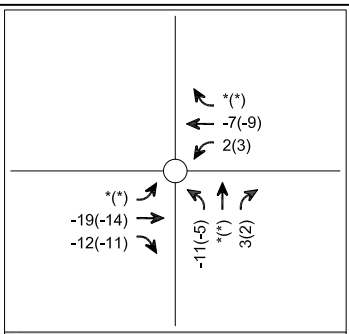
FIGURE 25 (CONT.)



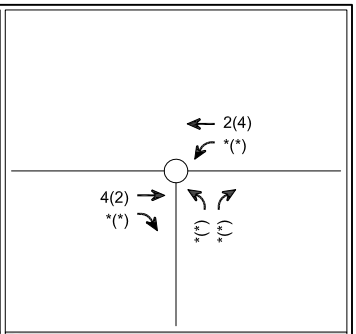
25. Avon Ave & Empire Ave



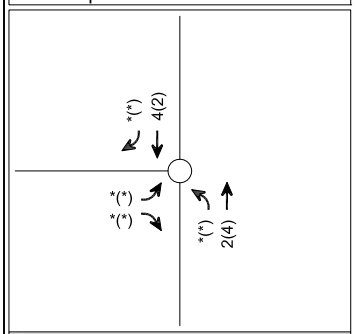
1. Clybourne Ave & Sherman Way



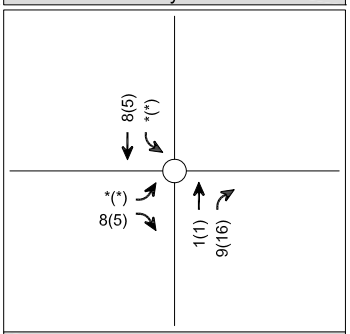
2. Clybourne Ave & Empire Ave



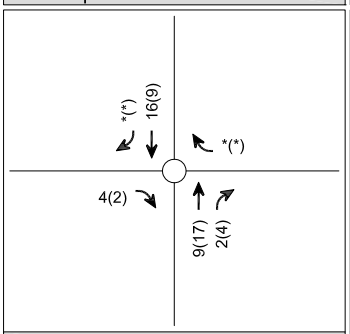
3. Lockheed Dr & San Fernando Rd



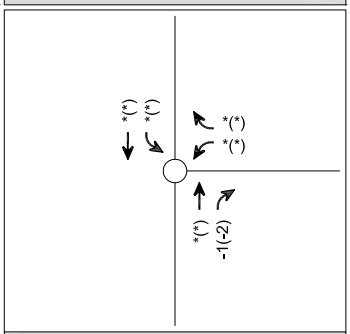
4. San Fernando Blvd & Cohasset St



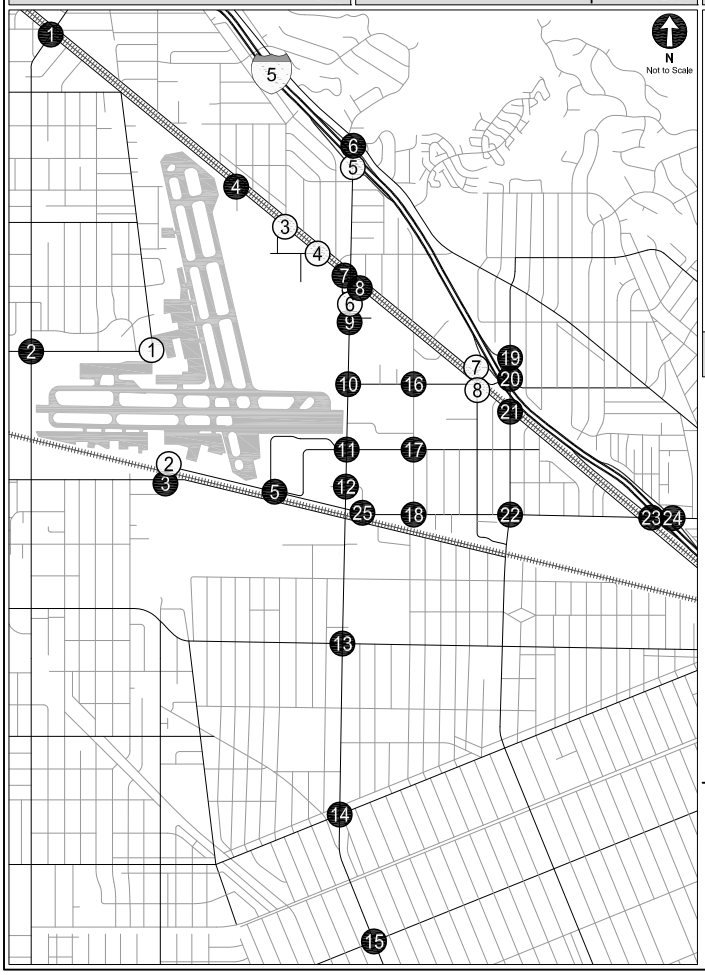
5. Hollywood Way & I-5 Southbound Ramps

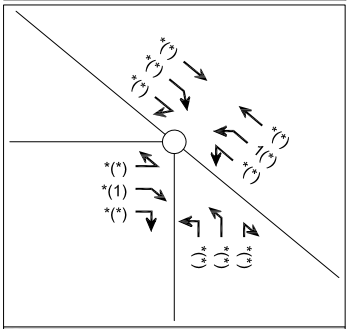


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

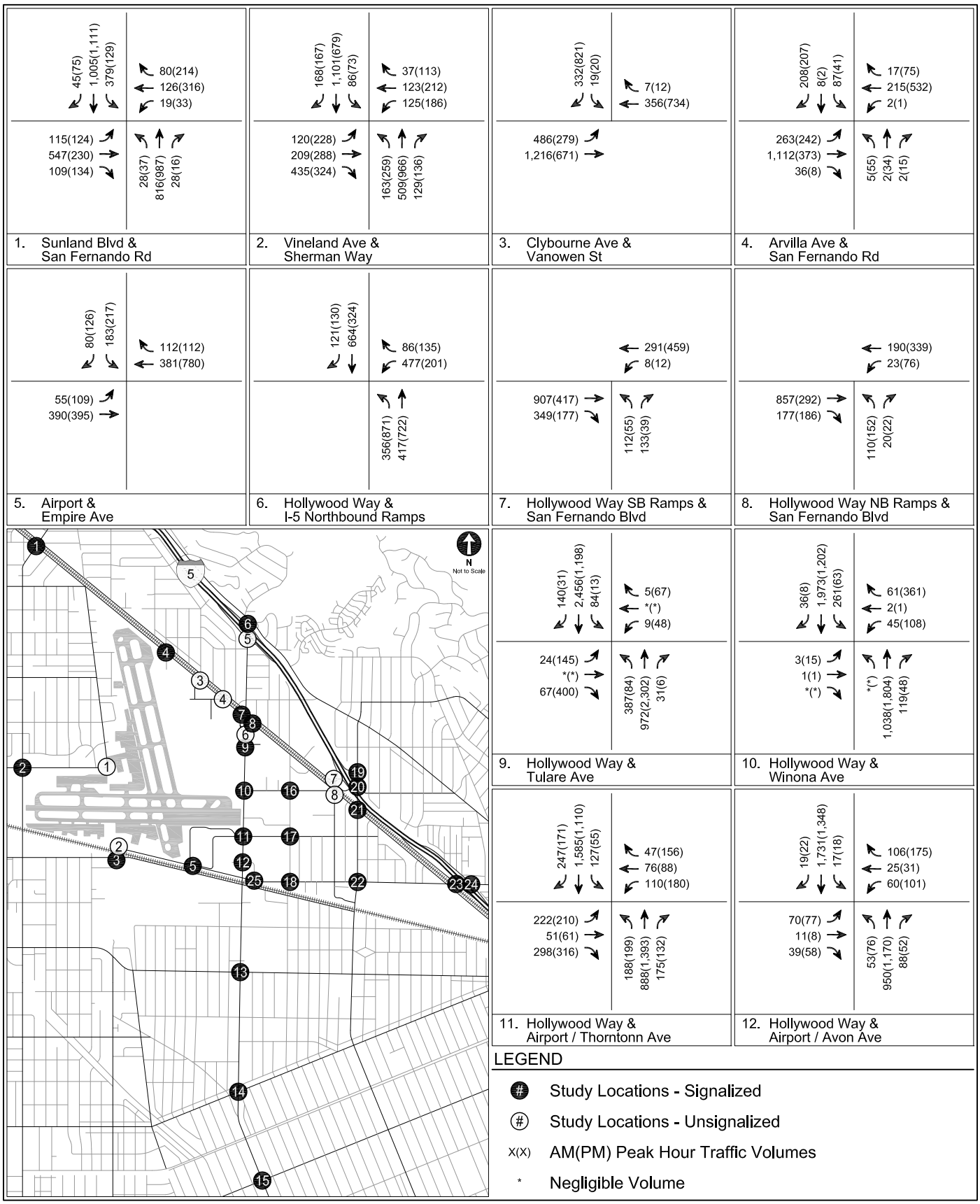
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

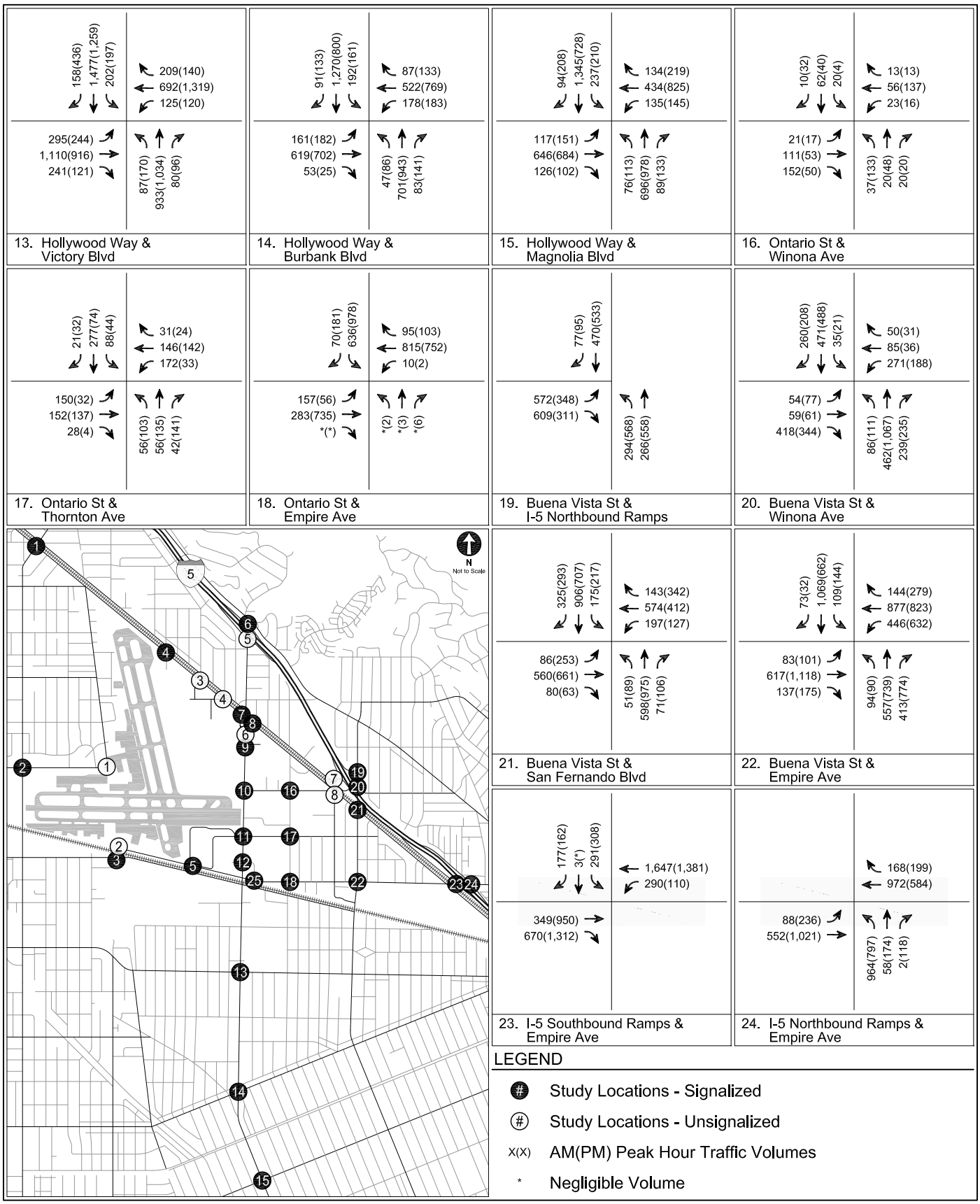
SOUTHWEST QUADRANT FULL-SIZE OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 25 (CONT.)



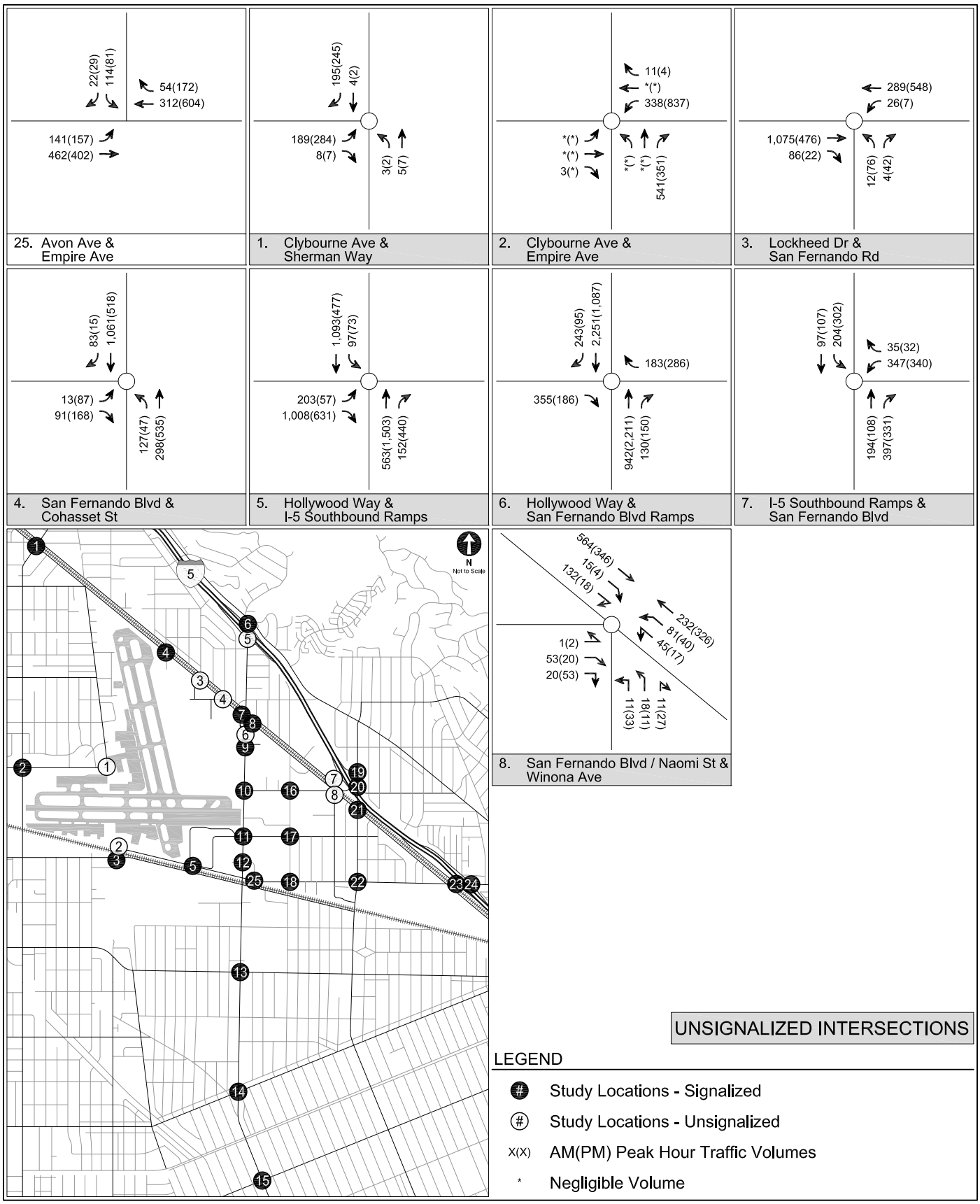
COMPLETION YEAR 2025 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 26



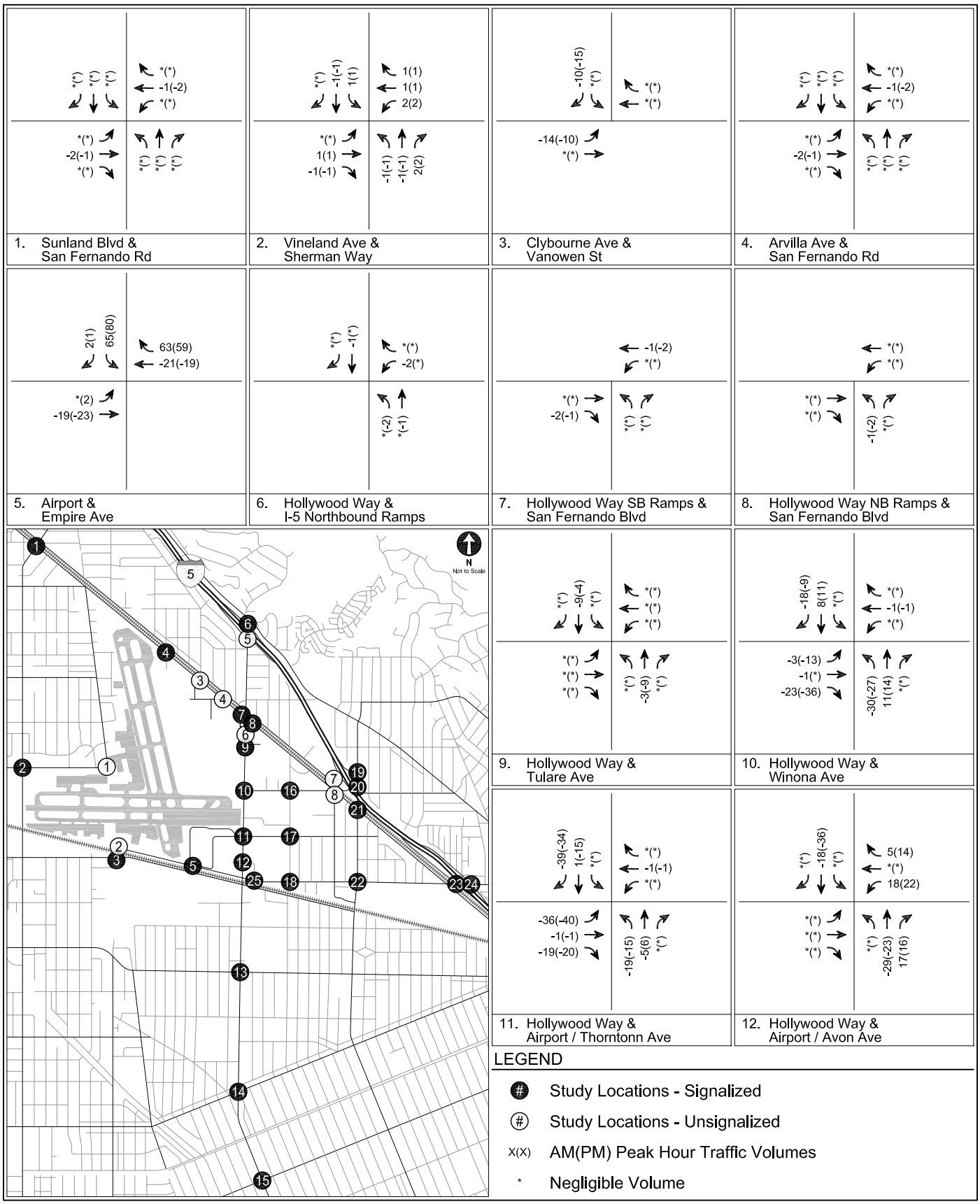
COMPLETION YEAR 2025 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 26 (CONT.)



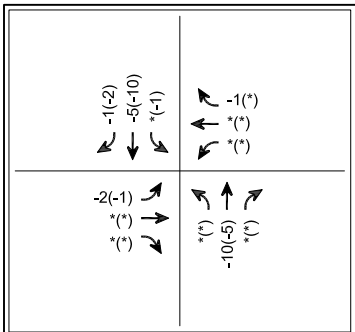
COMPLETION YEAR 2025 WITH PROJECT - SOUTHWEST QUADRANT FULL-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 26 (CONT.)

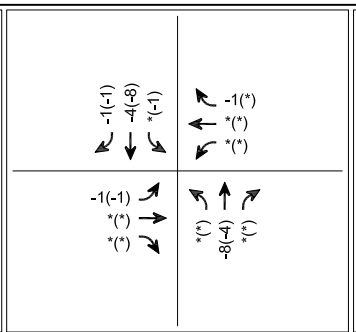


SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

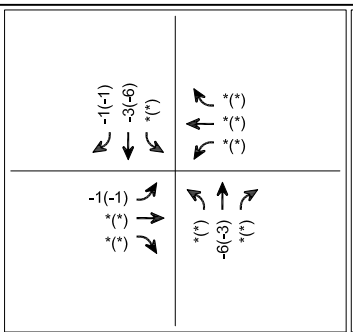
FIGURE 27



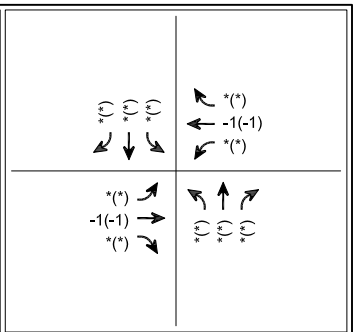
13. Hollywood Way & Victory Blvd



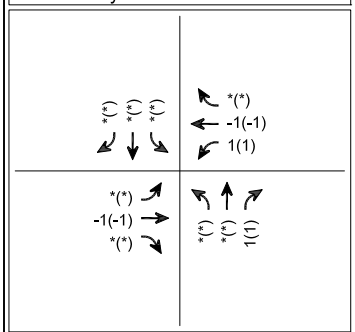
14. Hollywood Way & Burbank Blvd



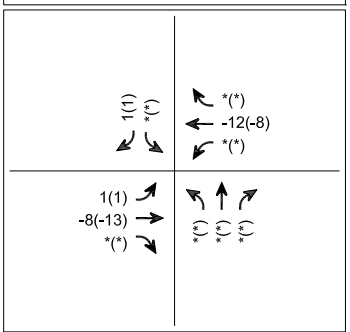
15. Hollywood Way & Magnolia Blvd



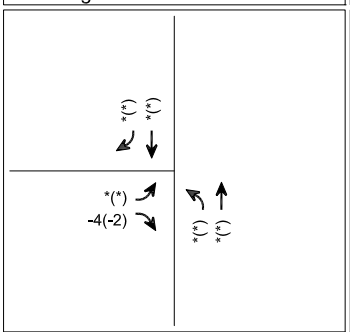
16. Ontario St & Winona Ave



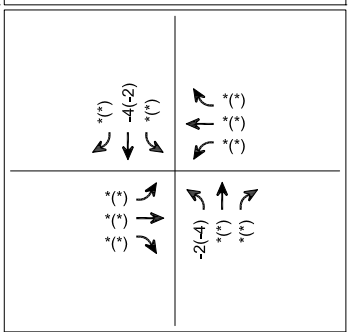
17. Ontario St & Thornton Ave



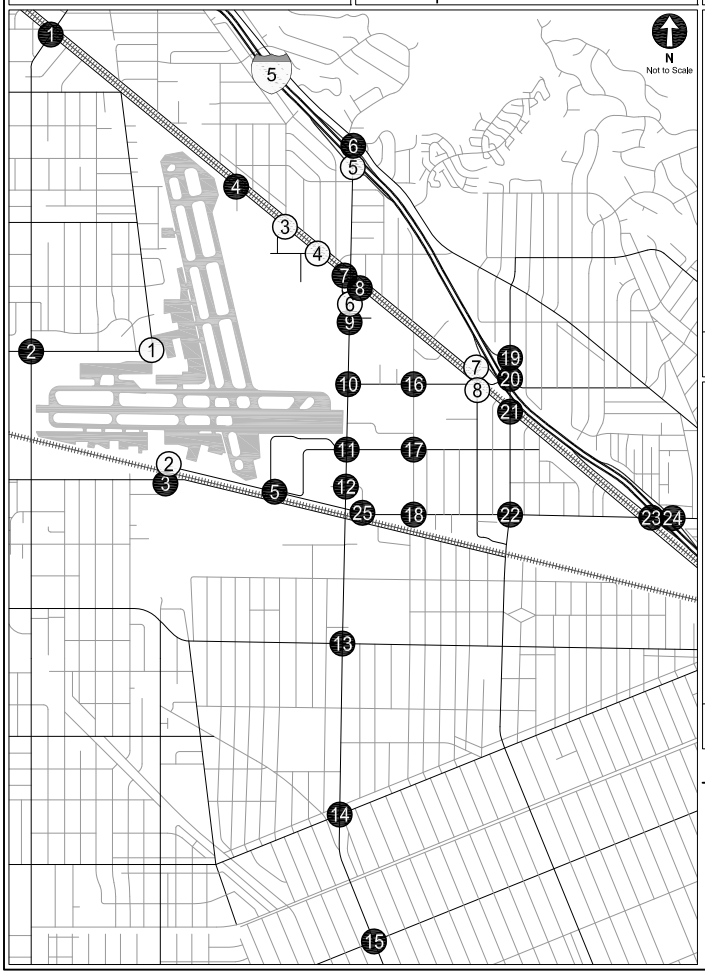
18. Ontario St & Empire Ave

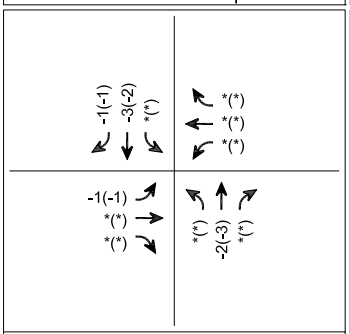


19. Buena Vista St & I-5 Northbound Ramps

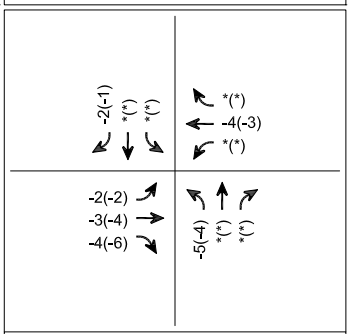


20. Buena Vista St & Winona Ave

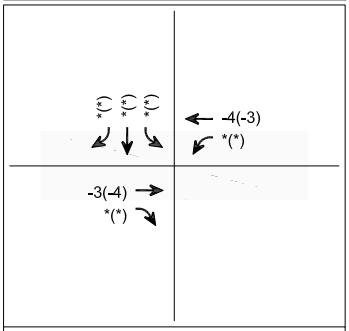




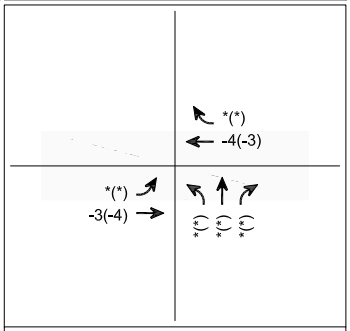
21. Buena Vista St & San Fernando Blvd



22. Buena Vista St & Empire Ave



23. I-5 Southbound Ramps & Empire Ave



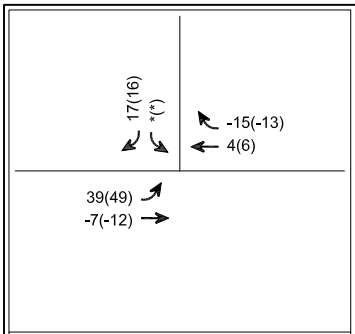
24. I-5 Northbound Ramps & Empire Ave

LEGEND

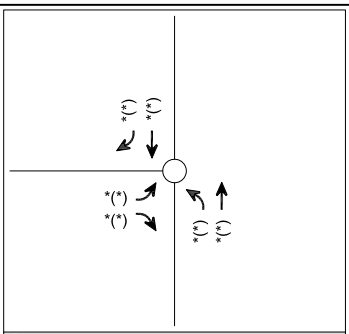
- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025
PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

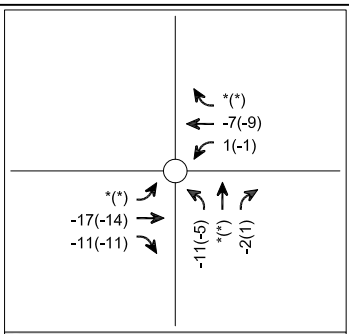
FIGURE 27 (CONT.)



