Final

2311 N. HOLLYWOOD WAY PROJECT

Sustainable Communities Environmental Assessment
Response to Comments

Prepared for
City of Burbank

September 2021

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Prepared for
City of Burbank
Community Development Department
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Burbank, California 91502
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September 2021

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2311 N. Hollywood Way Project Sustainable Communities Environmental Assessment

TABLES

CHAPTER 1
Introduction

In accordance with the California Environmental Quality Act (CEQA), the City of Burbank (City), as Lead Agency, has prepared a Sustainable Communities Environmental Assessment (SCEA) for the 2311 N. Hollywood Way Project (proposed project) (SCH 2021070154). The SCEA was released by the City for public review on July 9, 2021, for a 30-day review period ending on August 8, 2021. The review period gives agencies, organizations, and members of the public the opportunity to review the SCEA and provide comments on the document and the environmental analysis presented therein. During the review period, the City received nine letters from state agencies, as well as organizations and individuals commenting on the SCEA.

All letters commenting on the SCEA for the proposed Project have been reproduced and are included in this section, followed by the City's responses to those letters. Each letter/correspondence is assigned a number and each comment that requires a response within a given letter/correspondence is also assigned a number. For example, the first agency letter below that provides comments is the letter from the California Department of Transportation (Caltrans), and their correspondence is, therefore, designated Letter No. 1. The first comment received within Letter No. 1 is then labeled Comment No. 1-1. Each numbered comment is then followed by a corresponding numbered response, (i.e., Response to Comment No. 1-1). In order to assist in the location of comment letters and responses, the respective names of the authors of the comment letters are indicated prior to each comment letter response.

Comment Letters	Date	Comment Letter and Number(s)	Page No.
State Agencies			
California Department of Transportation (Caltrans)	August 4, 2021	Comment Letter 1; Comments 1-1 to 1-5	RTC-26
Caltrans Department of Aeronautics	August 6, 2021	Comment Letter 2; Comment 2-1 to 2-7	RTC-30
Organizations			
Hollywood Burbank Airport	August 4, 2021	Comment Letter 3; Comments 3-1 to 3-4	RTC-40
Supporters Alliance for Environmental Responsibility	July 15, 2021	Comment Letter 4; Comments 4-1 to 4-2	RTC-46
Supporters Alliance for Environmental Responsibility	August 5, 2021	Comment Letter 5; Comments 5-1 to 5-3	RTC-50
Southwest Regional Council of Carpenters	August 9, 2021	Comment Letter 6; Comments 6-1 to 6-20	RTC-53
Individuals			
Evelyn Perez	July 12, 2021	Comment Letter 7; Comment 7-1	RTC-123
Alek Friedman	July 13, 2021	Comment Letter 8; Comment 8-1	RTC-125
Arin Shahmoradian	July 13, 2021	Comment Letter 9; Comments 9-1 to 9-2	RTC-130

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CHAPTER 2
Revisions, Clarifications, and Modifications

This section provides revisions, clarifications, and corrections to the SCEA that have been made to clarify, correct, or supplement the information provided in that document. The following revisions, clarifications, and modifications are intended to update the SCEA in response to changes made to the proposed project, due to editorial changes or as a result of a comment made by an agency or individual during the public review period. These revisions, clarifications, and corrections are the result of the responses to public and agency comments received on the SCEA, new information that has become available since publication of the SCEA, or due to recognition of inadvertent errors or omissions. These changes constitute the Final SCEA, to be considered by the City of Burbank for adoption. None of the changes to the SCEA would require recirculation of the document. Revisions made to the SCEA have not resulted in new significant impacts or mitigation measures, nor has the severity of any impact increased. None of the CEQA criteria for recirculation have been met, and recirculation of the SCEA is not warranted.

The supplementary information to the SCEA is indicated below under the respective section heading, page number, paragraph, and the line within the referenced paragraph. Deletions are shown with ~~strikethrough~~ and additions are shown with double underline. Existing text to remain unchanged is included as plain text, without strikethrough or double underlines, to provide context for the revisions, clarifications, and corrections.

Revisions to SCEA Appendix K, *Transportation Study*, and Appendix L3, *Water Supply Assessment*, are included in this Final SCEA as Attachment A, *Transportation Study*, and Attachment B, *Water Supply Assessment*.

2.1 Executive Summary

Page ES-3, third paragraph, has been revised as follows:

A total of 1,613 vehicular parking spaces would be provided within three parking structures and a small surface parking area. Each residential parking structure would have a small portion of subterranean parking located under each of the residential parking structures. Each subterranean portion would contain approximately 26 vehicular parking spaces. In addition, the Project would provide 51~~13 short-term bicycle parking spaces and 38 long-term~~ bicycle parking spaces for the residential uses and 5~~4 short-term bicycle parking spaces and 2 long-term~~ bicycle parking spaces for the office uses.

2.2 Introduction

Page 1-2, third paragraph, has been revised as follows:

A total of 1,613 vehicular parking spaces would be provided within three parking structures and a small surface parking area. Each residential parking structure would have a small portion of subterranean parking located under each of the residential parking structures. Each subterranean portion would contain approximately 26 vehicular parking spaces. The proposed five-story office parking structure, located directly adjacent to and west of the proposed office building would include a total of 455 vehicular parking spaces. An ingress/egress driveway would be provided along Valhalla Drive. The Project would provide 51 ~~7 short-term bicycle parking spaces and 20 long-term~~ bicycle parking spaces for the residential uses and 5 ~~12 long-term~~ bicycle parking spaces for the office uses.

2.3 Chapter 2, Project Description

TABLE 2-1
PROPOSED DEVELOPMENT PROGRAM

	Total Square Footage (Across Project Site)
Uses	
Non-residential Uses	
Office	151,800 square feet
Commercial	9,700 square feet
Subtotal Non-residential Uses	*161,500 square feet*
Residential Uses	
Studio (338 units)	171,450 square feet
1-Bedroom (364 units)	280,614 square feet
1-Bedroom Live/Work (1 unit)	1,900 square feet
2-Bedroom (128 units)	146,178 square feet
2-Bedroom Live/Work (5 units)	8,681 square feet
3-Bedroom (20 units)	28,000 square feet
3-Bedroom Townhouse[b] (6 units)	10,380 square feet
Common Amenities	11,000 square feet
Residential Lobbies	4,510 square feet
Circulation	113,400 square feet
Subtotal Residential Uses	*862 units | 776,113 square feet*
Total Uses	937,613 square feet
Vehicle Parking	
Residential Required per BMC[a]	431 vehicle parking spaces
Residential Provided[a]	1,125 vehicle spaces
Restaurant Required per BMC[a]	32 vehicle parking spaces
Restaurant Provided	32 vehicle parking spaces
Office Required	456 vehicle parking spaces
Office Provided	456 vehicle parking spaces
Total Required per BMC[a]	919 vehicle parking spaces
Total Spaces Provided	1,613 vehicle parking spaces
Open Space	
East–West Paseo	9,000 square feet
North–South Paseo	8,000 square feet
Three (3) Courtyards on Level 2 Podium and Deck	10,000 square feet
Two (2) Residential Pool Decks on Level 6	34,000 square feet
Plazas on Level 1	27,000 square feet
Private Open Space (Balconies)	43,100 square feet
Total Open Space Provided	131,100 square feet

SOURCE: Urban Architecture Lab, 2021.

NOTES:

a ~~The Project Applicant has elected,~~ BMC required parking is 1,686 residential spaces, 456 office spaces, and 97 restaurant spaces. Parking reduction provided pursuant to Assembly Bill [AB] 2345 ~~to provide 1,125 residential parking spaces~~.

b Townhome units are considered live/work units.

Page 2-20, sixth paragraph, has been revised as follows:

The Project would provide 51 ~~13 short-term bicycle parking spaces and 38 long-term~~ bicycle parking spaces for the residential uses and 5 ~~4 short-term bicycle parking spaces and 2 long-term~~ bicycle parking spaces for the office uses.

2.4 Chapter 3, SCEA Criteria and TPP Consistency Analysis

Page 3-2, fifth paragraph, has been revised as follows:

The Burbank Municipal Code (BMC) requires that the Project provide 2,919 total parking spaces to serve the Project's proposed uses. However, the City is prohibited under California Assembly Bill (AB) 2345 from requiring the Project to provide more than 919 parking spaces. To meet projected demand, the Project would provide 1,613 vehicle parking spaces and 56 ~~57~~ bicycle parking stalls. Parking would be provided within three parking structures and a small surface parking area. While this is more than the minimum under AB 2345, it is well under that otherwise applicable BMC minimum. Each residential parking structure would have a small portion of subterranean parking located under each of the residential parking structures. Each subterranean portion would contain approximately 26 vehicular parking spaces.

TABLE 3-1
CONSISTENCY ANALYSIS WITH THE 2016–2040 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITY STRATEGY POLICIES

Goals and Policies	Consistency Assessment
Goal 3: Ensure travel safety and reliability for all people and goods in the region.	Although this goal is not directly applicable to individual development projects, the Project includes improvements that will improve travel safety and reliability for those traveling to and from the Project Site. Given that residential units, restaurant, and office uses would replace the existing Fry's Electronics Store and associated surface parking; the Project is expected to bring more vehicle and pedestrian activity to the Project Site. To ensure pedestrian safety, the Project would be reviewed by the City to ensure compliance with the City's requirements relative to the provision of safe access for vehicles, pedestrian, and bicyclists, which would incorporate standards for adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls to protect pedestrian and enhance bicycle safety. The Project also includes a pedestrian friendly design with ground floor restaurant uses and outdoor seating to activate the street and make the pedestrian experience in the vicinity of the Project Site more enjoyable. In addition, the Project would improve the sidewalks surrounding the Project Site and would provide a bike path and pedestrian pathway through the Project Site connecting Valhalla Drive and Vanowen Street, further enhancing the pedestrian and bicycling environment. The Project would include on-site security features such as security lighting and landscaping designs that will allow high visibility. As described above under 2016 RTP/SCS Goal 2, the Project Site is located in proximity to public transit opportunities, which provide safe and reliable travel options for Project residents. The Project would also provide 51 ~~13 short-term bicycle parking spaces and 38 long-term~~ bicycle parking spaces for the residential uses and 5 ~~4 short-term bicycle parking spaces and 2 long-term~~ bicycle parking spaces for the office uses. The Project's bicycle parking spaces would encourage use of alternative modes of reliable transportation and pedestrian activity in the Project vicinity. The Project Site is also centrally located to numerous existing and proposed bicycle Routes that will increase travel safety for bicyclists in the area. Thus, the Project would promote travel safety and reliability for the people in the region that travel to and from the Project Site and through the surrounding area. The Project is consistent with this goal.
Goal 5: Maximize the productivity of our transportation system.	Although this goal is not directly applicable to individual development projects, the Project is located in a dense urban area and would increase intensity on site above what currently exists on the Project Site. Increased density provides a foundation for the implementation of other strategies, such as enhanced transit services, and facilitates the use of transit by more people. The Project would develop residential uses within walking and biking distance of several bus lines and Metro transit service provided through connection to the nearby Burbank Airport - South Metrolink Station (approximately 554 feet northwest of the Project Site). There are 5 local bus routes, including Metro Routes 222, 169, 165, 164, 94, and 794 within a 0.5 miles of the Project. The Project would provide a total of 56 ~~57~~ bicycle parking spaces, resulting in opportunities for residents and visitors to use public transit, bicycling, and walking to access their jobs or shopping opportunities. Thus, the Project would encourage the utilization of multi-modal transit to and from the Project Site and contribute to the increase of person and goods movement and travel choices within the transportation system by providing housing near transit stops and stations. The Project is consistent with this goal.

Goals and Policies	Consistency Assessment
Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	The Project will encourage the use of multi-modal transportation options, and would reduce commuter traveling distances due to its proximity to job centers. The Project will facilitate the use of alternative modes of transportation, which will aid in reducing car trips and reducing impacts to air quality. The Project would encourage the use of transit, walking and bicycling, as the Project would locate residential development in an area within walking and biking distance of existing bus lines and from the Burbank Airport - South Metrolink Station (approximately 554 feet northwest of the Project Site), and provide a total of 1,613 vehicle parking spaces and 56 ~~57~~ bicycle parking spaces. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project also includes a pedestrian friendly design with ground floor restaurant uses and outdoor seating to activate the street and make the pedestrian experience in the vicinity of the Project Site more enjoyable, thereby encouraging residents and employees to walk to businesses nearby. In addition, the Project would improve the sidewalks surrounding the Project Site and would provide a bike path and pedestrian pathway through the Project Site connecting Valhalla Drive and Vanowen Street, further enhancing the pedestrian and bicycling environment. The Project is located in a dense urban area, and would represent a greater intensity than the existing development on the Project Site. The Project would replace an existing Fry's Electronics Store and associated surface parking, to develop an 862-unit apartment complex with restaurant and office uses on an approximately 454,286-square-foot (10.43-acre) site. Furthermore, the Project's addition of landscaped areas and 290 trees, to replace the 59 non-protected existing trees, would reduce the Project's air quality impacts. Thus, the Project would protect the environment and health of residents by improving air quality and encouraging active transportation. The Project is consistent with this goal.
Goal 8: Encourage land use and growth patterns that facilitate transit and active transportation.	The Project will encourage the use of multi-modal transportation options. The Project will facilitate the use of alternative modes of transportation, which will aid in reducing car trips and reducing impacts to air quality. The Project would encourage the use of transit, walking and bicycling, as the Project would locate residential development in an area within walking and biking distance of existing bus lines and from the Burbank Airport - South Metrolink Station (approximately 554 feet northwest of the Project Site), and provide a total of 1,613 vehicle parking spaces and 56 ~~57~~ bicycle parking spaces in compliance the number of spaces required. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project also includes a pedestrian friendly design with ground floor restaurant uses and outdoor seating to activate the street and make the pedestrian experience in the vicinity of the Project Site more enjoyable, thereby encouraging residents and employees to walk to businesses nearby. In addition, the Project would improve the sidewalks surrounding the Project Site and would provide a bike path and pedestrian pathway through the Project Site connecting Valhalla Drive and Vanowen Street, further enhancing the pedestrian and bicycling environment. The Project is located in an urban area and would represent a greater intensity than the existing development on the Project Site. The Project would replace an existing Fry's Electronics Store and associated surface parking, to develop an 862-unit apartment complex with restaurant and office uses on an approximately 454,286-square-foot (10.43-acre) site. Increased density provides a foundation for the implementation of other strategies such as enhanced transit services and facilitates the

Goals and Policies	Consistency Assessment
	use of transit by more people. In turn, as transit ridership in an area increases with density, local transit providers are justified in providing enhanced transit services for the area. As a result, the Project would encourage land use and growth patterns that facilitate transit and active transportation by: creating housing opportunities and choices for people at low income levels; creating walkable areas; providing infill development within existing communities; providing a variety of transportation choices; and providing opportunities for residents use public transit for work trips and walk/bike to businesses near the Project Site. The Project is consistent with this goal.
Benefit 1: The RTP/SCS will promote the development of better places to live and work through measures that encourage more compact development in certain areas of the region, varied housing options, bicycle and pedestrian improvements, and efficient transportation infrastructure.	The Project would provide multi-family housing in an existing, transit-accessible area. The Project would provide 862 dwelling units including 80 Very Low Income units. Furthermore, the Project would provide 56 ~~57~~ bicycle parking spaces. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project Site is located in transit-rich and pedestrian accessible locations with connectivity to many areas within the City. Transit opportunities in the Project Site include various Routes operated by Metro. See consistency analysis for Goal 2, above, for a list of nearby transportation options. The Project Site is within approximately 554 feet (0.10 miles) of the existing Burbank Airport - South Metrolink Station.

TABLE 3-2
CONSISTENCY ANALYSIS WITH THE 2020–2045 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITY STRATEGY POLICIES

Goals and Policies	Consistency Assessment
Goal 2: Improve mobility, accessibility, reliability, and travel safety for all people and goods	SB 743 updates the way transportation impacts are evaluated in California for new development projects, with a focus on providing active transportation and reducing vehicle miles traveled. The Project is located in an urbanized area in the City within a HQTA, as defined by SCAG, and a TPA, as defined by SB 743. The Project would develop residential, retail/restaurant, and office uses in a location that is well-served by existing transit infrastructure. Specifically, the Project Site is located 554 feet southeast of the Burbank Airport - South Metrolink Station and is served by Metro Rapid Line 794 and Metro Bus Lines 222, 169, 165, 164, and 94. The Project would also include 56 ~~57~~ bicycle parking spaces. As a result, the Project would provide residents, employees, and visitors with convenient access to public transit and opportunities for walking and biking. Furthermore, the Project Site is within walking distance of the airport and existing office, institutional, recreational, and neighborhood-serving commercial uses. Therefore, the location of the Project encourages mobility and accessibility for residents, employees, and visitors of the Project Site.

Goals and Policies	Consistency Assessment
Goal 4: Increase person and goods movement and travel choices within the transportation system	The Project is located in a dense urban area that is well served by transit and would increase intensity on Project site above what currently exists. Increased density provides a foundation for the implementation of other strategies, such as enhanced transit services, and facilitates the use of transit by more people. The Project would develop residential uses within walking and biking distance of several bus lines and Metro Rail transit service provided through connection to the nearby Burbank Airport- South Metrolink Station (approximately 554 feet northwest of the Project Site). Metro Routes 222, 169, 165, 164, and 94 and Metro Rapid Line 794 all within a 0.5 miles of the Project. The Project would provide a total of 56 ~~57~~ bicycle parking spaces, resulting in opportunities for residents and visitors to use public transit, bicycling, and walking to access their jobs or shopping opportunities. Thus, the Project would encourage the utilization of multi-modal transit to and from the Project Site and contribute to the increase of person and goods movement and travel choices within the transportation system by providing housing near transit stops and stations. The Project is consistent with this goal.
Goal 5: Reduce greenhouse gas emissions and improve air quality	The Project is located in a dense urban area that is well served by transit and would result in a greater intensity on the Project Site compared to existing conditions. The Project will encourage the use of multi-modal transportation options. The Project will facilitate the use of alternative modes of transportation, which will aid in reducing car trips, impacts to air quality, and GHG emissions. The Project would provide 56 ~~57~~ bicycle parking spaces in compliance the number of spaces required by the City. The Project would encourage the use of transit, walking and bicycling, as the Project would locate residential development in an area within walking and biking distance of existing bus lines and from the Burbank Airport - South Metrolink Station (approximately 554 feet northwest of the Project Site), and provide a total of 1,613 vehicle parking spaces and 56 ~~57~~ bicycle parking spaces. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project also includes a pedestrian friendly design with ground floor restaurant uses and outdoor seating to activate the street and make the pedestrian experience in the vicinity of the Project Site more enjoyable, thereby encouraging residents and employees to walk to businesses nearby. In addition, the Project would improve the sidewalks surrounding the Project Site and would provide a bike path and pedestrian pathway through the Project Site connecting Valhalla Drive and Vanowen Street, further enhancing the pedestrian and bicycling environment. The Project is located in a dense urban area, and would be a greater intensity than what currently exists on the Project Site. The Project would replace an existing Fry's Electronics Store and associated surface parking, with an 862-unit apartment complex with restaurant and office uses on an approximately 454,286-square-foot (10.43-acre) site. Increased density provides a foundation for the implementation of other strategies such as enhanced transit services and facilitates the use of transit by more people. In turn, as transit ridership in an area increases with density, local transit providers are justified in providing enhanced transit services for the area. As a result, the Project would encourage land use and growth patterns that facilitate transit and active transportation by: creating housing opportunities and choices for people at low-income levels; creating walkable areas; providing infill development within existing communities; providing a variety of transportation choices; and providing opportunities for residents use public transit for work trips and walk/bike to retail businesses near the Project Site. The increase in active transportation compared to vehicle use has air quality and GHG emission benefits. Furthermore, the Project's addition of 290 trees, to replace the 59 non-protected existing trees, would further reduce the Project's GHG emission contribution and air quality impacts. The Project is consistent with this goal.

Goals and Policies	Consistency Assessment
Goal 6: Support healthy and equitable communities	The Project will encourage the use of multi-modal transportation options. The Project will facilitate the use of alternative modes of transportation, which will aid in reducing car trips and reducing impacts to air quality. The Project would encourage the use of transit, walking and bicycling, as the Project would locate residential development in an area within walking and biking distance of existing bus lines and from the Burbank Airport - South Metrolink Station (approximately 554 feet northwest of the Project Site), and provide a total of 1,613 vehicle parking spaces and 56 ~~57~~ bicycle parking spaces. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project also includes ground-floor open space uses, which would enhance the pedestrian-orientation of the Project Site, thereby encouraging residents and employees to walk to businesses nearby. The Project is located in a dense urban area and would be a greater intensity than what currently exists on the Project Site. The Project would replace an existing Fry's Electronics Store and associated surface parking, to develop an 862-unit apartment complex with retail and office uses on an approximately 454,286-square-foot (10.43-acre) site. Combined, the enhanced pedestrian mobility in the Project vicinity community improves the health of the surrounding community. The Project also includes a variety of common open space and private open space (balconies and patios) for residents, which would encourage recreational activities to support a healthy community. Furthermore, the Project would reserve 80 units as Very Low Income affordable units out of the total 862 residential units, encouraging the development of equitable communities for residents of various economic backgrounds. Thus, the Project is consistent with this goal.
Goal 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network	The Project would encourage the use of transit, walking and bicycling, as the Project would locate residential development in an area within walking and biking distance of bus lines and the Burbank Airport - South Metrolink Station, and provide a total of 1,613 vehicle parking spaces and 56 ~~57~~ bicycle parking spaces. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project also includes a variety of common open space and private open space (balconies and patios). The proposed open space would enhance the existing streetscape environment, making pedestrian experiences more enjoyable for residents and employees by providing trees and pedestrian-friendly plazas and courtyards. The Project would replace an existing Fry's Electronics Store and associated surface parking with an 862-unit apartment complex with retail and office uses on an approximately 454,286-square-foot (10.43-acre) site, thereby increasing the density on the Project Site as compared to existing conditions. Increased density provides a foundation for the implementation of other strategies such as enhanced transit services and facilitates the use of transit by more people. In turn, as transit ridership in an area increases with density, local transit providers are justified in providing enhanced transit services for the area. As a result, the Project would encourage land use and growth patterns that support an integrated regional development pattern and transportation network by: creating housing opportunities; creating walkable areas; providing infill development within existing communities; providing a variety of transportation choices; and providing opportunities for residents and visitors to use public transit for work trips and walk to retail businesses near the Project Site. This would decrease vehicle trips, VMT and associated GHG emissions. The Project is consistent with this goal.

Goals and Policies	Consistency Assessment
Goal 9: Encourage development of diverse housing types in areas that are supported by multiple transportation options	The Project is located in a dense urban area that is well served by transit and would represent a greater intensity than existing development on Project Site. The Project would provide multi-family housing in a variety of configurations and price levels in an existing, transit-accessible area. The Project would provide 338 studio units, 364 one-bedroom units, 1 one-bedroom live/work unit, 128 two-bedroom units, 5 two-bedroom live/work units, 20 three-bedroom units, and 6 three-bedroom townhomes. Of the 862 units, 80 units would be reserved as Very Low Income affordable units. Thus, the Project encourages the development of diverse housing for residents of various economic backgrounds. In addition, the provision of various unit sized, including studio, live/work units, one-bedroom, two-bedroom, three-bedroom units and townhomes, would provide housing for differing family sizes. Increased density provides a foundation for the implementation of other strategies such as enhanced transit services and facilitates the use of transit by more people. In turn, as transit ridership in an area increases with density, local transit providers are justified in providing enhanced transit services for the area. As a result, the Project would encourage the development of diverse housing in areas that are supported by multiple transportation options by: creating housing opportunities; providing housing near transit; creating walkable areas; providing infill development within existing communities; providing a variety of transportation choices; and providing opportunities for residents and employees to use public transit for work trips and walk to retail businesses near the Project Site. Furthermore, the Project would provide 56 ~~57~~ bicycle parking spaces. Pedestrian access to the Project Site would be provided via the sidewalks along Vanowen Street, N. Hollywood Way, and Valhalla Drive. The Project Site is located in transit-rich and pedestrian accessible locations with connectivity to many areas within the City. Transit opportunities in the Project Site include various routes operated by Metro. See consistency analysis for Goal 2, above, for a list of nearby transportation options.

2.5 Chapter 4, Mitigation Measures from Prior EIRs

TABLE 4-2
SCAG 2020–2045 RTP/SCS MITIGATION MEASURES

Impact	SCAG 2020–2045 RTP/SCS Mitigation Measures (Implemented by Lead Agency)	Applicability to the Project
Aesthetics (AES)		
HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.	**PMM NOISE-1.** See below.	**No mitigation applies.** The Project Site is located less than 100 feet from the Hollywood Burbank Airport. As discussed in Chapter 5, *Initial Study and Environmental Analysis*, the Project would be required to comply with the California Noise Insulation Standards (Title 24, California Code of Regulations), which set forth an interior standard of 45 dBA CNEL in any habitable room. Thus, the Project would not result in excessive noise for people residing or working in the area during operation. The Project Site is located within the jurisdiction of the Los Angeles County Airport Land Use Plan (ALUP). To determine whether the Project would result in a potential safety hazard within a ALUP, a Notice of Proposed Construction or Alteration (Form 7460-1) was submitted to the FAA, in accordance with FAA Regulation, Part 77, Objects Affecting Navigable Airspace. The FAA determined that the Project poses no hazard to air navigation. In addition, the Project was submitted to the Los Angeles County Airport Land Use Commission (ALUC) and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County. Finally, there has been ongoing coordination between the Project Applicant and the Burbank-Glendale-Pasadena Airport Authority to ensure that the Project would be compatible with existing and future operations. Given the review of the Project by these agencies and ongoing coordination, it is not anticipated that development of the Project would result in safety hazards within an ALUP and impacts would be less than significant. ~~Regarding safety hazards resulting from being located in proximity to the Hollywood Burbank Airport, a hazard would be created if the Project constructed an object high enough to interfere with a flight path, cause distracting light or~~

Impact	SCAG 2020–2045 RTP/SCS Mitigation Measures (Implemented by Lead Agency)	Applicability to the Project
		glare that could interfere with a pilot's ability to control the flight of the aircraft, or create an attraction to wildlife, especially birds, that would pose hazards to aircraft all of which could result in risks of death or injury to people in the airplane or on the ground. FAA Regulations Part 77, Objects Affecting Navigable Airspace, establishes minimum standards to ensure air safety by regulating the construction or alteration of buildings or structures that may affect airport operations. Since the Project would not result in construction above 200 feet in height, and would not result in any unusual light or glare in the context of the Project's urbanized location, the Project would be in compliance with FAA regulations and a less-than-significant impact would occur. Furthermore, the Project would be reviewed by the FAA to further ensure that impacts would be less than significant, and no mitigation applies.

TABLE 4-3
BURBANK GENERAL PLAN EIR MITIGATION MEASURES

Impact	Burbank General Plan EIR Mitigation Measures (Implemented by Lead Agency)	Applicability to the Project
Cultural Resources (CULT)		
4.6-3: Disturbance of Human Remains. Adoption and implementation of *Burbank2035* could result in new development and redevelopment of previously undisturbed land throughout the planning area, which could disturb human remains.	No mitigation required.	**No mitigation applies.** While no mitigation applies per the General Plan EIR, as a part of the Project the California Native American Heritage Commission (NAHC) was contacted to request a search of the SLF. The NAHC responded to the request in a letter dated July 1, 2021, with the results of the SLF search conducted by the NAHC, which indicated a positive search result. Archival research did not reveal any evidence that human remains could be found at the Project Site or in the area adjacent to the Project Site. Even so, construction of the Project could potentially disturb previously unknown human remains. As such, the Project would be required to implement Mitigation Measure MM-CULT-2 would ensure impacts related to the discovery of human remains would be reduced to a less-than-significant level.
4.9 Hazards and Hazardous Materials		
4.9-1: Transport, Use, or Disposal of Hazardous Materials. Adoption and implementation of *Burbank2035* would result in an increase in the routine transport, use, and/or disposal of hazardous materials, which could result in exposure of such materials to the public through either routine use or accidental release.	No mitigation required.	**No mitigation applies.** While no mitigation applies, Project construction could expose construction workers and the public to temporary hazards related to the transport, use, and maintenance of construction materials (i.e., oil, diesel fuel, and transmission fluid), and/or handling/transport of demolition debris and import/export of soils. However, these activities would be short-term, and the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. All Project construction activities would demonstrate compliance with the applicable laws and regulations governing the use, storage, and transportation of hazardous materials/waste, ensuring that all potentially hazardous materials are used and handled in an appropriate manner. The Phase I Environmental Site Assessment (ESA) and Phase II ESA (See Appendices G-1

Impact	Burbank General Plan EIR Mitigation Measures (Implemented by Lead Agency)	Applicability to the Project
		and G-2, respectively) were prepared to assess the potential for Project implementation to result in impacts related to hazards and hazardous materials. As described in the Phase I ESA, the existing building on the Project Site was constructed in 1962 and, therefore, there is the potential for asbestos containing materials (ACM) and lead based paint (LBP) to be present in the existing structure. Due to the presumed presence of ACM and LBP in the existing structure on the Project Site, compliance with all applicable Federal, State, and City regulations regarding investigation and removal of these materials would be required. The Phase I ESA identified recognized environmental conditions (RECs), controlled RECs, and/or environmental issues in connection with the Project Site. A REC refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. A controlled REC refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. If RECs or environmental issues in connection with hazards or hazardous materials on the Project Site are identified, the Project may result in a significant impact related to the creation of a hazard to the public or environment. The Phase I ESA identified that the Project Site's prior use as a Lockheed Martin plant facility and offices on the southern portion of the site and a gasoline service station/automotive repair operation on the northeastern portion of the site. The former gasoline service station/automotive repair included operation of four (4) 12,000-gallon gasoline/diesel/ tetrachloroethylene (PCE) underground storage

Impact	Burbank General Plan EIR Mitigation Measures (Implemented by Lead Agency)	Applicability to the Project
		tanks (USTs), one 550-gallon waste oil UST, one concrete 1,600-gallon clarifier, and seven (7) dispensers. The former gasoline service station/automotive repair operation was demolished in 1992 and the former USTs and associated features were removed and the remaining soils were tested for contamination. Test results found that contamination from volatile organic compounds (VOCs), PCEs, and total petroleum hydrocarbons (TPH) were found in the upper 10 feet of soil. Approximately 1,380 tons of PCE-and diesel/oil-impacted soil was excavated from the site and further testing showed that the site had been remediated adequately in accordance with the requirements of the Cleanup and Abatement Order No. 87-161, which is associated with the cleanup of several Lockheed plants in the Burbank area. Thus, the California Regional Water Quality Control Board (RWQCB) issued a No Further Action status to the Project Site and the site was removed from Cleanup and Abatement Order No. 87-161. However, based on the regulatory closure with residual PCE-impacted soil left in place, the historical usage of the Project Site, and associated closed release case, the Phase I ESA determined that this is considered a CREC for the Project. Thus a Phase II ESA was recommended to conduct a soil vapor survey to evaluate the potential for vapor intrusion issues at the Project Site. As a part of the Phase II ESA, soil vapor samples were collected at 22 locations in the exterior portions of the Project Site and these were analyzed for VOCs to evaluate for potential vapor intrusion conditions. PCE was detected at 19 of the 24 soil vapor samples, with the highest concentrations in the northeast portion of the Project Site. PCE was not detected in the samples in the southwest portion of the site. To reduce the potential impact of exposure to PCEs, a Soil Management Plan and new soil vapor barrier system with new post-construction monitoring would be required as set forth in Mitigation Measures MM-HAZ-1 and MM-HAZ-2. The soil vapor barrier system would be located in the

Impact	Burbank General Plan EIR Mitigation Measures (Implemented by Lead Agency)	Applicability to the Project
		northeastern portion of the Project Site beneath Residential Building 1, where the Phase II ESA identified the highest concentrations of PCE in soil vapor. Furthermore, an Operations, Maintenance, and Monitoring (OMM) Plan would be prepared to confirm that the vapor barrier is protective of human and environmental health, as set forth in Mitigation Measures MM-HAZ-3. Project operation does not involve the routine transport, use, or disposal of potentially hazardous materials. Any potentially hazardous materials used would be similar to any other urban residential development, and may include cleaning solvents, paints, and pesticides for landscaping. These potentially hazardous materials would be in and stored in accordance with regulatory requirements and manufacturers' instructions. Furthermore, the Project would adhere to regulatory requirements concerning source hazardous waste reduction measures and all applicable City ordinances.

2.6 Chapter 5, Initial Study and Environmental Analysis

Page 5-25, second paragraph, has been revised as follows:

The Project Site's urban infill location and the Project's mixed-use design and land uses, which increase the density at a site located within a TPA, would support measures related to reducing vehicle trips for residents, patrons, and employees by increasing residential and commercial density near public transit. Furthermore, the Project would provide 51 ~~13 short-term bicycle parking spaces and 38 long-term~~ bicycle parking spaces for the residential uses and 5 ~~4 short-term bicycle parking spaces and 2 long-term~~ bicycle parking spaces for the office uses which would encourage non-fossil fuel dependent commuting.