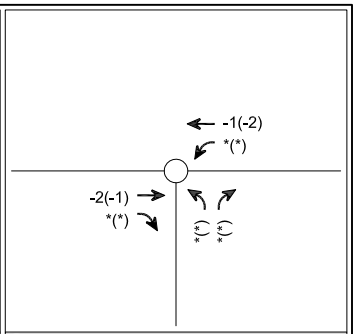
25. Avon Ave & Empire Ave



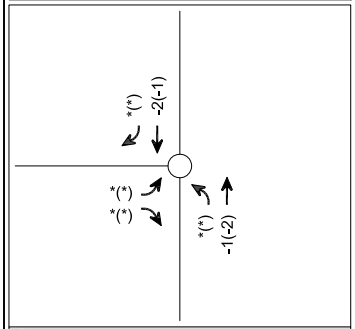
1. Clybourne Ave & Sherman Way



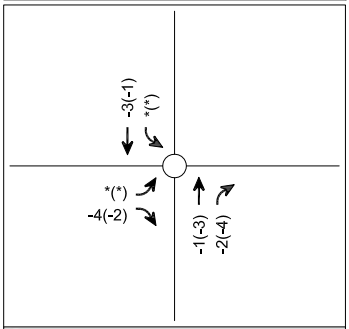
2. Clybourne Ave & Empire Ave



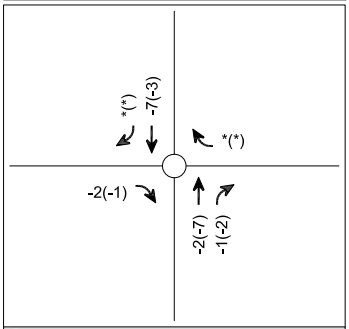
3. Lockheed Dr & San Fernando Rd



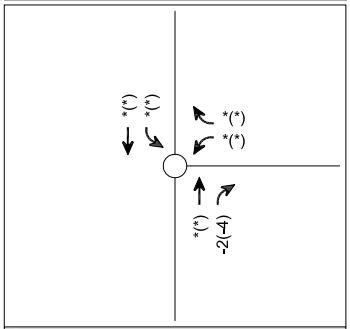
4. San Fernando Blvd & Cohasset St



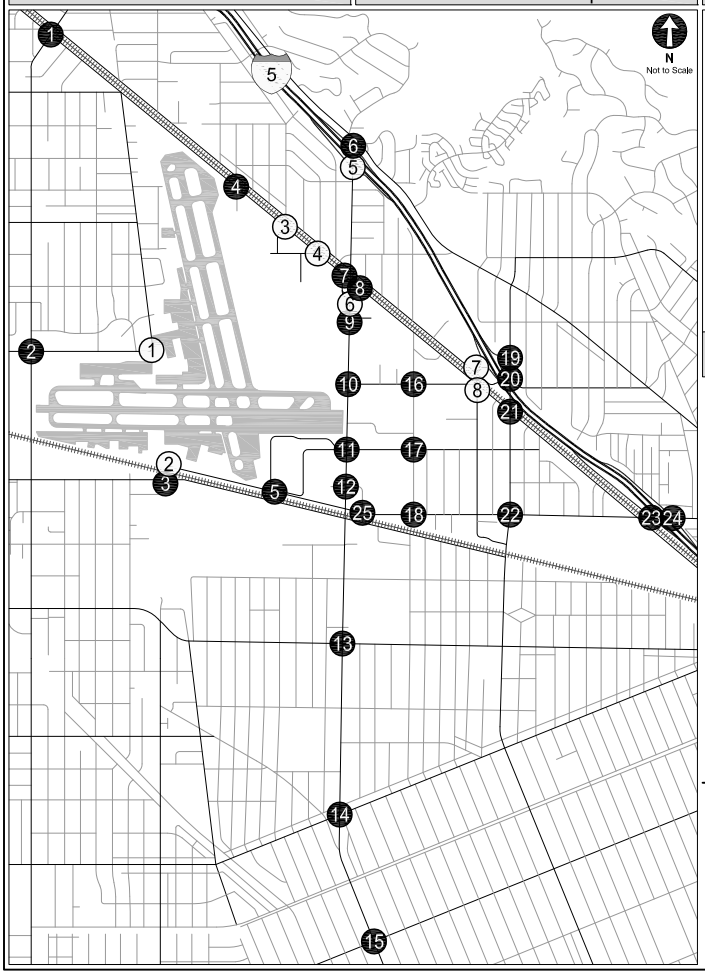
5. Hollywood Way & I-5 Southbound Ramps

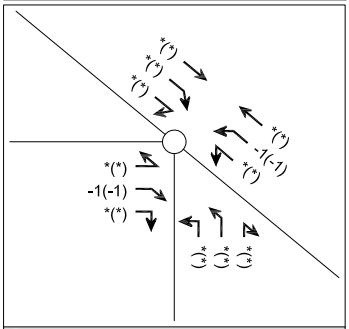


6. Hollywood Way & San Fernando Blvd Ramps



7. I-5 Southbound Ramps & San Fernando Blvd





8. San Fernando Blvd / Naomi St & Winona Ave

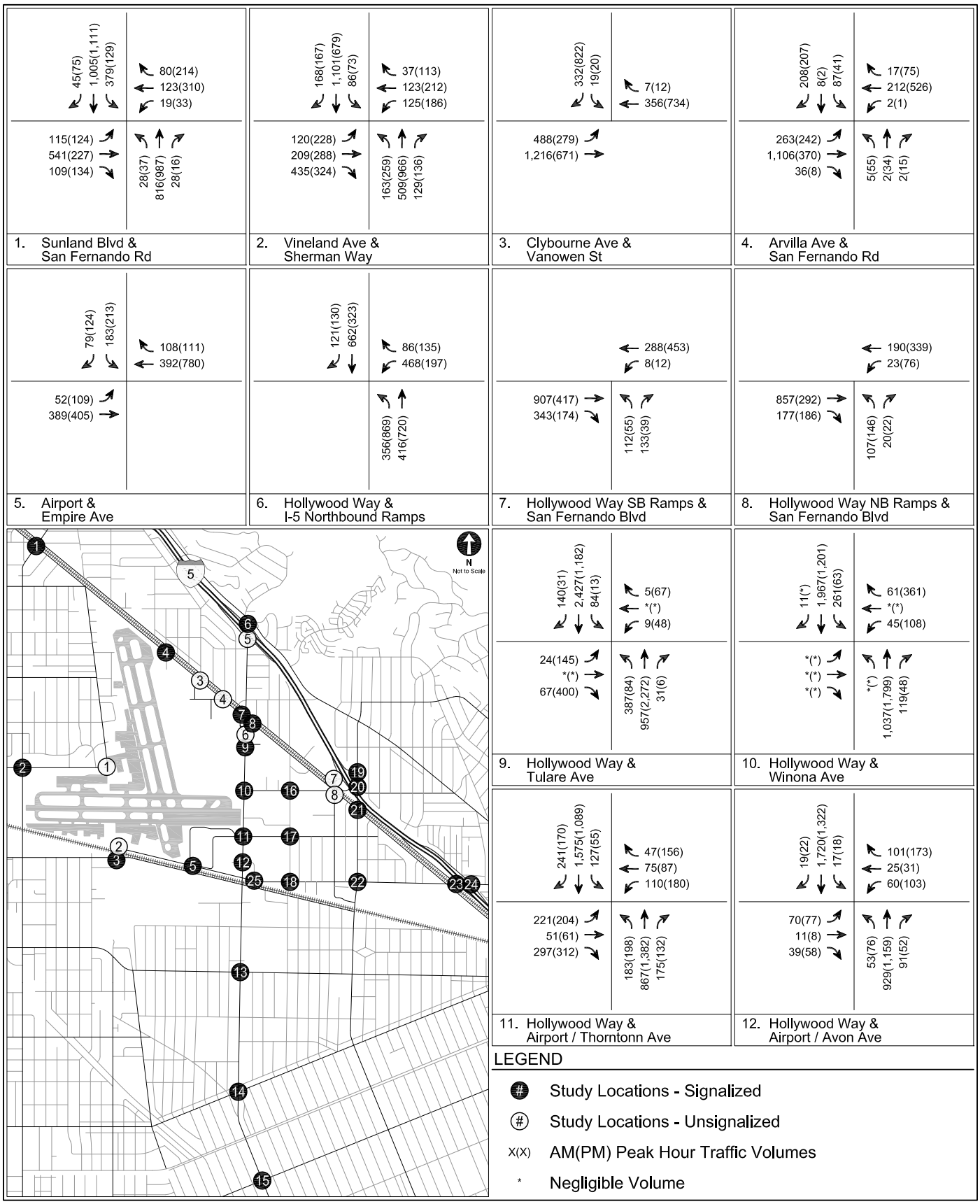
UNSIGNALIZED INTERSECTIONS

LEGEND

- # Study Locations - Signalized
- (#) Study Locations - Unsignalized
- X(X) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

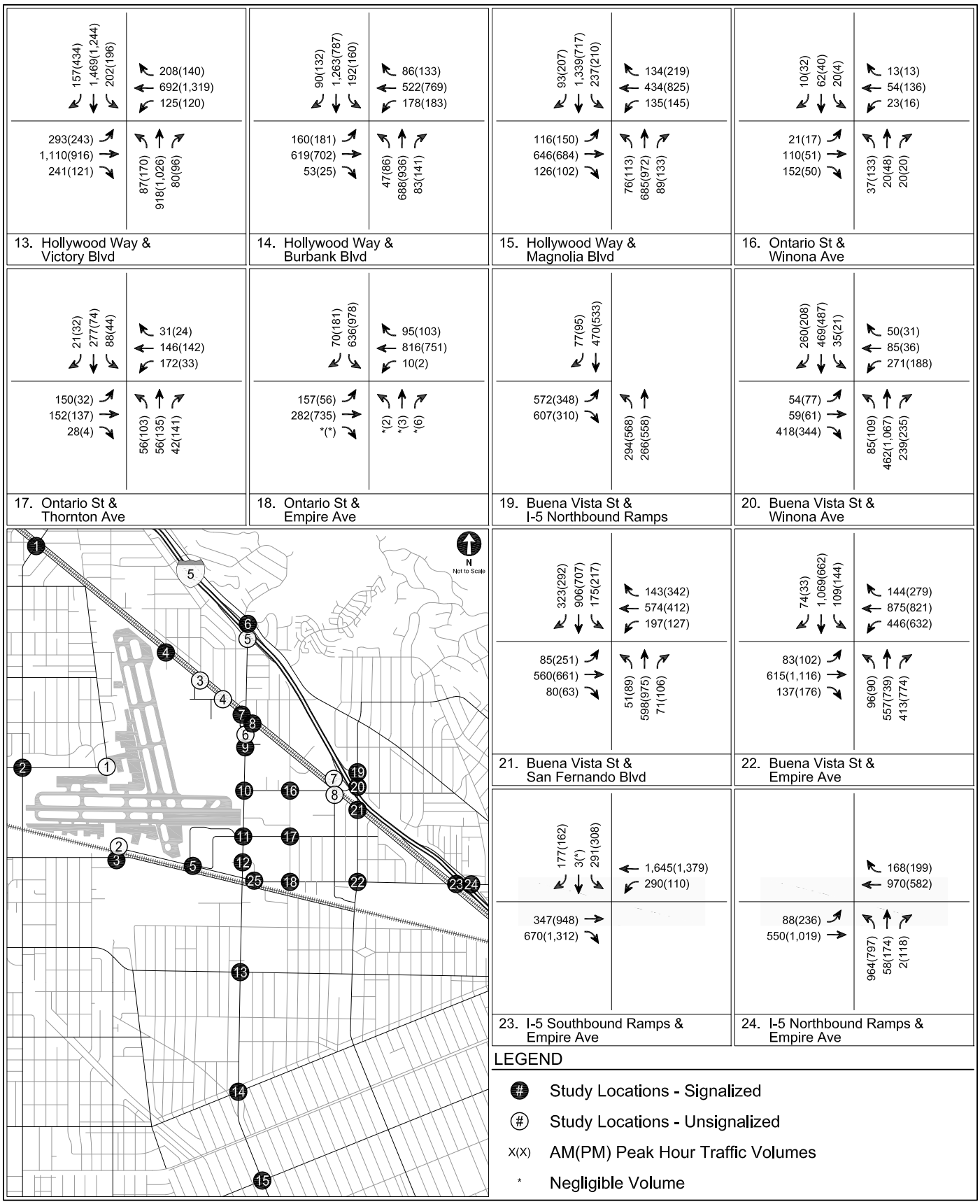
SOUTHWEST QUADRANT SAME-SIZE OPTION TRAFFIC SHIFTS - COMPLETION YEAR 2025 PEAK HOUR PROJECT-ONLY TRAFFIC VOLUMES

FIGURE 27 (CONT.)



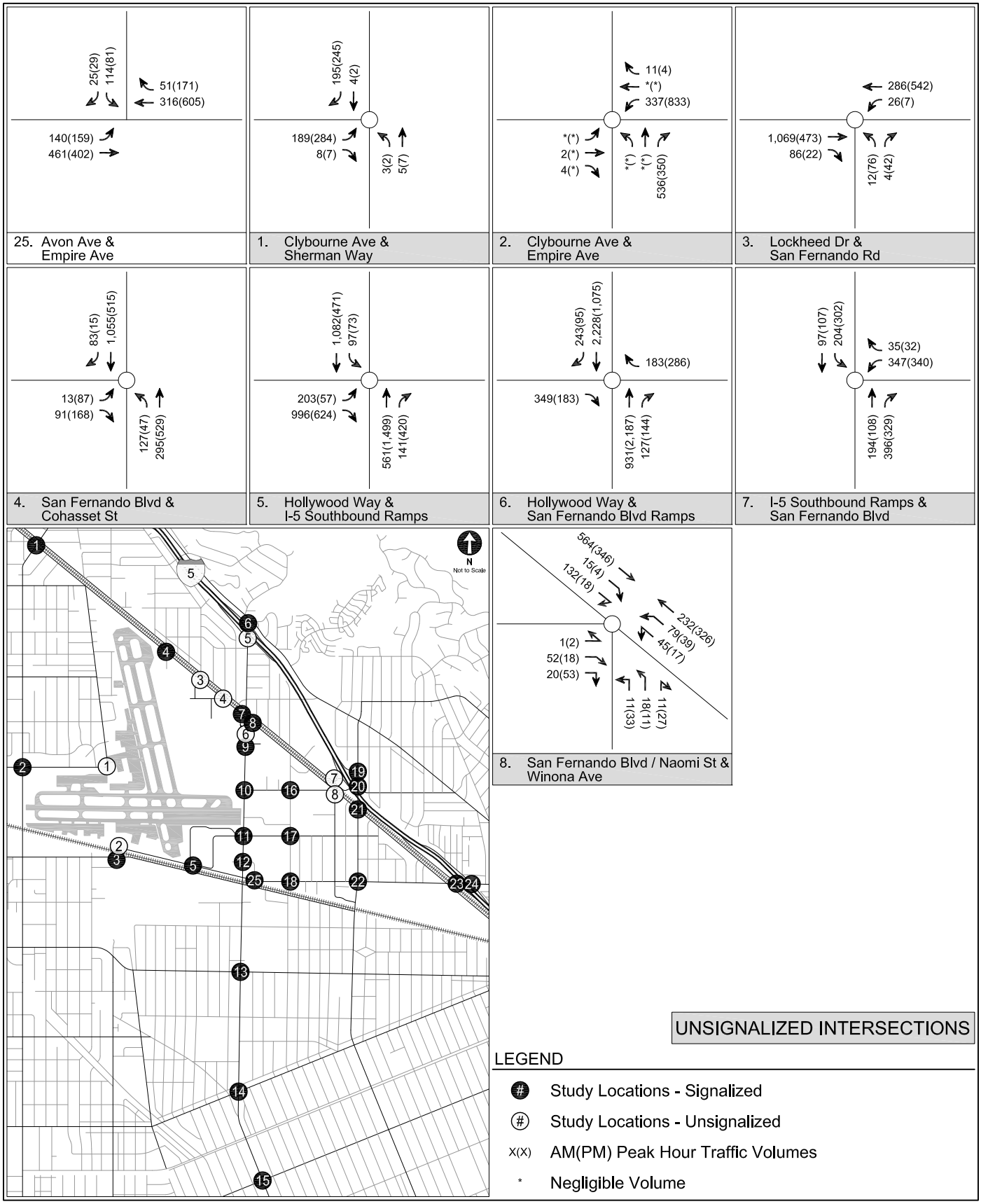
COMPLETION YEAR 2025 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 28



COMPLETION YEAR 2025 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 28 (CONT.)



COMPLETION YEAR 2025 WITH PROJECT - SOUTHWEST QUADRANT SAME-SIZE OPTION PEAK HOUR TRAFFIC VOLUMES

FIGURE 28 (CONT.)

TABLE 30
COMPLETION YEAR 2025 WITHOUT PROJECT CONDITIONS
SIGNALIZED INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Completion Year 2025 without Project Conditions	
			V/C	LOS
1.	Sunland Boulevard &	AM	0.791	C
[a]	San Fernando Road	PM	0.714	C
2.	Vineland Avenue &	AM	0.807	D
[a]	Sherman Way	PM	0.779	C
3.	Clybourn Avenue &	AM	0.618	B
[a]	Vanowen Street	PM	0.795	C
4.	Arvilla Avenue &	AM	0.620	B
[a]	San Fernando Road	PM	0.630	B
5.	Airport &	AM	0.359	A
	Empire Avenue	PM	0.469	A
6.	Hollywood Way &	AM	0.694	B
[a]	I-5 Northbound Ramps	PM	0.848	D
7.	Hollywood Way Southbound Ramps &	AM	0.392	A
	San Fernando Boulevard	PM	0.198	A
8.	Hollywood Way Northbound Ramps &	AM	0.359	A
	San Fernando Boulevard	PM	0.241	A
9.	Hollywood Way &	AM	0.890	D
	Tulare Avenue	PM	0.905	E
10.	Hollywood Way &	AM	0.633	B
	Winona Avenue	PM	0.950	E
11.	Hollywood Way &	AM	1.029	F
	Airport / Thornton Avenue	PM	0.929	E
12.	Hollywood Way &	AM	0.582	A
	Airport / Avon Avenue	PM	0.627	B
13.	Hollywood Way &	AM	1.094	F
	Victory Boulevard	PM	1.237	F
14.	Hollywood Way &	AM	0.902	E
	Burbank Boulevard	PM	0.922	E
15.	Hollywood Way &	AM	0.876	D
	Magnolia Boulevard	PM	0.917	E
16.	Ontario Street &	AM	0.196	A
	Winona Avenue	PM	0.190	A
17.	Ontario Street &	AM	0.529	A
	Thornton Avenue	PM	0.414	A
18.	Ontario Street &	AM	0.836	D
	Empire Avenue	PM	0.983	E
19.	Buena Vista Street &	AM	0.938	E
	I-5 Northbound Ramps	PM	1.017	F
20.	Buena Vista Street &	AM	0.768	C
	Winona Avenue	PM	0.793	C
21.	Buena Vista Street &	AM	0.747	C
	San Fernando Boulevard	PM	0.908	E
22.	Buena Vista Street &	AM	0.863	D
	Empire Avenue	PM	1.028	F
23.	I-5 Southbound Ramps &	AM	0.703	C
	Empire Avenue	PM	0.604	B
24.	I-5 Northbound Ramps &	AM	0.827	D
	Empire Avenue	PM	0.735	C
25.	Avon Avenue &	AM	0.284	A
	Empire Avenue	PM	0.409	A

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 31
COMPLETION YEAR 2025 WITHOUT PROJECT CONDITIONS
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE

No.	Intersection	Peak Hour	Completion Year 2025 without Project Conditions	
			Delay	LOS
1. [a]	Clybourn Avenue & Sherman Way	AM PM	13.0 16.3	B C
2.	Clybourn Avenue & Empire Avenue	AM PM	12.5 12.9	B B
3. [a]	Lockheed Drive & San Fernando Road	AM PM	25.6 16.5	D C
4.	San Fernando Boulevard & Cohasset Street	AM PM	21.8 21.2	C C
5. [a]	Hollywood Way & I-5 Southbound Ramps	AM PM	overflow 29.5	F D
6.	Hollywood Way & San Fernando Boulevard Ramps	AM PM	overflow overflow	F F
7.	I-5 Southbound Ramps & San Fernando Boulevard	AM PM	29.7 17.6	D C
8.	San Fernando Boulevard / Naomi Street & Winona Avenue	AM PM	18.3 17.6	C C

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 32
COMPLETION YEAR 2025 CUMULATIVE SIGNIFICANT IMPACTS
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Existing Year 2016 Conditions		Completion Year 2025 without Project Conditions			
			V/C	LOS	V/C	LOS	Δ V/C	Impact
1.	Sunland Boulevard &	AM	0.758	C	0.791	C	0.033	NO
[a]	San Fernando Road	PM	0.656	B	0.714	C	0.058	**YES**
2.	Vineland Avenue &	AM	0.774	C	0.807	D	0.033	**YES**
[a]	Sherman Way	PM	0.737	C	0.779	C	0.042	NO
3.	Clybourn Avenue &	AM	0.586	A	0.618	B	0.032	NO
[a]	Vanowen Street	PM	0.736	C	0.795	C	0.059	NO
4.	Arvilla Avenue &	AM	0.573	A	0.620	B	0.047	NO
[a]	San Fernando Road	PM	0.575	A	0.630	B	0.055	NO
5.	Airport &	AM	0.310	A	0.359	A	0.049	NO
	Empire Avenue	PM	0.376	A	0.469	A	0.093	NO
6.	Hollywood Way &	AM	0.656	B	0.694	B	0.038	NO
[a]	I-5 Northbound Ramps	PM	0.770	C	0.848	D	0.078	**YES**
7.	Hollywood Way Southbound Ramps &	AM	0.369	A	0.392	A	0.023	NO
	San Fernando Boulevard	PM	0.193	A	0.198	A	0.005	NO
8.	Hollywood Way Northbound Ramps &	AM	0.354	A	0.359	A	0.005	NO
	San Fernando Boulevard	PM	0.200	A	0.241	A	0.041	NO
9.	Hollywood Way &	AM	0.505	A	0.890	D	0.385	**YES**
	Tulare Avenue	PM	0.708	C	0.905	E	0.197	**YES**
10.	Hollywood Way &	AM	0.568	A	0.633	B	0.065	NO
	Winona Avenue	PM	0.837	D	0.950	E	0.113	**YES**
11.	Hollywood Way &	AM	0.847	D	1.029	F	0.182	**YES**
	Airport / Thornton Avenue	PM	0.701	C	0.929	E	0.228	**YES**
12.	Hollywood Way &	AM	0.569	A	0.582	A	0.013	NO
	Airport / Avon Avenue	PM	0.624	B	0.627	B	0.003	NO
13.	Hollywood Way &	AM	1.061	F	1.094	F	0.033	**YES**
	Victory Boulevard	PM	1.164	F	1.237	F	0.073	**YES**
14.	Hollywood Way &	AM	0.882	D	0.902	E	0.020	**YES**
	Burbank Boulevard	PM	0.876	D	0.922	E	0.046	**YES**
15.	Hollywood Way &	AM	0.854	D	0.876	D	0.022	**YES**
	Magnolia Boulevard	PM	0.869	D	0.917	E	0.048	**YES**
16.	Ontario Street &	AM	0.166	A	0.196	A	0.030	NO
	Winona Avenue	PM	0.185	A	0.190	A	0.005	NO
17.	Ontario Street &	AM	0.448	A	0.529	A	0.081	NO
	Thornton Avenue	PM	0.409	A	0.414	A	0.005	NO
18.	Ontario Street &	AM	0.264	A	0.836	D	0.572	**YES**
	Empire Avenue	PM	0.291	A	0.983	E	0.692	**YES**
19.	Buena Vista Street &	AM	0.694	B	0.938	E	0.244	**YES**
	I-5 Northbound Ramps	PM	0.876	D	1.017	F	0.141	**YES**
20.	Buena Vista Street &	AM	0.723	C	0.768	C	0.045	NO
	Winona Avenue	PM	0.731	C	0.793	C	0.062	NO
21.	Buena Vista Street &	AM	0.699	B	0.747	C	0.048	NO
	San Fernando Boulevard	PM	0.839	D	0.908	E	0.069	**YES**
22.	Buena Vista Street &	AM	0.546	A	0.863	D	0.317	**YES**
	Empire Avenue	PM	0.591	A	1.028	F	0.437	**YES**
23.	I-5 Southbound Ramps &	AM	0.000	A	0.703	C	0.703	NO
	Empire Avenue	PM	0.000	A	0.604	B	0.604	NO
24.	I-5 Northbound Ramps &	AM	0.000	A	0.827	D	0.827	**YES**
	Empire Avenue	PM	0.000	A	0.735	C	0.735	NO
25.	Avon Avenue &	AM	0.260	A	0.284	A	0.024	NO
	Empire Avenue	PM	0.355	A	0.409	A	0.054	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

TABLE 33
COMPLETION YEAR 2025 CUMULATIVE SIGNIFICANT IMPACTS
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 without Project Conditions					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Growth From Existing	Percent Increase	Cumulative Impact
1.	Clybourn Avenue &	AM	12.9	B	400	18	4.5%	NO
[a]	Sherman Way	PM	16.1	C	537	33	6.1%	NO
2.	Clybourn Avenue &	AM	12.3	B	919	76	8.3%	NO
	Empire Avenue	PM	12.7	B	1,189	157	13.2%	NO
3.	Lockheed Drive &	AM	25.3	D	1,473	96	6.5%	**YES**
[a]	San Fernando Road	PM	16.2	C	1,145	121	10.6%	NO
4.	San Fernando Boulevard &	AM	21.5	C	1,652	227	13.7%	NO
	Cohasset Street	PM	20.7	C	1,348	241	17.9%	NO
5.	Hollywood Way &	AM	overflow	F	3,054	150	4.9%	**YES**
[a]	I-5 Southbound Ramps	PM	28.0	D	3,093	239	7.7%	**YES**
6.	Hollywood Way &	AM	overflow	F	3,981	374	9.4%	**YES**
	San Fernando Boulevard Ramps	PM	overflow	F	3,867	461	11.9%	**YES**
7.	I-5 Southbound Ramps &	AM	24.1	C	1,217	231	19.0%	NO
	San Fernando Boulevard	PM	16.3	C	1,175	179	15.2%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.2	C	1,175	32	2.7%	NO
	Winona Avenue	PM	17.5	C	889	31	3.5%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 34
COMPLETION YEAR 2025 WITH PROJECT CONDITIONS - ADJACENT PROPERTY OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 without Project Conditions		Completion Year 2025 with Project Conditions - Adjacent Property Option			
			V/C	LOS	V/C	LOS	Δ V/C	Impact
1.	Sunland Boulevard &	AM	0.791	C	0.791	C	0.000	NO
[a]	San Fernando Road	PM	0.714	C	0.714	C	0.000	NO
2.	Vineland Avenue &	AM	0.807	D	0.807	D	0.000	NO
[a]	Sherman Way	PM	0.779	C	0.779	C	0.000	NO
3.	Clybourn Avenue &	AM	0.618	B	0.618	B	0.000	NO
[a]	Vanowen Street	PM	0.795	C	0.795	C	0.000	NO
4.	Arvilla Avenue &	AM	0.620	B	0.620	B	0.000	NO
[a]	San Fernando Road	PM	0.630	B	0.630	B	0.000	NO
5.	Airport &	AM	0.359	A	0.340	A	-0.019	NO
	Empire Avenue	PM	0.469	A	0.436	A	-0.033	NO
6.	Hollywood Way &	AM	0.694	B	0.694	B	0.000	NO
[a]	I-5 Northbound Ramps	PM	0.848	D	0.848	D	0.000	NO
7.	Hollywood Way Southbound Ramps &	AM	0.392	A	0.407	A	0.015	NO
	San Fernando Boulevard	PM	0.198	A	0.218	A	0.020	NO
8.	Hollywood Way Northbound Ramps &	AM	0.359	A	0.374	A	0.015	NO
	San Fernando Boulevard	PM	0.241	A	0.266	A	0.025	NO
9.	Hollywood Way &	AM	0.890	D	0.890	D	0.000	NO
	Tulare Avenue	PM	0.905	E	0.902	E	-0.003	NO
10.	Hollywood Way &	AM	0.633	B	0.768	C	0.135	NO
	Winona Avenue	PM	0.950	E	0.996	E	0.046	**YES**
11.	Hollywood Way &	AM	1.029	F	0.878	D	-0.151	NO
	Airport / Thornton Avenue	PM	0.929	E	0.841	D	-0.088	NO
12.	Hollywood Way &	AM	0.582	A	0.539	A	-0.043	NO
	Airport / Avon Avenue	PM	0.627	B	0.574	A	-0.053	NO
13.	Hollywood Way &	AM	1.094	F	1.094	F	0.000	NO
	Victory Boulevard	PM	1.237	F	1.237	F	0.000	NO
14.	Hollywood Way &	AM	0.902	E	0.902	E	0.000	NO
	Burbank Boulevard	PM	0.922	E	0.922	E	0.000	NO
15.	Hollywood Way &	AM	0.876	D	0.876	D	0.000	NO
	Magnolia Boulevard	PM	0.917	E	0.917	E	0.000	NO
16.	Ontario Street &	AM	0.196	A	0.196	A	0.000	NO
	Winona Avenue	PM	0.190	A	0.204	A	0.014	NO
17.	Ontario Street &	AM	0.529	A	0.528	A	-0.001	NO
	Thornton Avenue	PM	0.414	A	0.413	A	-0.001	NO
18.	Ontario Street &	AM	0.836	D	0.816	D	-0.020	NO
	Empire Avenue	PM	0.983	E	0.964	E	-0.019	NO
19.	Buena Vista Street &	AM	0.938	E	0.938	E	0.000	NO
	I-5 Northbound Ramps	PM	1.017	F	1.017	F	0.000	NO
20.	Buena Vista Street &	AM	0.768	C	0.782	C	0.014	NO
	Winona Avenue	PM	0.793	C	0.779	C	-0.014	NO
21.	Buena Vista Street &	AM	0.747	C	0.752	C	0.005	NO
	San Fernando Boulevard	PM	0.908	E	0.913	E	0.005	NO
22.	Buena Vista Street &	AM	0.863	D	0.845	D	-0.018	NO
	Empire Avenue	PM	1.028	F	1.013	F	-0.015	NO
23.	I-5 Southbound Ramps &	AM	0.703	C	0.689	B	-0.014	NO
	Empire Avenue	PM	0.604	B	0.590	A	-0.014	NO
24.	I-5 Northbound Ramps &	AM	0.827	D	0.812	D	-0.015	NO
	Empire Avenue	PM	0.735	C	0.719	C	-0.016	NO
25.	Avon Avenue &	AM	0.284	A	0.230	A	-0.054	NO
	Empire Avenue	PM	0.409	A	0.311	A	-0.098	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 35
COMPLETION YEAR 2025 WITH PROJECT CONDITIONS - ADJACENT PROPERTY OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 with Project Conditions - Adjacent Property Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	13.0	B	404	0	0.0%	NO
[a]	Sherman Way	PM	16.3	C	547	0	0.0%	NO
2.	Clybourn Avenue &	AM	12.5	B	938	0	0.0%	NO
	Empire Avenue	PM	12.9	B	1,227	0	0.0%	NO
3.	Lockheed Drive &	AM	28.3	D	1,486	0	0.0%	NO
[a]	San Fernando Road	PM	17.1	C	1,165	0	0.0%	NO
4.	San Fernando Boulevard &	AM	27.2	D	1,791	125	7.0%	**YES**
	Cohasset Street	PM	31.0	D	1,498	134	8.9%	**YES**
5.	Hollywood Way &	AM	overflow	F	3,090	0	0.0%	NO
[a]	I-5 Southbound Ramps	PM	29.5	D	3,154	0	0.0%	NO
6.	Hollywood Way &	AM	overflow	F	4,118	44	1.1%	**YES**
	San Fernando Boulevard Ramps	PM	overflow	F	4,030	48	1.2%	**YES**
7.	I-5 Southbound Ramps &	AM	33.3	D	1,295	20	1.5%	NO
	San Fernando Boulevard	PM	18.5	C	1,242	20	1.6%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	19.9	C	1,286	104	8.1%	NO
	Winona Avenue	PM	19.8	C	1,004	107	10.7%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 36
COMPLETION YEAR 2025 WITH PROJECT CONDITIONS - SWQ FULL-SIZE OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 without Project Conditions		Completion Year 2025 with Project Conditions - SWQ Full-Size Option			
			V/C	LOS	V/C	LOS	Δ V/C	Impact
1.	Sunland Boulevard &	AM	0.791	C	0.792	C	0.001	NO
[a]	San Fernando Road	PM	0.714	C	0.715	C	0.001	NO
2.	Vineland Avenue &	AM	0.807	D	0.808	D	0.001	NO
[a]	Sherman Way	PM	0.779	C	0.780	C	0.001	NO
3.	Clybourn Avenue &	AM	0.618	B	0.603	B	-0.015	NO
[a]	Vanowen Street	PM	0.795	C	0.781	C	-0.014	NO
4.	Arvilla Avenue &	AM	0.620	B	0.622	B	0.002	NO
[a]	San Fernando Road	PM	0.630	B	0.631	B	0.001	NO
5.	Airport &	AM	0.359	A	0.372	A	0.013	NO
	Empire Avenue	PM	0.469	A	0.518	A	0.049	NO
6.	Hollywood Way &	AM	0.694	B	0.697	B	0.003	NO
[a]	I-5 Northbound Ramps	PM	0.848	D	0.850	D	0.002	NO
7.	Hollywood Way Southbound Ramps &	AM	0.392	A	0.393	A	0.001	NO
	San Fernando Boulevard	PM	0.198	A	0.200	A	0.002	NO
8.	Hollywood Way Northbound Ramps &	AM	0.359	A	0.359	A	0.000	NO
	San Fernando Boulevard	PM	0.241	A	0.243	A	0.002	NO
9.	Hollywood Way &	AM	0.890	D	0.894	D	0.004	NO
	Tulare Avenue	PM	0.905	E	0.913	E	0.008	NO
10.	Hollywood Way &	AM	0.633	B	0.634	B	0.001	NO
	Winona Avenue	PM	0.950	E	0.958	E	0.008	NO
11.	Hollywood Way &	AM	1.029	F	1.010	F	-0.019	NO
	Airport / Thornton Avenue	PM	0.929	E	0.907	E	-0.022	NO
12.	Hollywood Way &	AM	0.582	A	0.588	A	0.006	NO
	Airport / Avon Avenue	PM	0.627	B	0.640	B	0.013	NO
13.	Hollywood Way &	AM	1.094	F	1.095	F	0.001	NO
	Victory Boulevard	PM	1.237	F	1.239	F	0.002	NO
14.	Hollywood Way &	AM	0.902	E	0.903	E	0.001	NO
	Burbank Boulevard	PM	0.922	E	0.923	E	0.001	NO
15.	Hollywood Way &	AM	0.876	D	0.877	D	0.001	NO
	Magnolia Boulevard	PM	0.917	E	0.918	E	0.001	NO
16.	Ontario Street &	AM	0.196	A	0.196	A	0.000	NO
	Winona Avenue	PM	0.190	A	0.190	A	0.000	NO
17.	Ontario Street &	AM	0.529	A	0.529	A	0.000	NO
	Thornton Avenue	PM	0.414	A	0.414	A	0.000	NO
18.	Ontario Street &	AM	0.836	D	0.832	D	-0.004	NO
	Empire Avenue	PM	0.983	E	0.982	E	-0.001	NO
19.	Buena Vista Street &	AM	0.938	E	0.938	E	0.000	NO
	I-5 Northbound Ramps	PM	1.017	F	1.017	F	0.000	NO
20.	Buena Vista Street &	AM	0.768	C	0.767	C	-0.001	NO
	Winona Avenue	PM	0.793	C	0.795	C	0.002	NO
21.	Buena Vista Street &	AM	0.747	C	0.747	C	0.000	NO
	San Fernando Boulevard	PM	0.908	E	0.907	E	-0.001	NO
22.	Buena Vista Street &	AM	0.863	D	0.857	D	-0.006	NO
	Empire Avenue	PM	1.028	F	1.027	F	-0.001	NO
23.	I-5 Southbound Ramps &	AM	0.703	C	0.702	C	-0.001	NO
	Empire Avenue	PM	0.604	B	0.603	B	-0.001	NO
24.	I-5 Northbound Ramps &	AM	0.827	D	0.826	D	-0.001	NO
	Empire Avenue	PM	0.735	C	0.734	C	-0.001	NO
25.	Avon Avenue &	AM	0.284	A	0.307	A	0.023	NO
	Empire Avenue	PM	0.409	A	0.439	A	0.030	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 37
COMPLETION YEAR 2025 WITH PROJECT CONDITIONS - SWQ FULL-SIZE OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 with Project Conditions - SWQ Full-Size Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	13.0	B	404	0	0.0%	NO
[a]	Sherman Way	PM	16.3	C	547	0	0.0%	NO
2.	Clybourn Avenue &	AM	8.7	A	894	-77	-8.6%	NO
	Empire Avenue	PM	0.0	A	1,193	-79	-6.6%	NO
3.	Lockheed Drive &	AM	25.8	D	1,492	7	0.5%	NO
[a]	San Fernando Road	PM	16.6	C	1,171	7	0.6%	NO
4.	San Fernando Boulevard &	AM	21.9	C	1,673	7	0.4%	NO
	Cohasset Street	PM	21.3	C	1,370	7	0.5%	NO
5.	Hollywood Way &	AM	overflow	F	3,116	25	0.8%	NO
[a]	I-5 Southbound Ramps	PM	30.4	D	3,181	26	0.8%	NO
6.	Hollywood Way &	AM	overflow	F	4,104	32	0.8%	**YES**
	San Fernando Boulevard Ramps	PM	overflow	F	4,015	33	0.8%	**YES**
7.	I-5 Southbound Ramps &	AM	29.6	D	1,274	-1	-0.1%	NO
	San Fernando Boulevard	PM	17.6	C	1,220	-2	-0.2%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.3	C	1,183	1	0.1%	NO
	Winona Avenue	PM	17.6	C	897	1	0.1%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 38
COMPLETION YEAR 2025 WITH PROJECT CONDITIONS - SWQ SAME-SIZE OPTION
SIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 without Project Conditions		Completion Year 2025 with Project Conditions - SWQ Same-Size Option			
			V/C	LOS	V/C	LOS	∆ V/C	Impact
1.	Sunland Boulevard &	AM	0.791	C	0.790	C	-0.001	NO
[a]	San Fernando Road	PM	0.714	C	0.713	C	-0.001	NO
2.	Vineland Avenue &	AM	0.807	D	0.808	D	0.001	NO
[a]	Sherman Way	PM	0.779	C	0.780	C	0.001	NO
3.	Clybourn Avenue &	AM	0.618	B	0.605	B	-0.013	NO
[a]	Vanowen Street	PM	0.795	C	0.782	C	-0.013	NO
4.	Arvilla Avenue &	AM	0.620	B	0.620	B	0.000	NO
[a]	San Fernando Road	PM	0.630	B	0.629	B	-0.001	NO
5.	Airport &	AM	0.359	A	0.371	A	0.012	NO
	Empire Avenue	PM	0.469	A	0.515	A	0.046	NO
6.	Hollywood Way &	AM	0.694	B	0.693	B	-0.001	NO
[a]	I-5 Northbound Ramps	PM	0.848	D	0.847	D	-0.001	NO
7.	Hollywood Way Southbound Ramps &	AM	0.392	A	0.391	A	-0.001	NO
	San Fernando Boulevard	PM	0.198	A	0.198	A	0.000	NO
8.	Hollywood Way Northbound Ramps &	AM	0.359	A	0.358	A	-0.001	NO
	San Fernando Boulevard	PM	0.241	A	0.240	A	-0.001	NO
9.	Hollywood Way &	AM	0.890	D	0.888	D	-0.002	NO
	Tulare Avenue	PM	0.905	E	0.902	E	-0.003	NO
10.	Hollywood Way &	AM	0.633	B	0.632	B	-0.001	NO
	Winona Avenue	PM	0.950	E	0.946	E	-0.004	NO
11.	Hollywood Way &	AM	1.029	F	1.002	F	-0.027	NO
	Airport / Thornton Avenue	PM	0.929	E	0.900	D	-0.029	NO
12.	Hollywood Way &	AM	0.582	A	0.582	A	0.000	NO
	Airport / Avon Avenue	PM	0.627	B	0.635	B	0.008	NO
13.	Hollywood Way &	AM	1.094	F	1.092	F	-0.002	NO
	Victory Boulevard	PM	1.237	F	1.232	F	-0.005	NO
14.	Hollywood Way &	AM	0.902	E	0.900	D	-0.002	NO
	Burbank Boulevard	PM	0.922	E	0.919	E	-0.003	NO
15.	Hollywood Way &	AM	0.876	D	0.875	D	-0.001	NO
	Magnolia Boulevard	PM	0.917	E	0.915	E	-0.002	NO
16.	Ontario Street &	AM	0.196	A	0.196	A	0.000	NO
	Winona Avenue	PM	0.190	A	0.190	A	0.000	NO
17.	Ontario Street &	AM	0.529	A	0.529	A	0.000	NO
	Thornton Avenue	PM	0.414	A	0.414	A	0.000	NO
18.	Ontario Street &	AM	0.836	D	0.832	D	-0.004	NO
	Empire Avenue	PM	0.983	E	0.981	E	-0.002	NO
19.	Buena Vista Street &	AM	0.938	E	0.938	E	0.000	NO
	I-5 Northbound Ramps	PM	1.017	F	1.017	F	0.000	NO
20.	Buena Vista Street &	AM	0.768	C	0.766	C	-0.002	NO
	Winona Avenue	PM	0.793	C	0.796	C	0.003	NO
21.	Buena Vista Street &	AM	0.747	C	0.747	C	0.000	NO
	San Fernando Boulevard	PM	0.908	E	0.907	E	-0.001	NO
22.	Buena Vista Street &	AM	0.863	D	0.858	D	-0.005	NO
	Empire Avenue	PM	1.028	F	1.026	F	-0.002	NO
23.	I-5 Southbound Ramps &	AM	0.703	C	0.701	C	-0.002	NO
	Empire Avenue	PM	0.604	B	0.603	B	-0.001	NO
24.	I-5 Northbound Ramps &	AM	0.827	D	0.826	D	-0.001	NO
	Empire Avenue	PM	0.735	C	0.734	C	-0.001	NO
25.	Avon Avenue &	AM	0.284	A	0.307	A	0.023	NO
	Empire Avenue	PM	0.409	A	0.441	A	0.032	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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TABLE 39
COMPLETION YEAR 2025 WITH PROJECT CONDITIONS - SWQ SAME-SIZE OPTION
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Completion Year 2025 with Project Conditions - SWQ Same-Size Option					
			Delay	LOS	Trips Through Intersection			
					Total Trips	Project Trips	Percent Increase	Impact
1.	Clybourn Avenue &	AM	13.0	B	404	0	0.0%	NO
[a]	Sherman Way	PM	16.3	C	547	0	0.0%	NO
2.	Clybourn Avenue &	AM	10.1	B	891	-61	-6.8%	NO
	Empire Avenue	PM	0.0	A	1,188	-64	-5.4%	NO
3.	Lockheed Drive &	AM	25.5	D	1,483	-3	-0.2%	NO
[a]	San Fernando Road	PM	16.5	C	1,162	-4	-0.3%	NO
4.	San Fernando Boulevard &	AM	21.7	C	1,664	-3	-0.2%	NO
	Cohasset Street	PM	21.1	C	1,361	-4	-0.3%	NO
5.	Hollywood Way &	AM	overflow	F	3,080	-9	-0.3%	NO
[a]	I-5 Southbound Ramps	PM	29.3	D	3,144	-9	-0.3%	NO
6.	Hollywood Way &	AM	overflow	F	4,061	-13	-0.3%	NO
	San Fernando Boulevard Ramps	PM	overflow	F	3,970	-13	-0.3%	NO
7.	I-5 Southbound Ramps &	AM	29.4	D	1,273	-2	-0.2%	NO
	San Fernando Boulevard	PM	17.5	C	1,218	-4	-0.3%	NO
8.	San Fernando Boulevard / Naomi Street &	AM	18.3	C	1,180	-2	-0.2%	NO
	Winona Avenue	PM	17.6	C	894	-2	-0.2%	NO