Page 5-56, third paragraph, has been revised as follows:

Energy saving and sustainable design features would be incorporated into the Project as the proposed buildings would comply with 2019 Title 24 CCR. Design features would include energy conservation, water conservation, and pedestrian- and bicycle-friendly site design. The Project would include ENERGY STAR-rated appliances and install energy efficient HVAC systems. Solar panels would be installed on the proposed office building and office parking structures as well as Solar ready wiring on the roof level would be installed on the proposed office building, office parking structures, and the residential buildings. All glass used in the building design would have minimal reflectivity to reduce glare and, thus, heat to surrounding neighbors. The Project would incorporate efficient water management and sustainable landscaping to reduce water usage. The Project would also include a pedestrian friendly design with ground floor restaurant uses and outdoor seating to activate the street. The Project would provide 51 ~~13 short-term bicycle parking spaces and 38 long-term~~ bicycle parking spaces for the residential uses and 5 ~~4 short-term bicycle parking spaces and 2 long-term~~ bicycle parking spaces for the office uses which would encourage alternative modes of transit and reduce fuel usage from vehicle trips to and from the Project Site. In addition, the vehicle parking spaces proposed on the Project Site would be capable of supporting future EVSE, as well as equipped with EV charging stations.

Page 5-71, third paragraph, has been revised as follows:

The Project Site's urban infill location and the Project's mixed-use design and land uses, which increase the density at a site located within a TPA, as defined by SB 743, and a HQTA, as defined by SCAG, would support measures related to reducing vehicle trips for residents, patrons, and employees by increasing residential and commercial density near public transit. The Project would also provide a total of 56 ~~57 short-term and long-term~~ bicycle parking spaces, retain existing bicycle lanes and install new Class I bicycle lanes to encourage non-motorized travel.

Page 5-72, third paragraph, has been revised as follows:

The Project would incorporate GHG reduction measures that are consistent with the GGRP's goals and polices. As previously stated, the Project is located in a TPA that served by public transit, including bus lines and a Metrolink station that connects to Metro's Downtown Los Angeles Union Station. The Project would provide ~~both short-term and long-term~~ bicycle parking spaces for both residential and office uses and the Project would include supporting future EVSE and EV charging stations. The Project would also provide for a pedestrian friendly design to activate the street with approximately 60 trees planted in the City's right-of-way and 230 interior and canopy trees.

Page 5-75, first paragraph, has been revised as follows:

As a part of the Phase II ESA, soil vapor samples were collected at 22 locations in the exterior portions of the Project Site as shown in **Figure 5-9**, *Soil Vapor Survey Area*, and these were analyzed for VOCs to evaluate for potential vapor intrusion conditions. PCE was detected at 19 of the 24 soil vapor samples, with the highest concentrations in the northeast portion of the Project Site. PCE was not detected in the samples in the southwest portion of the site. As discussed in the Phase II ESA, to evaluate the potential vapor intrusion risk to future residential site occupants, the maximum PCE detected in the soil vapor samples was used to quantify incremental cancer risk due to vapor intrusion of PCE in indoor air. Incremental cancer risk at indoor sites was determined to be 4.2x10^{-4} and 1.4x10^{-5}, while cancer risks for PCE at commercial sites are 9.6x10^{-5} and 1.6x10^{-6}. To reduce the potential impact of exposure to PCEs, a Soil Management Plan (SMP) and new soil vapor barrier system with new post-construction monitoring would be required as set forth in Mitigation Measures MM-HAZ-1 and MM-HAZ-2. The soil vapor barrier system would be located in the northeastern portion of the Project Site beneath Residential Building 1, where the Phase II ESA identified the highest concentrations of PCE in soil vapor. Furthermore, an Operations, Maintenance, and Monitoring (OMM) Plan would be prepared to confirm that the vapor barrier is protective of human and environmental health, as set forth in Mitigation Measures MM-HAZ-3. With implementation of Mitigation Measures MM-HAZ-1 through MM-HAZ-3, impacts related to the routine transport, use, or disposal of hazardous materials during Project operation, would be less than significant.

Page 5-75, first paragraph, has been revised as follows:

MM-HAZ-2: Vapor Barrier System. To protect human health, a vapor barrier shall be installed beneath Building 1 in the northeast portion of the Project Site. The Project Applicant shall incorporate at all requirements in the design of the Project as set forth by the applicable regulatory oversight agency for issuance of building permits, which include the following measures:

- The proposed design of the vapor barrier must be pre-approved by the applicable regulatory oversight agency (e.g., DTSC, the Regional Water Quality Control Board, or other appropriate local regulatory agency). The design of a physical vapor barrier (e.g., high-density polyethylene vapor barrier liner) beneath the structure foundation must prevent soil gas from seeping into breathing spaces inside the structure.
- The boundary of the vapor barrier system shall extend beneath the entire footprint of Building 1.
- The system must include a passive or powered vapor mitigation system layer that draws soil gas out of the under-foundation base rock and directs that soil gas to a treatment system to prevent people from being exposed outdoors.
- Any contaminants found in shallow soil vapor shall be mitigated to levels that are ~~protective of human health~~ below 1x10^{-4} or 1x10^{-6} for the proposed residential and

commercial uses. If levels cannot be reduced to below this level, then active remediation would need to occur.

Upon completion, the Project Applicant shall prepare a report documenting the testing results and installed vapor mitigation method and submit the report to the regulatory agency with jurisdiction.

Page 5-80, second paragraph, has been revised as follows:

The Project Site is located within the jurisdiction of the Los Angeles County Airport Land Use Plan (ALUP). To determine whether the Project would result in a potential safety hazard within a ALUP, a Notice of Proposed Construction or Alteration (Form 7460-1) was submitted to the FAA, in accordance with FAA Regulation, Part 77, Objects Affecting Navigable Airspace. The FAA determined that the Project poses no hazard to air navigation. In addition, the Project was submitted to the Los Angeles County Airport Land Use Commission (ALUC) and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County. Finally, there has been ongoing coordination between the Project Applicant and the Burbank-Glendale-Pasadena Airport Authority to ensure that the Project would be compatible with existing and future operations. Given the review of the Project by these agencies and ongoing coordination, it is not anticipated that development of the Project would result in safety hazards within an ALUP and impacts would be less than significant. ~~Regarding safety hazards resulting from being located in proximity to the Hollywood Burbank Airport a hazard would be created if the Project constructed an object high enough to interfere with a flight path, cause distracting light or glare that could interfere with a pilot's ability to control the flight of the aircraft, or create an attraction to wildlife, especially birds, that would pose hazards to aircraft all of which could result in risks of death or injury to people in the airplane or on the ground. FAA Regulations Part 77, Objects Affecting Navigable Airspace, establishes minimum standards to ensure air safety by regulating the construction or alteration of buildings or structures that may affect airport operations. Since the Project would not result in construction above 200 feet in height, and would not result in any unusual light or glare in the context of the Project's urbanized location, the Project would be in compliance with FAA regulations and a less-than-significant impact would occur. Furthermore, the Project would be reviewed by the FAA to further ensure that impacts would be less than significant. Therefore, impacts related to being located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would be less than significant, and no mitigation measures are required.~~

Page 5-87, below second paragraph, has been revised to include the following policies:

Land Use	
Policy 2.4: Consider sustainability when making discretionary land use and transportation decisions, policies, regulations, and projects.	**Consistent.** The Project would be required to comply with the 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging

	infrastructure. In addition, the Project Site is located in a TPA and include pedestrian improvements, including widened and new sidewalks and pedestrian paseos, which would encourage pedestrian trips to and from the Project Site and would improve access to public transit. Thus, the proposal will contain sustainable features that will contribute to the quality of life in Burbank.
Policy 11.5: Projects with housing shall be subject to a discretionary review process to ensure that the property is being put to its highest and best use and in a manner compatible with citywide objectives for economic development. Within the Airport Influence Area, projects with housing must meet all safety and noise policies in the adopted Los Angeles County Airport Land Use Plan.	**Consistent.** The Project is currently undergoing discretionary review by the City to ensure that the property is being put to its highest and best use. The Project is within the Airport Influence Area of the adopted Los Angeles County Airport Land Use Plan and, as such, will meet all the safety policies, as discussed in Section IX, *Hazards and Hazardous Materials*, and noise policies, as discussed in Section XIII, *Noise*, of this SCEA.
Mobility Element	
Policy 2.4: Require new projects to contribute to the city's transit and/or non-motorized transportation network in proportion to its expected transit generation.	**Consistent.** The Project will provide several design features, including new Class I bicycle lanes through the Project Site and would provide for on-site bicycle parking for residents and office employees. Inclusion of these improvements on the transportation network would encourage the use of non-motorized modes to and from the Project by giving residents and employees the option to use bicycles to travel to and from the Project Site; therefore, reducing vehicle trips and VMT. In addition, the Project is located within a TPA and would provide greater opportunities for access to various types of public transit, thereby reducing its transit generation.

Page 5-91, third paragraph, has been revised as follows:

The Project is located approximately 1,035 feet (0.2 miles) southeast of the Airport, when measured from the northwest corner of the Project Site to the southeast corner of the nearest runway. Although the CARB handbook does not contain an advisory for airports, a HRA was completed for the Airport to evaluate potential health risk impact to future on-site residents at the Project Site from aircraft arriving and departing from runways 15 and 33, since emissions from aircraft departing and arriving from these runways are the closest sources from the Airport to the Project Site. The HRA isolated the emissions and dispersion from the aloft (airborne) emissions associated with takeoff, climb out, approach and landing extending from runways 15/33 and along the flight path directly due west of the Project Site since aircraft arriving and departing ~~this~~these runways would be in the closest proximity when airborne to the Project Site. A detailed summary of the assumptions and methodologies is provided in the Airport and railway Health Risk Assessment Memorandum of Appendix A.

Page 5-112, first paragraph, has been revised as follows:

The City's General Plan community noise compatibility guidelines sets normally acceptable, possibly acceptable, and normally unacceptable exterior noise levels for various land uses, including single family and multifamily residences. These standards are similar to the land use and noise compatibility ranges identified in the California's Department of Transportation's Airport Land Use Planning Handbook.[3] For multifamily residential uses, whether it is pure residential or mixed-use area, the normally acceptable exterior noise level is up to 65 dBA CNEL. In possibly acceptable zone (61 to 70 dBA CNEL), residential units should be established only when exterior (living) areas are omitted from project or noise levels in exterior areas can be mitigated to the normally acceptable level.

[3] State of California Department of Transportation. Division of Aeronautics. *California Airport Land Use Planning Handbook*. October 2011.

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CHAPTER 3
Response to Comments

3.1 Comment Letter 1: Caltrans

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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Comment Letter No. 1

Making Conservation a California Way of Life.

August 4, 2021

Maciel Medina
City of Burbank
Community Development Department, Planning Division
150 North Third Street
Burbank, CA 91502

RE: Burbank Aero Crossings Project – Draft Sustainable Communities Environmental Assessment (DSCEA)
SCH # 2021070154
GTS # 07-LA-2021-03653
Vic. LA-5/PM: 31.324

Dear Maciel Medina:

1-1

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced DSCEA. The Project would construct a new mixed-use development on an approximately 10.43-acre site located at 2311 N. Hollywood Way within the City of Burbank. The Project Site is developed with an existing Fry's Electronics Store and associated surface parking. The Project would construct a mixed-use development with 151,800 square feet of office uses, 9,700 square feet of restaurant uses, and 862 residential units (including 12 live/work units and 80 Very Low-Income units) within four proposed buildings. In total, the Project would include a building area of 937,613 square feet and would have a Floor Area Ratio (FAR) of 2.1. It would also provide a total of 1,613 vehicular parking spaces within three parking structures and a small surface parking area. The City of Burbank is the Lead Agency under the California Environmental Quality Act (CEQA).

The project is located approximately 1.4 miles from the Interstate 5 (I-5) ramps at N Hollywood Way. It is also located approximately 0.10 miles southeast of the Burbank Airport – South Metrolink Station, which means it is within a Transit Priority Area (TPA). From reviewing the DSCEA, Caltrans has the following comments.

1-2

Please clarify how much parking is required for this project per the Burbank Municipal Code (BMC). In Table 2-1, "Proposed Development Program", it states that the total amount of spaces required is 919. In contrast, in Appendix A of the Transportation Study, it states that 2,085 spaces are required. Caltrans is requesting clarification on this because as mentioned in the environmental document, if a project is in a TPA and provides more parking than required, a presumption of less than significant for Vehicle Miles Traveled (VMT) impact may not be appropriate.

If the amount of parking provided for this project exceeds the minimum required based on the BMC, please provide a more detailed VMT analysis for this project. If it does not, then we concur with the finding that this project should have a less than significant VMT impact.

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Maciel Medina
August 4, 2021
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The following information is included for your consideration. The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. Furthermore, Caltrans encourages Lead Agencies to implement Transportation Demand Management (TDM) strategies that reduce VMT and Greenhouse Gas (GHG) emissions. Thus, Caltrans supports the TDM strategies this project has incorporated, such as the bicycle parking spaces and pedestrian network improvements. For more TDM options to include in this project to further reduce its VMT impact, please refer to: **1-3**

- The 2010 *Quantifying Greenhouse Gas Mitigation Measures* report by the California Air Pollution Control Officers Association (CAPCOA), available at http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, or
- *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8) by the Federal Highway Administration (FHWA), available at https://ops.fhwa.dot.gov/publications/fhwahop12035/index.htm.

Also, any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles on State highways will need a Caltrans transportation permit. Caltrans recommends that the project limit construction traffic to off-peak periods to minimize the potential impact on State facilities. If construction traffic is expected to cause issues on any State facilities, please submit a construction traffic control plan detailing these issues for Caltrans' review.

If you have any questions about these comments, please contact Emily Gibson, the project coordinator, at Emily.Gibson@dot.ca.gov, and refer to GTS # 07-LA-2021-03653. **1-4**

Sincerely,

Miya Edmonson

MIYA EDMONSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

"Provide a safe and reliable transportation network that serves all people and respects the environment."

3.1.1 Response to Comment Letter 1: Caltrans

Response to Comment 1-1

This comment is introductory and provides general information summarizing the Project and Project Site. The SCEA describes the Project in Chapter 2, *Project Description*. As this comment summarizes information that is already provided in the SCEA, no further response is required. However, this comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 1-2

The comment requests clarification on how much parking is required for the Project per the Burbank Municipal Code (BMP) and summarizes what is provided in Chapter 2, *Project Description,* Table 2-1, of the SCEA, compared to what is included in the Transportation Study (Attachment A). The correct number of parking spaces required for the Project is 919 spaces, as included in Chapter 2, *Project Description,* Table 2-1, of the SCEA. The Transportation Study will be updated to account for this number.

City of Burbank *Transportation Study Guidelines* (Updated December 1, 2020) (City Guidelines) follows the recommendation of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning & Research, December 2018) (Technical Advisory), which describes the conditions for a "presumption of less-than-significant impact near transit stations" on page 13. The condition under question in the comment reads that [the presumption may not be appropriate if] "[the Project] includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction" (Technical Advisory page 14). The City Guidelines translated this as "does not include more parking than is required by the Burbank Municipal Code" (page 3).

Thus, the parking requirement that must not be exceeded for the Project to be presumed to have a less-than-significant impact is that defined in the Burbank Municipal Code. As shown in Attachment A, the updated Transportation Study, the Burbank Municipal Code requires a total of 2,239 vehicular parking spaces, including 1,686 residential spaces, 456 commercial office spaces, and 97 restaurant spaces. The Project proposes to provide 1,613 total spaces (including 1,125 residential spaces), less than the Burbank Municipal Code requirement, and thus in compliance with the condition to presume a less-than-significant impact.

The other reference in the comment is to Table 2-1 of the SCEA which identifies a total of 919 required spaces (including 431 residential and 456 commercial parking spaces). That table incorrectly identifies the source of that requirement as the Burbank Municipal Code, when in fact that requirement is based on California Assembly Bill (AB) 2345. As discussed in Chapter 2, *Project Description*, Section 2.4.9 of the SCEA, AB 2345 allows a developer to provide as few as 0.5 spaces per unit for a project qualifying for a 35 percent density bonus within ½ mile of a major transit stop (the Project meets both conditions). The Project's provision of 1,125 residential spaces exceeds the minimum residential requirement of 431 under AB 2345 but is less than the Burbank Municipal Code residential requirement of 1,686 spaces. Therefore, as concluded in the Draft SCEA, the Project is presumed to have a less-than-significant impact on vehicle miles traveled

(VMT), and no further analysis is required. The updated Transportation Study is included as Attachment A of this Final SCEA.

Response to Comment 1-3

This comment includes information on Caltrans' mission statement, states that Caltrans supports the Transportation Demand Management (TDM) strategies that are included as part of the Project, and suggests a couple of more TDM strategies that can be considered as part of the Project. The comment is noted and will be provided to the decision makers for their review and consideration.

Response to Comment 1-4

This comment states that any transportation of heavy construction equipment and/or materials which requires the use of oversized-transport vehicles will require a Caltrans Transportation Permit. This comment also recommends that Project construction traffic be limited to off-peak periods and if it is expected to cause any issues on any State facilities, a construction traffic control plan detailing these issues should be submitted to Caltrans. The comment is noted and will be provided to the decision makers for their review and consideration.

3.2 Comment Letter 2: Caltrans

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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Comment Letter No. 2

Making Conservation a California Way of Life.

August 6, 2021

Maciel Medina
City of Burbank
105 North Third Street
Burbank, CA 91502

Dear Ms. Medina:

Re: SCA for the Burbank Aero Crossings Project, SCH# 2021070154

The California Department of Transportation, Division of Aeronautics (Division), reviewed the above-referenced document with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The Division has technical expertise in the areas of airport operations safety, noise, and airport land use compatibility. We are a funding agency for airport projects, and we have permit authority for public-use and special-use airports and heliports. The following comments are offered for your consideration. 2-1

The proposal is for a project known as Burbank Aero Crossings. It would result in a mixed-use development with 862 residential units and approximately 161,500 square feet of office/restaurant space in multiple buildings, two of which will be seven-stories tall. The project site is approximately 10.4 acres. 2-2

The project site is approximately 0.40 miles (2,105 feet) southeast of the departure end of Runway 15/33 at Hollywood Burbank Airport. Regularly scheduled commercial airline and cargo aircraft frequently depart at low altitudes with full take-off power nearly overhead of the project site. The Aero Crossings project will be subjected to low-altitude aircraft overflight and subsequent airport-related noise and safety impacts. 2-3

Hollywood Burbank Airport is a busy public-use airport with daily commercial airlines, cargo and general aviation operations. It handles over 2.5 million annual enplaned passengers and 91 based aircraft, and it is listed in the current Federal Aviation Administration (FAA) National Plan of Integrated Airport Systems as a Medium Primary Commercial Service airport. 2-4

In accordance with CEQA, Public Resources Code Section 21096, the California

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Airport Land Use Planning Handbook (Handbook) must be utilized as a resource in the preparation of environmental documents for projects within airport land use compatibility plan boundaries or if such a plan has not been adopted, within two miles of an airport. The Handbook is available on-line at:

https://dot.ca.gov/-/media/dot-media/programs/aeronautics/documents/californiaairportlanduseplanninghandbook-a11y.pdf

The purpose of the Handbook is to provide guidance for conducting airport land use compatibility planning as required by Article 3.5 - Airport Land Use Commissions, in the Public Utilities Code (PUC) Sections 21670 to 21679.5 (Article 3.5). Article 3.5 outlines the statutory requirements for Airport Land Use Commissions (ALUCs) including the preparation of an Airport Land Use Compatibility Plan (ALUCP). Article 3.5 mandates that the Division prepare, update and publish the Handbook.

It is the intent of the State Legislature to discourage incompatible land uses near existing airports. When the Legislature established Article 3.5 in the PUC it found and declared that:

> "It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems." And, "it is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

The Sustainable Communities Environmental Assessment (SCA) for the Aero Crossings project did not list the Handbook as a reference or cite it in its environmental analysis. The Handbook does not appear to have been utilized as a technical resource where the SCA evaluates airport-related safety hazards and noise problems. Airport land use compatibility planning factors such as safety, noise and the protection of navigable airspace must be evaluated for potential environmental impacts associated with the construction and operation of the Aero Crossings project. **2-4 (cont)**

Portions of the project site appear to be within the Inner Turning Safety Zone 3 for Burbank Airport as defined in the Caltrans Handbook. The Handbook generally recommends limiting residential uses to very low densities and office and other commercial uses to low intensities within Safety Zone 3. The Handbook also states **2-5**

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that buildings with more than three above ground habitable floors should be avoided. This must be thoroughly addressed through the environmental process.

Pursuant to the Airport Noise Standards (California Code of Regulations, Title 21, Section 5000 *et seq*.), the County of Los Angeles declared the Burbank Airport to have a "noise problem." The regulations require a noise problem airport to reduce the size of its "noise impact area" (NIA), which is the area within the airport's 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour that is composed of incompatible land uses. Allowing new residential uses within the airport's 65 dB CNEL contour could result in an increase, rather than the required decrease, in the size of the airport's NIA. Consistent with the Airport Noise Standards, new residential development is not an appropriate land use within the airport's 65 dB CNEL contour. If allowed within the airport's 65 dB CNEL contour, all residential units should be constructed to ensure an interior CNEL due to aircraft noise of 45 dB or less in all habitable rooms. Additionally, to prevent this project from increasing the airport's NIA, all new residential units should grant to the airport proprietor an avigation easement for aircraft noise. **2-5 (cont)**

California PUC Section 21659 prohibits structural hazards near airports. The proposal will require submission of a Notice of Proposed Construction or Alteration (Form 7460-1) to the FAA in accordance with Federal Aviation Regulation, Part 77 "Objects Affecting Navigable Airspace." Form 7460-1 is available on-line at https://oeaaa.faa.gov/oeaaa/external/portal.jsp and should be submitted electronically to the FAA. **2-6**

In accordance with PUC Section 21676 *et seq*., prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission (ALUC), the local agency shall first refer the proposed action to the ALUC.

If the ALUC determines that the proposed action is inconsistent with the airport land use compatibility plan, the referring agency shall be notified. The local agency may, after a public hearing, propose to overrule the ALUC by a two-thirds vote of its governing body after it makes specific findings. At least 45 days prior to the decision to overrule the ALUC, the local agency's governing body shall provide to the ALUC and the Division a copy of the proposed decision and findings. The Division reviews and comments on the specific findings a local government intends to use when proposing to overrule an ALUC. The Division specifically looks at the proposed findings to gauge their relationship to the overrule. Also, pursuant to the PUC 21670 et seq., findings should show evidence that the local agency is minimizing "…the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses." **2-7**

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Ms. Medina
August 6, 2021
Page 4

In addition to submitting the proposal to the ALUC, it should also be coordinated with Hollywood Burbank Airport staff to ensure that the proposal will be compatible with future as well as existing airport operations. **2-8**

Business and Professions Code Section 11010 and Civil Code Sections 1102.6, 1103.4, and 1353 address buyer notification requirements for lands around airports. Any person who intends to offer subdivided lands, common interest developments and residential properties for sale or lease within an airport influence area is required to disclose that fact to the person buying the property. **2-9**

These comments reflect the areas of concern to the Division with respect to airport-related noise, safety, and regional land use planning issues. Thank you for the opportunity to review and comment on this proposal. If you have any questions, please contact me at (916) 654-6223, or by email at philip.crimmins@dot.ca.gov. **2-10**

Sincerely,

Original Signed by

PHILIP CRIMMINS
Aviation Environmental Specialist

c: State Clearinghouse, Los Angeles County ALUC, Hollywood Burbank Airport

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

3.2.1 Response to Comment Letter 2: Caltrans

Response to Comment 2-1

This comment introduces the Caltrans Division of Aeronautics and states that they have reviewed the SCEA with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to CEQA. The comment is noted and will be provided to the decision makers for their review and consideration.

Response to Comment 2-2

This comment provides general information summarizing the Project and Project Site. The SCEA describes the Project in Chapter 2, *Project Description*. As this comment summarizes information that is already provided in the SCEA, no further response is required. However, this comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 2-3

This comment notes the Project Site's proximity to the Hollywood Burbank Airport's Runway 15/33 and notes that the Project will be subjected to low-altitude aircraft overflight and subsequent related noise and safety impacts.

The project maintains program-level consistency with the General Plan as it relates to any impacts that are less than significant and project specific mitigation measures and/or project design features as discussed in the SCEA that addresses any project-level potential environmental impacts resulting in a less-than-significant impact. The Project's noise impacts are evaluated in Chapter 5, *Initial Study and Environmental Analysis*, Section XIII, *Noise*, of the SCEA. As described therein, the Project's noise study uses the airport noise contour map included in the Bob Hope Airport 14 CFR Part 150 Noise Compatibility Study Noise Exposure Map Update prepared for the Burbank-Glendale-Pasadena Airport Authority[1] to identify that a portion of the Project Site is located within the airport's 65 dBA CNEL contour zone. As stated in Section XIII, *Noise*, on page 5-112 of the SCEA, the entire office building and only a small portion of the western edge of the residential units in Building 1 and Building 2 would lie within the Airport 65 dBA CNEL. The western edge of Building 1 and Building 2 that would be within this area includes a portion of the Project's retail space, parking garage space, and approximately 75 of the total 862 residential units being proposed as part of the Project. For this analysis, aircraft-related noise was calculated then combined with noise from vehicular traffic on N. Hollywood Way, as well as train noise generated from the Union Pacific Rail Road line located to the north of the Project Site. Given the potential for noise impacts from combined noise from vehicular traffic, the train, and the airport, the Project includes the implementation of Project Design Features PDF-NOI-1, which includes the construction of noise barriers for the balconies that would be exposed to traffic noise from N. Hollywood Way, and PDF-NOI-2, which includes construction features such as mechanical ventilation, building façade upgrades including windows with sound transmission class (STC) ratings higher than standard

[1] Coffman Associates, Inc., Cooper Communication, Inc., VICO Systems, LLC, Beige Technologies, LLC., *Bob Hope Airport 14 CFR Part 150 Noise Compatibility Study*, April 2013.

building practice would provide (STC-28), low air infiltration rated window frames, and located building vents away from noise sources.

The Project's safety impacts for projects located within an airport land use plan are evaluated in Chapter 5, *Initial Study and Environmental Analysis*, Section IX, *Hazards and Hazardous Materials*, of the SCEA. As noted therein, the Project would be subject to review by the Federal Aviation Administration (FAA). Since publication of the Draft SCEA, the Project Applicant has submitted the Project for review by the FAA, which has made a determination that all structures developed as part of the Project would have "no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities." The FAA also determined that Buildings J, L, and M would not be a hazard to air navigation provided certain conditions are met. Thus, the following condition will be included as a condition of approval for the Project.

1. Buildings J, L, and M are to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, red lights - Chapters 4,5 (Red), &15. Any failure or malfunction that lasts more than 30 minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

In addition, the Project was submitted to the Airport Land Use Commission (ALUC) and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County. Approval is subject to two conditions to maintain consistency, which will be included as conditions of approval for the Project. These conditions are as follows:

2. Potential buyers and tenants of residential units on the Project site shall be issued a Real Estate Information Form, purchase agreement, or similar disclosure notice that contains information regarding potential exposure to noise and annoyance on site from activities at and near Hollywood Burbank Airport.
3. Compliance with FAA requirements for obstruction markings or lights on the roof of the office buildings and parking garage (at points J, K, L, and M) on the western portion of the Project site, per FAA Determinations 2021-AWP-7397 through 7400, and that the buildings shall not exceed the maximum height of 88 feet.

To account for these updates, page 5-80 of the SCEA has been revised to reflect recent coordination with the FAA and ALUC, and clarify that coordination with the Burbank-Glendale-Pasadena Airport Authority would occur, as applicable. This change is reflected below and in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Page 5-80, second paragraph, has been revised as follows:

> The Project Site is located within the jurisdiction of the Los Angeles County Airport Land Use Plan (ALUP). To determine whether the Project would result in a potential safety hazard within a ALUP, a Notice of Proposed Construction or Alteration (Form 7460-1) was submitted to the FAA, in accordance with FAA Regulation, Part 77, Objects Affecting Navigable Airspace. The

FAA determined that the Project poses no hazard to air navigation. In addition, the Project was submitted to the Los Angeles County Airport Land Use Commission (ALUC) and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County. Finally, there has been ongoing coordination between the Project Applicant and the Burbank-Glendale-Pasadena Airport Authority to ensure that the Project would be compatible with existing and future operations. Given the review of the Project by these agencies and ongoing coordination, it is not anticipated that development of the Project would result in safety hazards within an ALUP and impacts would be less than significant. ~~Regarding safety hazards resulting from being located in proximity to the Hollywood Burbank Airport a hazard would be created if the Project constructed an object high enough to interfere with a flight path, cause distracting light or glare that could interfere with a pilot's ability to control the flight of the aircraft, or create an attraction to wildlife, especially birds, that would pose hazards to aircraft all of which could result in risks of death or injury to people in the airplane or on the ground. FAA Regulations Part 77, Objects Affecting Navigable Airspace, establishes minimum standards to ensure air safety by regulating the construction or alteration of buildings or structures that may affect airport operations. Since the Project would not result in construction above 200 feet in height, and would not result in any unusual light or glare in the context of the Project's urbanized location, the Project would be in compliance with FAA regulations and a less-than-significant impact would occur. Furthermore, the Project would be reviewed by the FAA to further ensure that impacts would be less than significant. Therefore, impacts related to being located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would be less than significant, and no mitigation measures are required.~~

Response to Comment 2-4

This comment describes Hollywood Burbank Airport operations and states that according to CEQA the California Land Use Planning Handbook (Handbook) must be utilized in the preparation of environmental documents for projects within an airport land use compatibility plan area. The comment also summarizes the purpose of the Handbook and states that the SCEA did not utilize the Handbook as a reference or cite it in the environmental analysis.

The commenter is correct in that the Handbook was not cited for use in the analysis of noise and safety impacts associated with the airport. As discussed in Section XIII, *Noise*, on page 5-112 of the SCEA, the analysis in the SCEA relies on the City's General Plan community noise compatibility guidelines. In addition, there are several state laws, regulations, and guidelines that are identified in the Handbook that are also used in the SCEA's noise analysis. These include the State Aeronautics Act (Public Utilities Code [PUC] Section 21669, California Airport Noise Regulations (Section 5000 *et seq*. of the California Code of Regulations [Title 21, Division 2.5, Chapter 6]), and the California Building Code (California Code of Regulations, Title 24). While the Handbook is designed to help with the planning of the land uses in an airport influence zone, it does not provide a noise contour map for each individual airport in the state. As described above in Response to Comment 2-3 and in Section XIII, *Noise*, on page 5-112 of the SCEA, the Project's noise analysis utilized the airport noise contour map included in the Noise Compatibility Study Noise Exposure Map Update prepared for the Burbank-Glendale-Pasadena Airport Authority.[2] The

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2 Coffman Associates, Inc., Cooper Communication, Inc., VICO Systems, LLC, Beige Technologies, LLC., *Bob Hope Airport 14 CFR Part 150 Noise Compatibility Study*, April 2013.

Hollywood Burbank Airport noise contour map is not included in the Handbook; however, it provides the 65 dBA CNEL noise contour for the Hollywood Burbank Airport that is relevant to the analysis of impacts of projects within the noise exposure areas identified on the map, as stated in the California Airport Noise Regulations. As further described under Response to Comment 2-3, given the potential for noise impacts from the airport, plus other noise sources such as roadway traffic and trains, the Project includes the implementation of PDF-NOI-1 and PDF-NOI-2, which include design elements intended to reduce the potential for noise impacts, especially for interior habitable spaces associated with the proposed multi-family residential uses. Implementation of these project design features would ensure that potential noise impacts to future residents from the airport are reduced, consistent with the requirements of the Handbook. Given the overlap in resources used in this analysis, a citation to the Handbook has been added to the SCEA. This change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Page 5-112, first paragraph, has been revised as follows:

> The City's General Plan community noise compatibility guidelines sets normally acceptable, possibly acceptable, and normally unacceptable exterior noise levels for various land uses, including single family and multifamily residences. These standards are similar to the land use and noise compatibility ranges identified in the California's Department of Transportation's Airport Land Use Planning Handbook.[3] For multifamily residential uses, whether it is pure residential or mixed-use area, the normally acceptable exterior noise level is up to 65 dBA CNEL. In possibly acceptable zone (61 to 70 dBA CNEL), residential units should be established only when exterior (living) areas are omitted from project or noise levels in exterior areas can be mitigated to the normally acceptable level.
>
> [3] State of California Department of Transportation. Division of Aeronautics. California Airport Land Use Planning Handbook. October 2011.

Please see Response to Comment 2-3 for a discussion of the Project's safety impacts.

Response to Comment 2-5

This comment notes that the Project Site appears to be within Inner Turning Safety Zone 3 and that the Handbook generally recommends limiting residential uses to very low densities and office and other commercial uses to low intensities within Safety Zone 3. The comment also states that residential uses should be limited within the airports 65 dB Community Noise Equivalent Level (CNEL) contour, or Noise Impact Area (NIA), and that new residential units within this area should grant to the airport proprietor an avigation easement for aircraft noise.

As noted above under Response to Comment 2-4, potential noise impacts were identified using the airport noise contour map included in the Bob Hope Airport 14 CFR Part 150 Noise Compatibility Study Noise Exposure Map Update prepared for the Burbank-Glendale-Pasadena Airport Authority.[4] As shown in Section XIII, *Noise*, on page 5-113, Figure 5-11 of the SCEA, using the referenced contour map, only a small portion of the western edge of the residential units (Building

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3 State of California Department of Transportation. Division of Aeronautics. *California Airport Land Use Planning Handbook*. October 2011.

4 Coffman Associates, Inc., Cooper Communication, Inc., VICO Systems, LLC, Beige Technologies, LLC., *Bob Hope Airport 14 CFR Part 150 Noise Compatibility Study*, April 2013.