[a] Fully or partially within City of Los Angeles jurisdiction.

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Chapter 6

Intersection Mitigation Program

This Chapter identifies improvement measures to reduce the level of significance of the intersection impacts identified in Chapters 3, 4, and 5. In total, three intersections were significantly impacted in one or more analysis scenario, including one signalized intersection and two unsignalized intersections. Table 40 provides a summary of the significantly impacted locations, including during what peak hour the impact is projected to occur and under which Project Options. As it shows, all three intersections would be significantly impacted under the Adjacent Property Option and only a single unsignalized intersection would be significantly impacted under the SWQ Full-Size Option. No significant impacts were identified under the SWQ Same-Size Option.

In general, the mitigation measures seek to increase the capacity of the impacted intersections through physical widening, lane reconfigurations, or traffic signal installations or upgrades. Where applicable, lane configurations after mitigation are shown in Attachment A. Other types of mitigation measures, such as transportation demand management ("TDM"), were considered but determined not to be effective at reducing Airport traffic volumes to the point where significant traffic impacts could be avoided.

It is important to note that because the Project does not result in an increase in Airport trip generation, the identified significant impacts are simply the result of traffic shifting from one access point to another. An increase in traffic at one location, such as the intersection of Hollywood Way & Winona Avenue under the Adjacent Property Option, is offset by a decrease in traffic at another location (such as Hollywood Way & Thornton Avenue). However, the determination of the significance of an impact at any one location is independent of any corresponding improvement at another location, and therefore the identified significant impacts must be mitigated.

Additionally, there are several development projects under consideration within the immediate vicinity of the Airport – most notably, the proposed development of the former Lockheed parcel adjacent to the northeast quadrant of the Airport (Related Project #11) – that would require mitigations to the same intersections as are potentially impacted by Project traffic. In the event that multiple projects are developed with impacts to these intersections, the first project to be constructed would install the proposed mitigation measures, but costs may be shared by other projects on a proportionate basis to the amount of traffic each project adds.

MITIGATION MEASURES FOR ADJACENT PROPERTY OPTION

As shown in Table 40, the Adjacent Property Option would result in up to three significant impacts, including:

- Signalized Intersection #10, Hollywood Way & Winona Avenue, during the afternoon peak hour
- Unsignalized Intersection #4, San Fernando Boulevard & Cohasset Street, during both the morning and afternoon peak hours
- Unsignalized Intersection #6, Hollywood Way & San Fernando Boulevard Ramps, during both the morning and afternoon peak hours

Table 41 shows the intersection LOS results with application of the mitigation measures described below and identifies whether a significant impact would remain or not if those mitigation measures were fully implemented.

Hollywood Way & Winona Avenue

The intersection of Hollywood Way & Winona Avenue would serve as the primary access to the terminal under the Adjacent Property Option. In order to mitigate the impact at this intersection to a less than significant level, it would have to be widened and restriped to add a second northbound left-turn lane, a third northbound through lane, and a fourth eastbound lane exiting the Airport. Additionally, the eastbound approach would need to have a protected left-turn traffic signal arrow. A conceptual drawing of the proposed improvement is shown in Figure 29. The

addition of the northbound left-turn lane would require widening the west edge of Hollywood Way north and south of Winona Avenue. The tapered widening north of Winona Avenue would accommodate the necessary shift of the southbound lanes to the west, and the widening south of Winona Avenue would accommodate the additional left-turn lane. The lanes on Hollywood Way would all have to be reduced to 10 feet in width, and the on-street bicycle lanes would be narrowed slightly to 5 feet each. However, they would become Class IV “buffered” bicycle lanes to provide further protection from passing vehicles.

Because of an Airport requirement not to widen within 250 feet of the centerline of Runway 8-26, Hollywood Way would taper back to its existing width south approximately 330 feet south of Winona Avenue (250 feet north of the runway centerline). This mitigation measure is considered feasible, and is acceptable to City staff based on comments provided. If the proposed improvement were implemented, the peak hour impacts at this intersection would be reduced to less than significant under each analysis year, as shown in Table 41.

San Fernando Boulevard & Cohasset Street

The intersection of San Fernando Boulevard & Cohasset Street would serve as a secondary access to the terminal under the Adjacent Property Option. The impacts at this location could be fully mitigated through the installation of traffic signal control, which is warranted under application of the peak hour traffic signal warrant from the MUTCD. The signal warrant analysis worksheet for Completion Year 2025 conditions is provided in Attachment E. With signalization, the intersection operating condition would improve to LOS B during the morning peak hour and LOS C during the afternoon peak hour (as compared to LOS D during both peak hours prior to signalization). A conceptual drawing of the intersection configuration with signalization is shown in Figure 30. Along with signalization, crosswalks could be installed and the eastbound approach on Cohasset Street could be striped with exclusive left and right-turn lanes. This mitigation measure is feasible and acceptable to City staff based on comments provided.

Hollywood Way & San Fernando Boulevard Ramps

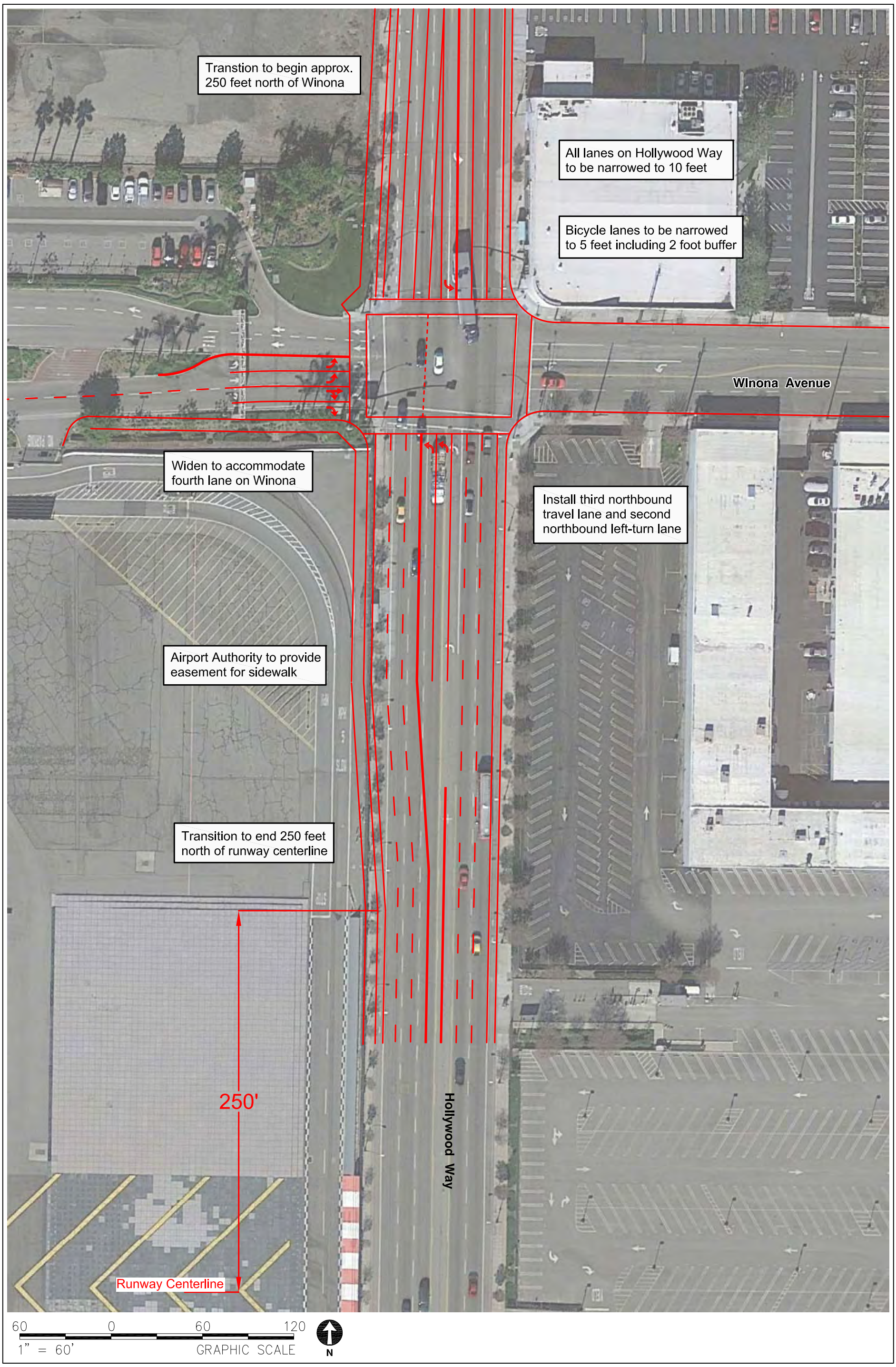
The intersection of Hollywood Way & San Fernando Boulevard Ramps could be fully mitigated by reconfiguring the intersection with traffic signal control and adding a second eastbound right-turn lane. The traffic signal control could be limited to the southbound side of Hollywood Way, as there is a raised median dividing the northbound and southbound sides of Hollywood Way and the northbound side does not have any conflicting vehicle movements. As part of the improvement, the Hollywood Way southbound ramp from San Fernando Boulevard would remain two lanes for its entire length rather than merging to one before reaching Hollywood Way, and would be realigned within the existing right-of-way to approach Hollywood Way at a 90-degree angle. The second turn lane is required to improve the intersection from LOS F conditions, which would remain with signalization alone (albeit improved as compared to the unsignalized condition). The second right-turn lane is justified, as traffic entering the ramp from San Fernando Boulevard comes from both a left-turn lane and a right-turn lane (which allows right-turns even during a red light), whereas traffic exiting the ramp onto Hollywood Way only flows intermittently during green lights. The traffic signal is warranted based on application of the peak hour traffic signal warrant from the MUTCD. With signalization, the intersection operating condition would improve to LOS B during the morning peak hour and LOS D during the afternoon peak hour (as compared to LOS F during both peak hours prior to signalization). A conceptual drawing of the intersection configuration is shown in Figure 31. This mitigation measure is feasible and acceptable to City staff based on comments provided.

MITIGATION MEASURES FOR SOUTHWEST QUADRANT FULL-SIZE OPTION

As shown in Table 40, the SWQ Full-Size Option would result in a significant impact at the intersection of Hollywood Way & San Fernando Boulevard Ramps during both peak hours. The impact could be mitigated through the same improvement – signalization and the addition of a second eastbound right-turn lane – as suggested for the Adjacent Property Option and as shown in Figure 31. As shown in Table 42, with this improvement, the intersection operating condition would improve to LOS B during the morning peak hour and LOS D during the afternoon peak hour under Completion Year 2025 conditions (as compared to LOS F during both peak hours prior to signalization).

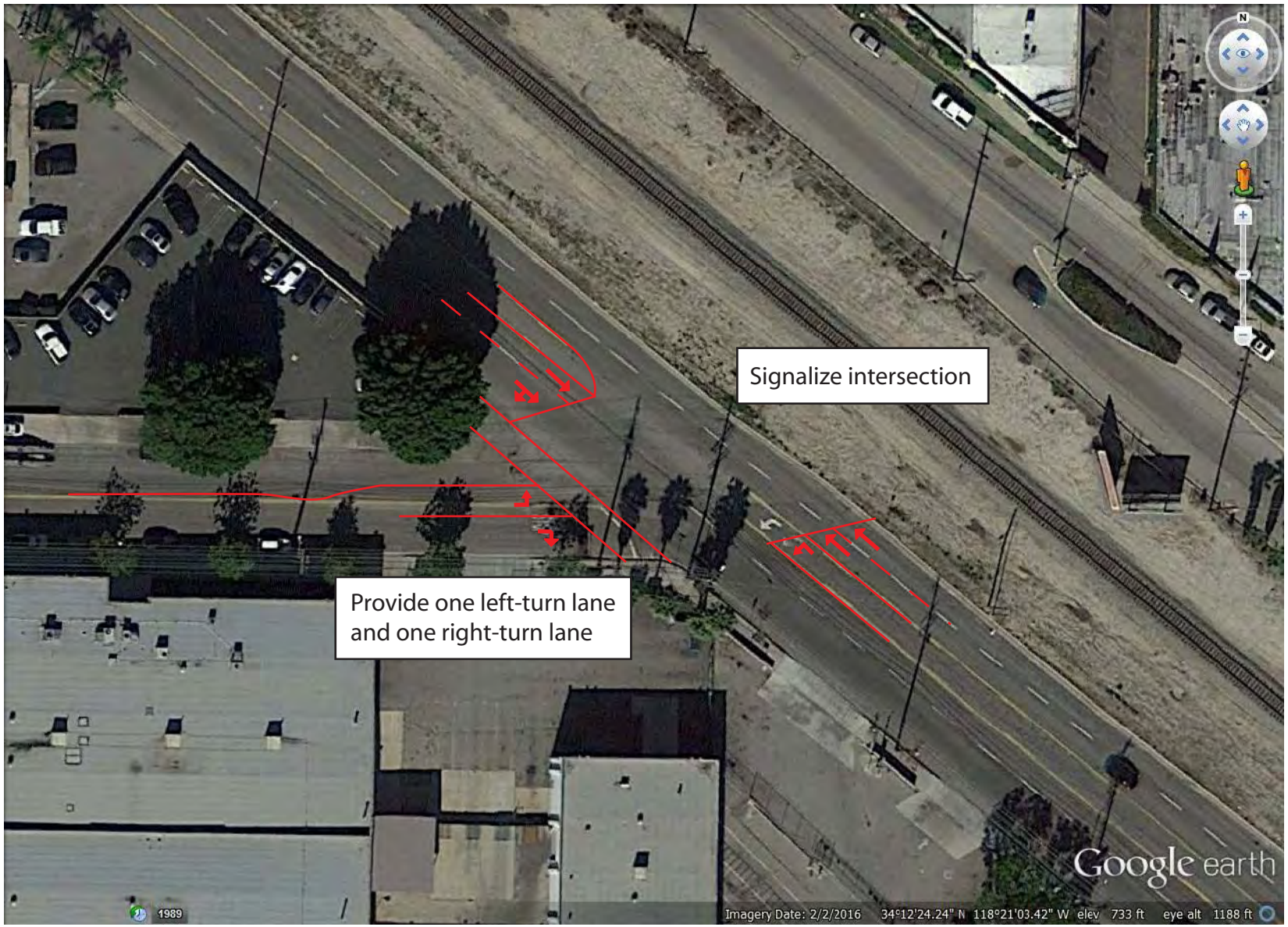
AUTHORITY TO IMPLEMENT MITIGATION MEASURES

Each of the mitigation measures proposed in this Chapter requires the consent of other agencies aside from the Airport Authority. Each significantly impacted intersection falls within the jurisdiction of the City of Burbank, and the intersection of San Fernando Boulevard & Cohasset Street is jointly under the jurisdiction of the Cities of Burbank and Los Angeles. Should these jurisdictions oppose the installation of one more of the measures proposed in this Chapter, significant and unmitigated impacts could remain. Based on consultation with City of Burbank staff, all improvements are acceptable to the City of Burbank.



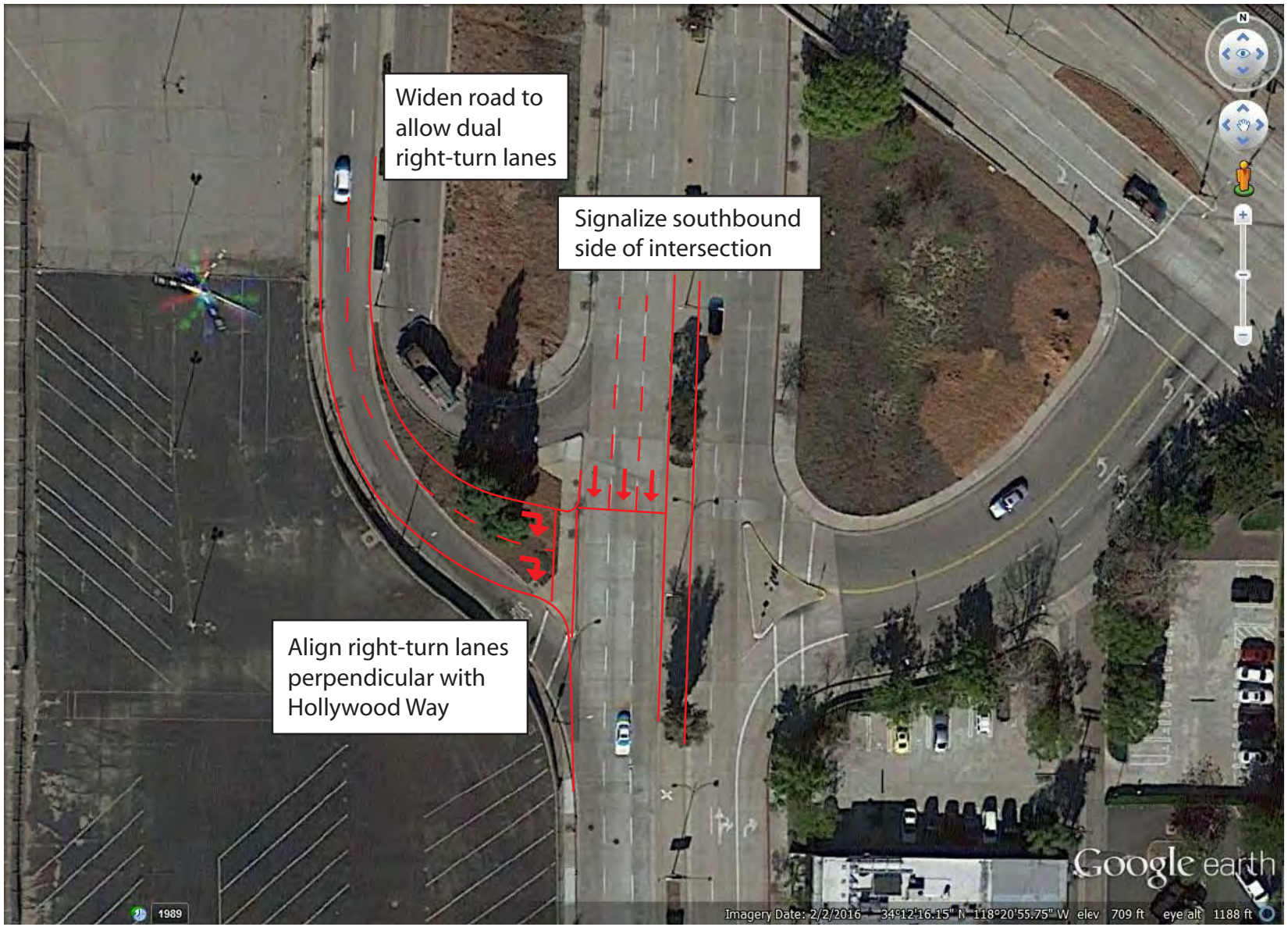
PROPOSED MITIGATION MEASURE - HOLLYWOOD WAY & WINONA AVENUE (SIGNALIZED #10)

FIGURE 29



PROPOSED MITIGATION MEASURE - SAN FERNANDO BOULEVARD & COHASSET STREET (UNSIGNALIZED #4)

FIGURE 30



PROPOSED MITIGATION MEASURE - HOLLYWOOD WAY SOUTHBOUND & SAN FERNANDO BOULEVARD RAMPS (UNSIGNALIZED #6)

FIGURE 31

TABLE 40
SUMMARY OF SIGNIFICANT IMPACTS

No.	Intersection	Adjacent Property Option			SWQ Full-Size Option			SWQ Same-Size Option		
		Existing Year 2016	Interim Year 2023	Completion Year 2025	Existing Year 2016	Interim Year 2023	Completion Year 2025	Existing Year 2016	Interim Year 2023	Completion Year 2025
Signalized Intersections										
10	Hollywood Way & Winona Avenue	PM	PM	PM						
Unsignalized Intersections										
4	San Fernando Boulevard & Cohasset Street		AM & PM	AM & PM						
6	Hollywood Way & San Fernando Boulevard Ramps	AM & PM	AM & PM	AM & PM	AM & PM	AM & PM	AM & PM			

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TABLE 41
MITIGATION CONDITIONS - ADJACENT PROPERTY OPTION
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Conditions Prior to Mitigation [b]		Conditions with Adjacent Property Option with Mitigation			
			V/C	LOS	V/C	LOS	Δ V/C	Impact
Existing Year 2016								
10.	Hollywood Way &	AM	0.568	A	0.573	A	0.005	NO
	Winona Ave	PM	0.837	D	0.575	A	-0.262	NO
4.	San Fernando Blvd &	AM	14.7	B	0.588	A	n/a	NO
[a]	Cohasset St	PM	12.1	B	0.657	B	n/a	NO
6.	Hollywood Way &	AM	64.7	F	0.600	A	n/a	NO
[a]	San Fernando Blvd Ramps	PM	70.1	F	0.671	B	n/a	NO
Interim Year 2023								
10.	Hollywood Way &	AM	0.620	B	0.612	B	-0.008	NO
	Winona Ave	PM	0.928	E	0.619	B	-0.309	NO
4.	San Fernando Blvd &	AM	26.3	D	0.612	B	n/a	NO
[a]	Cohasset St	PM	29.6	D	0.733	C	n/a	NO
6.	Hollywood Way &	AM	overflow	F	0.670	B	n/a	NO
[a]	San Fernando Blvd Ramps	PM	overflow	F	0.775	C	n/a	NO
Completion Year 2025								
10.	Hollywood Way &	AM	0.633	B	0.620	B	-0.013	NO
	Winona Ave	PM	0.950	E	0.630	B	-0.320	NO
4.	San Fernando Blvd &	AM	27.2	D	0.623	B	n/a	NO
[a]	Cohasset St	PM	31.0	D	0.750	C	n/a	NO
6.	Hollywood Way &	AM	overflow	F	0.687	B	n/a	NO
[a]	San Fernando Blvd Ramps	PM	overflow	F	0.801	D	n/a	NO

[a] Intersection is currently unsignalized but proposed mitigation measure includes signalization.
[b] At signalized intersections, Conditions without Project are shown; at unsignalized locations, Conditions with Project are shown.

TABLE 42
MITIGATION CONDITIONS - SWQ FULL-SIZE OPTION
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS

No.	Intersection	Peak Hour	Conditions Prior to Mitigation [b]		Conditions with SWQ Full-Size Option with Mitigation			
			V/C	LOS	V/C	LOS	Δ V/C	Impact
Existing Year 2016								
6.	Hollywood Way &	AM	64.7	F	0.598	A	n/a	NO
[a]	San Fernando Blvd Ramps	PM	70.1	F	0.676	B	n/a	NO
Interim Year 2023								
6.	Hollywood Way &	AM	overflow	F	0.667	B	n/a	NO
[a]	San Fernando Blvd Ramps	PM	overflow	F	0.779	C	n/a	NO
Completion Year 2025								
6.	Hollywood Way &	AM	overflow	F	0.684	B	n/a	NO
[a]	San Fernando Blvd Ramps	PM	overflow	F	0.805	D	n/a	NO

[a] Intersection is currently unsignalized but proposed mitigation measure includes signalization.
[b] At signalized intersections, Conditions without Project are shown; at unsignalized locations, Conditions with Project are shown.