1 and Building 2) would lie within the Airport 65 dBA CNEL. This includes a miniscule portion of the western edges, including retail, parking garage, and residential unit space in Building 1 and residential space in Building 2. All feasible noise mitigation measures, including window upgrades with sound transmission class (STC) ratings higher than standard building practice would provide (STC-28) as described in PDF-NOI-2, as well as noise barriers for the balconies that would be exposed to traffic noise from N. Hollywood Way as described in PDF-NOI-1, would be included as part the Project's residential building design. Implementation of these Project Design Features, as well as compliance with the General Plan Noise Element and Building Code requirements, would ensure that the residential buildings' interior noise meets the 45 dBA CNEL or less in all habitable rooms inside the residential buildings.

With regard to the Project Site being subject to an avigation easement, Policy G-3 in the Los Angeles County Airport Land Use Plan says that requiring avigation easements to the jurisdiction owning the airport should be considered as an approval of any project located within an airport influence area (AIA). The AIA for Burbank Hollywood Airport is the combined CNEL 65 dB contour and Runway Protection Zone (RPZ) boundaries. Given that the Project lies within this area, it can be considered for an avigation easement. The Project would not result in interior or exterior noise impacts with the implementation of PDF-NOI-1 and PDF-NOI-2, as discussed above. In addition, as discussed in Response to Comment 2-3, as a condition of approval, the Project would be subject to the conditions requested by ALUC, which require the issuance of a Real Estate Information Form to inform new residents of potential exposure to noise and annoyance from activities at the Hollywood Burbank Airport and compliance FAA requirements for obstruction markings or lights on the roof of the office buildings and parking garage on the western portion of the Project Site. These measures are consistent with what would be required under an avigation easement. This comment does not otherwise concern any environmental issue or information addressed or contained in the SCEA and, thus, no further response is warranted. However, this comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 2-6

This comment notes that the Project will be required to be submitted to the FAA in accordance with FAA Regulation, Part 77 and includes a link to where the application can be found. As noted above in Response to Comment 2-3, since publication of the Draft SCEA, the Project Applicant has submitted the Project for review by the FAA and they have made a determination that the Project poses no hazard to air navigation. In addition, the Project was submitted to the ALUC and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County, subject to two conditions. To account for these updates, page 5-80 of the SCEA has been revised to reflect recent coordination with the FAA and ALUC, and clarify that coordination with the Burbank-Glendale-Pasadena Airport Authority would occur, as applicable. Section IX, *Hazards and Hazardous Materials*, page 5-80 of the SCEA, has been updated and this change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Response to Comment 2-7

This comment states that a local agency is required to refer a project to the ALUC prior to the amendment of a general or specific plan, or adoption or approval of a zoning ordinance or building regulation within the boundary established by the ALUC. The comment then describes the ALUC project review and approval process. As noted in Response to Comment 2-3, the Project was submitted for review by the ALUC, FAA, and Hollywood Burbank Airport. The ALUC determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County, subject to two conditions. Section IX, *Hazards and Hazardous Materials*, page 5-80 of the SCEA, has been updated and this change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA. Furthermore, the Project does not require review by the ALUC per Public Utilities Code Section 21676 *et seq.*, because there is not a request to amend a General Plan or specific plan, or the adoption or approval of a zoning ordinance.

Response to Comment 2-8

This comment notes that in addition to submitting the Project to the ALUC, it should be coordinated with Hollywood Burbank Airport staff to ensure that the Project will be compatible with existing and future airport operations. As stated in Response to Comments 2-3, 2-6, and 2-7, the Project was submitted for review by the ALUC, FAA and the Hollywood Burbank Airport. Section IX, *Hazards and Hazardous Materials*, page 5-80 of the SCEA, has been updated and this change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Response to Comment 2-9

This comment includes references to the California Civil Code, Business and Professions Code Section 11010 and Civil Code Sections 1102.6, 1103.4, and 1353, and describes buyer notification requirements. As discussed above in Response to Comment 2-3, the ALUC determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County, subject to two conditions. These conditions will be included as conditions of approval for the Project. The first condition requires potential buyers and tenants of residential units on the Project Site be issued a Real Estate Information Form, purchase agreement, or similar disclosure notice that contains information regarding potential exposure to noise and annoyance on site from activities at and near Hollywood Burbank Airport. Thus, the Project is consistent with buyer notification requirements that the commenter notes.

Response to Comment 2-10

This comment is a conclusion to the letter and provides contact information at Caltrans Division of Aeronautics if further questions arise. The comment is noted and will be provided to the decision makers for their review and consideration.

3.3 Comment Letter 3: Hollywood Burbank Airport

Comment Letter No. 3

Hollywood Burbank Airport

August 4, 2021

City of Burbank
Community Development Department, Planning Division
150 N Third Street
Burbank, CA 91502
Attn: Maciel Medina, Associate Planner/Project Planner, Kimberly Comacho, CEQA Project Manager

RE: COMMENTS ON SUSTAINABLE COMMUNITIES ENVIRONMENTAL ASSESSMENT – BURBANK AERO CROSSINGS

The Burbank-Glendale-Pasadena Airport Authority (Authority), owner and operator of Bob Hope Airport (commonly known as Hollywood Burbank Airport) (Airport), is in receipt of the Sustainable Communities Environmental Assessment (SCEA) prepared by the City of Burbank (City) for a proposed mixed-use development, Burbank Aero Crossings, at 2311 N. Hollywood Way in the City of Burbank, California. **3-1**

This letter is intended to provide the following comments in response to the findings of the SCEA document:

1) Aircraft departing over the proposed project are referred to in several parts of the SCEA document as departing from Runway 33. Aircraft departing in this direction (to the south) are departing from Runway 15. **3-2**

2) The SCEA document incorrectly describes the criteria for satisfying the Federal Aviation Administration (FAA) requirements of Code of Federal Regulations (CFR) Title 14 Part 77.

   The discussion of potential impacts related the proposed project's proximity to the Airport asserts that satisfying the following two factors constitutes a complete satisfaction of these FAA regulations: **3-3**

   a) The proposed project's construction height of less than 200 feet, and
   b) A lack of unusual light or glare to be generated.

   In fact, per 14 CFR § 77.9, FAA review is required for any construction or alteration that both: (i) is within 20,000 ft of a public use airport with at least one runway of more than 3,200 ft; and (ii) exceeds a 100:1 surface from any point on the airport's nearest runway. Burbank Municipal Code § 10-1-1305 et seq. also requires notice to the FAA for new structures exceeding designated heights in the vicinity of the Airport.

O: 818.840.8840 F: 818.557.0263 2627 N. Hollywood Way, Burbank, CA 91505 hollywoodburbankairport.com

Due to the proposed project's proximity to the Airport (which has a runway longer than 3,200 ft), as well as the proposed project building height, the project proponent MUST file a notice with the FAA. This notification serves as the basis for:

- Evaluating the effect of the construction or alteration on operating procedures,
- Determining the potential hazardous effect of the proposed construction on air navigation,
- Identifying mitigating measures to enhance safe air navigation, and
- Charting of new objects.

Despite the incorrect assertion that no filing is required, the Authority acknowledges that the project proponent did submit a notice to the FAA, by way of FAA Form 7460-1. The Authority is in receipt of a preliminary determination from the FAA in response to the proponent's filing.

The FAA determination identifies that 3 proposed buildings exceed obstruction standards by as much as 36 feet and are thus an obstruction to air navigation as defined by the FAA. The preliminary determination indicates the project as filed represents a minimal impact to air navigation, and thus the FAA issued a Determination of No Hazard to Air Navigation provided that the risk presented by the proposed obstructions is mitigated using lighted obstruction markings in compliance with the FAA standards. **3-3 (cont)**

The determination of no hazard includes any temporary construction equipment, such as cranes used during the construction of the structure. However, this equipment shall not exceed the overall heights as indicated in the filing. Equipment which has a height greater than the studied structure requires separate notice to the FAA for evaluation.

One of the project proponent's filings with the FAA resulted in Aeronautical Study No. 2021-AWP-7379-OE, which indicates "Any height exceeding 88 feet above ground level (760 feet above mean sea level) will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation." The Authority requests that the City ensure that this finding is incorporated into construction planning for the proposed project.

3) The SCEA document correctly indicates the project will be submitted to the Los Angeles County Airport Land Use Commission (ALUC) for review. The Los Angeles County Airport Land Use Plan published by the ALUC provides the following Policies and Programs which may be applicable to the project, may require implementation of mitigation measures, and will likely be considered during the anticipated ALUC review:

- G-1: Require new uses to adhere to the Land Use Compatibility Chart.
- G-3: Consider requiring dedication of an aviation easement to the jurisdiction owning the airport as a condition of approval on any project within the designated planning boundaries. **3-4**
- G-5: Airport proprietors should achieve airport/community land use compatibility by adhering to the guidelines of the California Noise Standards.
- N-2: Require sound insulation to ensure a maximum interior 45 dB CNEL in new residential, educational, and health-related uses in areas subject to exterior noise levels of 65 CNEL or greater.
- N-3: Utilize the Table Listing Land Use Compatibility for Airport Noise Environments in evaluating projects within the planning boundaries.
- N-4: Encourage local agencies to adopt procedures to ensure that prospective property owners in aircraft noise exposure areas above a current or anticipated 60 db CNEL are informed of these noise levels and of any land use restriction associated with high noise exposure.

- S-5: Prohibit uses which would attract large concentrations of birds, emit smoke, or which may otherwise affect safe air navigation.
- S-7: Comply with the height restriction standards and procedures set forth in FAR Part 77.

The need to potentially implement several mitigation measures is acknowledged in the SCEA document, including:

- Potential additional sound insulation to comply with California Noise Insulation Standards and Los Angeles County Airport Land Use Commission (ALUC) policies regarding insulation needs for residential projects within the Community Noise Equivalent Level (CNEL) 60 contour,
- Landscaping that will not create an attraction for wildlife that would pose hazards to aircraft, and
- Assurance from the FAA that impacts are less than significant (which includes the placement of obstruction lights on the roof of the proposed project).

Despite these factors, the SCEA document makes several assertions that no mitigation is needed related to the proposed project's location within in airport land use plan. The Authority believes the aforementioned factors conflict with the document's conclusion that no mitigation applies or is necessary.

3-4 (cont)

Thank you for the opportunity to respond to this Sustainable Communities Environmental Assessment.

Sincerely,

Aaron Galinis, AICP
Airport Planner
(818) 729-2259 | agalinis@bur.org

3.3.1 Response to Comment Letter 3: Hollywood Burbank Airport

Response to Comment 3-1

This comment introduces the Burbank-Glendale-Pasadena Airport Authority (Authority) as owner and operator of the Burbank Hollywood Airport and acknowledges receipt of the SCEA. The comment is noted and will be provided to the decision makers for their review and consideration.

Response to Comment 3-2

This comments notes that the SCEA refers to aircraft departing from Runway 33, but aircraft departing to the south depart from Runway 15.

The comment is correct that the SCEA refers to aircraft departing from Runway 33. As discussed in Chapter 5, *Initial Study and Environmental Analysis*, Section XI, *Land Use*, page 5-91 of the SCEA, a HRA was completed for the Airport to evaluate "potential health risk impact to future on-site residents at the Project Site from aircraft arriving and departing from runways 15 and 33, since emissions from aircraft departing and arriving from these runways are the closest sources from the Airport to the Project Site. The HRA isolated the emissions and dispersion from the aloft (airborne) emissions associated with takeoff, climb out, approach and landing extending from runway 33 and along the flight path directly due west of the Project Site since aircraft arriving and departing this runway would be in the closest proximity when airborne to the Project Site." As the comment notes, aircraft departing to the south depart from Runway 15. The HRA prepared for the Project, and contained in Appendix A.3 of the SCEA, assumes a conservative straight out pathway departure from runway 15/33, where aircraft would travel directly west of the Project Site. Section XI, *Land Use*, page 5-91, third paragraph of the Final SCEA, has been updated to account for Runway 15. This change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Page 5-91, third paragraph, has been revised as follows:

> The Project is located approximately 1,035 feet (0.2 miles) southeast of the Airport, when measured from the northwest corner of the Project Site to the southeast corner of the nearest runway. Although the CARB handbook does not contain an advisory for airports, a HRA was completed for the Airport to evaluate potential health risk impact to future on-site residents at the Project Site from aircraft arriving and departing from runways 15 and 33, since emissions from aircraft departing and arriving from these runways are the closest sources from the Airport to the Project Site. The HRA isolated the emissions and dispersion from the aloft (airborne) emissions associated with takeoff, climb out, approach and landing extending from runways 15/33 and along the flight path directly due west of the Project Site since aircraft arriving and departing ~~this~~these runways would be in the closest proximity when airborne to the Project Site. A detailed summary of the assumptions and methodologies is provided in the Airport and railway Health Risk Assessment Memorandum of Appendix A.

Response to Comment 3-3

The comment states that the SCEA incorrectly describes the criteria for satisfying the FAA requirements of Code of Federal Regulations (CFR) Title 14, Part 77 and then summarizes when

FAA review is required. The comment acknowledges that the Project Applicant submitted a notice to the FAA and that the FAA is in receipt of a preliminary determination on the filing. The commenter claims that the FAA's determination identifies three of the projects proposed buildings exceed obstruction standards by as much as 36 feet and, given this, are an obstruction to air navigation as defined by the FAA and goes on to clarify that the preliminary determination indicates that the project as filed represents a minimal impact to air navigation and, thus, the FAA issued a Determination of No Hazard to Air Navigation. The commenter requests that the findings of the determination be incorporated into construction planning for the Project.

As noted under Comment Letter 2, Response to Comment 2-3, the Project has been submitted for review by the FAA and they have made a determination that the Project poses no hazard to air navigation. While the FAA does not explicitly identify any of the project's buildings that exceed obstruction standards as the commenter suggests, it does identify that Buildings J, L, and M require a condition of approval, as discussed above under Response to Comment 2-3. In addition, the Project was submitted to the ALUC and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County, subject to two conditions. To account for these updates, page 5-80 of the SCEA has been revised to reflect recent coordination with the FAA and ALUC, and clarify that coordination with the Burbank-Glendale-Pasadena Airport Authority would occur, as applicable. Section IX, *Hazards and Hazardous Materials*, page 5-80 of the SCEA, has been updated and this change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Response to Comment 3-4

This comment notes that the SCEA correctly indicates that the Project will be submitted to the ALUC for review and continues to summarize the Los Angeles County Airport Land Use Plan (ALUP) Policies and Programs which may be applicable to the Project and will be considered in ALUC review. The comment also lists mitigation measures acknowledged in the SCEA, but notes that these are in conflict to the SCEA's assertions that no mitigation is needed related to the Project's location within the ALUP.

As noted in Comment Letter 2, Response to Comment 2-3, and above in Response to Comment 3-3, the Project was submitted to the ALUC and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County. As a condition of approval, the Project would be subject to the conditions requested by ALUC, which require the issuance of a Real Estate Information Form to inform new residents of potential exposure to noise and annoyance from activities at the Hollywood Burbank Airport and compliance with FAA requirements for obstruction markings or lights on the roof of the office buildings and parking garage on the western portion of the Project Site. These measures are consistent with what would be required under an avigation easement. Section IX, *Hazards and Hazardous Materials*, page 5-80 of the SCEA, has been updated and this change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA. Additionally, as discussed in Chapter 2, *Project Description*, Section 2.4.5, *Open Space, Landscaping, and Amenities*, the Project would include approximately 131,100 square feet of both common and private open space, including pedestrian open space, courtyards, a pool deck, plazas, ornamental landscaping, and private balconies. The project would plant drought tolerant landscaping and approximately 230 interior and canopy trees. Much of the open space that would be provided would be in the form of pedestrian plazas and courtyards with ornamental landscaping that would not attract much, if any, wildlife, due to the urban use of the Project Site and the urbanized nature of the surrounding areas. Furthermore, as stated in Chapter 5, *Initial Study and Environmental Analysis*, Section IV, *Biological Resources*, there are no established native resident or migratory wildlife corridors on the Project Site or in the immediately adjacent vicinity that would attract wildlife that would pose hazards to aircraft. Therefore, implementation of mitigation so that the Project's landscaping would not create an attraction for wildlife is unnecessary and not included in the SCEA.

3.4 Comment Letter 4: Supporters Alliance for Environmental Responsibility

Comment Letter No. 4

[redacted]

From: Molly Greene <molly@lozeaudrury.com>
Sent: Thursday, July 15, 2021 11:06 AM
To: Medina, Maciel; Ramirez, Fred; Mullins, Zizette
Cc: Stacey Oborne
Subject: CEQA and Land Use Notice Request for Burbank Aero Crossings
Attachments: 2021.07.15 CEQA and Land Use Notice Request for Burbank Aero Crossings.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Mr. Medina, Mr. Ramirez, and Ms. Mullins,

Attached please find a CEQA and Land Use Notice Request for Burbank Aero Crossings (SCH 2021070154), submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER"). Please feel free to contact our office regarding any questions you may have. **4-1**

Best regards,

Molly

--
Molly Greene
Legal Assistant
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612
(510) 836-4200
(510) 836-4205 (fax)
Molly@lozeaudrury.com

LOZEAU DRURY LLP
T 510.836.4200
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richard@lozeaudrury.com

Via Email

July 15, 2021

Maciel Medina, Associate Planner
Community Development Department
City of Burbank
150 N 3rd St #242
Burbank, CA 91502
mmedina@burbankca.gov

Frederico Ramirez, Assistant Director
Community Development Department
City of Burbank
150 N 3rd St #242
Burbank, CA 91502
framirez@burbankca.gov

Zizette Mullins, City Clerk
City of Burbank
275 East Olive Avenue
P.O. Box 6459
Burbank, CA 91510
zmullins@burbankca.gov

Re: CEQA and Land Use Notice Request for Burbank Aero Crossings (SCH 2021070154)

Dear Mr. Medina, Mr. Ramirez, and Ms. Mullins:

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the project known as Burbank Aero Crossings (SCH 2021070154), including all actions related or referring to the proposed construction of a new mixed-use development with 151,800 square feet of office uses, 9,700 square feet of restaurant uses, and 862 residential units within four proposed buildings, located at 2311 N. Hollywood Way in the City of Burbank ("Project").

We hereby request that the City of Burbank ("City") send by electronic mail, if possible or U.S. mail to our firm at the address below notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the City and any of its subdivisions, and/or supported, in whole or in part, through contracts, grants, subsidies, loans or other forms of assistance from the City, including, but not limited to the following: **4-2**

- Notice of any public hearing in connection with the Project as required by California Planning and Zoning Law pursuant to Government Code Section 65091.
- Any and all notices prepared for the Project pursuant to the California Environmental Quality Act ("CEQA"), including, but not limited to:
  - Notices of any public hearing held pursuant to CEQA.
  - Notices of determination that an Environmental Impact Report ("EIR") is required for the Project, prepared pursuant to Public Resources Code Section 21080.4.
  - Notices of any scoping meeting held pursuant to Public Resources Code Section 21083.9.

July 15, 2021
CEQA and Land Use Notice Request for Burbank Aero Crossings (SCH 2021070154)
Page 2 of 2

- Notices of preparation of an EIR or a negative declaration for the Project, prepared pursuant to Public Resources Code Section 21092.
- Notices of availability of an EIR or a negative declaration for the Project, prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the California Code of Regulations.
- Notices of approval and/or determination to carry out the Project, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of any addenda prepared to a previously certified or approved EIR.
- Notices of approval or certification of any EIR or negative declaration, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of determination that the Project is exempt from CEQA, prepared pursuant to Public Resources Code section 21152 or any other provision of law.
- Notice of any Final EIR prepared pursuant to CEQA.
- Notice of determination, prepared pursuant to Public Resources Code Section 21108 or Section 21152.

4-2 (cont)

Please note that we are requesting notices of CEQA actions and notices of any public hearings to be held under any provision of Title 7 of the California Government Code governing California Planning and Zoning Law. **This request is filed pursuant to Public Resources Code Sections 21092.2 and 21167(f), and Government Code Section 65092**, which require local counties to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

Please send notice by electronic mail or U.S. Mail to:

Richard Drury
Stacey Oborne
Molly Greene
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612
richard@lozeaudrury.com
stacey@lozeaudrury.com
molly@lozeaudrury.com

Please call if you have any questions. Thank you for your attention to this matter.

Sincerely,

Molly Greene

Molly Greene
Lozeau | Drury LLP

3.4.1 Response to Comment Letter 4: Supporters Alliance for Environmental Responsibility

Response to Comment 4-1

This comment is the introductory email correspondence from Lozeau Drury LLP, on behalf of the Supporters Alliance for Environmental Responsibility (SAFER) to the City. This comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 4-2

This comment is requesting that the City provide notice of any and all actions or hearings by electronic or U.S. postal mail to Lozeau Drury and summarizes the types of notices that should be considered. The comment clarifies that their request is filed pursuant to Public Resources Code Sections 21092.2 and 21167(f), and Government Code Section 65092. The City acknowledges this request and will send notices as requested. This comment is noted and will be presented to the decision makers for their review and consideration.

3.5 Comment Letter 5: Supporters Alliance for Environmental Responsibility

Comment Letter No. 5

[redacted]

From: Medina, Maciel <MMedina@burbankca.gov>
Sent: Tuesday, August 10, 2021 8:13 AM
To: Kimberly D. Comacho
Subject: FW: Comment on SCEA for Burbank Aero Crossings Project
Attachments: 2021.08.05 Comment on SCEA for Burbank Aero Crossings.pdf

FYI

From: Stacey Oborne <stacey@lozeaudrury.com>
Sent: Thursday, August 5, 2021 5:18 PM
To: Medina, Maciel <MMedina@burbankca.gov>
Cc: 'Molly Greene' <molly@lozeaudrury.com>
Subject: Comment on SCEA for Burbank Aero Crossings Project

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon Mr. Medina,

Please find attached a comment on the Sustainable Communities Environmental Assessment prepared for the Burbank Aero Crossings project, submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER"). If you would please confirm receipt, it would be greatly appreciated.

Best Regards,
Stacey 5-1

Stacey Oborne
Senior Paralegal
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
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510-836-4200 (Phone)
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1

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T 510.836.4200
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1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
richard@lozeaudrury.com

Via Email

August 5, 2021

Maciel Medina, Associate Planner
Community Development Department
City of Burbank
150 North Third Street
Burbank, CA 91502
mmedina@burbankca.gov

Re: Comment on Sustainable Communities Environmental Assessment, Burbank Aero Crossings (SCH 2021070154)

Dear Mr. Medina:

I am writing on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") regarding the Sustainable Communities Environmental Assessment ("SCEA") prepared for the Project known as Burbank Aero Crossings (SCH 2021070154), including all actions related or referring to the proposed construction of a new mixed-use development with 151,800 square feet of office uses, 9,700 square feet of restaurant uses, and 862 residential units within four proposed buildings, located at 2311 N. Hollywood Way in the City of Burbank ("Project"). **5-2**

After reviewing the SCEA, we conclude the SCEA fails as an informational document, and that there is a fair argument that the Project may have adverse environmental impacts. Therefore, we request that the City of Burbank ("City") prepare an environmental impact report ("EIR") for the Project pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, et seq. **5-3**

We reserve the right to supplement these comments during review of the Final EIR for the Project and at public hearings concerning the Project. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997).

Sincerely,

Richard Drury

3.5.1 Response to Comment Letter 5: Supporters Alliance for Environmental Responsibility

Response to Comment 5-1

This comment is the introductory email correspondence from Lozeau Drury LLP, on behalf of the Supporters Alliance for Environmental Responsibility (SAFER), to the City. This comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 5-2

This comment is an introduction to SAFER, represented by Lozeau Drury LLP, and also contains a summary of the Project as described in Chapter 2, *Project Description*, of the SCEA. This comment does not concern any environmental issue or information addressed or contained in the SCEA. Therefore, no further response is warranted. However, this comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 5-3

This comment states, without elaboration, that the SCEA fails as an informational document and that there is a fair argument that the Project may have adverse environmental impacts, but does not provide any evidence to support the opinion. Therefore, the City is unable evaluate any claimed defect or omissions, and no further response is possible. However, this comment is noted and will be presented to the decision makers for their review and consideration.

3.6 Comment Letter 6: Southwest Regional Council of Carpenters

Kimberly D. Comacho

From: Brandon Young <brandon@mitchtsailaw.com>
Sent: Monday, August 9, 2021 4:38 PM
To: Kimberly D. Comacho
Cc: Mitchell Tsai; George Aguilar; Hind Baki
Subject: Fwd: SWRCC - [City of Burbank, 2311 N. Hollywood Way] - SCEA Comment Letter
Attachments: 20210809_SWRCC_2311Hollywood_DEIRCommentLetter_Signed_Complete.pdf

Dear Ms. Comacho,

Please see the forwarded email below, originally sent to Maciel Medina, from whom we received an automated response stating that he would be out of the office until August 16, and that you should be contacted instead.

Thank you,

Brandon Young
Office Manager
Mitchell M. Tsai, Attorney At Law
139 South Hudson Avenue, Suite 200
Pasadena, CA 91101
Office: (626) 381-9248
Fax: (626) 389-5414
Email: brandon@mitchtsailaw.com
Website: http://www.mitchtsailaw.com 6-1

*** Our Office Has Recently Moved. Please Note New Mailing Address ****

---------- Forwarded message ---------
From: **Brandon Young** <brandon@mitchtsailaw.com>
Date: Mon, Aug 9, 2021 at 4:30 PM
Subject: SWRCC - [City of Burbank, 2311 N. Hollywood Way] - SCEA Comment Letter
To: <mmedina@burbankca.gov>
Cc: Mitchell Tsai <mitch@mitchtsailaw.com>, George Aguilar <george@mitchtsailaw.com>, Hind Baki <hind@mitchtsailaw.com>

Dear Maciel Medina,

1

Please see the attached comment letter on City of Burbank's Sustainable Communities Environmental Assessment for the above referenced Project and confirm receipt of this email and its attachment.

Thank you,

Brandon Young
Office Manager
Mitchell M. Tsai, Attorney At Law
139 South Hudson Avenue, Suite 200
Pasadena, CA 91101
Office: (626) 381-9248
Fax: (626) 389-5414
Email: brandon@mitchtsailaw.com
Website: http://www.mitchtsailaw.com

6-1 (cont)

*** Our Office Has Recently Moved. Please Note New Mailing Address ****

Comment Letter No. 6

P: (626) 381-9248
F: (626) 389-5414
E: info@mitchtsailaw.com

Mitchell M. Tsai
Attorney At Law

155 South El Molino Avenue
Suite 104
Pasadena, California 91101

VIA E-MAIL

August 9, 2021

Maciel Medina, Associate Planner
City of Burbank Planning Department
150 N. Third Street
Burbank, CA 91502
Em: mmedina@burbankca.gov

RE: 2311 N. Hollywood Way Project (SCH # 2021070154) – Comments on Sustainable Communities Environmental Assessment

Dear Maciel Medina,

On behalf of the Southwest Regional Council of Carpenters ("**Commenters**" or "**Southwest Carpenters**"), my Office is submitting these comments on the City of Burbank's ("**City**" or "**Lead Agency**") Sustainable Communities Environmental Assessment ("**SCEA**") (SCH No. 2021070154) for the proposed 2311 N. Hollywood Way Project, also known as the Burbank Aero Crossings Project ("**Project**").

The City proposes to adopt the Project, a redevelopment of a 10.43-acre site previously occupied by a Fry's Electronics store and associated surface parking. The Project would allow for a mixed-use development, consisting of a cluster of buildings including 151,800 square feet of office space (or alternatively, 84,900 square feet), 9,700 square feet of restaurant space; 862 residential units (including 80 affordable housing units); 1,613 vehicle parking spaces, and common and private open space. As part of the Project, the City would be required to conduct a development review for construction of a structure in a C-3 Zone that is more than 1,000 square feet; to conduct a density bonus review; to approve a conditional use permit to allow residential uses over ground floor commercial uses; to adopt a parcel map; to obtain review of the project by the Los Angeles County Airport Land Use Commission; and to grant or obtain other approvals as needed. 6-2

The Southwest Carpenters is a labor union representing more than 50,000 union carpenters in six states and has a strong interest in well ordered land use planning and addressing the environmental impacts of development projects. 6-3

Individual members of the Southwest Carpenters live, work, and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts. 6-3 (cont)

Commenters expressly reserve the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121. 6-4

Commenters incorporate by reference all comments raising issues regarding the SCEA submitted prior to certification of the SCEA for the Project. *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 (finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties). 6-5

Moreover, Commenters request that the Lead Agency provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**"), Cal Public Resources Code ("**PRC**") § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code §§ 65000–65010. California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body. 6-6

The City should require the Applicant provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Project. The City should require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program or who are registered apprentices in an apprenticeship training program approved by the State of California. 6-7

Community benefits such as local hire and skilled and trained workforce requirements can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the 6-8 length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the UC Berkeley Center for Labor Research and Education concluded: **6-8 (cont)**

> . . . labor should be considered an investment rather than a cost – and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

Recently, on May 7, 2021, the South Coast Air Quality Management District found that that the "[u]se of a local state-certified apprenticeship program or a skilled and trained workforce with a local hire component" can result in air pollutant reductions.[2]

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[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10

Cities are increasingly adopting local skilled and trained workforce policies and requirements into general plans and municipal codes. For example, the City of Hayward 2040 General Plan requires the City to "promote local hiring . . . to help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions."[3]

In fact, the City of Hayward has gone as far as to adopt a Skilled Labor Force policy into its Downtown Specific Plan and municipal code, requiring developments in its Downtown area to requiring that the City "[c]ontribute to the stabilization of regional construction markets by spurring applicants of housing and nonresidential developments to require contractors to utilize apprentices from state-approved, joint labor-management training programs, . . ."[4] In addition, the City of Hayward requires all projects 30,000 square feet or larger to "utilize apprentices from state-approved, joint labor-management training programs."[5]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[6]

In addition, local hire mandates as well as skill training are critical facets of a strategy to reduce vehicle miles traveled. As planning experts Robert Cervero and Michael Duncan noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions since the skill requirements of available local jobs must be matched to those held by local residents.[7] Some municipalities have tied local hire and skilled and

6-8 (cont)

[3] City of Hayward (2014) Hayward 2040 General Plan Policy Document at p. 3-99, *available at* https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf.
[4] City of Hayward (2019) Hayward Downtown Specific Plan at p. 5-24, *available at* https://www.hayward-ca.gov/sites/default/files/Hayward%20Downtown%20Specific%20Plan.pdf.
[5] City of Hayward Municipal Code, Chapter 10, § 28.5.3.020(C).
[6] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf
[7] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

trained workforce policies to local development permits to address transportation issues. As Cervero and Duncan note:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing." The city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

6-8 (cont)

The City should consider utilizing skilled and trained workforce policies and requirements to benefit the local area economically and mitigate greenhouse gas, air quality and transportation impacts.

The City should also require the Project to be built to standards exceeding the current 2019 California Green Building Code to mitigate the Project's environmental impacts and to advance progress towards the State of California's environmental goals.

I. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

6-9

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations ("**CCR**" or "**CEQA Guidelines**") § 15002(a)(1).[8] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, an environmental impact report ("**EIR**") 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d

[8] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 150000 *et seq*, are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets"*); *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810.

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). *See also, Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal.3d 376, 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines § 15002(a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. CEQA Guidelines § 15092(b)(2)(A–B). **6-9 (cont)**

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal.App.4th 1344, 1355 (emphasis added) (quoting *Laurel Heights,* 47 Cal.3d at 391, 409 fn. 12). Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal.App.4th 48, 102, 131. As the court stated in *Berkeley Jets*, 91 Cal. App. 4th at 1355:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449–450). 6-9 (cont)

B. Background Regarding Sustainable Communities Environmental Assessments

To achieve its objectives of environmental protection, CEQA has a three-tiered structure. CEQA Guidelines § 15002(k); *Comm. to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185 – 86. First, if a project falls into an exempt category, or it can be seen with certainty that the activity in question will not have a significant effect on the environment, no further agency evaluation is required. *Id.* Second, if there is a possibility the project will have a significant effect on the environment, the agency must perform a threshold initial study. *Id.*; CEQA Guidelines § 15063(a). If the study indicates that there is no substantial evidence that the project may cause a significant effect on the environment the agency may issue a negative declaration. *Id.*, CEQA Guidelines §§ 15063(b)(2), 15070. Finally, if the project will have a significant effect on the environment, an EIR is required. *Id.*

Where a Project is determined to be a "Transit Priority Project" ("**TPP**") under Senate Bill ("SB") 375, a slightly different framework is applied. SB 375 provides CEQA-based incentives and streamlining for certain residential, mixed-use, and transportation-oriented developments. SB 375 includes two optional CEQA streamlining options for local lead agencies. 6-10

First, under SB 375, residential and mixed-use projects that (1) are consistent with the use designation, density, building intensity, and applicable policies specified in a California Air Resources Board ("CARB")-approved sustainable communities strategy ("SCS") or alternative planning strategy ("APS") and (2) incorporate mitigation measures required by an "applicable prior environmental document," which may include the environmental impact report for the regional transportation plan, need not reference, describe or discuss growth-inducing impacts or project-specific or cumulative impacts on global warming or on the regional transportation network arising from automobiles or light-duty truck trips generated by the Project. PRC §21159.28(a).

Second, TPPs consistent with the SCS or APS may qualify for a total CEQA exemption or a Sustainable Communities Environmental Assessment ("SCEA"). PRC §§ 21155.1-21155.2. A TPP is a specific project that must (1) be consistent with a CARB-approved SCS or APS; (2) contain at least 50 percent residential use, and if the project contains between 26 percent and 50 percent nonresidential uses, then a floor area ratio of not less than 0.75, (3) have a minimum net density of 20 units per acre; and (4) be located within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. PRC § 21155.