Chapter 7

Congestion Management Program Analysis

This chapter presents an analysis of the regional transportation facilities in the vicinity of the Airport, in accordance with the procedures outlined in the CMP.

TRAFFIC IMPACT ANALYSIS GUIDELINES

The CMP requires that TIAs be performed on three types of facilities:

- Arterial Intersections
- Mainline Freeway Segments
- The Public Transit System

The CMP identifies specific arterial and freeway mainline locations for analysis.

Arterial Intersections

The CMP requires that a TIA be performed for all CMP arterial monitoring intersections where a project would add 50 or more trips during either the weekday morning or afternoon peak hours. A detailed analysis is not required if the project adds fewer than 50 trips to an arterial monitoring intersection. The CMP analysis uses the same CMA methodology as used in earlier chapters for City intersections to determine intersection V/C ratio and LOS. A significant impact requiring mitigation occurs if project traffic causes an incremental increase in intersection V/C ratio of 0.02 or greater to a facility projected to operate at LOS F (V/C > 1.00) after the addition of project traffic.

Mainline Freeway Segments

The CMP requires that a TIA be performed for all CMP mainline freeway monitoring locations where a project would add 150 or more trips (in either direction) during the weekday morning or afternoon peak hours. A detailed analysis is not required if the project adds fewer than 150 trips to a mainline freeway monitoring location (in either direction) during either the weekday morning or afternoon peak hour. The CMP analysis uses a demand-to-capacity ("D/C") ratio to determine facility LOS based on capacity identified in Appendix A of the CMP. Similar to arterial monitoring intersections, a significant impact requiring mitigation occurs if project traffic causes an incremental increase in freeway segment D/C ratio of 0.02 or greater to a facility projected to operate at LOS F (D/C > 1.00) after the addition of project traffic.

The Public Transit System

The CMP requires that a transit system analysis be performed to determine whether a project would increase transit ridership beyond the current capacity of the transit system.

ARTERIAL INTERSECTION ANALYSIS

The CMP does not identify any identify any arterial monitoring intersections within the Study Area. The nearest arterial monitoring stations are over four miles from the Airport, including one at Woodman Avenue & Victory Boulevard to the west and at Lankershim Boulevard & Ventura Boulevard to the south. As the Project consists of a local reassignment of trips to different access points, it would not have a measurable effect on intersections four miles from the Airport. It would add far fewer than 50 peak hour trips at either of the arterial monitoring intersections identified above and therefore the Project's CMP arterial intersection impacts are considered to be less than significant and no further analysis is required.

MAINLINE FREEWAY SEGMENT ANALYSIS

The CMP does not identify any freeway monitoring locations within the traffic impact analysis Study Area. The nearest freeway monitoring location is on I-5 at Burbank Boulevard (approximately two miles southeast of the Airport). Other freeway monitoring locations include SR 170 at Sherman Way (approximately three miles west of the Airport) and SR 134 at Forman Avenue (approximately three miles south of the Airport). As with the arterial monitoring stations, the Project would not have a measurable effect on these freeway segments outside of the Study Area. It would add far fewer than 150 peak hour trips in either direction and, therefore, the Project's CMP freeway segment impacts are considered to be less than significant and no further analysis is required.

It should be noted that this analysis is different from the analysis of Caltrans facilities in Chapter 8. The analysis in Chapter 8 was based on Caltrans preferred traffic analysis methodologies and includes more Caltrans facilities within the Study Area, while the CMP freeway segment analysis is based on the guidelines and requirements of the CMP and only included locations identified for monitoring by the CMP.

PUBLIC TRANSIT SYSTEM ANALYSIS

Section B.8.4 of the CMP provides a methodology for estimating the number of transit trips expected to result from a proposed project based on the number of vehicle trips it would generate. However, as the Project is not expected to generate additional trips, that methodology is not applicable. The mode split assumptions in Table 5 suggest that less than 1% of Airport passengers travel to or from the Airport via public transit in year 2016 and that the number will remain at 1% in the future. There are several public transit improvements that are proposed to occur around the Airport, as described in Chapter 4. These include the construction of a new Metrolink station on San Fernando Boulevard near Cohasset Street and Hollywood Way that would serve Metrolink riders on the Antelope Valley Line and a pedestrian bridge between the existing Metrolink Burbank-Bob Hope Airport Station on Empire Avenue and the transit center on the ground floor of the RITC. Upon the station's completion, the Authority has committed to provide an air carrier passenger shuttle between the terminal and the proposed Metrolink Station on San Fernando Boulevard for each arriving and departing train. While these

improvements could result in a small increase in public transit usage to and from the Airport, they are independent of the proposed Project and therefore any increase in transit ridership would be attributed to those improvements. Therefore, the Project is not anticipated to result in regional transit impacts and no additional analysis is required.

Chapter 8
Caltrans Analysis

This chapter presents an analysis of Caltrans facilities, including freeway mainline segments, Caltrans intersections, off-ramp queuing, and on-ramp capacity. The analysis follows the guidelines found in the Caltrans TIS Guide as required. The Caltrans TIS Guide states that Caltrans' target LOS is "at the transition between LOS C and LOS D," but Caltrans does not identify specific incremental criteria by which to measure the significance of impacts to freeway mainline segments or intersections. Because the Project does not generate new traffic, its effect on Caltrans facilities is limited, as shown here. This analysis is presented for informational purposes.

ANALYZED FACILITIES

As discussed above, four types of analysis were conducted on Caltrans facilities. Four freeway mainline segments on I-5 were analyzed using *2010 Highway Capacity Manual* (Transportation Research Board, 2010) ("HCM 2010") methodology to determine density, speed, and LOS. Six intersections were analyzed, including four signalized and two unsignalized. All of these intersections are freeway ramp locations at I-5, including the ramps at the Hollywood Way interchange, the Buena Vista Street interchange, and the Empire Avenue interchange, which will not be completed until year 2018. These intersections were analyzed using HCM 2010 methodology to identify average vehicle delay and LOS. Each of the six off-ramps at those locations were analyzed for ramp queue lengths using HCM 2010 to estimate queues and were reviewed to ensure that the ramp volumes do not exceed 900 vehicles per hour per lane ("vphpl"). The analyzed facilities are listed in Table 43. Attachment F contains the LOS worksheets for each type of analysis.

Additional Caltrans facilities on SR 170 and SR 134 were considered for analysis, but they were not included because the traffic shifts from the Project are not expected to measurably affect

freeway mainline operations within the Study Area (i.e., on I-5), let alone at freeway facilities well beyond the traffic impact analysis Study Area boundaries.

FREEWAY MAINLINE SEGMENTS

Four freeway mainline segments on I-5 were analyzed using the HCM 2010 methodology. Table 44 summarizes the LOS definitions for freeway mainline segments based on the calculated traffic density (measured in vehicles per mile per lane [“vpmpl”]) during the peak hours. Existing freeway volumes were collected using Caltrans’ Performance Measurement System (“PeMS”). The data consists of the peak hour average for all weekdays between December 1, 2015 and December 18, 2015, which includes the week that the intersection traffic counts were conducted. As with the intersection counts, this recent data was considered to represent Existing Year 2016 conditions. Table 45 summarizes the results of the HCM 2010 analysis for Existing Year 2016 conditions. As it shows, each of the four segments operates at LOS D during one or both peak hours in one direction or the other.

This report also projected Interim Year 2023 and Completion Year 2025 peak hour traffic volumes on the four segments of I-5. The volumes were forecast in the same manner as the intersection volumes, including the addition of regional Ambient Growth, Related Project traffic, and background growth of Airport passenger traffic. Table 46 summarizes the results of the HCM 2010 analysis for the Interim Year 2023 conditions. As under Existing Year 2016 conditions, each of the four segments is projected to operate at LOS D during one or both peak hours in one direction or the other. One segment, I-5 between Hollywood Way and Buena Vista Street in the southbound direction, would degrade from LOS B to LOS C during the afternoon peak hour. The remainder of the freeway segments would continue to operate at the same LOS as under Existing conditions.

Table 47 summarizes the results of the HCM 2010 analysis for the Completion Year 2025 conditions. The LOS results are the same as under Interim Year 2023 conditions. The Project’s effect on freeway volumes – and by extension, freeway operating conditions – would be negligible.

INTERSECTIONS

Six freeway ramp intersections were included in the Study Area. Two are the proposed future intersections at the Empire Avenue Interchange, which are expected to be open in year 2018. Of the remaining four locations, two are currently signalized and two are unsignalized. The peak hour traffic volume data used at each location is the same as that used in the intersection analysis in preceding Chapters. The HCM 2010 methodology was used to analyze each location. Table 48 summarizes the LOS definitions for signalized and unsignalized intersections.

Table 49 summarizes the results of the intersection analysis under Existing Year 2016, Interim Year 2023 without Project conditions, and Completion Year 2025 without Project conditions. As shown in Table 49, under Existing Year 2016 conditions, the intersection of Hollywood Way & I-5 southbound ramps (which is currently unsignalized) operates at LOS F during both peak hours. Under Interim Year 2023 conditions, that intersection would continue to operate at LOS F. Also, the intersection of I-5 Southbound Ramps & Empire Avenue is projected to operate at LOS E during the afternoon peak hour. Completion Year 2025 conditions are nearly identical to Interim Year 2023 conditions, though the intersection of I-5 Southbound Ramps & San Fernando Boulevard (N) would degrade from LOS C to LOS D during the morning peak hour. As with the freeway mainline segments, the Project would have negligible effects on traffic volumes and delay at these locations.

The intersection of Hollywood Way & I-5 Southbound Ramps, which is currently unsignalized, serves Airport traffic and would be much improved with traffic signal operation. The Project would not contribute to the traffic at that location and, therefore, is not responsible to contribute to the cost of signalization. Based on an email from Caltrans staff in May 2016, the signalization of that intersection is on Caltrans' programmed list of improvements and is in the process of obtaining necessary approvals and funding.

OFF-RAMP QUEUES

The off-ramps at each of the intersections analyzed in Table 49 were analyzed to determine whether the length of the ramps is sufficient to accommodate vehicle queue lengths. The queue

lengths were estimated using the HCM 2010 methodology. The 95th percentile queue length was reported, in feet, for each approach lane on the off-ramp.

Caltrans' primary concern at off-ramps is that queued vehicles may extend past the back of the ramp onto the mainline. To this end, the queuing analysis looks at two separate components of ramp capacity: the first is the length of each approach lane to the intersection; the second is the remaining length of the ramp, behind any approach lane delineation lines, to the core point where the ramp diverges from the freeway mainline. The queue may exceed the striped length of a given approach lane, but as long as there is sufficient additional queuing capacity on the ramp, it will not spill over onto the mainline. Caltrans requested that a "safety factor" be incorporated into the analysis, and to that end, the total ramp length between the intersection and freeway mainline was reduced by 15% to present a more conservative analysis.

Table 50 summarizes the results of the queuing analysis for Existing Year 2016 conditions. As shown, the I-5 northbound off-ramp to Buena Vista Street currently has a queue that exceeds the length of the striped right-turn lane. However, there is ample storage space within the ramp to contain the queue without affecting the mainline lanes. The I-5 southbound off-ramp to Hollywood Way, however, has a queue exceeding both the right-turn lane and the ramp, and has a large deleterious effect on the mainline. As noted above, this intersection operates at LOS F and is a candidate for signalization. That improvement would benefit Airport traffic. However, the Project would not contribute to the traffic at that location and, therefore, is not responsible to contribute to the cost of signalization.

Table 51 summarizes the results of the queuing analysis for Interim Year 2023 conditions. As shown, three off-ramps are projected to have a queue that would exceed the length of the turn lane but would be contained within the ramp (including the I-5 northbound off-ramps to Hollywood Way, Buena Vista Street, and Empire Avenue). As under Existing Year 2016 conditions, the I-5 southbound off-ramp to Hollywood Way would have a queue exceeding both the right-turn lane and the ramp and would have a large deleterious effect on the mainline.

Table 52 summarizes the results of the queuing analysis for Completion Year 2025 conditions. As shown, the same three off-ramps as under Interim Year 2023 conditions are projected to have a queue that would exceed the length of the turn lane but would be contained within the ramp. And again, the I-5 southbound off-ramp to Hollywood Way would have a queue

exceeding both the right-turn lane and the ramp and would have a large deleterious effect on the mainline.

TABLE 43
ANALYZED CALTRANS FACILITIES

ID	Location
Freeway Mainline Segments	
1.	I-5 North of Hollywood Way
2.	I-5 between Hollywood Way and Buena Vista Street
3.	I-5 between Buena Vista Street and Empire Avenue
4.	I-5 South of Empire Avenue
Signalized Intersections	
6.	Hollywood Way & I-5 Northbound Ramps
19.	Buena Vista Street & I-5 Northbound Ramps
23.	I-5 Southbound Ramps & Empire Avenue
24.	I-5 Northbound Ramps & Empire Avenue
Unsignalized Intersections	
5.	Hollywood Way & I-5 Southbound Ramps
7.	N San Fernando Boulevard & I-5 Southbound Ramps
Off-ramp Queues	
1.	I-5 Northbound Off-ramp to Hollywood Way
2.	I-5 Northbound Off-ramp to Buena Vista Street
3.	I-5 Southbound Off-ramp to Empire Avenue
4.	I-5 Northbound Off-ramp to Empire Avenue
5.	I-5 Southbound Off-ramp to Hollywood Way
6.	I-5 Southbound Off-ramp to N San Fernando Boulevard

TABLE 44
LEVEL OF SERVICE DEFINITIONS FOR FREEWAY SEGMENTS

Level of Service	Description	Density [a]
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≤ 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 and ≤ 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 and ≤ 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 and ≤ 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 and ≤ 45
F	Represents a breakdown in flow and oversaturated conditions.	> 45

Notes

Source: *2010 Highway Capacity Manual* (Transportation Research Board, 2010) and Caltrans.

[a] Density is defined in vehicles per mile per lane and describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream (*2010 Highway Capacity Manual,* Transportation Research Board, 2010).

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TABLE 45
EXISTING YEAR 2016
FREEWAY MAINLINE SEGMENT OPERATING CONDITIONS

ID	Freeway Segment	Direction	Existing Year 2016				
			Volume	Lanes [a]	Speed [b]	Density [c]	Level of Service
Morning Peak Hour							
FS-1	I-5 North of Hollywood Way	NB	4,572	4	55.0	23.9	C
		SB	5,260	4	55.0	27.5	D
FS-2	I-5 between Hollywood Way & Buena Vista Street	NB	3,685	4	55.0	19.3	C
		SB	3,821	4	55.0	20.0	C
FS-3	I-5 between Buena Vista Street & Empire Avenue	NB	3,952	4	55.0	20.7	C
		SB	5,836	4	55.0	30.5	D
FS-4	I-5 south of Empire Avenue	NB	3,952	4	55.0	20.7	C
		SB	5,836	4	55.0	30.5	D
Afternoon Peak Hour							
FS-1	I-5 North of Hollywood Way	NB	5,698	4	55.0	29.8	D
		SB	4,348	4	55.0	22.7	C
FS-2	I-5 between Hollywood Way & Buena Vista Street	NB	5,078	4	55.0	26.5	D
		SB	3,272	4	55.0	17.1	B
FS-3	I-5 between Buena Vista Street & Empire Avenue	NB	4,034	4	55.0	21.1	C
		SB	5,798	4	55.0	30.3	D
FS-4	I-5 south of Empire Avenue	NB	4,034	4	55.0	21.1	C
		SB	5,798	4	55.0	30.3	D

[a] Lane totals do not include auxiliary lanes or high occupancy vehicle lanes.
[b] Speed reported in miles per hour based on a free flow speed of 55 miles per hour.
[c] Density reported in passenger cars per mile per lane (pc/mi/ln).

TABLE 46
INTERIM YEAR 2023
FREEWAY MAINLINE SEGMENT OPERATING CONDITIONS

ID	Freeway Segment	Direction	Interim Year 2023				
			Volume	Lanes [a]	Speed [b]	Density [c]	Level of Service
Morning Peak Hour							
FS-1	I-5 North of Hollywood Way	NB	4,740	4	55.0	24.8	C
		SB	5,629	4	55.0	29.4	D
FS-2	I-5 between Hollywood Way & Buena Vista Street	NB	3,827	4	55.0	20.0	C
		SB	4,104	4	55.0	21.5	C
FS-3	I-5 between Buena Vista Street & Empire Avenue	NB	4,223	4	55.0	22.1	C
		SB	6,378	4	55.0	33.4	D
FS-4	I-5 south of Empire Avenue	NB	4,214	4	55.0	22.0	C
		SB	6,397	4	55.0	33.5	D
Afternoon Peak Hour							
FS-1	I-5 North of Hollywood Way	NB	6,186	4	55.0	32.3	D
		SB	4,586	4	55.0	24.0	C
FS-2	I-5 between Hollywood Way & Buena Vista Street	NB	5,515	4	55.0	28.8	D
		SB	3,462	4	55.0	18.1	C
FS-3	I-5 between Buena Vista Street & Empire Avenue	NB	4,472	4	55.0	23.4	C
		SB	6,290	4	55.0	32.9	D
FS-4	I-5 south of Empire Avenue	NB	4,440	4	55.0	23.2	C
		SB	6,280	4	55.0	32.8	D

[a] Lane totals do not include auxiliary lanes or high occupancy vehicle lanes.
[b] Speed reported in miles per hour based on a free flow speed of 55 miles per hour.
[c] Density reported in passenger cars per mile per lane (pc/mi/ln).

TABLE 47
COMPLETION YEAR 2025
FREEWAY MAINLINE SEGMENT OPERATING CONDITIONS

ID	Freeway Segment	Direction	Completion Year 2025				
			Volume	Lanes [a]	Speed [b]	Density [c]	Level of Service
Morning Peak Hour							
FS-1	I-5 North of Hollywood Way	NB	4,782	4	55.0	25.0	C
		SB	5,721	4	55.0	29.9	D
FS-2	I-5 between Hollywood Way & Buena Vista Street	NB	3,863	4	55.0	20.2	C
		SB	4,175	4	55.0	21.8	C
FS-3	I-5 between Buena Vista Street & Empire Avenue	NB	4,291	4	55.0	22.4	C
		SB	6,514	4	54.9	34.1	D
FS-4	I-5 south of Empire Avenue	NB	4,280	4	55.0	22.4	C
		SB	6,537	4	54.8	34.3	D
Afternoon Peak Hour							
FS-1	I-5 North of Hollywood Way	NB	6,309	4	55.0	33.0	D
		SB	4,646	4	55.0	24.3	C
FS-2	I-5 between Hollywood Way & Buena Vista Street	NB	5,625	4	55.0	29.4	D
		SB	3,510	4	55.0	18.3	C
FS-3	I-5 between Buena Vista Street & Empire Avenue	NB	4,581	4	55.0	23.9	C
		SB	6,413	4	55.0	33.6	D
FS-4	I-5 south of Empire Avenue	NB	4,542	4	55.0	23.7	C
		SB	6,400	4	55.0	33.5	D

[a] Lane totals do not include auxiliary lanes or high occupancy vehicle lanes.
[b] Speed reported in miles per hour based on a free flow speed of 55 miles per hour.
[c] Density reported in passenger cars per mile per lane (pc/mi/ln).

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TABLE 48
HIGHWAY CAPACITY MANUAL LEVEL OF SERVICE DEFINITIONS FOR INTERSECTIONS

Level of Service	Description	Seconds of Delay	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20	> 10 and ≤ 15
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35	> 15 and ≤ 25
D	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.	> 35 and ≤ 55	> 25 and ≤ 35
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80	> 35 and ≤ 50
F	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.	> 80	> 50

Notes

Source: *2010 Highway Capacity Manual* (Transportation Research Board, 2010).

TABLE 49
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Year 2016 Conditions		Interim Year 2023 Conditiosn		Completion Year 2025 Conditions	
			Delay	LOS	Delay	LOS	Delay	LOS
6.	Hollywood Way &	AM	15.7	B	15.9	B	16.0	B
	I-5 Northbound Ramps	PM	12.1	B	12.3	B	12.4	B
19.	Buena Vista St &	AM	17.3	B	20.8	C	21.6	C
	I-5 Northbound Ramps	PM	14.0	B	17.9	B	18.8	B
23.	I-5 Southbound Ramps &	AM	*Intersection has not yet been constructed.*		17.5	B	17.7	B
	Empire Ave	PM			56.5	E	57.0	E
24.	I-5 Northbound Ramps &	AM	*Intersection has not yet been constructed.*		26.3	C	26.6	C
	Empire Ave	PM			25.2	C	25.2	C
5.	Hollywood Way &	AM	Overflow	F	Overflow	F	Overflow	F
[a]	I-5 Southbound Ramps	PM	60.4	F	93.2	F	Overflow	F
7.	I-5 Southbound Ramps &	AM	14.0	B	23.4	C	28.9	D
[a]	San Fernando Blvd	PM	13.0	B	16.3	C	17.7	C

[a] Intersection is unsignalized.

TABLE 50
EXISTING YEAR 2016
OFF-RAMP QUEUE EVALUATION

Ramp and Lane Description	Vehicle Storage Capacity (ft)	Morning Peak Hour		Afternoon Peak Hour	
		95th Percentile Vehicle Queue Length (ft)	Exceeds Capacity?	95th Percentile Vehicle Queue Length (ft)	Exceeds Capacity?
Q-1. I-5 Northbound Off-ramp to Hollywood Way					
Number of Vehicles Using Off-Ramp		515		298	
Average Approach Delay on Ramp		18.9		25.7	
Approach Level of Service		B		C	
Left-Turn Lane	180	172 ft	NO	121 ft	NO
Shared Left / Right Lane	180	166 ft	NO	112 ft	NO
Ramp (actual length: 640 feet) [a]	520	0 ft	NO	0 ft	NO
Q-2. I-5 Northbound Off-ramp to Buena Vista Street					
Number of Vehicles Using Off-Ramp		548		370	
Average Delay on Ramp		22.2		30.0	
Approach Level of Service		B		C	
Left-Turn Lane	250	188 ft	NO	141 ft	NO
Right-Turn Lane	250	206 ft	NO	258 ft	Lane
Ramp (actual length: 340 feet) [a]	250	0 ft	NO	8 ft	NO
Q-3. I-5 Southbound Off-ramp to Empire Avenue *(Intersection has not yet been constructed)*					
Q-4. I-5 Northbound Off-ramp to Empire Avenue *(Intersection has not yet been constructed)*					
Q-5. I-5 Southbound Off-ramp to Hollywood Way					
Number of Vehicles Using Off-Ramp		1,137		652	
Average Approach Delay on Ramp		447.8		25.6	
Approach Level of Service		F		D	
Left-Turn Lane	780	436 ft	NO	51 ft	NO
Right-Turn Lane	300	1490 ft	Lane	181 ft	NO
Ramp (actual length: 540 feet) [a]	340	1190 ft	**YES**	0 ft	NO
Q-6. I-5 Southbound Off-ramp to N San Fernando Boulevard					
Number of Vehicles Using Off-Ramp		342		364	
Average Approach Delay on Ramp		12.7		12.7	
Approach Level of Service		B		B	
Left-Turn Lane	150	39 ft	NO	38 ft	NO
Shared Left / Right Lane	150	37 ft	NO	36 ft	NO
Ramp (actual length: 1,170 feet) [a]	970	0 ft	NO	0 ft	NO

[a] Ramp length is distance between end of turn lanes and freeway mainline; a 15% "safety factor" (reduction in overall ramp length) has been applied in this analysis at Caltrans' request.

[b] Turn lane and ramp lengths estimated for future off-ramps.

TABLE 51
INTERIM YEAR 2023
OFF-RAMP QUEUE EVALUATION

Ramp and Lane Description	Vehicle Storage Capacity (ft)	Morning Peak Hour		Afternoon Peak Hour	
		95th Percentile Vehicle Queue Length (ft)	Exceeds Capacity?	95th Percentile Vehicle Queue Length (ft)	Exceeds Capacity?
Q-1. I-5 Northbound Off-ramp to Hollywood Way					
Number of Vehicles Using Off-Ramp		1,046		326	
Average Approach Delay on Ramp		19.3		26.1	
Approach Level of Service		B		C	
Left-Turn Lane	180	186 ft	Lane	134 ft	NO
Shared Left / Right Lane	180	179 ft	NO	124 ft	NO
Ramp (actual length: 640 feet) [a]	520	6 ft	NO	0 ft	NO
Q-2. I-5 Northbound Off-ramp to Buena Vista Street					
Number of Vehicles Using Off-Ramp		1,055		602	
Average Delay on Ramp		18.3		26.9	
Approach Level of Service		B		C	
Left-Turn Lane	250	286 ft	Lane	242 ft	NO
Right-Turn Lane	250	331 ft	Lane	225 ft	NO
Ramp (actual length: 340 feet) [a]	250	117 ft	NO	0 ft	NO
Q-3. I-5 Southbound Off-ramp to Empire Avenue					
[b] Number of Vehicles Using Off-Ramp		466		468	
Average Approach Delay on Ramp		42.7		42.1	
Approach Level of Service		D		D	
Left-Turn Lane	300	149 ft	NO	159 ft	NO
Shared Left / Through Lane	300	149 ft	NO	159 ft	NO
Right-Turn Lane	300	197 ft	NO	178 ft	NO
Ramp (anticipated actual length: 400 feet) [a]	300	0 ft	NO	0 ft	NO
Q-4. I-5 Northbound Off-ramp to Empire Avenue					
[b] Number of Vehicles Using Off-Ramp		1,012		1,087	
Average Approach Delay on Ramp		31.9		25.1	
Approach Level of Service		C		C	
Left-Turn Lane	300	391 ft	Lane	343 ft	Lane
Shared Left / Through Lane	300	390 ft	Lane	340 ft	Lane
Right-Turn Lane	300	1 ft	NO	73 ft	NO
Ramp (anticipated actual length: 400 feet) [a]	300	181 ft	NO	83 ft	NO
Q-5. I-5 Southbound Off-ramp to Hollywood Way					
Number of Vehicles Using Off-Ramp		1,190		676	
Average Approach Delay on Ramp		Overflow		31.5	
Approach Level of Service		F		D	
Left-Turn Lane	780	597 ft	NO	72 ft	NO
Right-Turn Lane	300	1695 ft	Lane	213 ft	NO
Ramp (actual length: 540 feet) [a]	340	1395 ft	**YES**	0 ft	NO
Q-6. I-5 Southbound Off-ramp to N San Fernando Boulevard					
Number of Vehicles Using Off-Ramp		380		369	
Average Approach Delay on Ramp		14.3		13.9	
Approach Level of Service		B		B	
Left-Turn Lane	150	45 ft	NO	43 ft	NO
Shared Left / Right Lane	150	43 ft	NO	41 ft	NO
Ramp (actual length: 1,170 feet) [a]	970	0 ft	NO	0 ft	NO

[a] Ramp length is distance between end of turn lanes and freeway mainline; a 15% "safety factor" (reduction in overall ramp length) has been applied in this analysis at Caltrans' request.

[b] Turn lane and ramp lengths estimated for future off-ramps.

TABLE 52
COMPLETION YEAR 2025
OFF-RAMP QUEUE EVALUATION

Ramp and Lane Description	Vehicle Storage Capacity (ft)	Morning Peak Hour		Afternoon Peak Hour	
		95th Percentile Vehicle Queue Length (ft)	Exceeds Capacity?	95th Percentile Vehicle Queue Length (ft)	Exceeds Capacity?
1. I-5 Northbound Off-ramp to Hollywood Way					
Number of Vehicles Using Off-Ramp		556		333	
Average Approach Delay on Ramp		19.4		26.2	
Approach Level of Service		B		C	
Left-Turn Lane	180	189 ft	Lane	138 ft	NO
Shared Left / Right Lane	180	183 ft	Lane	127 ft	NO
Ramp (actual length: 640 feet) [a]	520	12 ft	NO	0 ft	NO
2. I-5 Northbound Off-ramp to Buena Vista Street					
Number of Vehicles Using Off-Ramp		1,183		660	
Average Delay on Ramp		18.3		25.8	
Approach Level of Service		B		C	
Left-Turn Lane	250	312 ft	Lane	256 ft	Lane
Right-Turn Lane	250	368 ft	Lane	237 ft	NO
Ramp (actual length: 340 feet) [a]	250	180 ft	NO	6 ft	NO
3. I-5 Southbound Off-ramp to Empire Avenue					
[b] Number of Vehicles Using Off-Ramp		471		470	
Average Approach Delay on Ramp		43.0		42.2	
Approach Level of Service		D		D	
Left-Turn Lane	300	151 ft	NO	160 ft	NO
Shared Left / Through Lane	300	151 ft	NO	160 ft	NO
Right-Turn Lane	300	200 ft	NO	180 ft	NO
Ramp (anticipated actual length: 400 feet) [a]	300	0 ft	NO	0 ft	NO
4. I-5 Northbound Off-ramp to Empire Avenue					
[b] Number of Vehicles Using Off-Ramp		1,024		1,089	
Average Approach Delay on Ramp		32.3		25.1	
Approach Level of Service		C		C	
Left-Turn Lane	300	398 ft	Lane	344 ft	Lane
Shared Left / Through Lane	300	397 ft	Lane	341 ft	Lane
Right-Turn Lane	300	1 ft	NO	73 ft	NO
Ramp (anticipated actual length: 400 feet) [a]	300	195 ft	NO	85 ft	NO
5. I-5 Southbound Off-ramp to Hollywood Way					
Number of Vehicles Using Off-Ramp		1,203		683	
Average Approach Delay on Ramp		Overflow		33.7	
Approach Level of Service		F		D	
Left-Turn Lane	780	510 ft	NO	79 ft	NO
Right-Turn Lane	300	1746 ft	Lane	223 ft	NO
Ramp (actual length: 540 feet) [a]	340	1446 ft	**YES**	0 ft	NO
6. I-5 Southbound Off-ramp to N San Fernando Boulevard					
Number of Vehicles Using Off-Ramp		382		372	
Average Approach Delay on Ramp		14.8		14.3	
Approach Level of Service		B		B	
Left-Turn Lane	150	47 ft	NO	44 ft	NO
Shared Left / Right Lane	150	45 ft	NO	42 ft	NO
Ramp (actual length: 1,170 feet) [a]	970	0 ft	NO	0 ft	NO

[a] Ramp length is distance between end of turn lanes and freeway mainline; a 15% "safety factor" (reduction in overall ramp length) has been applied in this analysis at Caltrans' request.

[b] Turn lane and ramp lengths estimated for future off-ramps.

Chapter 9

Local Street Segment Analysis

This Chapter presents a discussion of the Project's potential impact on Cohasset Street, which is a designated Local Street in *Burbank2035 General Plan*. The City of Burbank traffic study guidelines specify criteria for identification of a significant impact on a "local residential street" based on an increase in the projected ADT volumes. However, because Cohasset Street serves only commercial and industrial uses where higher traffic volumes are not generally considered a nuisance, there are no significance criteria applicable to the roadway and this Chapter instead focuses on a discussion of its capacity under the Adjacent Property Option, in which the Airport would add terminal traffic to Cohasset Street.

Traffic conditions on Cohasset Street are not so much governed by the width of the street or its classification, but by the operating conditions of the intersection of San Fernando Boulevard and Cohasset Street. According to HCM 2000, "signal timing plays a major role in the capacity of [urban streets], limiting the portion of time that is available for movement along the urban street at critical intersections" (HCM 2000, p. 8-21). As described in Chapter 6, the intersection of San Fernando Boulevard and Cohasset Street would be signalized under the Adjacent Property Option, at which point it would be the primary governor of capacity on Cohasset Street. The CMA intersection analysis methodology used by the City of Burbank utilizes a free-flow capacity of 1,500 vphpl in its calculations. For Cohasset Street, eastbound traffic (toward San Fernando Boulevard) would be metered by the percentage of the time the signal is green. For example, if that traffic signal provided 30% green-time to Cohasset Street (with the remaining 70% allocated to traffic on San Fernando Boulevard), it would provide a capacity of 450 vphpl (30% of 1,500 vphpl) for eastbound traffic turning onto San Fernando Boulevard. In operation, the roadway sensors would detect cars on Cohasset Street and would adjust the amount of green time as necessary to accommodate the demand (up to a maximum of, perhaps, 40% of green time for the minor street approach). Therefore, traffic on Cohasset Street could be accommodated up to a theoretical maximum of 600 vphpl, or 1,200 vehicles per hour for the two

lanes (including 600 in each direction). This estimate conservatively excludes the additional capacity due to right-turns made during a red light, which is often a substantial number.

Table 53 shows the morning and afternoon peak hour volumes turning onto and off of Cohasset Street from San Fernando Boulevard. As shown, the volumes in each direction are well under the maximum capacity of 600 vphpl, and therefore there is adequate capacity on Cohasset Street to accommodate anticipated traffic volumes, including Airport traffic with the Adjacent Property Option.

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TABLE 53
COHASSET STREET SEGMENT ANALYSIS

Description	Westbound	Eastbound
Morning Peak Hour Traffic Volume [a]	210	104
Afternoon Peak Hour Traffic Volume [a]	62	255
Estimated Maximum Peak Hour Roadway Capacity (per Direction) [b]	600	600
Maximum Percent of Capacity Used [c]	35%	43%

[a] Based on peak hour traffic volumes entering or exiting Cohasset Street at San Fernando Boulevard (Unsignalized Intersection #4) under Completion Year 2025 without Project Conditions.
[b] Roadway capacity is based on 1,500 vehicles per hour per lane with a maximum of 40% signal green time.
[c] The Higher of morning or afternoon peak hour traffic volume divided by roadway capacity.

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Chapter 10
Project Construction

This Chapter summarizes the construction schedule and construction impact analysis for the Project. The construction impact analysis relates to the temporary significant impacts that may result from the construction activities of the Project, which may include safety, operational, or capacity impacts.

PROPOSED CONSTRUCTION SCHEDULE

The Project is expected to begin construction in year 2018 for the SWQ Options and year 2020 for the Adjacent Property Option. Between years 2018 and 2020 with the SWQ Options, air freighter and general aviation operations would be relocated or removed from the southwest quadrant. With the Adjacent Property Option, those uses would not move and, therefore, that initial phase of construction is not necessary. With all Project Options, the majority of Project construction, including construction of the replacement terminal, would occur between years 2020 and 2023. Following completion of the replacement terminal, the existing terminal would be demolished and taxiways would be extended. Ancillary facilities, such as the ARFF facility, ground service equipment maintenance, and the air cargo building, would also be constructed between 2023 and 2025.

Construction traffic impacts were assessed for two phases of construction. Phase 1, the terminal construction phase, would occur between years 2020 and 2023, while the existing terminal would still be in operation. This analysis was conducted by applying construction trips associated with construction Phase 1 to the Interim Year without Project Conditions (Year 2023) shown in Tables 20 and 21. Phase 2 includes demolition of the existing terminal and construction of taxiways and some ancillary structures (depending on Project Option), and would occur after the replacement terminal is operational. This analysis was conducted by applying construction trips associated with construction Phase 2 to Interim Year with Project

Conditions (Year 2023) for both the Adjacent Property Option and the SWQ Full-Size Terminal Option.

Construction is allowed by the City between the hours of 7:00 AM and 7:00 PM on weekdays. However, the construction analysis is based on a typical eight-hour construction workday, which begins at 7:00 AM and ends at 3:00 PM or 4:00 PM.

CONSTRUCTION TRIP GENERATION

Traffic generated by Project construction typically comes from two primary sources: off-site haul or delivery trucks and construction workers. The numbers of each type of trip is described below for Phases 1 and 2.

Phase 1 Construction Traffic

During Phase 1, the peak truck volume and the peak worker participation would both occur during the terminal construction phase (as opposed to phases that include grading, paving, and interior finishing). This phase is projected to last approximately 650 working days between October 2020 and March 2023, assuming five-day work weeks. The maximum number of delivery truck trips in a single day during this period was projected to be approximately 600 (including inbound and outbound trips), while the maximum number of worker trips in a single day during this period is projected to be approximately 900 (including inbound and outbound trips). These two maximums would not necessarily, nor even likely, occur on the same day, but this analysis conservatively assumes that both maximums would occur on the same day.

Delivery Truck Trips. Delivery trucks arrive and depart throughout the day. For this analysis, they were assumed to arrive and depart fairly evenly throughout the work day, which includes the morning commuter peak period (7:00 AM to 10:00 AM) but ends prior to the afternoon commuter peak period (4:30 PM to 7:30 PM). Because more trucks would be expected to arrive than leave first thing in the morning, a total of 20% of the daily arriving truck trips and 10% of the daily departing truck trips were expected to arrive and depart during the morning peak hour. Therefore, out of 300 total inbound truck trips, 60 would occur during the morning peak hour,

and out of 300 total outbound truck trips, 30 would occur during the morning peak hour. None are expected during the afternoon peak hour.

Transportation Research Circular No. 212 defines passenger car equivalency ("PCE") for a vehicle as the number of through moving passenger cars to which it is equivalent based on the vehicle's headway and delay-creating effects. It suggests a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 600 daily truck trips would be equivalent to 1,200 daily PCE trips. During the morning peak hour, there would be a total of 120 inbound PCE trips and 60 outbound PCE trips.

Delivery truck trips would typically take the most direct routes to and from the freeway. For the Adjacent Property Option, delivery trucks would enter via Hollywood Way at Winona Avenue or via San Fernando Boulevard at Cohasset Street. For the SWQ Options, delivery trucks would enter via Empire Avenue at Clybourn Avenue.

Construction Worker Trips. Construction workers would typically arrive before the morning commuter peak period (7:00 AM to 10:00 AM) since construction would begin at 7:00 AM. They would leave prior to or during the afternoon commuter peak period (4:30 PM to 7:30 PM). For the purposes of this analysis, it was assumed that 20% of workers would arrive during the morning peak hour and 50% of workers would depart during the afternoon peak hour. Out of 900 daily worker trips, 450 would be inbound trips and 450 would be outbound trips. Based on the percentages above, 90 would arrive during the morning peak hour and 225 would depart during the afternoon peak hour. Because workers typically arrive in passenger automobiles or light trucks (i.e., pickup trucks), no PCE adjustment is necessary.

Construction worker parking would be provided on Airport property off of Hollywood Way and/or within the construction zone under any Project Option. Workers were assumed to travel to and from the Airport using the same regional distribution as regular passenger traffic, shown in Figure 6.

Phase 2 Construction Traffic

During Phase 2, the peak truck volume would occur during demolition of the existing terminal and the peak worker participation would occur during construction of ancillary facilities. These would occur at different times and, therefore, only the worst-case construction traffic condition was analyzed for Phase 2. The maximum number of demolition haul truck trips would be approximately 800 in a single day. The maximum number of worker trips would be approximately 400 on a day when very little demolition truck activity would occur. In order to adequately identify all potential temporary traffic impacts from Phase 2 construction, separate analyses were conducted for demolition trucks trips and worker trips.

Demolition Haul Truck Trips. Like delivery truck trips, demolition trucks arrive and depart throughout the day. They were assumed to arrive and depart in the same proportions as delivery trucks in Phase 1, including a total of 20% of the daily arriving truck trips and 10% of the daily departing truck trips were expected to arrive and depart during the morning peak hour. Therefore, out of 400 total inbound truck trips, 80 would occur during the morning peak hour, and out of 400 total outbound truck trips, 40 would occur during the morning peak hour. None are expected during the afternoon peak hour. Assuming a PCE factor of 2.0, the 800 daily truck trips would be equivalent to 1,600 daily PCE trips. During the morning peak hour, there would be a total of 160 inbound PCE trips and 80 outbound PCE trips.

These truck trips would typically take the most direct route from the existing terminal area (accessing either Hollywood Way or Empire Avenue) to the freeway under either Project Option.

Construction Worker Trips. As in the Phase 1 analysis, it was assumed that 20% of workers would arrive during the morning peak hour and 50% of workers would depart during the afternoon peak hour. Out of 400 daily worker trips, 200 would be inbound trips and 200 would be outbound trips. Based on the percentages above, 40 would arrive during the morning peak hour and 100 would depart during the afternoon peak hour. No PCE adjustment is necessary. For Phase 2, construction worker parking would be provided on Airport property off of Hollywood Way under any Project Option. Workers were assumed to travel to and from the Airport using the same regional distribution as regular passenger traffic, shown in Figure 6.

CONSTRUCTION TRAFFIC ANALYSIS

As stated above, the construction traffic analysis was conducted for Phase 1 and Phase 2, during construction of the Adjacent Property Option and the SWQ Full-Size Option (the SWQ Same-Size Option would produce equal or fewer construction trips compared to the SWQ Full-Size Option, and would use similar construction traffic distribution patterns). Phase 1 traffic impacts were assessed by comparing conditions with the construction traffic to Interim Year 2023 without Project conditions. Phase 2 traffic impacts were assessed by comparing conditions with the construction traffic to Interim Year 2023 with Project conditions, under both the Adjacent Property Option and the SWQ Full-Size Option. The analysis was conducted using the same methodology as the Project traffic impact analysis from preceding chapters. Complete LOS worksheets for each of the six analysis scenarios are available in Attachment G.

Table 54 provides a complete summary of the potential temporary traffic impacts associated with each Phase of construction of the Adjacent Property Option. As Table 54 shows, up to 9 different intersections could be temporarily impacted by construction traffic during Phase 1.

Table 55 provides a complete summary of the potential temporary traffic impacts associated with each Phase of construction of the SWQ Full-Size Option. As Table 55 shows, up to 9 different intersections could be temporarily impacted by construction traffic, including as many as 8 at a time.

The construction impacts identified in Tables 54 and 55 are considered significant despite the fact that they would only occur temporarily during peak times of Project construction. As mitigation, the Project would implement a construction traffic management plan with features such as those described at the end of this Chapter.

POTENTIAL IMPACTS ON ACCESS, TRANSIT, AND PARKING

Construction activities are expected to be fully contained within the Airport, including equipment and material, truck staging, and worker parking. Also, because the potential construction sites are not directly adjacent to public roadways, Project construction is not anticipated to encroach onto any sidewalks or roadways adjacent to the Airport. Therefore, Project construction would

not impact transit or pedestrian facilities nor would it require lane closures or loss of on-street parking on public roads.

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan, would be prepared and submitted to the City for review and approval. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. With implementation of the Construction Management Plan, the temporary significant traffic impacts identified in Tables 54 and 55 would be considered to be mitigated below a significant level.

The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and may include, but not be limited to, the following elements, as appropriate:

- Adequate parking would be provided for construction workers at all time, and construction workers would be prohibited from parking on nearby residential streets; if remote parking is used, shuttles would be provided to take workers to and from the construction site.
- Temporary traffic control would be provided during any construction activities adjacent to public rights-of-way to improve safety and traffic flow on public roadways.
- Construction activities would be scheduled to reduce the effect of worker traffic on surrounding arterial streets during peak hours.
- Construction-related vehicles would not park on surrounding public streets.
- Construction-related deliveries, haul trips, etc., would be scheduled so as to occur outside the commuter peak hours to the extent feasible.
- Haul and delivery vehicles would be routed to reduce travel on congested streets and to avoid residential areas.

TABLE 54
TEMPORARY CONSTRUCTION TRAFFIC IMPACTS - ADJACENT PROPERTY OPTION

No.	Intersection	Phase 1 Delivery Trucks and Worker Trips	Phase 2 Haul Trucks	Phase 2 Worker Trips
Signalized Intersections				
9	Hollywood Way & Tulare Avenue	Afternoon Peak Hour		
10	Hollywood Way & Winona Avenue	Afternoon Peak Hour	Afternoon Peak Hour	Afternoon Peak Hour
11	Hollywood Way & Airport / Thornton Avenue	Afternoon Peak Hour		
13	Hollywood Way & Victory Boulevard	Afternoon Peak Hour		Afternoon Peak Hour
22	Buena Vista Street & Empire Avenue	Afternoon Peak Hour		Afternoon Peak Hour
Unsignalized Intersections				
3	Lockheed Drive & San Fernando Road	Morning Peak Hour		
4	San Fernando Boulevard & Cohasset Street	Morning Peak Hour		
5	Hollywood Way & I-5 Southbound Ramps	Both Peak Hours	Morning Peak Hour	Morning Peak Hour
6	Hollywood Way & San Fernando Boulevard Ramps	Both Peak Hours	Morning Peak Hour	Both Peak Hours

TABLE 55
TEMPORARY CONSTRUCTION TRAFFIC IMPACTS - SWQ FULL-SIZE OPTION

No.	Intersection	Phase 1 Delivery Trucks and Worker Trips	Phase 2 Haul Trucks	Phase 2 Worker Trips
Signalized Intersections				
9	Hollywood Way & Tulare Avenue			Afternoon Peak Hour
10	Hollywood Way & Winona Avenue	Afternoon Peak Hour		Afternoon Peak Hour
11	Hollywood Way & Airport / Thornton Avenue	Both Peak Hours		Afternoon Peak Hour
13	Hollywood Way & Victory Boulevard	Afternoon Peak Hour		Afternoon Peak Hour
18	Ontario Street & Empire Avenue	Morning Peak Hour		
22	Buena Vista Street & Empire Avenue	Both Peak Hours	Morning Peak Hour	Afternoon Peak Hour
24	I-5 Northbound Ramps & Empire Avenue	Morning Peak Hour		
Unsignalized Intersections				
5	Hollywood Way & I-5 Southbound Ramps	Morning Peak Hour	Morning Peak Hour	Morning Peak Hour
6	Hollywood Way & San Fernando Boulevard Ramps	Both Peak Hours	Morning Peak Hour	Both Peak Hours

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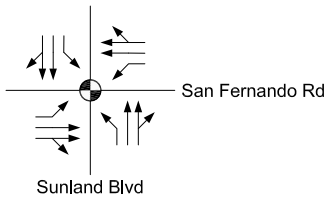
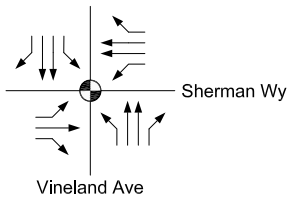
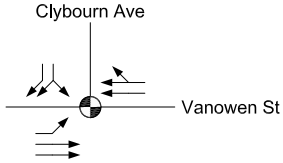
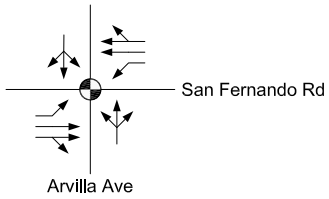
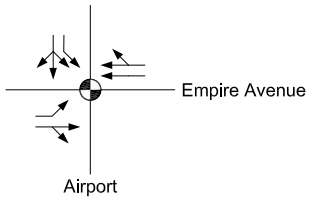
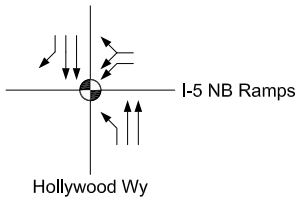
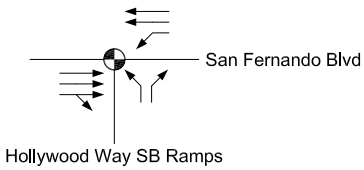
Attachment A

Intersection Lane Configurations

LEGEND

Traffic Signal

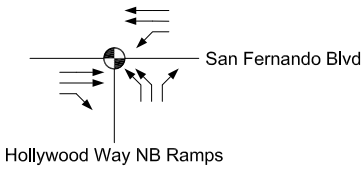
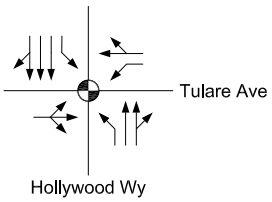
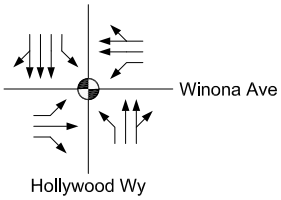
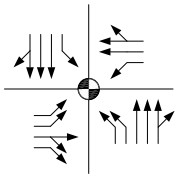
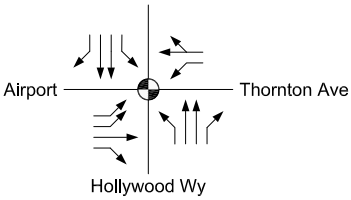
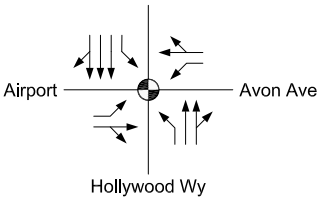
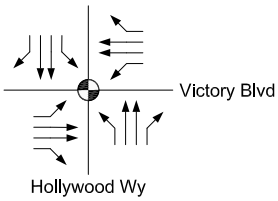
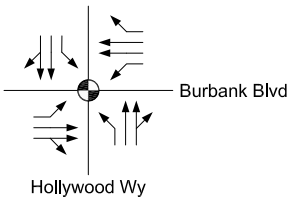
	EXISTING / FUTURE CONDITIONS	MITIGATION CONDITIONS
1. Sunland Boulevard & San Fernando Road		No Mitigation Required
2. Vineland Avenue & Sherman Way		No Mitigation Required
3. Clybourn Avenue & Vanowen Street		No Mitigation Required
4. Arvilla Avenue & San Fernando Road		No Mitigation Required
5. Airport & Empire Avenue		No Mitigation Required
6. Hollywood Way & I-5 Northbound Ramps		No Mitigation Required
7. Hollywood Way Southbound Ramps & San Fernando Boulevard		No Mitigation Required

INTERSECTION LANE CONFIGURATIONS

A

LEGEND

Traffic Signal

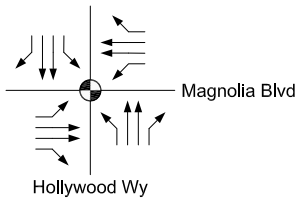
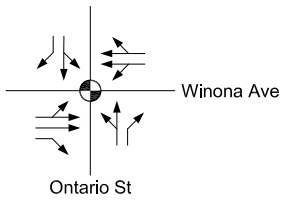
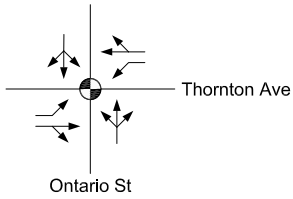
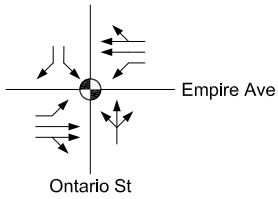
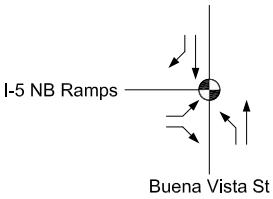
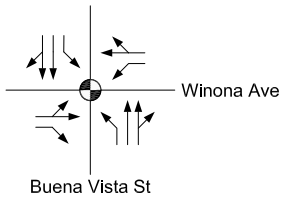
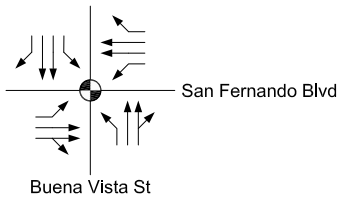
	EXISTING / FUTURE CONDITIONS	MITIGATION CONDITIONS
8. Hollywood Way Northbound Ramps & San Fernando Boulevard		No Mitigation Required
9. Hollywood Way & Tulare Avenue		No Mitigation Required
10. Hollywood Way & Winona Avenue		
11. Hollywood Way & Airport / Thornton Avenue		No Mitigation Required
12. Hollywood Way & Airport / Avon Avenue		No Mitigation Required
13. Hollywood Way & Victory Boulevard		No Mitigation Required
14. Hollywood Way & Burbank Boulevard		No Mitigation Required

INTERSECTION LANE CONFIGURATIONS

A (CONT.)

LEGEND

Traffic Signal

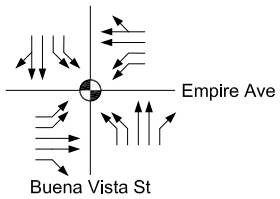
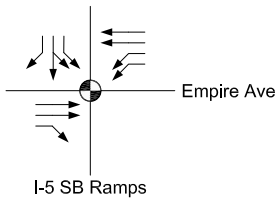
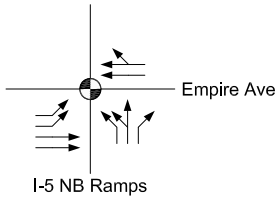
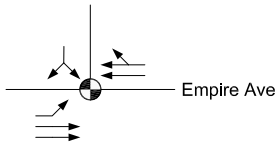
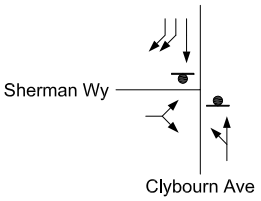
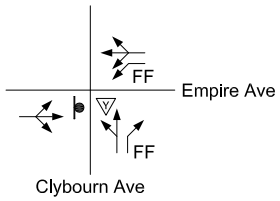
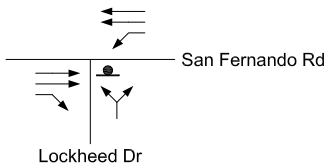
	EXISTING / FUTURE CONDITIONS	MITIGATION CONDITIONS
15. Hollywood Way & Magnolia Boulevard		No Mitigation Required
16. Ontario Street & Winona Avenue		No Mitigation Required
17. Ontario Street & Thornton Avenue		No Mitigation Required
18. Ontario Street & Empire Avenue		No Mitigation Required
19. Buena Vista Street & I-5 Northbound Ramps		No Mitigation Required
20. Buena Vista Street & Winona Avenue		No Mitigation Required
21. Buena Vista Street & San Fernando Boulevard		No Mitigation Required

INTERSECTION LANE CONFIGURATIONS

A (CONT.)

LEGEND

- Traffic Signal
- Stop Sign
- Yield Sign
- FF Free Flow

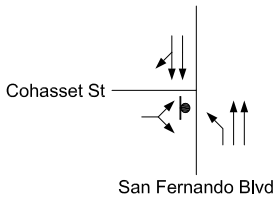
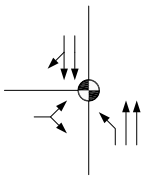
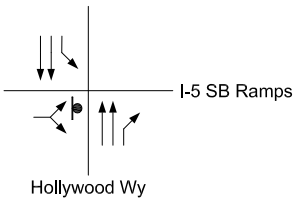
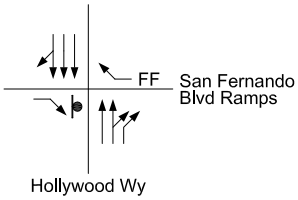
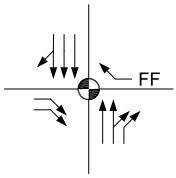
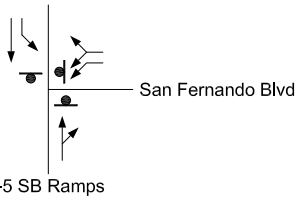
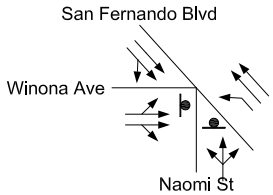
	EXISTING / FUTURE CONDITIONS	MITIGATION CONDITIONS
22. Buena Vista Street & Empire Avenue		No Mitigation Required
23. I-5 Southbound Ramps & Empire Avenue (Future Intersection)		No Mitigation Required
24. I-5 Northbound Ramps & Empire Avenue (Future Intersection)		No Mitigation Required
25. Avon Avenue & Empire Avenue		No Mitigation Required
UNSIGNALIZED		
1. Clybourn Avenue & Sherman Way		No Mitigation Required
2. Clybourn Avenue & Empire Avenue		No Mitigation Required
3. Lockheed Drive & San Fernando Road		No Mitigation Required

INTERSECTION LANE CONFIGURATIONS

A (CONT.)

LEGEND

- Traffic Signal
- Stop Sign
- FF Free Flow

	EXISTING / FUTURE CONDITIONS	MITIGATION CONDITIONS
UNSIGNALIZED		
4. San Fernando Boulevard & Cohasset Street		
5. Hollywood Way & I-5 Southbound Ramps		No Mitigation Required
6. Hollywood Way & San Fernando Boulevard Ramps		
7. I-5 Southbound Ramps & San Fernando Boulevard		No Mitigation Required
8. San Fernando Boulevard / Naomi Street & Winona Avenue		No Mitigation Required

INTERSECTION LANE CONFIGURATIONS

A (CONT.)

Attachment B

Traffic Counts

Turning Movement Count Report AM

Location ID: 1
North/South: Sunland Boulevard
East/West: San Fernando Road

Date: 12/09/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	9	244	62	14	22	4	4	171	3	14	89	12	648
7:15	5	206	77	24	18	6	9	174	4	20	134	23	700
7:30	11	277	91	30	37	5	8	207	4	32	148	23	873
7:45	7	197	86	20	26	9	4	210	10	24	158	29	780
8:00	11	232	87	12	31	4	4	171	8	31	141	31	763
8:15	13	241	93	17	28	1	10	181	4	22	96	32	738
8:30	12	249	87	11	32	3	8	172	8	25	122	17	746
8:45	19	226	93	12	31	3	5	125	3	18	106	15	656
9:00	16	204	78	15	26	5	6	121	8	21	112	21	633
9:15	14	203	73	12	27	10	5	137	4	23	49	16	573
9:30	16	184	48	15	19	6	8	139	5	21	43	18	522
9:45	15	173	45	30	27	4	3	149	7	20	46	7	526
Total Volume:	148	2636	920	212	324	60	74	1957	68	271	1244	244	8158
Approach %	4%	71%	25%	36%	54%	10%	4%	93%	3%	15%	71%	14%	

Peak Hr Begin:	7:30												
PHV	42	947	357	79	122	19	26	769	26	109	543	115	3154
PHF	0.888			0.764			0.916			0.909			0.903

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 1
North/South: Sunland Boulevard
East/West: San Fernando Road

Date: 12/09/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	21	253	33	58	75	8	3	234	6	36	39	22	788
16:45	14	250	30	46	67	6	6	220	10	24	50	24	747
17:00	15	275	30	50	70	10	2	217	7	28	51	24	779
17:15	19	247	26	46	80	7	4	239	11	27	56	37	799
17:30	14	248	29	46	72	8	3	243	13	26	31	24	757
17:45	21	244	26	31	44	8	6	242	10	27	38	25	722
18:00	19	183	21	32	51	7	4	212	15	23	28	23	618
18:15	20	239	39	31	55	9	2	197	6	25	41	25	689
18:30	13	242	28	25	42	5	7	186	8	17	31	19	623
18:45	14	165	13	32	35	9	5	175	5	24	17	27	521
19:00	19	183	20	16	25	7	3	218	4	22	21	17	555
19:15	17	167	18	22	24	2	1	165	7	15	19	19	476
Total Volume:	206	2696	313	435	640	86	46	2548	102	294	422	286	8074
Approach %	6%	84%	10%	37%	55%	7%	2%	95%	4%	29%	42%	29%	

Peak Hr Begin:	16:30												
PHV	69	1025	119	200	292	31	15	910	34	115	196	107	3113
PHF	0.948			0.927			0.944			0.871			0.974

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	9	1	12	0	6	0
7:15	0	0	23	2	27	2	3	0
7:30	0	0	10	2	13	3	2	0
7:45	0	0	7	3	6	1	0	0
8:00	0	0	10	0	14	0	2	0
8:15	0	0	16	0	20	0	3	0
8:30	0	0	12	0	7	0	3	0
8:45	0	0	14	0	10	0	3	0
9:00	1	0	5	1	6	1	5	1
9:15	1	0	17	2	37	1	5	0
9:30	0	0	7	4	8	0	1	0
9:45	0	0	16	1	11	1	2	1

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	27	4	15	2	9	1
16:45	0	1	19	3	31	1	6	0
17:00	0	0	17	4	20	4	4	1
17:15	0	0	9	1	23	3	4	1
17:30	0	0	11	3	18	1	7	0
17:45	0	0	18	2	18	0	3	2
18:00	0	0	9	1	10	0	5	0
18:15	0	0	6	0	12	1	12	0
18:30	0	0	7	0	9	1	2	2
18:45	0	0	4	2	8	1	2	0
19:00	0	0	12	1	5	2	6	2
19:15	0	0	10	0	10	1	1	0

Turning Movement Count Report AM

Location ID: 5
North/South: Vineland Avenue
East/West: Sherman Way

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	61	251	6	3	26	23	10	87	30	71	35	20	623
7:15	42	279	7	7	14	29	15	87	38	95	33	30	676
7:30	34	308	21	11	33	37	23	101	47	99	36	30	780
7:45	64	325	19	5	34	30	50	138	43	117	64	32	921
8:00	31	219	22	6	29	22	24	131	33	105	51	28	701
8:15	35	223	21	12	19	27	26	124	36	90	45	23	681
8:30	42	238	21	6	21	29	30	99	42	92	58	30	708
8:45	41	226	14	12	22	32	26	87	40	84	48	18	650
9:00	39	192	17	9	19	24	32	77	32	94	52	30	617
9:15	39	163	23	5	29	27	24	108	32	76	43	25	594
9:30	34	161	25	8	23	22	22	112	39	59	41	24	570
9:45	43	154	16	5	26	27	18	93	35	65	39	22	543
Total Volume:	505	2739	212	89	295	329	300	1244	447	1047	545	312	8064
Approach %	15%	79%	6%	12%	41%	46%	15%	62%	22%	55%	29%	16%	

Peak Hr Begin:	7:30												
PHV	164	1075	83	34	115	116	123	494	159	411	196	113	3083
PHF	0.810			0.818			0.840			0.845			0.837

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 5
North/South: Vineland Avenue
East/West: Sherman Way

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	47	175	20	19	52	57	31	221	61	70	58	53	864
16:45	40	172	16	29	46	33	28	246	53	71	82	57	873
17:00	42	135	12	28	49	43	34	230	65	84	75	46	843
17:15	33	177	22	27	48	37	35	229	70	75	50	54	857
17:30	46	167	16	13	50	38	32	216	45	62	62	62	809
17:45	31	144	22	11	50	40	36	244	61	75	65	55	834
18:00	41	132	17	24	40	52	29	226	70	67	50	39	787
18:15	32	145	21	27	35	36	30	232	59	57	50	42	766
18:30	36	125	21	25	34	35	23	162	62	62	55	51	691
18:45	33	145	6	20	32	24	21	193	52	58	38	37	659
19:00	35	110	15	21	25	23	18	181	52	64	50	45	639
19:15	24	119	16	17	28	24	15	179	48	59	46	39	614

Total Volume:	440	1746	204	261	489	442	332	2559	698	804	681	580	9236
Approach %	18%	73%	9%	22%	41%	37%	9%	71%	19%	39%	33%	28%	

Peak Hr Begin:	16:30												
PHV	162	659	70	103	195	170	128	926	249	300	265	210	3437
PHF	0.920			0.914			0.975			0.923			0.984