A TPP may be reviewed through a SCEA provided, *inter alia*, that (1) an initial study identifies "all significant or potentially significant impacts of the transit priority project… based on substantial evidence in light of the whole record" PRC § 21155.2(b)(1); (2) the SCEA shall contain "measures that either avoid or mitigate to a level of insignificance all potentially significant or significant effects of the project required to be identified in the initial study" PRC § 21155.2(b)(2); and (3) "the lead agency's decision to review and approve a transit priority project with a sustainable communities environmental assessment" is "reviewed under the substantial evidence standard" PRC § 21155.2(b)(7). A SCEA is similar to a negative declaration in that the lead agency must identify and analyze all potentially significant or significant effects of the project and mitigate them to a level of less than significant. 6-10 (cont)

Prior to acting on the SCEA, a lead agency must consider all comments received. PRC § 21155.2(b)(4) A SCEA may be approved by the lead agency after conducting a public hearing, reviewing the comments received, and finding that: (A) all potentially significant or significant effects required to be identified in the initial study have been identified and analyzed, (B) with respect to each significant effect on the environment required to be identified in the initial study, either of the following apply: (i) changes or alterations have been required in or incorporated into the project that avoid or mitigate the significant effects to a level of insignificance, and (ii) those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency. PRC §21155.2(b)(5).

C. Due to the COVID-19 Crisis, the City Must Adopt a Mandatory Finding of Significance that the Project May Cause a Substantial Adverse Effect on Human Beings and Mitigate COVID-19 Impacts 6-11

CEQA requires that an agency make a finding of significance when a Project may cause a significant adverse effect on human beings. PRC § 21083(b)(3); CEQA Guidelines § 15065(a)(4).

Public health risks related to construction work requires a mandatory finding of significance under CEQA. Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several construction sites have been identified as sources of community spread of COVID-19.[9]

SWRCC recommends that the Lead Agency adopt additional CEQA mitigation measures to mitigate public health risks from the Project's construction activities. SWRCC requests that the Lead Agency require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site.

In particular, based upon SWRCC's experience with safe construction site work practices, SWRCC recommends that the Lead Agency require that while construction activities are being conducted at the Project Site:

6-11 (cont)

Construction Site Design:

- The Project Site will be limited to two controlled entry points.
- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Site and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.
- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social distancing position for when you approach the screening

[9] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

area. Please reference the Apex temperature screening site map for additional details.

- There will be clear signage posted at the project site directing you through temperature screening.
- Provide hand washing stations throughout the construction site.

Testing Procedures:

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]
- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.
- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her

6-11 (cont)

human resources (HR) representative and provide them with a copy of Annex A.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[10]

6-11 (cont)

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

D. <u>The Project Does Not Meet the Criteria for the Use of a Sustainable Communities Environmental Assessment</u>

Senate Bill No. 375 requires regional planning agencies to include a sustainable communities strategy in their regional transportation plans. Gov. Code § 65080, sub.(b)(2)(B).) CEQA Guidelines § 15125(d) provides that an EIR "shall discuss any inconsistencies between the proposed project and…regional plans. Such regional plans include…regional transportation plans." Thus, CEQA requires analysis of any inconsistencies between the Project and the relevant RTP/SCS plan. 6-12

[10] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

In April 2016, SCAG adopted the 2016 – 2040 Regional Transportation Plan/Sustainable Communities Strategy ("2016-2040 RTP/SCS"),[11] which includes policies and strategies to will help the region achieve GHG emission reductions that would reduce the region's per capita transportation emissions by eight percent by 2020 and 18 percent by 2035.[12] SCAG's RTP/SCS plan is based upon the same requirements outlined in CARB's 2017 Scoping Plan and SB 375.

On September 3, 2020, SCAG adopted the 2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy, titled Connect SoCal ("2020-2045 RTP/SCS" or "Connect SoCal").[13] The 2020 RTP / SCS adopts policies and strategies aimed at reducing the region's per capita greenhouse gas emissions by 8% below 2005 per capita emissions levels by 2020 and 19% below 2005 per capita emissions levels by 2035. [14]

6-12 (cont)

For both the 2016 - 2040 RTP/SCS and Connect SoCal, SCAG prepared Program Environmental Impact Reports ("PEIRs") that include Mitigation Monitoring and Reporting Programs ("MMRP") that list project-level environmental mitigation measures that directly and/or indirectly relate to a project's GHG impacts and contribution to the region's GHG emissions.[15] These environmental mitigation measures serve to help local municipalities when identifying mitigation to reduce

[11] SCAG (April 2016) The 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life, *available at* https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs.pdf?1606005557

[12] *Id.* at pp. 8, 15, 153, 166.

[13] SCAG (Sept 2020) Connect Socal: The 2020 – 2045 Regional Transportation Plan / Sustainable Communities Strategy of the Southern California Association of Governments, *available at* https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176

[14] *Id.* At xiii.

[15] Southern California Association of Governments (April 7, 2016) Resolution No. 16-578-1: A Resolution of the Southern California Association of Government Certifying the Final Program Environmental Impact Report Prepared for the 2016 – 2040 Regional Transportation Plan / Sustainable Communities Strategy (SCH#2015031035) and Adopting Findings of Fact, a Statement of Overriding Considerations and a Mitigation, Monitoring and Reporting Program Pursuant to the California Environmental Quality Act, Exhibit B, "Mitigation Monitoring and Reporting Program," *available at* https://scag.ca.gov/sites/main/files/file-attachments/2016fpeir_exhibitb_mmrp.pdf?1623887711; see also SCAG (Sept. 3, 2020) Connect SoCal Program Environmental Impact Report Addendum #1, *available at* https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_complete.pdf?1606004379 , at pp. 4.0-1 through 4.0-28.

impacts on a project-specific basis that can and should be implemented when they identify and mitigate project-specific environmental impacts. **6-12 (cont)**

1. *The Project Fails to Incorporate All Feasible Mitigation Measures Contained in SCAG's 2016-2040 RTP/SCS and Connect SoCal*

Section 21155.2 of the Cal. Public Resources Code requires that a TPP incorporate all feasible mitigation measures, performance standards, or criteria from prior applicable environmental impact reports. However, the Project's SCEA fails to incorporate many applicable mitigation measures identified in SCAG's 2016 – 2040 Regional Transportation Plan/Sustainable Communities Strategy ("2016-2040 RTP/SCS"), SCAG's 2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy ("2020-2045 RTP/SCS" or "Connect SoCal"; collectively with 2016-2040 RTP/SCS, the "RTP/SCS Plans") and their respective EIRs without making a feasibility determination. This includes the following identified mitigation measures, among others: **6-13**

- 2016-2040 RTP/SCS[16]
  - MM-AIR-2(b):
    - Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
    - Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may

[16] Southern California Association of Governments (April 7, 2016) Resolution No. 16-578-1: A Resolution of the Southern California Association of Government Certifying the Final Program Environmental Impact Report Prepared for the 2016 – 2040 Regional Transportation Plan / Sustainable Communities Strategy (SCH#2015031035) and Adopting Findings of Fact, a Statement of Overriding Considerations and a Mitigation, Monitoring and Reporting Program Pursuant to the California Environmental Quality Act, Exhibit B, "Mitigation Monitoring and Reporting Program," *available at* https://scag.ca.gov/sites/main/files/file-attachments/2016fpeir_exhibitb_mmrp.pdf?1623887711 at pp. 11 through 63.

include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.

- Diesel- or gasoline-powered equipment shall be replaced by lowest emitting feasible for each piece of equipment from among these options: electric equipment whenever feasible, gasoline-powered equipment if electric infeasible.
- On-site electricity shall be used in all construction areas that are demonstrated to be served by electricity.
- If cranes are required for construction, they shall be rated at 200 hp or greater equipped with Tier 4 or equivalent engines.
- Use electric fleet or alternative fueled vehicles where feasible including methanol, propane, and compressed natural gas.
- Use diesel construction equipment meeting ARB's Tier 4 certified engines or cleaner off-road heavy-duty diesel engines and comply with State off-road regulation.
- Use on-road, heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road diesel engines, and comply with the State on-road regulation.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- The engine size of construction equipment shall be the minimum practical size.

6-13 (cont)

- Suspend all construction activities that generate air pollutant emissions during air alerts.

- MM-HAZ-1(b)
  - A written plan of proposed routes of travel demonstrating use of roadways designated for the transport of hazardous materials
  - Where the construction or operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible.
  - Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notification of the anticipated schedule of transport of such materials.
  - Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the Operations Manual for projects.
- Failure to analyze MM-TRA-5(b) feasible mitigations as they relate to Impact HAZ-5: the potential for the Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area. (SCEA, 4-45.)
- MM-TRA-1(b)
  - Adopt a comprehensive parking policy to discourage private vehicle use and encourage the use of alternative transportation by incorporating the following:
    - Reduce the available parking spaces for private vehicles while increasing parking spaces for shared

6-13 (cont)

vehicles, bicycles, and other alternative modes of transportation;

- "Unbundle" parking (require that parking is paid for separately and is not included in the base rent for residential and commercial space);
- Use parking pricing to discourage private car use, especially at peak times.

- 2020-2045 RTP/SCS and the Connect SoCal PEIR Addendum #1, approved September 3, 2020[17]
  - PMM AQ-1
    - Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
    - Develop a traffic plan to minimize community impacts as a result of traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider

6-13 (cont)

[17] SCAG (Sept. 3, 2020) Connect SoCal Program Environmental Impact Report Addendum #1, *available at* https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_complete.pdf?1606004379 , at pp. 4.0-1 through 4.0-28.

developing a goal for minimization of community impacts

- Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). In the event that construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.
- Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.

6-13 (cont)

- The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
  - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
  - Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
  - Nonroad diesel engines on site shall be Tier 2 or higher.
  - Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
  - Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
  - Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
  - The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and

6-13 (cont)

generators to be used on site. The list shall include the following:

- i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
- ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
- iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.

- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:
  - i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.

6-13 (cont)

- ii. Any problems with the equipment or emission controls.
- iii. Certified copies of fuel deliveries for the time period that identify:
  - 1. Source of supply
  - 2. Quantity of fuel
  - 3. Quantity of fuel, including sulfur content (percent by weight)
- Project should exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code).

- PMM GHG-1
  - "Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to… Limit[ing] or eliminat[ing] park supply."
- PMM HAZ-3
  - Where the construction and operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible.
  - Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notifications of the anticipated schedule of transport of such materials.

6-13 (cont)

The SCEA fails to incorporate feasible mitigation measures simply on the basis that it did not identify a potentially significant impact. Pub. Res. Code § 21155.2 subd. (a) is unambiguous in stating that transit priority projects must incorporate "**all feasible mitigation measures**, performance standards or criteria set forth in prior environmental impact reports," irrespective of whether the SCEA finds a less than significant impact with mitigation. The SCEA fails to address the feasibility of measures not incorporated into the Project, and thus fails to meet the requirements of Pub. Res. Code § 21155.2. **6-13 (cont)**

2. *The Project Fails to Demonstrate Consistency with SCAG's RTP/SCS Plans*

In its analysis of consistency with the 2016-2040 RTP/SCS Goal 2,[18] the SCEA states that "the Project would provide opportunities for residents to use public transit or bicycling for work trips, and walk or bike to retain businesses near the Project Site." (SCEA, 3-9.) Indeed, much of the analysis of the Project's consistency with the RTP/SCS Plans relies on the purportedly public transit-oriented nature of the project and its proximity to rail access.

However, the SCEA's analysis is severely undercut by the amount of parking the Project provides—1,613 parking spaces. Though less than otherwise required by the City's Municipal Code, the amount of parking the Project proposes is much more than the maximum parking ratios the City can impose under AB 2345. This will have a negligible impact on reducing reliance on passenger vehicles. The Project's parking capacity would not further the goal of expanding the use of public transportation and decreasing VMT, and thus is not consistent with the goals of RTP/SCS despite claims in the SCEA otherwise. **6-14**

The Project's proposed parking development also negatively affects the SCEA's analysis of consistency with the following goals and policies of the RTP/SCS Plans:

- 2016-2040 RTP/SCS
  - Goal 5: Maximize the productivity of our transportation system.
  - Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
  - Goal 7: Actively encourage and create incentives for energy efficiency, where possible.
  - Goal 8: Encourage land use and growth patterns that facilitate transit and active transportation

[18] "Maximize mobility and accessibility for all people and goods in the region."

- 2020-2045 RTP/SCS
  - Goal 5: Reduce greenhouse gas emissions and improve air quality
  - Goal 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network

The provision of parking well above the level required of a TPP would cut against these goals. The SCEA process should not be used to avoid larger environmental review simply by virtue of proximity to a rail stop. The Project should be revised, or should be subject to more robust environmental review. **6-14 (cont)**

E. <u>The SCEA Fails to Support Its Findings with Substantial Evidence</u>

As is the case with EIRs and negative declarations, when new information is brought to light showing that an impact previously discussed in an SCEA but found to be insignificant with or without mitigation in the SCEA's analysis has the potential for a significant environmental impact supported by substantial evidence, the SCEA must consider and resolve the conflict in the evidence. PRC § 21155.2(b)(4)-(7); *see also Visalia Retail, L.P. v. City of Visalia* (2018) 20 Cal. App. 5th 1, 13, 17; see also *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th 1099, 1109. While a lead agency has discretion to formulate standards for determining significance and the need for mitigation measures—the choice of any standards or thresholds of significance must be "based to the extent possible on scientific and factual data and an exercise of reasoned judgment based on substantial evidence. CEQA Guidelines § 15064(b); *Cleveland Nat'l Forest Found. v. San Diego Ass'n of Gov'ts* (2017) 3 Cal. App. 5th 497, 515; *Mission Bay Alliance v. Office of Community Inv. & Infrastructure* (2016) 6 Cal. App. 5th 160, 206. And when there is evidence that an impact could be significant, an environmental review document cannot adopt a contrary finding without providing an adequate explanation along with supporting evidence. *East Sacramento Partnership for a Livable City v. City of Sacramento* (2016) 5 Cal. App. 5th 281, 302. **6-15**

In addition, a determination that regulatory compliance will be sufficient to prevent significant adverse impacts must be based on a project-specific analysis of potential impacts and the effect of regulatory compliance. *Californians for Alternatives to Toxics v. Department of Food & Agric.* (2005) 136 Cal. App. 4th 1; see also *Ebbetts Pass Forest Watch v Department of Forestry & Fire Protection* (2008) 43 Cal. App. 4th 936, 956 (fact that Department of Pesticide Regulation had assessed environmental effects of certain herbicides in general did not excuse failure to assess effects of their use for specific timber harvesting project). 6-15 (cont)

1. *The DEIR Fails to Support its Findings on Greenhouse Gas and Air Quality Impacts with Substantial Evidence.*

CEQA Guidelines § 15064.4 allow a lead agency to determine the significance of a project's GHG impact via a qualitative analysis (e.g., extent to which a project complies with regulations or requirements of state/regional/local GHG plans), and/or a quantitative analysis (e.g., using model or methodology to estimate project emissions and compare it to a numeric threshold). So too, CEQA Guidelines allow lead agencies to select what model or methodology to estimate GHG emissions so long as the selection is supported with substantial evidence, and the lead agency "should explain the limitations of the particular model or methodology selected for use." CEQA Guidelines § 15064.4(c).

CEQA Guidelines sections 15064.4(b)(3) and 15183.5(b) allow a lead agency to consider a project's consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) make clear qualified GHG reduction plans or CAPs should include the following features: 6-16

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);

(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;

(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(4) **Craft Performance Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that

substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels;

Collectively, the above-listed CAP features tie qualitative measures to quantitative results, which in turn become binding via proper monitoring and enforcement by the jurisdiction—all resulting in real GHG reductions for the jurisdiction as a whole, and the substantial evidence that the incremental contribution of an individual project is not cumulatively considerable.

Here, the DEIR's analysis of GHG impacts is unsupported by substantial evidence, as it relies on outdated modeling. The DEIR's analysis of air quality and GHG impacts throughout the DEIR relies on data created using CalEEMod version 2016.3.2. (See, e.g., DEIR, 4.1-13). A newer version of this software (currently CalEEMod version 2020.4.0) became available prior to the release of the DEIR. The DEIR provides no discussion or justification for use of the outdated 2016 version of the software. The use of outdated modeling software may result in underestimation of the Project's GHG emissions, calling the DEIR's conclusions into question. **6-16 (cont)**

The DEIR's reliance on inaccurate modeling also affects its analysis of air quality impacts and energy impacts. The DEIR potentially vastly undercounts the Project's air pollutant emissions.