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	13	0	0	0	5	0	6	0
7:15	3	2	0	0	3	0	3	0
7:30	10	0	0	0	3	3	8	0
7:45	3	2	4	0	12	2	7	0
8:00	9	0	0	0	4	0	5	0
8:15	7	0	0	0	4	1	13	1
8:30	4	1	0	0	7	0	10	0
8:45	5	1	0	0	4	0	7	0
9:00	3	0	1	0	2	0	6	0
9:15	7	0	0	0	5	2	8	0
9:30	4	1	0	0	4	2	2	0
9:45	6	1	0	0	8	0	7	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	9	2	1	0	15	1	20	0
16:45	14	0	0	0	9	3	15	0
17:00	17	0	0	0	15	1	16	0
17:15	11	0	0	0	6	0	10	0
17:30	6	0	0	0	7	2	5	0
17:45	21	0	0	0	9	2	6	0
18:00	6	0	0	0	3	0	2	0
18:15	17	1	0	0	2	1	5	1
18:30	10	0	0	0	10	0	6	0
18:45	9	2	0	0	3	0	2	0
19:00	3	1	0	0	9	0	8	0
19:15	6	0	0	0	10	3	9	0

Turning Movement Count Report AM

Location ID: 11
North/South: Clybourne Avenue
East/West: Vanowen Street

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	67	0	7	1	67	0	0	0	0	0	131	49	322
7:15	54	0	7	2	60	0	0	0	0	0	215	79	417
7:30	66	0	4	1	78	0	0	0	0	0	284	80	513
7:45	83	0	6	1	94	0	0	0	0	0	226	129	539
8:00	77	0	5	1	96	0	0	0	0	0	257	107	543
8:15	66	0	4	3	88	0	0	0	0	0	266	98	525
8:30	82	0	5	1	83	0	0	0	0	0	298	102	571
8:45	91	0	2	1	100	0	0	0	0	0	330	116	640
9:00	74	0	6	2	74	0	0	0	0	0	264	162	582
9:15	66	0	4	2	88	0	0	0	0	0	181	101	442
9:30	64	0	3	5	73	0	0	0	0	0	170	100	415
9:45	66	0	5	4	92	0	0	0	0	0	172	79	418

Total Volume:	856	0	58	24	993	0	0	0	0	0	2794	1202	5927
Approach %	94%	0%	6%	2%	98%	0%	0%	0%	0%	0%	70%	30%	

Peak Hr Begin:	8:15												
PHV	313	0	17	7	345	0	0	0	0	0	1158	478	2318
PHF	0.887			0.871			0.000			0.917			0.905

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 11
North/South: Clybourne Avenue
East/West: Vanowen Street

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	155	0	7	5	138	0	0	0	0	0	138	50	493
16:45	132	0	2	3	140	0	0	0	0	0	149	63	489
17:00	191	0	7	4	171	0	0	0	0	0	162	72	607
17:15	162	0	2	2	160	0	0	0	0	0	163	79	568
17:30	191	0	5	4	215	0	0	0	0	0	188	64	667
17:45	166	0	3	2	175	0	0	0	0	0	145	68	559
18:00	163	0	4	11	167	0	0	0	0	0	163	66	574
18:15	158	0	3	2	147	0	0	0	0	0	144	70	524
18:30	133	0	4	3	142	0	0	0	0	0	133	58	473
18:45	129	0	3	2	128	0	0	0	0	0	131	68	461
19:00	112	0	4	0	128	0	0	0	0	0	119	52	415
19:15	75	0	5	0	104	0	0	0	0	0	87	51	322
Total Volume:	1767	0	49	38	1815	0	0	0	0	0	1722	761	6152
Approach %	97%	0%	3%	2%	98%	0%	0%	0%	0%	0%	69%	31%	

Peak Hr Begin:	17:00												
PHV	710	0	17	12	721	0	0	0	0	0	658	283	2401
PHF	0.918			0.837			0.000			0.934			0.900

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	1	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	2	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	1	1	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	1	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	1	0	1	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 2
North/South: Arvilla Avenue
East/West: San Fernando Road

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	28	2	5	8	35	0	0	0	1	8	160	39	286
7:15	58	3	11	4	38	0	3	0	1	5	197	33	353
7:30	80	2	18	6	48	2	1	0	0	9	265	48	479
7:45	47	2	19	5	43	0	0	2	2	11	244	65	440
8:00	37	0	23	4	61	0	1	0	3	7	255	69	460
8:15	32	4	22	1	53	0	0	0	0	6	245	57	420
8:30	29	2	24	7	50	1	0	2	2	9	246	55	427
8:45	25	4	17	9	48	0	2	0	3	2	214	62	386
9:00	18	0	5	7	41	1	3	0	3	6	208	71	363
9:15	20	1	8	8	35	1	3	1	4	11	137	37	266
9:30	26	2	11	6	48	2	7	2	5	12	111	28	260
9:45	29	1	14	9	46	1	3	1	5	8	92	28	237
Total Volume:	429	23	177	74	546	8	23	8	29	94	2374	592	4377
Approach %	68%	4%	28%	12%	87%	1%	38%	13%	48%	3%	78%	19%	

Peak Hr Begin:	7:30												
PHV	196	8	82	16	205	2	2	2	5	33	1009	239	1799
PHF	0.715			0.858			0.563			0.968			0.939

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 2
North/South: Arvilla Avenue
East/West: San Fernando Road

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	53	0	8	11	143	0	8	7	18	3	86	43	380
16:45	49	1	13	14	96	0	5	3	5	2	88	78	354
17:00	48	1	10	19	104	0	1	18	22	2	78	53	356
17:15	41	0	7	23	129	1	0	3	6	0	90	49	349
17:30	45	1	11	16	115	0	0	6	3	0	70	34	301
17:45	47	1	3	9	108	0	1	3	2	1	84	49	308
18:00	39	3	8	13	89	0	0	0	0	2	69	48	271
18:15	37	0	1	8	98	1	1	2	7	1	84	36	276
18:30	20	0	5	9	96	0	1	2	5	0	70	41	249
18:45	22	0	4	4	70	0	0	1	2	0	50	32	185
19:00	27	0	4	8	57	0	2	1	1	1	67	27	195
19:15	19	0	3	1	55	0	0	0	2	1	45	38	164
Total Volume:	447	7	77	135	1160	2	19	46	73	13	881	528	3388
Approach %	84%	1%	15%	10%	89%	0%	14%	33%	53%	1%	62%	37%	

Peak Hr Begin:	16:30												
PHV	191	2	38	67	472	1	14	31	51	7	342	223	1439
PHF	0.917			0.877			0.585			0.851			0.947

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	3	1	5	0
7:15	0	0	0	0	2	0	3	0
7:30	0	0	0	0	1	2	1	0
7:45	0	0	0	0	2	1	3	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	1	0	2	0
8:30	0	0	0	0	1	0	1	0
8:45	0	0	0	0	3	0	1	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	1	1	2	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	1	0	1	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	1	0	1	0	2	1	0	0
16:45	0	0	0	0	3	0	2	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	1	0	0	0	1	0
17:30	0	0	0	0	2	0	4	0
17:45	0	0	0	0	1	1	1	0
18:00	0	0	0	0	2	1	3	0
18:15	0	0	0	0	1	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	3	1	2	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Airport Roadway and Empire Ave , Burbank

Date:	2/11/2014
Day:	Tuesday

Project #:	14-5062-026
City:	Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Airport Roadway)

	Lanes 0.3	0.3	1.3		
AM	68	0	87	62	AM
NOON	0	0	0	0	NOON
PM	116	1	61	88	PM

Eastbound Approach (Empire Ave)

Lanes	AM	NOON	PM
	446	0	794
1	46	0	72
1	360	0	347
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
16	0	16	0
378	0	678	2
0	0	0	0
447	0	408	

CONTROL: Signalized

Northbound Approach

AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	1	0	0	0	PM
		0	0	0	Lanes

Count Periods	Start	End
AM		
NOON		
PM		

Total Ins & Outs

	North Leg		
	155	62	AM
	0	0	NOON
	178	88	PM

West Leg AM	NOON	PM		East Leg AM	NOON	PM
446	0	794		394	0	694
406	0	419		447	0	408

	South Leg	
AM	0	0
NOON	0	0
PM	1	0

Total Volume Per Leg

	North Leg
AM	217
NOON	0
PM	266

West Leg AM	NOON	PM	East Leg AM	NOON	PM
852	0	1213	841	0	1102

	South Leg
AM	0
NOON	0
PM	1

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Turning Movement Count Report AM

Location ID: 13
North/South: Hollywood Way
East/West: I-5 Northbound Ramps

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	26	150	0	6	0	59	0	83	86	0	0	0	410
7:15	30	179	0	11	0	74	0	83	76	0	0	0	453
7:30	36	195	0	13	0	68	0	89	71	0	0	0	472
7:45	27	170	0	10	0	91	0	120	87	0	0	0	505
8:00	35	139	0	19	0	114	0	106	89	0	0	0	502
8:15	26	132	0	26	0	132	0	102	90	0	0	0	508
8:30	33	149	0	14	0	100	0	94	81	0	0	0	471
8:45	25	192	0	21	0	89	0	110	90	0	0	0	527
9:00	20	139	0	10	0	98	0	106	81	0	0	0	454
9:15	22	148	0	16	0	75	0	83	55	0	0	0	399
9:30	17	123	0	12	0	84	0	80	62	0	0	0	378
9:45	18	111	0	8	0	58	0	70	78	0	0	0	343
Total Volume:	315	1827	0	166	0	1042	0	1126	946	0	0	0	5422
Approach %	15%	85%	0%	14%	0%	86%	0%	54%	46%	0%	0%	0%	

Peak Hr Begin:	8:00												
PHV	119	612	0	80	0	435	0	412	350	0	0	0	2008
PHF	0.842			0.815			0.953			0.000			0.953

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 13
North/South: Hollywood Way
East/West: I-5 Northbound Ramps

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	26	64	0	19	0	47	0	116	187	0	0	0	459
16:45	29	72	0	21	0	51	0	141	225	0	0	0	539
17:00	24	59	0	32	0	53	0	135	205	0	0	0	508
17:15	34	77	0	29	0	36	0	152	218	0	0	0	546
17:30	28	69	0	24	1	50	0	157	197	0	0	0	526
17:45	26	86	0	35	0	48	0	171	180	0	0	0	546
18:00	30	64	0	33	0	42	0	167	196	0	0	0	532
18:15	30	71	0	31	0	50	0	156	187	0	0	0	525
18:30	33	61	0	25	0	42	0	143	193	0	0	0	497
18:45	27	55	0	38	0	40	0	139	170	0	0	0	469
19:00	30	48	0	30	0	30	0	95	130	0	0	0	363
19:15	16	51	0	23	0	41	0	106	136	0	0	0	373
Total Volume:	333	777	0	340	1	530	0	1678	2224	0	0	0	5883
Approach %	30%	70%	0%	39%	0%	61%	0%	43%	57%	0%	0%	0%	

Peak Hr Begin:	17:15												
PHV	118	296	0	121	1	176	0	647	791	0	0	0	2150
PHF	0.924			0.898			0.972			0.000			0.984

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	1	0	0	0	0	1	0
7:15	1	0	0	0	0	0	0	0
7:30	0	1	0	0	0	0	0	0
7:45	0	1	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	2	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	1	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	2	0	0	0	0	1	0	0
16:45	0	0	0	0	0	0	0	0
17:00	1	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	1	0	2	0	0	0	1	0
17:45	0	1	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0
18:15	0	0	2	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 7
North/South: Hollywood Way SB Ramps
East/West: San Fernando Blvd

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	53	4	29	0	23	45	80	0	234
7:15	0	0	0	0	52	3	20	0	14	38	119	0	246
7:30	0	0	0	0	61	0	25	0	26	57	181	0	350
7:45	0	0	0	0	73	0	24	0	26	72	219	0	414
8:00	0	0	0	0	56	2	31	0	18	79	242	0	428
8:15	0	0	0	0	70	2	25	0	26	75	191	0	389
8:30	0	0	0	0	73	1	30	0	25	79	245	0	453
8:45	0	0	0	0	64	2	30	0	29	68	229	0	422
9:00	0	0	0	0	47	1	18	0	22	80	183	0	351
9:15	0	0	0	0	73	1	28	0	19	52	146	0	319
9:30	0	0	0	0	59	0	17	0	20	71	107	0	274
9:45	0	0	0	0	58	2	26	0	24	44	92	0	246
Total Volume:	0	0	0	0	739	18	303	0	272	760	2034	0	4126
Approach %	0%	0%	0%	0%	98%	2%	53%	0%	47%	27%	73%	0%	

Peak Hr Begin:	8:00												
PHV	0	0	0	0	263	7	116	0	98	301	907	0	1692
PHF	0.000			0.912			0.907			0.932			0.934

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 7
North/South: Hollywood Way SB Ramps
East/West: San Fernando Blvd

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	0	0	0	127	3	7	0	10	40	106	0	293
16:45	0	0	0	0	102	3	9	0	21	49	99	0	283
17:00	0	0	0	0	105	3	8	0	9	40	103	0	268
17:15	0	0	0	0	118	2	11	0	9	28	85	0	253
17:30	0	0	0	0	111	3	11	0	6	36	92	0	259
17:45	0	0	0	0	116	1	7	0	7	22	77	0	230
18:00	0	0	0	0	101	4	12	0	7	23	68	0	215
18:15	0	0	0	0	89	1	7	0	8	32	73	0	210
18:30	0	0	0	0	93	4	8	0	2	29	64	0	200
18:45	0	0	0	0	68	1	8	0	5	26	51	0	159
19:00	0	0	0	0	67	3	4	0	5	14	50	0	143
19:15	0	0	0	0	76	2	2	0	6	16	40	0	142

Total Volume:	0	0	0	0	1173	30	94	0	95	355	908	0	2655
Approach %	0%	0%	0%	0%	98%	2%	50%	0%	50%	28%	72%	0%	

Peak Hr Begin:	16:30												
PHV	0	0	0	0	452	11	35	0	49	157	393	0	1097
PHF	0.000			0.890			0.700			0.929			0.936

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	1	0	3	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	1	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	1	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	1	0	0	0
9:45	0	0	0	0	1	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	1	0	1	1	0	0
17:15	0	0	0	0	1	0	0	0
17:30	0	0	0	0	0	1	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	1	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 8
North/South: Hollywood Way NB Ramps
East/West: San Fernando Blvd

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	38	11	5	0	17	18	89	0	178
7:15	0	0	0	0	38	1	0	0	14	20	118	0	191
7:30	0	0	0	0	45	4	0	0	18	27	187	0	281
7:45	0	0	0	0	44	4	3	0	24	35	190	0	300
8:00	0	0	0	0	41	6	3	0	17	47	232	0	346
8:15	0	0	0	0	40	5	5	0	37	21	177	0	285
8:30	0	0	0	0	49	8	6	0	23	48	241	0	375
8:45	0	0	0	0	43	2	4	0	22	46	207	0	324
9:00	0	0	0	0	30	5	3	0	16	33	159	0	246
9:15	0	0	0	0	56	5	5	0	22	18	162	0	268
9:30	0	0	0	0	43	8	4	0	15	15	107	0	192
9:45	0	0	0	0	51	6	2	0	17	21	100	0	197
Total Volume:	0	0	0	0	518	65	40	0	242	349	1969	0	3183
Approach %	0%	0%	0%	0%	89%	11%	14%	0%	86%	15%	85%	0%	

Peak Hr Begin:	8:00												
PHV	0	0	0	0	173	21	18	0	99	162	857	0	1330
PHF	0.000			0.851			0.696			0.881			0.887

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 8
North/South: Hollywood Way NB Ramps
East/West: San Fernando Blvd

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	0	0	0	83	16	8	0	41	52	64	0	264
16:45	0	0	0	0	85	7	4	0	28	29	73	0	226
17:00	0	0	0	0	80	28	4	0	20	53	72	0	257
17:15	0	0	0	0	88	12	2	0	34	21	66	0	223
17:30	0	0	0	0	79	17	1	0	31	33	70	0	231
17:45	0	0	0	0	95	14	5	0	27	20	64	0	225
18:00	0	0	0	0	77	18	4	0	21	21	62	0	203
18:15	0	0	0	0	77	12	1	0	19	23	58	0	190
18:30	0	0	0	0	74	13	3	0	22	22	50	0	184
18:45	0	0	0	0	50	9	5	0	17	15	44	0	140
19:00	0	0	0	0	46	10	4	0	20	14	38	0	132
19:15	0	0	0	0	61	7	2	0	14	10	38	0	132

Total Volume:	0	0	0	0	895	163	43	0	294	313	699	0	2407
Approach %	0%	0%	0%	0%	85%	15%	13%	0%	87%	31%	69%	0%	

Peak Hr Begin:	16:30												
PHV	0	0	0	0	336	63	18	0	123	155	275	0	970
PHF	0.000			0.924			0.719			0.860			0.919

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	1	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	1	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	1	0	0	0
8:45	0	0	0	0	0	0	1	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	1	0	0	0
9:45	0	0	0	0	1	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	1	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	1	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 7
North/South: Hollywood Way
East/West: Tulare Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	437	4	1	0	1	2	130	0	0	0	0	575
7:15	0	441	18	0	0	1	1	156	0	0	0	0	617
7:30	0	517	7	2	0	1	6	175	0	0	0	0	708
7:45	0	568	19	1	0	2	12	223	0	0	0	0	825
8:00	0	515	15	0	0	4	6	228	0	0	0	0	768
8:15	0	516	21	1	0	2	6	223	0	0	0	0	769
8:30	0	529	18	3	0	0	4	203	1	1	0	0	759
8:45	0	564	18	2	0	2	3	224	0	0	0	0	813
9:00	0	481	24	1	0	0	9	201	0	0	0	0	716
9:15	0	419	22	3	0	0	5	164	0	0	0	0	613
9:30	0	434	21	2	0	2	9	162	0	0	0	0	630
9:45	0	379	19	1	0	0	7	228	0	0	0	0	634

Total Volume:	0	5800	206	17	0	15	70	2317	1	1	0	0	8427
Approach %	0%	97%	3%	53%	0%	47%	3%	97%	0%	100%	0%	0%	

Peak Hr Begin:	7:45												
PHV	0	2128	73	5	0	8	28	877	1	1	0	0	3121
PHF	0.937			0.813			0.964			0.250			0.946

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 7
North/South: Hollywood Way
East/West: Tulare Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	283	3	16	0	12	2	477	0	0	0	0	793
16:45	0	261	2	8	0	11	1	430	0	0	0	0	713
17:00	0	267	4	17	0	8	1	551	0	0	0	0	848
17:15	0	254	3	15	0	12	1	443	0	0	0	0	728
17:30	0	260	4	18	0	15	2	387	0	0	0	0	686
17:45	0	284	4	7	0	6	1	430	0	0	0	0	732
18:00	0	208	0	33	0	15	1	442	0	0	0	0	699
18:15	0	246	1	20	0	9	0	397	0	1	0	0	674
18:30	0	217	4	20	0	8	2	446	0	0	0	0	697
18:45	0	194	3	17	0	5	1	367	0	0	0	0	587
19:00	0	144	2	15	0	5	1	307	0	0	0	0	474
19:15	0	170	1	5	0	4	1	310	0	0	0	0	491
Total Volume:	0	2788	31	191	0	110	14	4987	0	1	0	0	8122
Approach %	0%	99%	1%	63%	0%	37%	0%	100%	0%	100%	0%	0%	

Peak Hr Begin:	16:30												
PHV	0	1065	12	56	0	43	5	1901	0	0	0	0	3082
PHF	0.941			0.884			0.863			0.000			0.909

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	3	0	0	0	0	1
7:15	0	0	1	0	2	0	2	0
7:30	0	0	2	0	0	0	0	0
7:45	0	0	1	0	0	0	1	0
8:00	0	0	0	0	1	0	0	0
8:15	0	0	0	0	0	0	1	0
8:30	0	0	2	0	0	0	0	0
8:45	0	0	1	0	0	0	0	0
9:00	0	0	0	0	0	0	1	0
9:15	0	0	3	0	0	0	0	0
9:30	0	0	0	0	0	0	1	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	4	0	1	0	2	0
16:45	0	0	1	0	3	0	4	0
17:00	0	0	1	0	2	0	0	0
17:15	0	0	0	0	0	0	1	0
17:30	0	0	2	0	2	0	1	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	2	0	0	0	1	0
18:15	0	0	2	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	2	0	1	0	0	0
19:00	0	0	0	0	0	0	1	0
19:15	0	0	0	0	1	0	0	0

Turning Movement Count Report AM

Location ID: 8
North/South: Hollywood Way
East/West: Winona Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	6	357	56	6	0	2	28	152	6	3	0	0	616
7:15	10	381	47	6	1	2	15	153	7	3	0	0	625
7:30	1	453	46	3	1	1	18	169	4	4	0	1	701
7:45	11	467	70	10	1	1	23	237	4	6	0	0	830
8:00	11	433	69	11	0	13	25	227	7	3	0	0	799
8:15	4	456	57	18	0	5	23	243	6	3	0	2	817
8:30	8	457	58	9	0	13	35	211	3	4	1	1	800
8:45	3	491	61	16	1	11	23	230	6	4	0	0	846
9:00	3	430	54	11	0	7	27	185	3	3	0	0	723
9:15	2	378	43	10	0	13	30	160	9	3	0	0	648
9:30	7	401	29	14	1	10	30	177	5	7	1	0	682
9:45	3	343	40	13	1	14	25	216	5	4	1	4	669

Total Volume:	69	5047	630	127	6	92	302	2360	65	47	3	8	8756
Approach %	1%	88%	11%	56%	3%	41%	11%	87%	2%	81%	5%	14%	

Peak Hr Begin:	8:00												
PHV	26	1837	245	54	1	42	106	911	22	14	1	3	3262
PHF	0.950			0.866			0.955			0.750			0.964

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 8
North/South: Hollywood Way
East/West: Winona Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	1	278	15	78	1	24	8	394	4	5	0	3	811
16:45	2	282	16	54	0	22	9	386	5	2	0	1	779
17:00	3	258	13	120	0	35	14	394	4	9	0	2	852
17:15	0	279	14	66	0	19	11	398	5	4	0	4	800
17:30	2	300	7	57	0	31	8	319	5	5	1	1	736
17:45	2	285	11	58	0	14	13	372	4	6	1	5	771
18:00	2	256	7	42	1	26	12	389	7	6	1	9	758
18:15	8	253	6	28	0	13	10	362	4	7	0	3	694
18:30	2	219	11	22	0	18	9	433	4	6	0	9	733
18:45	1	203	6	32	0	16	11	346	5	9	1	12	642
19:00	2	152	10	15	0	20	9	280	2	4	0	1	495
19:15	1	173	9	20	0	9	15	286	2	5	0	1	521
Total Volume:	26	2938	125	592	2	247	129	4359	51	68	4	51	8592
Approach %	1%	95%	4%	70%	0%	29%	3%	96%	1%	55%	3%	41%	

Peak Hr Begin:	16:30												
PHV	6	1097	58	318	1	100	42	1572	18	20	0	10	3242
PHF	0.968			0.676			0.986			0.682			0.951

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	0	1	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	1	0
7:45	0	0	2	0	0	0	0	0
8:00	0	0	1	0	1	0	1	0
8:15	0	1	1	1	0	1	0	1
8:30	0	0	1	0	0	0	0	0
8:45	0	0	3	0	0	0	0	0
9:00	0	0	1	0	1	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	1	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	1	1	0	1	0
16:45	0	0	0	0	0	0	1	0
17:00	0	0	1	1	0	1	0	0
17:15	0	0	0	0	0	0	1	2
17:30	1	0	0	0	0	0	1	0
17:45	0	0	2	0	0	0	1	0
18:00	0	0	1	0	0	0	1	0
18:15	0	0	1	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	1	0	0	0	0	0
19:00	0	0	0	0	0	0	1	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 9
North/South: Hollywood Way
East/West: Thornton Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	37	295	16	7	16	23	17	155	23	14	3	24	630
7:15	38	332	21	8	23	24	20	156	21	34	10	25	712
7:30	42	393	26	8	17	35	29	164	19	25	7	21	786
7:45	41	395	18	14	15	55	61	238	25	25	9	37	933
8:00	47	349	22	10	20	22	48	210	18	28	8	31	813
8:15	57	408	32	9	16	23	38	229	26	41	8	40	927
8:30	73	337	25	15	20	28	43	162	34	60	18	82	897
8:45	74	363	28	9	13	26	42	195	27	71	10	71	929
9:00	43	368	34	9	18	26	32	188	20	44	10	34	826
9:15	48	323	33	8	15	16	34	166	35	40	13	34	765
9:30	43	321	42	10	19	23	27	145	27	37	7	41	742
9:45	52	283	23	5	20	23	24	187	38	39	13	66	773

Total Volume:	595	4167	320	112	212	324	415	2195	313	458	116	506	9733
Approach %	12%	82%	6%	17%	33%	50%	14%	75%	11%	42%	11%	47%	

Peak Hr Begin:	8:15												
PHV	247	1476	119	42	67	103	155	774	107	216	46	227	3579
PHF	0.927			0.841			0.884			0.764			0.963

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 9
North/South: Hollywood Way
East/West: Thornton Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	39	231	11	29	13	46	27	283	29	34	9	72	823
16:45	45	268	12	26	15	29	31	292	39	52	12	59	880
17:00	27	246	13	39	16	56	30	307	20	34	15	50	853
17:15	26	273	15	43	15	35	28	330	22	22	6	20	835
17:30	23	277	14	34	18	40	33	249	22	37	10	31	788
17:45	27	279	18	25	18	41	21	329	33	31	10	56	888
18:00	21	242	11	30	15	65	28	321	24	28	8	40	833
18:15	34	238	9	21	16	37	21	310	22	41	3	50	802
18:30	36	179	11	29	23	43	25	291	34	57	10	91	829
18:45	35	209	5	17	16	28	16	286	27	30	7	55	731
19:00	21	134	16	18	14	25	23	238	23	17	7	32	568
19:15	29	155	9	24	19	26	26	237	31	36	10	47	649
Total Volume:	363	2731	144	335	198	471	309	3473	326	419	107	603	9479
Approach %	11%	84%	4%	33%	20%	47%	8%	85%	8%	37%	9%	53%	

Peak Hr Begin:	16:30												
PHV	137	1018	51	137	59	166	116	1212	110	142	42	201	3391
PHF	0.928			0.815			0.946			0.783			0.963

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	5	0	3	0	0	0	1	0
7:15	5	0	1	0	2	1	4	0
7:30	5	0	3	0	0	0	2	0
7:45	4	0	1	0	3	0	7	0
8:00	3	0	5	0	2	1	6	0
8:15	2	0	3	0	2	0	4	0
8:30	5	0	2	0	4	1	3	0
8:45	3	0	2	0	4	0	12	0
9:00	4	0	2	0	1	0	4	0
9:15	3	0	2	0	0	0	4	0
9:30	2	0	1	0	1	0	2	0
9:45	1	0	1	0	4	0	9	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	2	0	0	1	1	0
16:45	1	0	4	0	1	1	12	0
17:00	2	0	1	0	6	0	3	0
17:15	1	0	2	0	2	0	1	0
17:30	5	0	9	1	1	0	0	0
17:45	3	0	4	1	0	1	7	0
18:00	2	0	4	0	2	0	1	0
18:15	2	1	2	1	0	0	2	0
18:30	2	0	1	0	1	0	5	0
18:45	2	0	0	0	0	0	2	0
19:00	1	0	1	0	0	0	1	0
19:15	2	0	1	0	2	0	7	0

Turning Movement Count Report AM

Location ID: 21
North/South: Hollywood Way
East/West: Airport / Avon Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	4	323	3	12	6	8	8	151	5	5	5	18	548
7:15	5	337	5	26	4	8	4	155	10	9	3	14	580
7:30	3	461	3	24	1	12	11	187	8	11	2	12	735
7:45	2	431	7	31	8	16	14	265	16	10	2	17	819
8:00	6	408	5	14	5	7	20	263	14	7	4	14	767
8:15	8	400	2	25	10	6	27	222	14	10	2	25	751
8:30	6	399	6	29	7	9	17	204	23	9	2	23	734
8:45	6	418	6	31	9	7	25	193	20	14	1	25	755
9:00	12	465	7	33	6	7	16	197	13	15	3	14	788
9:15	13	323	3	22	5	11	16	188	21	12	0	18	632
9:30	7	336	3	29	4	7	24	169	13	11	3	16	622
9:45	9	322	3	34	4	16	26	189	11	13	2	13	642
Total Volume:	81	4623	53	310	69	114	208	2383	168	126	29	209	8373
Approach %	2%	97%	1%	63%	14%	23%	8%	86%	6%	35%	8%	57%	

Peak Hr Begin:	7:30												
PHV	19	1700	17	94	24	41	72	937	52	38	10	68	3072
PHF	0.929			0.723			0.893			0.784			0.938

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 21
North/South: Hollywood Way
East/West: Airport / Avon Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	5	333	7	29	6	11	10	313	20	12	0	22	768
16:45	7	300	5	43	11	11	18	262	19	16	2	29	723
17:00	6	352	3	37	7	16	12	333	11	9	2	22	810
17:15	1	292	3	39	9	27	8	287	16	17	5	15	719
17:30	9	364	5	39	5	18	6	289	28	10	0	15	788
17:45	6	325	7	43	8	19	10	268	21	21	0	25	753
18:00	5	317	10	46	9	16	10	312	17	11	2	22	777
18:15	5	280	5	37	8	29	11	290	26	11	2	25	729
18:30	8	272	4	29	7	27	10	298	20	13	1	27	716
18:45	4	235	8	48	5	20	5	224	16	15	2	23	605
19:00	3	175	4	30	9	11	6	232	19	9	1	25	524
19:15	6	187	4	34	5	10	5	220	24	8	4	30	537
Total Volume:	65	3432	65	454	89	215	111	3328	237	152	21	280	8449
Approach %	2%	96%	2%	60%	12%	28%	3%	91%	6%	34%	5%	62%	

Peak Hr Begin:	17:00												
PHV	22	1333	18	158	29	80	36	1177	76	57	7	77	3070
PHF	0.908			0.890			0.905			0.766			0.948

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	3	0	0	0	1	0
7:15	3	0	4	0	0	0	0	0
7:30	1	0	0	0	0	0	4	0
7:45	1	0	0	0	0	0	2	0
8:00	4	0	3	0	0	0	2	0
8:15	8	0	0	1	0	0	2	0
8:30	0	0	1	0	0	0	2	0
8:45	0	0	0	0	0	0	2	0
9:00	1	0	0	0	0	0	0	0
9:15	6	0	0	0	0	0	0	0
9:30	2	0	1	0	0	0	2	0
9:45	4	0	0	0	0	0	4	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	1	0	2	0	0	0	0	0
16:45	0	0	1	0	0	0	4	1
17:00	5	0	0	0	0	0	5	1
17:15	3	0	1	0	0	0	2	0
17:30	3	0	3	0	0	0	2	0
17:45	1	0	1	0	0	0	2	1
18:00	1	0	0	0	0	0	4	0
18:15	3	0	1	0	0	0	2	0
18:30	3	0	0	0	0	0	2	0
18:45	1	0	1	0	0	0	2	0
19:00	0	0	0	0	0	0	0	0
19:15	4	0	0	0	0	0	4	0

Turning Movement Count Report AM

Location ID: 23
North/South: Hollywood Way
East/West: Victory Boulevard

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	27	286	27	19	94	19	5	141	14	26	113	38	809
7:15	35	335	36	22	103	24	9	132	8	45	176	56	981
7:30	34	417	46	38	167	36	21	167	11	48	242	56	1283
7:45	60	369	49	48	206	43	25	222	21	65	295	81	1484
8:00	38	303	53	45	164	24	15	246	23	58	232	61	1262
8:15	25	374	52	63	115	21	13	225	26	68	277	75	1334
8:30	38	391	40	35	138	21	9	176	21	50	240	63	1222
8:45	30	313	41	46	140	23	19	195	19	53	250	88	1217
9:00	28	346	45	35	133	19	8	185	20	35	193	60	1107
9:15	24	266	44	44	118	22	15	191	22	37	180	71	1034
9:30	35	303	34	33	81	20	10	176	17	26	133	63	931
9:45	21	301	35	22	135	20	15	161	15	25	180	70	1000

Total Volume:	395	4004	502	450	1594	292	164	2217	217	536	2511	782	13664
Approach %	8%	82%	10%	19%	68%	13%	6%	85%	8%	14%	66%	20%	

Peak Hr Begin:	7:30												
PHV	157	1463	200	194	652	124	74	860	81	239	1046	273	5363
PHF	0.915			0.816			0.893			0.883			0.903

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 23
North/South: Hollywood Way
East/West: Victory Boulevard

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	75	228	51	54	235	26	13	203	42	20	189	62	1198
16:45	79	222	41	59	193	27	19	282	34	26	181	65	1228
17:00	72	268	50	58	267	19	27	230	45	23	249	61	1369
17:15	106	349	55	28	296	26	20	267	38	32	192	55	1464
17:30	84	259	40	41	329	36	26	238	42	30	232	63	1420
17:45	108	303	45	40	290	26	22	262	42	28	201	60	1427
18:00	114	273	46	26	301	25	25	228	42	24	220	58	1382
18:15	81	278	48	23	229	11	22	272	43	23	210	59	1299
18:30	93	243	50	30	355	22	25	220	37	12	197	35	1319
18:45	57	235	31	34	240	18	24	239	38	16	168	43	1143
19:00	56	172	34	27	251	28	22	204	28	18	188	51	1079
19:15	29	171	27	27	187	17	17	222	29	15	161	36	938

Total Volume:	954	3001	518	447	3173	281	262	2867	460	267	2388	648	15266
Approach %	21%	67%	12%	11%	81%	7%	7%	80%	13%	8%	72%	20%	

Peak Hr Begin:	17:15												
PHV	412	1184	186	135	1216	113	93	995	164	114	845	236	5693
PHF	0.874			0.901			0.960			0.919			0.972

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	4	1	1	0	0	0	1	0
7:15	3	1	0	0	1	0	0	0
7:30	2	1	4	0	0	0	1	0
7:45	4	0	2	0	2	0	2	0
8:00	2	0	6	0	0	0	2	0
8:15	1	0	4	0	0	0	0	0
8:30	8	1	4	0	3	0	3	1
8:45	6	1	5	0	2	0	0	0
9:00	0	1	1	0	0	0	2	0
9:15	5	0	1	0	0	0	1	0
9:30	2	0	0	0	1	0	0	0
9:45	6	0	1	1	1	1	5	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	8	1	1	0	0	1	3	2
16:45	4	1	6	1	0	0	4	0
17:00	17	1	2	0	1	1	5	0
17:15	8	0	1	0	4	0	9	0
17:30	8	0	5	0	9	3	3	0
17:45	4	0	1	0	2	1	3	1
18:00	6	0	5	0	4	0	2	0
18:15	4	0	6	0	1	1	1	0
18:30	6	1	4	0	1	1	3	0
18:45	4	1	5	1	2	1	2	1
19:00	3	1	2	0	1	1	1	1
19:15	7	0	0	0	1	0	3	1

Turning Movement Count Report AM

Location ID: 24
North/South: Hollywood Way
East/West: Burbank Boulevard

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	15	257	33	10	76	32	9	105	4	2	59	32	634
7:15	22	290	29	17	67	26	7	122	5	4	68	31	688
7:30	28	319	55	20	126	34	12	132	10	11	156	28	931
7:45	17	367	66	26	138	48	20	193	12	8	157	45	1097
8:00	26	325	42	21	149	55	27	161	10	12	149	43	1020
8:15	19	246	28	14	79	40	18	159	12	22	121	33	791
8:30	18	297	21	14	101	42	14	157	9	16	152	29	870
8:45	29	304	39	12	87	39	23	179	11	19	154	42	938
9:00	29	303	40	19	107	31	12	135	14	12	163	44	909
9:15	19	282	31	17	100	34	13	169	12	10	129	44	860
9:30	22	257	26	15	99	32	11	106	16	7	136	37	764
9:45	27	214	23	17	74	25	24	137	6	10	128	34	719
Total Volume:	271	3461	433	202	1203	438	190	1755	121	133	1572	442	10221
Approach %	7%	83%	10%	11%	65%	24%	9%	85%	6%	6%	73%	21%	

Peak Hr Begin:	7:30												
PHV	90	1257	191	81	492	177	77	645	44	53	583	149	3839
PHF	0.854			0.833			0.851			0.935			0.875

Turning Movement Count Report PM

Location ID: 24
North/South: Hollywood Way
East/West: Burbank Boulevard

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	16	183	26	24	167	38	26	202	10	5	147	39	883
16:45	32	185	38	36	171	28	36	253	14	8	139	34	974
17:00	35	170	34	31	174	43	34	201	17	5	162	49	955
17:15	36	216	36	38	158	48	47	244	24	11	156	40	1054
17:30	30	166	39	25	197	45	19	228	20	6	181	50	1006
17:45	25	199	43	34	180	37	36	235	22	2	148	37	998
18:00	27	147	35	38	194	30	25	200	13	10	166	39	924
18:15	25	157	40	23	154	26	33	234	24	8	171	52	947
18:30	40	145	17	20	175	40	27	204	12	7	149	46	882
18:45	21	152	28	31	123	28	27	201	20	5	114	37	787
19:00	37	115	34	27	169	31	21	156	13	9	146	34	792
19:15	23	143	22	23	124	30	25	187	9	5	102	33	726
Total Volume:	347	1978	392	350	1986	424	356	2545	198	81	1781	490	10928
Approach %	13%	73%	14%	13%	72%	15%	11%	82%	6%	3%	76%	21%	

Peak Hr Begin:	17:00												
PHV	126	751	152	128	709	173	136	908	83	24	647	176	4013
PHF	0.893			0.946			0.894			0.893			0.952

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	2	0	0	0	1	0	2	0
7:15	6	0	1	1	0	1	0	1
7:30	5	1	5	0	2	0	2	1
7:45	5	0	5	1	4	1	4	0
8:00	8	0	6	0	2	0	3	1
8:15	2	0	7	0	1	0	1	0
8:30	3	1	1	0	2	1	0	0
8:45	2	0	6	1	4	0	1	0
9:00	0	0	3	0	3	0	0	0
9:15	3	1	2	1	3	0	9	0
9:30	1	0	0	0	2	1	1	1
9:45	3	1	1	1	1	0	0	1

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	7	0	3	1	1	1	1	0
16:45	5	0	5	1	6	0	1	4
17:00	1	0	4	2	3	2	2	0
17:15	0	0	4	0	5	2	1	0
17:30	3	0	4	1	4	0	2	0
17:45	0	0	0	0	3	0	2	0
18:00	0	0	3	0	1	0	2	0
18:15	0	0	4	0	1	0	1	0
18:30	1	0	0	0	3	0	0	0
18:45	1	0	1	1	3	2	1	2
19:00	1	0	1	1	1	1	0	0
19:15	2	0	3	0	0	0	1	0

Turning Movement Count Report AM

Location ID: 25
North/South: Hollywood Way
East/West: Magnolia Boulevard

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	17	359	27	17	70	25	8	92	10	17	57	15	714
7:15	23	302	33	11	77	31	13	101	16	17	83	25	732
7:30	26	335	56	23	82	34	11	135	12	22	103	22	861
7:45	24	335	78	28	96	29	24	175	17	27	160	31	1024
8:00	31	352	57	39	108	38	18	160	18	34	132	28	1015
8:15	19	320	55	27	98	30	17	155	20	33	179	20	973
8:30	19	325	45	30	107	37	23	150	15	31	138	29	949
8:45	28	345	49	20	93	32	17	163	19	40	152	33	991
9:00	30	320	67	28	110	26	27	135	29	38	153	26	989
9:15	17	315	59	26	96	42	26	143	15	32	162	41	974
9:30	25	245	44	25	97	43	25	123	18	24	129	23	821
9:45	22	210	52	33	91	35	28	131	30	20	147	36	835
Total Volume:	281	3763	622	307	1125	402	237	1663	219	335	1595	329	10878
Approach %	6%	81%	13%	17%	61%	22%	11%	78%	10%	15%	71%	15%	

Peak Hr Begin:	7:45												
PHV	93	1332	235	124	409	134	82	640	70	125	609	108	3961
PHF	0.943			0.901			0.917			0.907			0.967

Turning Movement Count Report PM

Location ID: 25
North/South: Hollywood Way
East/West: Magnolia Boulevard

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	34	182	52	38	135	31	32	254	31	14	125	39	967
16:45	35	154	42	47	196	30	35	232	30	15	151	39	1006
17:00	41	177	52	50	165	32	39	274	31	27	124	28	1040
17:15	61	169	47	47	224	34	27	222	31	22	164	42	1090
17:30	51	163	54	54	168	33	31	207	24	30	181	34	1030
17:45	43	174	45	60	204	38	31	238	23	17	162	42	1077
18:00	51	140	44	43	171	29	38	245	37	20	145	31	994
18:15	38	144	42	50	277	38	32	241	39	16	168	31	1116
18:30	44	151	37	41	170	33	40	243	40	24	125	23	971
18:45	41	122	30	30	185	41	34	216	37	16	152	35	939
19:00	40	150	28	31	149	35	40	209	29	27	99	24	861
19:15	32	122	36	32	138	36	42	193	26	22	128	27	834
Total Volume:	511	1848	509	523	2182	410	421	2774	378	250	1724	395	11925
Approach %	18%	64%	18%	17%	70%	13%	12%	78%	11%	11%	73%	17%	

Peak Hr Begin:	17:00												
PHV	196	683	198	211	761	137	128	941	109	96	631	146	4237
PHF	0.972			0.909			0.856			0.891			0.972

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	3	0	4	0	2	0	2	0
7:15	5	0	8	0	4	0	2	0
7:30	3	0	6	0	5	1	4	1
7:45	4	0	12	0	8	0	0	0
8:00	0	0	6	1	9	0	1	0
8:15	4	0	10	0	6	0	7	0
8:30	3	1	12	0	9	0	3	0
8:45	3	0	13	0	12	0	5	0
9:00	5	3	17	1	11	0	5	1
9:15	10	0	11	0	5	0	1	0
9:30	4	0	11	0	5	0	1	0
9:45	2	0	12	0	9	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	5	3	18	0	5	0	4	0
16:45	5	2	14	1	6	0	5	1
17:00	6	0	12	0	9	0	5	0
17:15	12	1	13	1	11	0	4	0
17:30	13	0	13	0	12	0	2	1
17:45	9	2	22	0	11	0	1	1
18:00	11	2	13	1	8	2	2	0
18:15	4	0	8	1	9	0	3	0
18:30	5	0	8	2	14	0	11	1
18:45	21	2	20	0	5	0	7	0
19:00	5	1	6	0	9	0	2	0
19:15	6	1	3	0	4	0	3	0

Turning Movement Count Report AM

Location ID: 15
North/South: Ontario Street
East/West: Winona Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	1	1	0	8	6	0	5	5	17	51	1	96
7:15	1	5	0	0	12	6	1	2	3	11	36	2	79
7:30	3	6	0	3	13	3	3	1	7	25	27	2	93
7:45	3	10	4	3	11	5	3	3	8	31	32	6	119
8:00	3	11	4	1	17	6	4	5	9	35	24	6	125
8:15	0	14	3	4	14	5	3	2	6	34	21	2	108
8:30	1	9	3	4	8	5	6	6	6	41	26	5	120
8:45	1	8	6	1	12	5	6	6	10	36	18	6	115
9:00	1	15	1	4	10	3	4	8	9	33	25	7	120
9:15	3	6	1	2	9	6	6	3	6	23	20	2	87
9:30	1	5	3	1	13	9	3	7	3	30	12	2	89
9:45	2	2	0	2	12	2	4	5	3	17	18	4	71

Total Volume:	20	92	26	25	139	61	43	53	75	333	310	45	1222
Approach %	14%	67%	19%	11%	62%	27%	25%	31%	44%	48%	45%	7%	

Peak Hr Begin:	7:45												
PHV	7	44	14	12	50	21	16	16	29	141	103	19	472
PHF	0.903			0.865			0.847			0.913			0.944

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 15
North/South: Ontario Street
East/West: Winona Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	7	6	1	2	36	2	6	14	27	8	10	4	123
16:45	8	9	2	4	28	2	5	11	28	10	7	4	118
17:00	8	12	0	4	42	4	4	12	42	15	12	4	159
17:15	4	6	0	2	25	7	5	11	36	9	14	2	121
17:30	7	6	0	3	19	3	3	12	22	9	6	2	92
17:45	5	4	1	3	22	7	1	11	14	8	11	1	88
18:00	11	2	1	2	18	8	3	1	16	5	13	4	84
18:15	3	5	0	0	7	5	2	6	14	1	9	1	53
18:30	4	6	0	2	11	0	1	7	13	4	6	3	57
18:45	2	3	2	1	7	2	2	6	10	5	12	1	53
19:00	2	2	1	0	7	1	1	7	5	5	13	3	47
19:15	5	0	0	0	8	1	0	1	8	3	9	1	36
Total Volume:	66	61	8	23	230	42	33	99	235	82	122	30	1031
Approach %	49%	45%	6%	8%	78%	14%	9%	27%	64%	35%	52%	13%	

Peak Hr Begin:	16:30												
PHV	27	33	3	12	131	15	20	48	133	42	43	14	521
PHF	0.788			0.790			0.866			0.798			0.819

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	0	3	0	3	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	1	0	0
7:45	2	0	0	0	2	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	3	0	1	1	0	0
8:30	0	0	2	0	2	0	0	0
8:45	2	0	0	0	1	0	0	0
9:00	0	0	2	0	2	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	2	0	1	0
9:45	0	0	0	0	1	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	2	0	1	0	1	0	0	0
16:45	4	0	0	0	2	0	0	0
17:00	2	0	0	0	0	0	1	0
17:15	0	0	1	0	2	0	0	0
17:30	0	0	0	0	0	0	1	0
17:45	0	0	1	0	1	0	1	0
18:00	0	0	0	0	0	0	2	0
18:15	0	0	1	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	1	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 17
North/South: Ontario St
East/West: Thornton Ave

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	3	11	1	3	40	13	2	5	4	3	15	16	116
7:15	0	14	8	2	44	21	3	5	3	9	22	15	146
7:30	4	17	12	6	59	22	5	4	3	14	29	12	187
7:45	6	22	16	8	48	20	3	15	11	13	56	27	245
8:00	15	31	4	5	30	27	2	5	6	7	42	24	198
8:15	6	45	13	5	37	33	6	10	8	10	44	39	256
8:30	3	61	21	7	31	47	6	9	16	5	43	34	283
8:45	1	45	15	9	39	38	9	16	12	5	36	36	261
9:00	5	47	14	10	40	53	11	9	8	8	30	41	276
9:15	8	38	5	7	40	38	9	11	6	5	33	31	231
9:30	4	24	7	5	31	27	7	7	4	4	25	37	182
9:45	9	16	6	4	48	38	3	15	9	1	26	27	202

Total Volume:	64	371	122	71	487	377	66	111	90	84	401	339	2583
Approach %	11%	67%	22%	8%	52%	40%	25%	42%	34%	10%	49%	41%	

Peak Hr Begin:	8:15												
PHV	15	198	63	31	147	171	32	44	44	28	153	150	1076
PHF	0.812			0.847			0.811			0.890			0.951

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 17
North/South: Ontario St
East/West: Thornton Ave

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	4	7	5	11	47	7	16	27	26	6	30	8	194
16:45	5	10	10	10	22	5	33	23	25	2	40	10	195
17:00	10	21	10	5	40	6	40	51	28	1	28	7	247
17:15	6	14	8	3	42	12	38	25	28	1	34	7	218
17:30	6	17	9	6	39	9	29	36	22	0	36	8	217
17:45	4	8	3	6	38	9	20	23	24	4	28	5	172
18:00	2	11	4	7	38	8	30	29	22	3	36	8	198
18:15	1	5	3	6	52	6	23	17	19	1	32	6	171
18:30	5	7	4	4	39	5	15	20	6	2	36	5	148
18:45	0	6	3	2	35	4	22	12	8	2	53	1	148
19:00	4	5	5	6	34	4	13	8	18	1	42	6	146
19:15	0	5	3	3	33	5	17	10	7	1	22	2	108

Total Volume:	47	116	67	69	459	80	296	281	233	24	417	73	2162
Approach %	20%	50%	29%	11%	75%	13%	37%	35%	29%	5%	81%	14%	

Peak Hr Begin:	16:45												
PHV	27	62	37	24	143	32	140	135	103	4	138	32	877
PHF	0.768			0.873			0.794			0.837			0.888

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	0	1	0	4	0	2	0
7:15	2	0	0	0	1	0	1	0
7:30	1	0	0	0	0	0	0	0
7:45	2	0	1	0	0	0	0	0
8:00	2	0	1	0	3	0	1	0
8:15	2	1	1	0	3	0	1	0
8:30	5	0	0	0	6	0	2	0
8:45	0	0	1	0	1	0	1	1
9:00	1	0	0	0	1	1	2	0
9:15	1	0	0	0	0	0	1	0
9:30	3	0	0	0	1	0	1	0
9:45	0	0	0	0	1	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	1	0	0	1	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	4	0	0	0
17:30	2	0	3	0	0	0	0	0
17:45	3	0	0	0	0	0	1	0
18:00	1	0	0	0	3	0	1	0
18:15	2	0	2	0	2	0	0	0
18:30	3	0	2	0	3	0	1	0
18:45	0	0	0	0	1	0	0	0
19:00	1	0	0	0	0	0	2	0
19:15	0	0	0	0	1	0	0	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Ontario St and Empire Ave , Burbank

Date:	2/11/2014
Day:	Tuesday

Project #:	14-5062-029
City:	Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Ontario St)

	Lanes 1	0	1		
AM	69	1	50	174	AM
NOON	0	0	0	0	NOON
PM	155	0	102	105	PM

Eastbound Approach (Empire Ave)

Lanes	AM	NOON	PM
	438	0	578
1	110	0	34
2	290	0	461
0	0	0	0

Westbound Approach

	AM	NOON	PM	Lanes
	64	0	70	0
	369	0	421	2
	7	0	0	1
	340	0	567	

Northbound Approach

AM	8	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	2	1	4	PM
		0	1	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	7:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	120	0	257
	174	0	105
West Leg	438	0	578
	400	0	495
East Leg	440	0	491
	340	0	567
South Leg	8	0	0
	0	0	7

Total Volume Per Leg

	AM	NOON	PM
North Leg	294	0	362
West Leg	838	0	1073
East Leg	780	0	1058
South Leg	8	0	7

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Buena Vista St and I-5 NB Ramps , Burbank

Date: 2/11/2014

Day: Tuesday

Project #: 14-5062-016

City: Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Buena Vista St)

	Lanes 0	1	0		
AM	74	443	0	516	AM
NOON	0	0	0	0	NOON
PM	94	492	0	710	PM

Eastbound Approach (I-5 NB Ramps)

Lanes	AM	NOON	PM
	355	0	655
1	265	0	195
0	0	0	0
1	283	0	175

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

Northbound Approach

AM	726	281	251	0	AM
NOON	0	0	0	0	NOON
PM	667	561	515	0	PM
		1	1	0	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	4:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	517	516	AM
	0	0	NOON
	586	710	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
355	0	655	0	0	0
548	0	370	0	0	0

	South Leg	
AM	726	532
NOON	0	0
PM	667	1076

Total Volume Per Leg

	North Leg
AM	1033
NOON	0
PM	1296

West Leg AM	NOON	PM	East Leg AM	NOON	PM
903	0	1025	0	0	0

	South Leg
AM	1258
NOON	0
PM	1743

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Buena Vista St and Winona Ave , Burbank

Date: 2/11/2014

Day: Tuesday

Project #: 14-5062-017

City: Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Buena Vista St)

Lanes	0	2	1		
AM	245	446	33	533	AM
NOON	0	0	0	0	NOON
PM	192	451	19	1084	PM

Eastbound Approach (Winona Ave)

Lanes	AM	NOON	PM
	407	0	329
1	51	0	71
1	56	0	56
1	394	0	317

Westbound Approach

AM	NOON	PM	Lanes
47	0	29	0.5
80	0	33	0.5
255	0	173	1
314	0	292	

Northbound Approach

AM	1095	82	435	225	AM
NOON	0	0	0	0	NOON
PM	941	104	984	217	PM
		1	1.5	0.5	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	4:00 PM	7:00 PM

Total Ins & Outs

	North Leg		
	724	533	AM
	0	0	NOON
	662	1084	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
407	0	329	382	0	235
501	0	444	314	0	292

	South Leg	
AM	1095	742
NOON	0	0
PM	941	1305

Total Volume Per Leg

	North Leg
AM	1257
NOON	0
PM	1746

West Leg AM	NOON	PM	East Leg AM	NOON	PM
908	0	773	696	0	527

	South Leg
AM	1837
NOON	0
PM	2246

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Buena Vista St and San Fernando Blvd , Burbank

Date: 2/11/2014

Day: Tuesday

Project #: 14-5062-018

City: Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach

Buena Vista St

Lanes	1	2	1		
AM	96	856	165	747	AM
NOON	0	0	0	0	NOON
PM	86	654	200	1313	PM

Eastbound Approach

San Fernando Blvd

Lanes	AM	NOON	PM
	662	0	552
1	52	0	84
2	528	0	610
0	75	0	46

Westbound Approach

AM	NOON	PM	Lanes
130	0	327	1
522	0	409	2
179	0	126	1
760	0	908	

CONTROL

Signalized

Northbound Approach

AM	1110	44	565	67
NOON	0	0	0	0
PM	826	57	902	98
Lanes		1	2	0

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	4:00 PM	7:00 PM

Total Ins & Outs

	North Leg	
AM	1117	747
NOON	0	0
PM	940	1313

West Leg	AM	NOON	PM
	662	0	552
	655	0	740

East Leg	AM	NOON	PM
	831	0	862
	760	0	908

South Leg		
AM	1110	676
NOON	0	0
PM	826	1057

Total Volume Per Leg

North Leg	
AM	1864
NOON	0
PM	2253

West Leg	AM	NOON	PM
	1317	0	1292

East Leg	AM	NOON	PM
	1591	0	1770

South Leg	
AM	1786
NOON	0
PM	1883

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Buena Vista St and Empire Ave , Burbank

Date:	2/11/2014
Day:	Tuesday

Project #:	14-5062-019
City:	Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	530 PM

Peak Hour Summary

Southbound Approach (Buena Vista St)

	Lanes 0	2	2		
AM	68	803	99	662	AM
NOON	0	0	0	0	NOON
PM	34	558	117	911	PM

Eastbound Approach (Empire Ave)

Lanes	AM	NOON	PM
	427	0	452
2	59	0	58
2	191	0	332
1	125	0	102

Westbound Approach

AM	NOON	PM	Lanes
46	0	147	0
261	0	324	2
248	0	416	2
654	0	950	

Northbound Approach

AM	1176	98	557	364	AM
NOON	0	0	0	0	NOON
PM	1076	94	706	501	PM
		2	2	1	Lanes

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	4:00 PM	7:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	970	0	709
	662	0	911
West Leg	427	0	452
	375	0	492
East Leg	555	0	887
	654	0	950
South Leg	1176	0	1076
	1019	0	1301

Total Volume Per Leg

	AM	NOON	PM
North Leg	1632	0	1620
West Leg	802	0	944
East Leg	1209	0	1837
South Leg	2195	0	2377

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Avon St and Empire Ave , Burbank

Date:	2/11/2014
Day:	Tuesday

Project #:	14-5062-028
City:	Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Peak Hour Summary

Southbound Approach (Avon St)

	Lanes 0	1	0		
AM	7	0	101	157	AM
NOON	0	0	0	0	NOON
PM	11	0	66	271	PM

Eastbound Approach (Empire Ave)

Lanes	AM	NOON	PM
	293	0	519
1	95	0	101
2	413	0	336
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
62	0	170	0
286	0	508	2
0	0	0	0
514	0	402	

Northbound Approach

AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM
		0	0	0	Lanes

CONTROL

1-Way Stop (SB)

Count Periods	Start	End
AM		
NOON		
PM		

Total Ins & Outs

	North Leg		
	108	157	AM
	0	0	NOON
	77	271	PM

West Leg AM	NOON	PM	East Leg AM	NOON	PM
293	0	519	348	0	678
508	0	437	514	0	402

	South Leg	
AM	0	0
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg
AM	265
NOON	0
PM	348

West Leg AM	NOON	PM	East Leg AM	NOON	PM
801	0	956	862	0	1080

	South Leg
AM	0
NOON	0
PM	0

Turning Movement Count Report AM

Location ID: 6
North/South: Clybourne Avenue
East/West: Sherman Way

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	23	0	0	0	0	0	0	1	2	1	0	36	63
7:15	40	0	0	0	0	0	0	3	1	0	0	39	83
7:30	51	1	0	0	0	0	0	0	2	5	0	39	98
7:45	50	3	0	0	0	0	0	1	0	1	0	63	118
8:00	43	0	0	0	0	0	0	1	0	2	0	37	83
8:15	39	1	0	0	0	0	0	0	0	0	0	38	78
8:30	34	0	0	0	0	0	0	0	1	2	0	44	81
8:45	41	5	0	0	0	0	0	0	2	4	0	52	104
9:00	31	5	0	0	0	0	0	1	1	0	0	59	97
9:15	40	3	0	0	0	0	0	2	0	7	0	42	94
9:30	24	2	0	0	0	0	0	1	3	5	0	42	77
9:45	32	3	0	0	0	0	0	0	1	2	0	43	81
Total Volume:	448	23	0	0	0	0	0	10	13	29	0	534	1057
Approach %	95%	5%	0%	0%	0%	0%	0%	43%	57%	5%	0%	95%	

Peak Hr Begin:	7:15												
PHV	184	4	0	0	0	0	0	5	3	8	0	178	382
PHF	0.887			0.000			0.500			0.727			0.809

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 6
North/South: Clybourne Avenue
East/West: Sherman Way

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	66	0	0	0	0	0	0	1	1	0	0	55	123
16:45	49	2	0	0	0	0	0	1	0	0	0	69	121
17:00	62	0	0	0	0	0	0	4	1	3	0	75	145
17:15	49	0	0	0	0	0	0	0	0	3	0	63	115
17:30	50	1	0	0	0	0	0	0	3	1	0	49	104
17:45	43	0	0	0	0	0	0	0	2	2	0	64	111
18:00	53	2	0	0	0	0	0	2	3	2	0	60	122
18:15	31	1	0	0	0	0	0	1	4	1	0	57	95
18:30	44	0	0	0	0	0	0	0	2	1	0	50	97
18:45	31	1	0	0	0	0	0	1	2	2	0	35	72
19:00	21	1	0	0	0	0	0	0	3	1	0	47	73
19:15	32	1	0	0	0	0	0	0	1	1	0	42	77
Total Volume:	531	9	0	0	0	0	0	10	22	17	0	666	1255
Approach %	98%	2%	0%	0%	0%	0%	0%	31%	69%	2%	0%	98%	

Peak Hr Begin:	16:30												
PHV	226	2	0	0	0	0	0	6	2	6	0	262	504
PHF	0.864			0.000			0.400			0.859			0.869

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	2	0	0	0
7:15	1	0	0	0	2	0	0	0
7:30	0	0	0	0	1	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	6	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	1	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	2	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	1	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 10
North/South: Clybourne Avenue
East/West: Empire Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	1	0	64	52	0	0	8	7	0	132
7:15	0	0	0	0	3	56	74	0	3	5	6	0	147
7:30	0	0	0	3	2	66	77	0	1	4	6	0	159
7:45	0	0	0	4	5	85	125	0	3	3	4	0	229
8:00	0	0	0	1	1	82	107	0	3	0	3	0	197
8:15	0	0	0	6	1	70	94	2	1	0	9	0	183
8:30	0	1	0	4	2	83	100	0	1	4	5	0	200
8:45	0	0	0	3	3	88	115	0	2	2	8	0	221
9:00	0	0	0	1	2	72	151	0	5	3	4	0	238
9:15	0	0	0	2	0	65	109	0	2	5	1	0	184
9:30	0	0	0	3	1	71	103	1	1	1	1	0	182
9:45	0	0	1	1	1	68	81	1	0	0	5	0	158

Total Volume:	0	1	1	29	21	870	1188	4	22	35	59	0	2230
Approach %	0%	50%	50%	3%	2%	95%	98%	0%	2%	37%	63%	0%	

Peak Hr Begin:	8:30												
PHV	0	1	0	10	7	308	475	0	10	14	18	0	843
PHF	0.250			0.864			0.777			0.800			0.886

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 10
North/South: Clybourne Avenue
East/West: Empire Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	1	0	5	1	153	49	1	3	5	5	2	225
16:45	0	0	0	2	6	130	64	0	4	3	6	0	215
17:00	0	0	1	4	3	190	69	0	4	7	8	0	286
17:15	0	0	0	0	3	165	77	0	1	2	4	0	252
17:30	0	0	0	0	1	189	73	0	0	1	0	0	264
17:45	0	0	0	0	1	164	64	0	0	0	1	0	230
18:00	0	0	0	1	2	164	77	0	1	1	1	0	247
18:15	0	0	0	0	2	158	72	0	1	2	1	0	236
18:30	0	0	0	0	8	128	60	0	2	5	2	0	205
18:45	0	0	0	0	8	131	66	0	3	3	5	0	216
19:00	0	0	0	0	0	111	49	0	2	2	3	0	167
19:15	0	0	0	0	1	80	48	0	2	2	4	0	137
Total Volume:	0	1	1	12	36	1763	768	1	23	33	40	2	2680
Approach %	0%	50%	50%	1%	2%	97%	97%	0%	3%	44%	53%	3%	

Peak Hr Begin:	17:00												
PHV	0	0	1	4	8	708	283	0	5	10	13	0	1032
PHF	0.250			0.914			0.923			0.383			0.902

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	1	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	1	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0
8:30	1	0	0	0	0	0	1	0
8:45	0	1	0	0	0	0	0	2
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	1	0	0	0	0	0	1
16:45	1	0	0	0	0	0	1	0
17:00	0	1	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	1	0	0	0	0	0	0
18:00	1	0	0	0	0	0	0	0
18:15	1	1	0	0	0	0	1	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	1	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 3
North/South: Lockheed Drive
East/West: San Fernando Road

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	52	9	1	0	4	12	117	0	195
7:15	0	0	0	0	43	7	2	0	2	9	234	0	297
7:30	0	0	0	0	71	0	0	0	2	8	256	0	337
7:45	0	0	0	0	63	7	2	0	0	11	266	0	349
8:00	0	0	0	0	65	11	1	0	1	14	220	0	312
8:15	0	0	0	0	62	6	1	0	3	18	289	0	379
8:30	0	0	0	0	61	7	2	0	2	9	247	0	328
8:45	0	0	0	0	59	4	4	0	2	5	232	0	306
9:00	0	0	0	0	56	4	3	0	5	6	224	0	298
9:15	0	0	0	0	45	3	2	0	1	5	141	0	197
9:30	0	0	0	0	59	3	3	0	3	6	149	0	223
9:45	0	0	0	0	63	2	5	0	3	6	102	0	181
Total Volume:	0	0	0	0	699	63	26	0	28	109	2477	0	3402
Approach %	0%	0%	0%	0%	92%	8%	48%	0%	52%	4%	96%	0%	

Peak Hr Begin:	7:30												
PHV	0	0	0	0	261	24	4	0	6	51	1031	0	1377
PHF	0.000			0.938			0.625			0.881			0.908

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 3
North/South: Lockheed Drive
East/West: San Fernando Road

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	0	0	0	149	1	12	0	17	4	117	0	300
16:45	0	0	0	0	105	2	8	0	7	4	97	0	223
17:00	0	0	0	0	123	1	14	0	8	3	114	0	263
17:15	0	0	0	0	124	2	5	0	8	3	96	0	238
17:30	0	0	0	0	126	1	7	0	7	4	103	0	248
17:45	0	0	0	0	113	1	8	0	3	0	80	0	205
18:00	0	0	0	0	101	1	5	0	5	2	84	0	198
18:15	0	0	0	0	96	0	3	0	6	2	86	0	193
18:30	0	0	0	0	100	1	1	0	0	3	80	0	185
18:45	0	0	0	0	85	1	1	0	2	0	58	0	147
19:00	0	0	0	0	63	0	3	0	0	1	66	0	133
19:15	0	0	0	0	56	0	2	0	0	1	55	0	114

Total Volume:	0	0	0	0	1241	11	69	0	63	27	1036	0	2447
Approach %	0%	0%	0%	0%	99%	1%	52%	0%	48%	3%	97%	0%	

Peak Hr Begin:	16:30												
PHV	0	0	0	0	501	6	39	0	40	14	424	0	1024
PHF	0.000			0.845			0.681			0.905			0.853

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	1	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	1	0	0
7:45	0	0	0	0	0	1	0	0
8:00	0	0	0	0	2	0	0	0
8:15	0	0	0	0	2	0	0	0
8:30	0	0	0	0	0	1	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	2	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	1	0	0	0
9:45	0	0	0	0	2	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	3	0	0	0
16:45	0	0	0	0	1	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	1	0	0	0
18:00	0	0	0	0	0	1	0	0
18:15	0	0	0	0	1	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	2	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 4
North/South: San Fernando Road
East/West: Cohasset Street

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	3	117	0	0	0	0	0	58	10	4	0	0	192
7:15	1	226	0	0	0	0	0	47	13	11	0	0	298
7:30	1	261	0	0	0	0	0	76	18	2	0	0	358
7:45	3	254	0	0	0	0	0	66	9	11	0	0	343
8:00	3	219	0	0	0	0	0	76	16	10	0	0	324
8:15	3	287	0	0	0	0	0	68	15	15	0	1	389
8:30	5	244	0	0	0	0	0	64	14	30	0	0	357
8:45	2	246	0	0	0	0	0	71	12	24	0	0	355
9:00	0	221	0	0	0	0	0	62	27	9	0	1	320
9:15	0	142	0	0	0	0	0	49	23	5	0	0	219
9:30	1	150	0	0	0	0	0	60	17	14	0	1	243
9:45	4	101	0	0	0	0	0	69	21	26	0	1	222
Total Volume:	26	2468	0	0	0	0	0	766	195	161	0	4	3620
Approach %	1%	99%	0%	0%	0%	0%	0%	80%	20%	98%	0%	2%	

Peak Hr Begin:	8:00												
PHV	13	996	0	0	0	0	0	279	57	79	0	1	1425
PHF	0.870			0.000			0.913			0.667			0.916

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 4
North/South: San Fernando Road
East/West: Cohasset Street

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	130	0	0	0	0	0	144	13	42	0	9	338
16:45	0	111	0	0	0	0	0	106	5	24	0	3	249
17:00	0	128	0	0	0	0	0	119	6	13	0	0	266
17:15	0	107	0	0	0	0	0	121	8	16	0	2	254
17:30	2	99	0	0	0	0	0	116	5	26	0	1	249
17:45	0	94	0	0	0	0	0	110	4	10	0	2	220
18:00	0	90	0	0	0	0	0	102	11	14	0	3	220
18:15	1	85	0	0	0	0	0	92	10	18	0	2	208
18:30	0	78	0	0	0	0	0	102	9	21	0	1	211
18:45	0	53	0	0	0	0	0	89	11	10	0	0	163
19:00	0	70	0	0	0	0	0	62	13	11	0	1	157
19:15	1	57	0	0	0	0	0	53	13	17	0	1	142
Total Volume:	4	1102	0	0	0	0	0	1216	108	222	0	25	2677
Approach %	0%	100%	0%	0%	0%	0%	0%	92%	8%	90%	0%	10%	
Peak Hr Begin:	16:30												
PHV	0	476	0	0	0	0	0	490	32	95	0	14	1107
PHF	0.915			0.000			0.831			0.534			0.819

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	1
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	1
7:45	0	0	0	0	0	0	1	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	1	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	4	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	0	0	1	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	1	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	1	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 14
North/South: Hollywood Way
East/West: I-5 Southbound Ramps

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	169	23	0	0	0	24	115	0	271	0	53	655
7:15	0	209	27	0	0	0	33	104	0	226	0	52	651
7:30	0	265	23	0	0	0	29	125	0	240	0	54	736
7:45	0	267	23	0	0	0	28	149	0	223	0	47	737
8:00	0	231	18	0	0	0	29	136	0	249	0	37	700
8:15	0	238	21	0	0	0	39	146	0	233	0	54	731
8:30	0	205	24	0	0	0	43	131	0	242	0	53	698
8:45	0	251	18	0	0	0	49	141	0	243	0	48	750
9:00	0	182	14	0	0	0	33	122	0	246	0	48	645
9:15	0	192	31	0	0	0	31	95	0	232	0	45	626
9:30	0	165	29	0	0	0	51	96	0	253	0	29	623
9:45	0	134	30	0	0	0	70	131	0	234	0	21	620
Total Volume:	0	2508	281	0	0	0	459	1491	0	2892	0	541	8172
Approach %	0%	90%	10%	0%	0%	0%	24%	76%	0%	84%	0%	16%	

Peak Hr Begin:	7:30												
PHV	0	1001	85	0	0	0	125	556	0	945	0	192	2904
PHF	0.936			0.000			0.920			0.967			0.985

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 14
North/South: Hollywood Way
East/West: I-5 Southbound Ramps

Date: 12/08/15
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	0	77	14	0	0	0	93	313	0	153	0	7	657
16:45	0	86	9	0	0	0	82	343	0	158	0	15	693
17:00	0	109	14	0	0	0	102	334	0	142	0	11	712
17:15	0	84	20	0	0	0	88	350	0	164	0	18	724
17:30	0	119	14	0	0	0	94	326	0	134	0	12	699
17:45	0	121	14	0	0	0	75	338	0	158	0	13	719
18:00	0	89	18	0	0	0	87	346	0	130	0	17	687
18:15	0	109	14	0	0	0	83	304	0	154	0	32	696
18:30	0	80	21	0	0	0	124	311	0	132	0	55	723
18:45	0	98	15	0	0	0	69	286	0	92	0	17	577
19:00	0	62	13	0	0	0	75	214	0	84	0	26	474
19:15	0	67	14	0	0	0	71	205	0	94	0	15	466
Total Volume:	0	1101	180	0	0	0	1043	3670	0	1595	0	238	7827
Approach %	0%	86%	14%	0%	0%	0%	22%	78%	0%	87%	0%	13%	

Peak Hr Begin:	17:00												
PHV	0	433	62	0	0	0	359	1348	0	598	0	54	2854
PHF	0.917			0.000			0.974			0.896			0.985

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	1	0	0	0	0	0
7:45	0	0	2	0	0	0	0	0
8:00	0	0	1	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	1	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	1	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	0	0	1	0
16:45	0	0	1	0	0	0	0	0
17:00	0	0	0	0	0	0	1	0
17:15	0	0	0	0	0	0	2	0
17:30	0	0	0	0	0	0	2	1
17:45	0	0	0	0	0	0	1	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	1
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 6
North/South: Hollywood Way
East/West: San Fernando Blvd Ramps

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	43	435	0	29	0	0	25	122	0	44	0	0	698
7:15	39	453	0	20	0	0	14	134	0	41	0	0	701
7:30	49	484	0	30	0	0	20	201	0	68	0	0	852
7:45	52	524	0	36	0	0	27	212	0	64	0	0	915
8:00	51	508	0	48	0	0	21	238	0	85	0	0	951
8:15	51	452	0	33	0	0	40	202	0	74	0	0	852
8:30	58	468	0	50	0	0	29	200	0	84	0	0	889
8:45	62	492	0	45	0	0	25	207	0	68	0	0	899
9:00	34	438	0	33	0	0	21	174	0	83	0	0	783
9:15	46	404	0	21	0	0	26	173	0	56	0	0	726
9:30	37	365	0	21	0	0	18	144	0	65	0	0	650
9:45	49	371	0	26	0	0	19	203	0	46	0	0	714
Total Volume:	571	5394	0	392	0	0	285	2210	0	778	0	0	9630
Approach %	10%	90%	0%	100%	0%	0%	11%	89%	0%	100%	0%	0%	
Peak Hr Begin:	7:45												
PHV	212	1952	0	167	0	0	117	852	0	307	0	0	3607
PHF	0.939			0.835			0.935			0.903			0.948

Turning Movement Count Report PM

Location ID: 6
North/South: Hollywood Way
East/West: San Fernando Blvd Ramps

Date: 01/19/16
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:30	23	220	0	78	0	0	30	432	0	46	0	0	829
16:45	24	250	0	38	0	0	33	414	0	45	0	0	804
17:00	17	244	0	83	0	0	24	552	0	46	0	0	966
17:15	21	254	0	39	0	0	35	430	0	28	0	0	807
17:30	18	256	0	53	0	0	33	370	0	39	0	0	769
17:45	13	229	0	39	0	0	29	397	0	24	0	0	731
18:00	17	215	0	39	0	0	22	430	0	29	0	0	752
18:15	13	196	0	38	0	0	22	395	0	31	0	0	695
18:30	13	185	0	36	0	0	21	445	0	33	0	0	733
18:45	11	164	0	26	0	0	23	374	0	29	0	0	627
19:00	11	145	0	24	0	0	23	332	0	18	0	0	553
19:15	10	146	0	18	0	0	18	249	0	19	0	0	460
Total Volume:	191	2504	0	511	0	0	313	4820	0	387	0	0	8726
Approach %	7%	93%	0%	100%	0%	0%	6%	94%	0%	100%	0%	0%	

Peak Hr Begin:	16:30												
PHV	85	968	0	238	0	0	122	1828	0	165	0	0	3406
PHF	0.957			0.717			0.846			0.897			0.881

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	1	1	0	0	0	0
7:15	0	0	2	0	0	0	1	1
7:30	0	0	1	0	0	0	0	0
7:45	0	0	3	0	0	0	1	0
8:00	0	0	0	0	0	0	1	0
8:15	0	0	3	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	1	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	1	0
9:30	0	0	2	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	1	0	0	0	0	0
16:45	0	0	1	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	1	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	1	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	2	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	1	0	0	0	0	0	1	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

San Fernando Blvd (north road) and I-5 SB Ramps , Burbank

Date: 2/11/2014

Day: Tuesday

Project #: 14-5062-032

City: Burbank

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach

San Fernando Blvd (north road)

Lanes	0	1	1		
AM	34	0	339	339	AM
NOON	0	0	0	0	NOON
PM	31	0	333	429	PM

Eastbound Approach

I-5 SB Ramps

Lanes	AM	NOON	PM
	217	0	133
0	115	0	204
0	91	0	101
0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
224	0	225	0.5
183	0	102	0
0	0	0	1.5
430	0	434	

CONTROL

1-Way Stop (WB)

Count Periods	Start	End
AM		
NOON		
PM		

Northbound Approach

AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM
Lanes		0	1	0	Lanes

Total Ins & Outs

North Leg		
373	339	AM
0	0	NOON
364	429	PM

West Leg				East Leg		
AM	NOON	PM		AM	NOON	PM
217	0	133		407	0	327
206	0	305		430	0	434

South Leg		
0	0	AM
0	0	NOON
0	0	PM

Total Volume Per Leg

North Leg	
712	AM
0	NOON
793	PM

West Leg				East Leg		
AM	NOON	PM		AM	NOON	PM
423	0	438		837	0	761

South Leg	
0	AM
0	NOON
0	PM

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Turning Movement Count Report AM

Location ID: 16
North/South: San Fernando Boulevard / Naomi Street
East/West: Winona Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Northbound-Naomi*			*Northbound-San Fernando*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R-Nao	T	R-Win	R	L-San	L-Win	L-Nao	T	L-Win	R	T	L	
7:00	4	96	0	2	4	2	9	35	24	5	7	1	189
7:15	13	142	5	1	5	3	11	54	24	7	4	0	269
7:30	37	145	4	1	4	1	6	65	20	11	4	0	298
7:45	37	137	3	4	4	3	17	42	18	18	5	0	288
8:00	20	138	2	4	6	1	6	54	17	8	7	1	264
8:15	38	144	6	1	3	5	12	50	18	13	3	0	293
8:30	30	118	1	2	4	2	8	38	12	12	8	0	235
8:45	48	122	3	2	6	2	8	65	17	19	4	0	296
9:00	28	118	4	4	5	2	3	51	17	8	10	1	251
9:15	5	104	3	2	4	1	4	42	17	7	10	1	200
9:30	5	90	4	2	2	2	5	55	16	7	8	1	197
9:45	9	66	1	4	1	2	6	61	16	2	9	2	179
Total Volume:	274	1420	36	29	48	26	95	612	216	117	79	7	2959
Approach %	16%	82%	2%	28%	47%	25%	10%	66%	23%	58%	39%	3%	

Peak Hr Begin:	7:30												
PHV	132	564	15	10	17	10	41	211	73	50	19	1	1143
PHF	0.945			0.841			0.893			0.761			0.959

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 16
North/South: San Fernando Boulevard / Naomi Street
East/West: Winona Avenue

Date: 12/08/15
City: Burbank, CA

	Southbound			*Northbound-Naomi*			*Northbound-San Fernando*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R-Nao	T	R-Win	R	L-San	L-Win	L-Nao	T	L-Win	R	T	L	
16:30	6	64	3	5	1	4	2	78	6	5	13	1	188
16:45	5	94	0	5	2	6	3	55	13	2	15	0	200
17:00	5	89	3	8	2	13	4	95	7	7	14	1	248
17:15	5	74	0	4	3	5	3	76	13	5	10	1	199
17:30	2	69	1	8	3	7	7	98	7	2	7	0	211
17:45	2	75	2	6	2	0	7	68	13	3	13	2	193
18:00	8	68	1	3	3	4	2	80	6	3	16	3	197
18:15	3	68	2	3	2	6	6	68	3	2	10	1	174
18:30	3	61	0	9	2	10	2	84	5	6	3	1	186
18:45	3	49	0	5	2	2	3	60	4	0	17	0	145
19:00	2	45	2	1	0	2	4	38	17	3	10	2	126
19:15	2	47	0	1	1	2	2	47	5	1	8	0	116
Total Volume:	46	803	14	58	23	61	45	847	99	39	136	12	2183
Approach %	5%	93%	2%	41%	16%	43%	5%	85%	10%	21%	73%	6%	

Peak Hr Begin:	16:45												
PHV	17	326	4	25	10	31	17	324	40	16	46	2	858
PHF	0.876			0.717			0.850			0.727			0.865

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	1	0	0	0
7:15	0	0	0	0	4	0	0	0
7:30	0	0	0	0	2	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	1	0	0	0
8:30	0	0	0	0	4	0	0	0
8:45	0	0	0	0	3	0	0	0
9:00	0	0	0	0	2	0	1	0
9:15	0	0	0	0	2	0	1	0
9:30	0	0	0	0	2	0	0	0
9:45	0	0	0	0	2	0	0	0

	North		East		South		West	
Leg:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
16:30	0	0	0	0	1	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	1	0	1	0
17:15	0	0	0	0	2	0	0	0
17:30	0	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	1	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	1
18:45	0	0	0	0	2	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0

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Attachment C

Intersection Level of Service Worksheets

Existing Year 2016 Conditions

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Sunland & San Fernando

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	109	Level Of Service:	C

Street Name:	Sunland Blvd						San Fernando Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Prot+Permit			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	26	769	26	357	947	42	115	543	109	19	122	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	769	26	357	947	42	115	543	109	19	122	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	769	26	357	947	42	115	543	109	19	122	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	769	26	357	947	42	115	543	109	19	122	79
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	769	26	357	947	42	115	543	109	19	122	79
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.93	0.07	1.00	1.92	0.08	1.00	1.67	0.33	1.00	1.21	0.79
Final Sat.:	1425	2757	93	1425	2729	121	1425	2374	476	1425	1730	1120
Capacity Analysis Module:												
Vol/Sat:	0.02	0.28	0.28	0.25	0.35	0.35	0.08	0.23	0.23	0.01	0.07	0.07
Crit Volume:		398		357				326			100	
Crit Moves:		****		****				****				

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 Vineland & Sherman

Cycle (sec):	100	Critical Vol./Cap.(X):	0.774
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	101	Level Of Service:	C

Street Name:	Vineland Ave						Sherman Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	159	494	123	83	1075	164	113	196	411	116	115	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	159	494	123	83	1075	164	113	196	411	116	115	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	159	494	123	83	1075	164	113	196	411	116	115	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	159	494	123	83	1075	164	113	196	411	116	115	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	159	494	123	83	1075	164	113	196	411	116	115	34
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1375	2750	1375	1375	2750	1375	1375	1375	1375	1375	2750	1375
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.09	0.06	0.39	0.12	0.08	0.14	0.30	0.08	0.04	0.02
Crit Volume:	0				538				411	116		
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Clybourne & Vanowen

Cycle (sec):	100	Critical Vol./Cap.(X):	0.586
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	Clybourne Ave						Vanowen St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	1	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	17	0	313	478	1158	0	0	345	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	313	478	1158	0	0	345	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	17	0	313	478	1158	0	0	345	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	0	313	478	1158	0	0	345	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	17	0	344	478	1158	0	0	345	7
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.09	0.00	1.91	1.00	2.00	0.00	0.00	1.96	0.04
Final Sat.:	0	0	0	134	0	2716	1425	2850	0	0	2793	57
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.00	0.13	0.34	0.41	0.00	0.00	0.12	0.12
Crit Volume:	0					181	478				176	
Crit Moves:						****	****				****	

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 Arvilla & San Fernando

Cycle (sec):	100	Critical Vol./Cap.(X):	0.573
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	A

Street Name:	Arvilla Ave						San Fernando Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	5	2	2	82	8	196	239	1009	33	2	205	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	2	2	82	8	196	239	1009	33	2	205	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	2	2	82	8	196	239	1009	33	2	205	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	2	2	82	8	196	239	1009	33	2	205	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	2	2	82	8	196	239	1009	33	2	205	16
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.56	0.22	0.22	0.29	0.03	0.68	1.00	1.94	0.06	1.00	1.86	0.14
Final Sat.:	792	317	317	409	40	977	1425	2760	90	1425	2644	206
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.20	0.20	0.20	0.17	0.37	0.37	0.00	0.08	0.08
Crit Volume:		9			286			521			110	
Crit Moves:		****			****			****				

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Airport & Empire

Cycle (sec):	100	Critical Vol./Cap.(X):	0.310
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Airport Dwy						Empire Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Prot+Permit			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	1 0	1! 0	0	1 0	0 1	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	87	0	68	46	360	0	0	378	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	87	0	68	46	360	0	0	378	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	87	0	68	46	360	0	0	378	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	87	0	68	46	360	0	0	378	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	96	0	68	46	360	0	0	378	16
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.17	xxxx	0.83	1.00	1.00	0.00	0.00	1.92	0.08
Final Sat.:	0	0	0	1666	0	1184	1425	1425	0	0	2734	116
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.06	0.03	0.25	0.00	0.00	0.14	0.14
Crit Volume:	0			82				360		0		
Crit Moves:				****				****		****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #6 Hollywood & I-5 NB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.656
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	B

Street Name:	Hollywood Way						I-5 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	2 0	1	0 0	0 0	0	1 0	1! 0	0
Volume Module:												
Base Vol:	350	412	0	0	612	119	0	0	0	435	0	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	350	412	0	0	612	119	0	0	0	435	0	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	350	412	0	0	612	119	0	0	0	435	0	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	350	412	0	0	612	119	0	0	0	435	0	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	350	412	0	0	612	119	0	0	0	479	0	80
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.71	0.00	0.29
Final Sat.:	1425	2850	0	0	2850	1425	0	0	0	2442	0	408
Capacity Analysis Module:												
Vol/Sat:	0.25	0.14	0.00	0.00	0.21	0.08	0.00	0.00	0.00	0.20	0.00	0.20
Crit Volume:	350				306			0		279		
Crit Moves:	****				****					****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Hollywood SB & San Fernando

Cycle (sec):	100	Critical Vol./Cap.(X):	0.369
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Hollywood Way SB Ramps						San Fernando Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	2 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	98	0	116	0	0	0	0	907	301	7	263	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	0	116	0	0	0	0	907	301	7	263	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	0	116	0	0	0	0	907	301	7	263	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	0	116	0	0	0	0	907	301	7	263	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	0	116	0	0	0	0	907	301	7	263	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.25	0.75	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	3210	1065	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.08	0.00	0.00	0.00	0.00	0.28	0.28	0.00	0.09	0.00
Crit Volume:			116		0				403	7		
Crit Moves:			****						****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 Hollywood NB & San Fernando

Cycle (sec):	100	Critical Vol./Cap.(X):	0.354
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Street Name:	Hollywood Way NB Ramps						San Fernando Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0 0	1	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	99	0	18	0	0	0	0	857	162	21	173	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	0	18	0	0	0	0	857	162	21	173	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	0	18	0	0	0	0	857	162	21	173	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	0	18	0	0	0	0	857	162	21	173	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	0	18	0	0	0	0	857	162	21	173	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	2850	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.30	0.11	0.01	0.06	0.00
Crit Volume:	54				0			429		21		
Crit Moves:	****							****		****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #9 Hollywood & Tulare

Cycle (sec):	100	Critical Vol./Cap.(X):	0.505
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	A

Street Name:	Hollywood Way						Tulare Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 1	0	1 0	2 1	0	0 0	0 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	1	877	28	73	2128	0	0	0	1	8	0	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	877	28	73	2128	0	0	0	1	8	0	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	877	28	73	2128	0	0	0	1	8	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	877	28	73	2128	0	0	0	1	8	0	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	877	28	73	2128	0	0	0	1	8	0	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	3.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1425	2762	88	1425	4275	0	0	0	1425	1425	0	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.05	0.50	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Crit Volume:	1				709				1	8		
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #10 Hollywood & Winona

Cycle (sec):	100	Critical Vol./Cap.(X):	0.568
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

Street Name:	Hollywood Way						Winona Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	1 0	1 0	1	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	22	911	106	245	1837	26	3	1	14	42	1	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	911	106	245	1837	26	3	1	14	42	1	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	911	106	245	1837	26	3	1	14	42	1	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	911	106	245	1837	26	3	1	14	42	1	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	911	106	245	1837	26	3	1	14	42	1	54
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.79	0.21	1.00	2.96	0.04	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1425	2553	297	1425	4215	60	1425	1425	1425	1425	1425	1425
Capacity Analysis Module:												
Vol/Sat:	0.02	0.36	0.36	0.17	0.44	0.44	0.00	0.00	0.01	0.03	0.00	0.04
Crit Volume:		509		245					14	42		
Crit Moves:		****		****					****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #11 Hollywood & Thornton

Cycle (sec):	100	Critical Vol./Cap.(X):	0.847
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	149	Level Of Service:	D

Street Name:	Hollywood Way						Thornton Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Permitted			Protected			Prot+Permit		
Rights:		Ovl			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	2 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	107	774	155	119	1476	247	227	46	216	103	67	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	774	155	119	1476	247	227	46	216	103	67	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	774	155	119	1476	247	227	46	216	103	67	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	774	155	119	1476	247	227	46	216	103	67	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	774	155	119	1476	247	250	46	216	103	67	42
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.00	1.00	1.00	0.61	0.39
Final Sat.:	1375	2750	1375	1375	2750	1375	2750	1375	1375	1375	845	530
Capacity Analysis Module:												
Vol/Sat:	0.08	0.28	0.11	0.09	0.54	0.18	0.09	0.03	0.16	0.07	0.08	0.08
Crit Volume:	107				738				216	103		
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #12 Hollywood & Airport / Avon

Cycle (sec):	100	Critical Vol./Cap.(X):	0.569
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

Street Name:	Hollywood Way						Airport Dwy / Avon Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	1 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	52	937	72	17	1700	19	68	10	38	41	24	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	52	937	72	17	1700	19	68	10	38	41	24	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	52	937	72	17	1700	19	68	10	38	41	24	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	937	72	17	1700	19	68	10	38	41	24	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	937	72	17	1700	19	68	10	38	41	24	94
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	2.97	0.03	1.00	0.21	0.79	1.00	0.20	0.80
Final Sat.:	1425	2647	203	1425	4228	47	1425	297	1128	1425	290	1135
Capacity Analysis Module:												
Vol/Sat:	0.04	0.35	0.35	0.01	0.40	0.40	0.05	0.03	0.03	0.03	0.08	0.08
Crit Volume:	52				573		68					118
Crit Moves:	****				****		****					****

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #13 Hollywood & Victory

Cycle (sec):	100	Critical Vol./Cap.(X):	1.061
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Hollywood Way						Victory Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	81	860	74	200	1463	157	273	1046	239	124	652	194
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	860	74	200	1463	157	273	1046	239	124	652	194
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	860	74	200	1463	157	273	1046	239	124	652	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	860	74	200	1463	157	273	1046	239	124	652	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	860	74	200	1463	157	273	1046	239	124	652	194
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1375	2750	1375	1375	2750	1375	1375	2750	1375	1375	2750	1375
Capacity Analysis Module:												
Vol/Sat:	0.06	0.31	0.05	0.15	0.53	0.11	0.20	0.38	0.17	0.09	0.24	0.14
Crit Volume:	81				732			523		124		
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #14 Hollywood & Burbank

Cycle (sec):	100	Critical Vol./Cap.(X):	0.882
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Hollywood Way						Burbank Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	44	645	77	191	1257	90	149	583	53	177	492	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	645	77	191	1257	90	149	583	53	177	492	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	645	77	191	1257	90	149	583	53	177	492	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	645	77	191	1257	90	149	583	53	177	492	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	645	77	191	1257	90	149	583	53	177	492	81
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.79	0.21	1.00	1.87	0.13	1.00	1.83	0.17	1.00	2.00	1.00
Final Sat.:	1375	2457	293	1375	2566	184	1375	2521	229	1375	2750	1375
Capacity Analysis Module:												
Vol/Sat:	0.03	0.26	0.26	0.14	0.49	0.49	0.11	0.23	0.23	0.13	0.18	0.06
Crit Volume:	44				674			318		177		
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #15 Hollywood & Magnolia

Cycle (sec):	100	Critical Vol./Cap.(X):	0.854
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	156	Level Of Service:	D

Street Name:	Hollywood Way						Magnolia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	70	640	82	235	1332	93	108	609	125	134	409	124
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	640	82	235	1332	93	108	609	125	134	409	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	640	82	235	1332	93	108	609	125	134	409	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	640	82	235	1332	93	108	609	125	134	409	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	640	82	235	1332	93	108	609	125	134	409	124
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1375	2750	1375	1375	2750	1375	1375	2750	1375	1375	2750	1375
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.06	0.17	0.48	0.07	0.08	0.22	0.09	0.10	0.15	0.09
Crit Volume:	70				666			305		134		
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #16 Ontario & Winona

Cycle (sec):	100	Critical Vol./Cap.(X):	0.166
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	17	Level Of Service:	A

Street Name:	Ontario St						Winona Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	0 1	1	0 1	0 1	0	1 0
Volume Module:												
Base Vol:	29	16	16	14	44	7	19	103	141	21	50	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	16	16	14	44	7	19	103	141	21	50	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	16	16	14	44	7	19	103	141	21	50	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	16	16	14	44	7	19	103	141	21	50	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	16	16	14	44	7	19	103	141	21	50	12
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.64	0.36	1.00	0.24	0.76	1.00	0.31	1.69	1.00	0.51	1.20	0.29
Final Sat.:	967	533	1500	362	1138	1500	467	2533	1500	759	1807	434
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.01	0.04	0.04	0.00	0.04	0.04	0.09	0.03	0.03	0.03
Crit Volume:	29				58				141	21		
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #17 Ontario & Thornton

Cycle (sec):	100	Critical Vol./Cap.(X):	0.448
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Ontario St						Thornton Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	44	44	32	63	198	15	150	153	28	171	147	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	44	32	63	198	15	150	153	28	171	147	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	44	32	63	198	15	150	153	28	171	147	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	44	32	63	198	15	150	153	28	171	147	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	44	32	63	198	15	150	153	28	171	147	31
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.37	0.27	0.23	0.72	0.05	1.00	0.85	0.15	1.00	0.83	0.17
Final Sat.:	550	550	400	342	1076	82	1500	1268	232	1500	1239	261
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.18	0.18	0.18	0.10	0.12	0.12	0.11	0.12	0.12
Crit Volume:	44				276			181		171		
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #18 Ontario & Empire

Cycle (sec):	100	Critical Vol./Cap.(X):	0.264
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	Ontario St						Empire Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	50	1	69	110	290	0	7	369	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	50	1	69	110	290	0	7	369	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	50	1	69	110	290	0	7	369	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	50	1	69	110	290	0	7	369	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	50	1	69	110	290	0	7	369	64
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	0.00	0.83	0.17	1.00	1.00	2.00	0.00	1.00	1.70	0.30
Final Sat.:	0	1500	0	1250	250	1500	1500	3000	0	1500	2557	443
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.05	0.07	0.10	0.00	0.00	0.14	0.14
Crit Volume:	0					69	110					217
Crit Moves:						****	****					****

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #19 Buena Vista & I-5 NB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.694
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	B

Street Name:	Buena Vista St						I-5 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	0	0 0	1 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	281	251	0	0	443	74	265	0	283	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	251	0	0	443	74	265	0	283	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	281	251	0	0	443	74	265	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	251	0	0	443	74	265	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	281	251	0	0	443	74	265	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	1425	0	0	1425	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.20	0.18	0.00	0.00	0.31	0.05	0.19	0.00	0.00	0.00	0.00	0.00
Crit Volume:	281				443		265				0	
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #20 Buena Vista & Winona

Cycle (sec):	100	Critical Vol./Cap.(X):	0.723
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	C

Street Name:	Buena Vista St						Winona Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Prot+Permit			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	82	435	225	33	446	245	51	56	394	255	80	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	435	225	33	446	245	51	56	394	255	80	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	82	435	225	33	446	245	51	56	394	255	80	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	435	225	33	446	245	51	56	394	255	80	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	435	225	33	446	245	51	56	394	255	80	47
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.32	0.68	1.00	1.29	0.71	0.48	0.52	1.00	1.00	0.63	0.37
Final Sat.:	1375	1813	938	1375	1775	975	655	720	1375	1375	866	509
Capacity Analysis Module:												
Vol/Sat:	0.06	0.24	0.24	0.02	0.25	0.25	0.08	0.08	0.29	0.19	0.09	0.09
Crit Volume:	0				346				394	255		
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #21 Buena Vista & San Fernando

Cycle (sec):	100	Critical Vol./Cap.(X):	0.699
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	B

Street Name:	Buena Vista St						San Fernando Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	44	565	67	165	856	96	52	528	75	179	522	130
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	565	67	165	856	96	52	528	75	179	522	130
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	565	67	165	856	96	52	528	75	179	522	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	565	67	165	856	96	52	528	75	179	522	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	565	67	165	856	96	52	528	75	179	522	130
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.79	0.21	1.00	2.00	1.00	1.00	1.75	0.25	1.00	2.00	1.00
Final Sat.:	1375	2458	292	1375	2750	1375	1375	2408	342	1375	2750	1375
Capacity Analysis Module:												
Vol/Sat:	0.03	0.23	0.23	0.12	0.31	0.07	0.04	0.22	0.22	0.13	0.19	0.09
Crit Volume:			316	165					302	179		
Crit Moves:			****	****					****	****		

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #22 Buena Vista & Empire

Cycle (sec):	100	Critical Vol./Cap.(X):	0.546
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Buena Vista St					Empire Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	98	557	364	99	803	68	59	191	125	248	261	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	557	364	99	803	68	59	191	125	248	261	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	557	364	99	803	68	59	191	125	248	261	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	557	364	99	803	68	59	191	125	248	261	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	108	557	364	109	803	68	65	191	125	273	261	46
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.84	0.16	2.00	2.00	1.00	2.00	1.70	0.30
Final Sat.:	2750	2750	1375	2750	2535	215	2750	2750	1375	2750	2338	412
Capacity Analysis Module:												
Vol/Sat:	0.04	0.20	0.26	0.04	0.32	0.32	0.02	0.07	0.09	0.10	0.11	0.11
Crit Volume:	54					436			125	136		
Crit Moves:	****					****			****	****		

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