Moreover, in its discussion of the GHG impact Significance Threshold chosen for its GHG analysis, the DEIR chooses to use a target of 3.65 $MTCO_2e$/yr per service population, stating that this screening target was chosen as a linear interpolation between the 2020 and 2030 2017 Scoping Plan reduction/efficiency targets based on the projected 2026 buildout of the Project. (DEIR, 4.7-10). However, the DEIR fails to provide any reasoning for this choice in either the DEIR itself or the Appendix I Greenhouse Gas Report. Given that the 2017 Scoping Plan has a target of 2.88 $MTCO_2e$/yr to be attained by 2030,[19] it is unclear how a proration of GHG emissions

[19] Representing an emissions deduction of 40% from 1990 levels.

targets between 2020 and 2030 would be consistent with meeting the goals of AB 32 and SB 32. **6-16 (cont)**

2. *The SCEA Fails to Support its Conclusions on Greenhouse Gas Impacts with Substantial Evidence*

The SCEA claims that "[n]either the City nor the [South Coast Air Quality Management District ("SCAQMD")] has adopted a GHG significance threshold for land use development projects." (SCEA, 5-65). The SCEA relies on regulatory compliance to conclude that the Project will have no significant impacts on GHG emissions.

However, since 2008, SCAQMD has recommended an interim significance threshold for non-industrial projects of 3,000 $MTCO_2e$, and has specifically recommended that threshold for mixed-use projects since 2009. This figure has been adopted The Project's projected total GHG emissions per year is 10,277 $MTCO_2e$, for a net increase of 7,442 $MTCO_2$. (SCEA, 5-68). Both figures are well above SCAQMD's recommended significance threshold.

Bare conclusions or opinions of the agency are not sufficient to satisfy an agency's obligation under CEQA to adequately support their environmental determinations. (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 403 – 404.) "To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions. . . . [to] enable[] the decision-makers and the public to make an 'independent, reasoned judgment' about a proposed project." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935 | (quoting *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831.) **6-17**

As the Court noted in *East Sacramento Partnerships for a Livable City v. City of Sacramento* (2016) 5 Cal. App. 5th 281, 301, compliance with a regulatory scheme "in and of itself does not insulate a project from the EIR requirement, where it may be fairly argued that the project will generate significant environmental effects." (Internal quotations omitted.) A project's effects can be significant even if they are not greater than those deemed acceptable in a general plan or other regulatory law. (*Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1416; see also *Keep Our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714, 732 [finding that a full environmental impact report is required "if substantial evidence supports a fair argument that the Project may have significant unmitigated noise impacts, even if other evidence shows the Project will not generate noise in excess of the County's noise ordinance and general plan."].)

A public agency cannot apply a threshold of significance or regulatory standard "in a way that forecloses the consideration of any other substantial evidence showing there may be a significant effect." (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 342.) Where comments from a responsible sister agency, such as SCAQMD, disclose new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project and its alternatives, these comments may not simply be ignored based on a conclusory statement about compliance with regulatory standards; there must be a good faith, reasoned analysis. (*Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs.* (2001) 91 Cal. App. 4th 1344, 1367.) The SCEA's approach fails to meet the City's obligation to engage in good faith reasoned analysis to provide the public, public agencies and decisionmakers with detailed information about the effects that the Project will have on the environment, ways to mitigate those effects, as well as alternatives. (PRC § 21061) **6-17 (cont)**

An agency must "explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less that significant , and why the environmental standard is relevant to the analysis of a project that is less than significant." CEQA Guidelines § 15067.7.

3. *The DEIR Fails to Support Its Findings on Population and Housing and Air Quality Impacts with Substantial Evidence*

The SCEA's own analysis states that "[a]t the time the Project is complete in 2026, the projected forecasted growth would be approximately 2,066 individuals, less than the Project's estimated addition of 2,121 individuals." (SCEA, 2-118.) Despite the projected increase in population projected to be caused by the Project outpacing the SCEA's prorated growth projections, and accounting for nearly a quarter of SCAG's forecasted projected growth between 2021 and 2045, the SCEA nevertheless concludes that the Project will not induce unplanned substantial population growth. (SCEA, 5-118 through 5-120). **6-18**

The SCEA further fails to consider cumulative impacts this project may have on population growth. An SCEA "shall identify any cumulative effects that have been adequately addressed and mitigated pursuant to the requirements of this division in prior applicable certified environmental impact reports. Where the lead agency determines that a cumulative effect has been adequately addressed and mitigated, that cumulative effect shall not be treated as cumulatively considerable for the purposes of this subdivision." (Pub. Res. Code § 21155.2 subd. (b)(1).) The SCEA does not address cumulative impacts the project may have on population growth.

The Project will ultimately result in a net increase in housing, and may have cumulatively considerable impacts with other housing projects in the area. The determination of whether there are cumulative impacts in any issue area should be determined based on an assessment of the project's incremental effects "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines §15065(a)(3); *Banning Ranch Conservancy v City of Newport Beach* (2012) 211 Cal. App. 4th 1209, 1228; *see also* CEQA Guidelines §15355(b).) **6-18 (cont)**

The SCEA lacks any discussion of cumulative impacts on population growth likely under the auspices of Pub. Res. Code, § 21159.28's exemption from otherwise-required discussions of growth-inducing impacts. As discussed above, however, the Project may not qualify for utilization of the SCEA process due to failure to incorporate all feasible mitigations and questionable consistency with the RTP/SCS Plans. Even assuming the Project does properly qualify for the use of an SCEA, while discussion of growth-inducing impacts is not required, the SCEA cannot simply ignore the fact that only five years into the 2021 – 2045 population projection period, this single Project will account for 25% of the City's population growth.

The SCEA's lack of analysis of the Project's cumulative impacts on population also cast doubt on the SCEA's findings of less-than-significant impact on air quality. The SCEA's discussion of whether the Project conflicts with or obstructs implementation of the applicable air quality plan in part relies on whether the Project will exceed the economic and demographic assumptions utilized in preparing the 2016 Air Quality Management Plan. (SCEA, 5-21 through 5-26.) This includes a discussion of the City's projected population growth. (SCEA, 5-26.)

The Project has the potential to draw 2,121 new residents to the City; the City should consider the cumulative effect of that projected population growth with that of other pending projects. This is a potentially significant impact that the SCEA should analyze.

City of Burbank – 2311 N. Hollywood Way SCEA
August 9, 2021
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II. THE PROJECT VIOLATES THE STATE PLANNING AND ZONING LAW AS WELL AS THE CITY'S GENERAL PLAN

A. Background Regarding the State Planning and Zoning Law

Each California city and county must adopt a comprehensive, long-term general plan governing development. *Napa Citizens for Honest Gov. v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 352, citing Gov. Code §§ 65030, 65300. The general plan sits at the top of the land use planning hierarchy, and serves as a "constitution" or "charter" for all future development. *DeVita v. County of Napa* (1995) 9 Cal.4th 763, 773; *Lesher Communications, Inc. v. City of Walnut Creek* (1990) 52 Cal.3d 531, 540.

General plan consistency is "the linchpin of California's land use and development laws; it is the principle which infused the concept of planned growth with the force of law." *See Debottari v. Norco City Council* (1985) 171 Cal.App.3d 1204, 1213.

State law mandates two levels of consistency. First, a general plan must be internally or "horizontally" consistent: its elements must "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." See Gov. Code § 65300.5; *Sierra Club v. Bd. of Supervisors* (1981) 126 Cal.App.3d 698, 704. A general plan amendment thus may not be internally inconsistent, nor may it cause the general plan as a whole to become internally inconsistent. *See DeVita*, 9 Cal.4th at 796 fn. 12. 6-19

Second, state law requires "vertical" consistency, meaning that zoning ordinances and other land use decisions also must be consistent with the general plan. See Gov. Code § 65860(a)(2) [land uses authorized by zoning ordinance must be "compatible with the objectives, policies, general land uses, and programs specified in the [general] plan."]; *see also Neighborhood Action Group v. County of Calaveras* (1984) 156 Cal.App.3d 1176, 1184. A zoning ordinance that conflicts with the general plan or impedes achievement of its policies is invalid and cannot be given effect. *See Lesher*, 52 Cal.3d at 544.

State law requires that all subordinate land use decisions, including conditional use permits, be consistent with the general plan. See Gov. Code § 65860(a)(2); *Neighborhood Action Group*, 156 Cal.App.3d at 1184.

A project cannot be found consistent with a general plan if it conflicts with a general plan policy that is "fundamental, mandatory, and clear," regardless of whether it is consistent with other general plan policies. *See Endangered Habitats League v. County of*

Orange (2005) 131 Cal.App.4th 777, 782-83; *Families Unafraid to Uphold Rural El Dorado County v. Bd. of Supervisors* (1998) 62 Cal.App.4th 1332, 1341-42 ("*FUTURE*"). Moreover, even in the absence of such a direct conflict, an ordinance or development project may not be approved if it interferes with or frustrates the general plan's policies and objectives. *See Napa Citizens*, 91 Cal.App.4th at 378-79; *see also Lesher*, 52 Cal.3d at 544 (zoning ordinance restricting development conflicted with growth-oriented policies of general plan). **6-19 (cont)**

As explained in full below, the Project is inconsistent with the City's General Plan, Burbank2035. As such, the Project violates the State Planning and Zoning law.

B. The Project is Inconsistent with the General Plan, and thus the SCEA's Conclusions Regarding Impacts on Land Use and Planning are Unsupported by Substantial Evidence

The SCEA fails to establish the Project's consistency with several General Plan goals, policies, and programs including the following:

- Land Use Policy 1.6: Adapt economically underused and decaying buildings, consistent with the character of surrounding districts and neighborhoods, to support new uses that can be more successful.
- The Project is not an adaptive reuse project, but a demolition and redevelopment of the Project site **6-20**
- Land Use Policy 2.1: Consider sustainability when making discretionary land use and transportation decisions, policies, regulations, and projects.
- Land Use Policy 11.5 Projects with housing shall be subject to a discretionary review process to ensure that the property is being put to its highest and best use and in a manner compatible with citywide objectives for economic development. Within the Airport Influence Area, projects with housing must meet all safety and noise policies in the adopted Los Angeles County Airport Land Use Plan.
- Mobility Policy 2.4 Require new projects to contribute to the city's transit and/or non-motorized transportation network in proportion to its expected traffic generation.

The Project fails to discuss its conformity with each of the aforementioned policies laid out in the City's General Plan, even though the Project will have reasonably foreseeable impacts on land use, traffic, housing and population, vehicle trip generation, air quality, and GHG emissions. This discussion is relevant not only to compliance with land use and zoning law, but also with the contemplation of the Project's consistency with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental impacts. The SCEA should be amended to include analysis of the Project's comportment with the Goals, Policies, and Programs listed above. 6-20 (cont)

III. CONCLUSION

Commenters request that the City revise and recirculate the Project's SCEA and/or prepare an environmental impact report which addresses the aforementioned concerns. If the City has any questions or concerns, feel free to contact my Office. 6-21

Sincerely,

Mitchell M. Tsai
Attorneys for Southwest Regional Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B);

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C);

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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March 8, 2021

Mitchell M. Tsai
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Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

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Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

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number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at*: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

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As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

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Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Principal Environmental Chemist

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Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

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Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

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Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld.** (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust.* Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants.*. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conference*. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation*. Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest*. Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell*. Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest*. Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

<u>Deposition and/or Trial Testimony:</u>

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs*, vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs*, vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs*, vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs*, vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

3.6.1 Response to Comment Letter 6: Southwest Regional Council of Carpenters

Response to Comment 6-1

This introductory comment is an email correspondence noting an attached letter and requesting receipt of the email. The comment is noted and will be included in the administrative record for the Project, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-2

This comment states that the comment letter is submitted on behalf of the Southwest Regional Council of Carpenters (SWRCC), represented by Mitchell M. Tsai, and also contains a summary of the Project as described in Chapter 2, *Project Description*, of the SCEA. This comment does not concern any environmental issue or information addressed or contained in the SCEA. Therefore, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-3

This comment is an introduction to SWRCC and states their interest in the Project's environmental impacts. This comment does not concern any environmental issue or information addressed or contained in the SCEA. Therefore, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-4

This comment states that the commenter reserves the right to supplement these comments at or prior to the hearings on the Project and at any later hearings related to the Project. The comment is noted and will be included in the administrative record for the Project, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-5

This comment states that the commenters incorporate by reference all comments raising issues regarding the SCEA submitted prior to the certification of the SCEA for the Project. The comment is noted and will be included in the administrative record for the Project, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-6

This comment is requesting that the City, as the Lead Agency, provide notice of any and all notices referring or related to the Project issued under CEQA, Public Resources Code (PRC) Sections 2100 *et seq*, California Planning and Zoning Law, California Government Code 65000-65010, California PRC Sections 21092.2, and 21167(f), and Government Code Section 6502. The City acknowledges this request and will send notices as requested. This comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 6-7

This comment suggests that the City should require the Project Applicant to provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Project. The comment summarizes what types of hires should be considered under this request. This comment does not concern any environmental issue or information addressed or contained in the SCEA. Therefore, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-8

This comment suggests that hiring local skilled and trained workforces can help reduce environmental impacts and suggests that the City consider utilizing skilled and trained workforce policies and requirements. The comment summarizes the benefits of local workforces, including a reduction in the length of vendor trips, reduction of greenhouse gas (GHG) emissions, providing local economic benefits, air pollutant reductions, reduces VMT, and gives examples of cities that are adopting this practice. This comment does not concern any Project-specific environmental issue or information addressed or contained in the SCEA. Therefore, no further response is warranted. \

The comment also states that the City consider utilizing skilled and trained workforce policies and requirements to benefit the local area economically and mitigate greenhouse gas, air quality and transportation impact and require the Project to be built to standards exceeding the current 2019 California Green Building Code to mitigate the Project's environmental impacts. As set forth in the SCEA, all the Project's impacts would be less than significant with the mitigation measures set forth in the SCEA. Therefore, no further mitigation measures are warranted.

However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-9

This comment claims that the Project would be approved in violation of CEQA and summarizes the two basic purposes of CEQA, first to inform decision makers and the public about the potential significant environmental effects of a project, and second directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. The comment states several CEQA sections and case law, but does not identify a specific environmental issue or information addressed or contained in SCEA. As such, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-10

This comment provides background on SCEAs, including how a project is determined to be a transit priority project (TPP), what is required to be evaluated in a SCEA, and that a lead agency must consider all comments received on the SCEA. The comment states several CEQA sections and case law, but does not identify a specific environmental issue or information addressed or contained in SCEA. As such, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-11

This comment claims that due to the COVID-19 crisis, the City must adopt a Mandatory Finding of Significance that the Project may cause a substantial adverse effect on human beings and mitigate COVID-19 impacts. The comment includes a list of SWRCC recommended mitigation measures and suggests that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities on the Project Site.

Effects of the environment on a project are not subject to CEQA review (Public Resources Code Sections 21065 and 21068). CEQA is generally not concerned with the effect the existing environment might have on proposed projects, and such effects are not treated as changes in the physical environment. *See, e.g., California Bldg. Indus. Assn. v. Bay Area Air Quality Mgmt. Dist.*, 62 Cal. 4th 369, 378 (2015) (CEQA does not require analysis of impact that existing environmental conditions might have on project, its residents, or its users, except when required by specific statutory exception). Therefore, the City does not have to analyze the impact of COVID-19, an existing condition, on the Project. Moreover, in the absence of any applicable methodology, such an analyze would be speculative. Therefore, none of the proposed measures are warranted.

Nonetheless, the City recognizes the unprecedented nature of COVID-19 and the potential public health impacts associated with it. Any projects being constructed during this time would be required to adhere to the Center for Disease Control and Prevention’s (CDC) workplace guidelines for construction workers, including the Construction COVID-19 Checklist for Employers and Employees. Adherence to these measures would ensure that potential health impacts are minimized during construction. Furthermore, any projects being developed are required to adhere to the City and County of Los Angeles workplace guidelines at the time of ground breaking. This comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-12

This comment states that the Project does not meet the criteria for the use of a SCEA and cites the CEQA Guidelines for an EIR to provide an analysis of any inconsistencies between the Project and the relevant Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) plan. The comment goes on to summarize the approval of the Southern California Association of Governments (SCAG) 2016-2040 RTP/SCS and SCAG’s Connect SoCal 2020-2045 RTP/SCS. Chapter 3, *SCEA Criteria and TPP Consistency Analysis*, contains a discussion of the Project’s consistency with the policies and goals of SCAG’s 2016-2040 RTP/SCS and the 2020-2045 RTP/SCS. In addition, Chapter 4, *Mitigation Measures from Prior EIRs*, contains a discussion of the Project’s consistency with the applicable mitigation measures contained in SCAG’s 2016–2040 RTP/SCS Program Environmental Impact Report (PEIR) and the 2020-2045 RTP/SCS PEIR. Thus, the Project meets the requirements of a SCEA by including a discussion of consistency with the RTP/SCS goals and policies and mitigation measures.

Response to Comment 6-13

This comment states that the Project fails to incorporate all feasible mitigation measures contained in SCAG’s 2016-2040 RTP/SCS and Connect SoCal and identifies specific mitigation measures from both documents that could be incorporated. As noted in Response to Comment 6-11, Chapter

4, *Mitigation Measures from Prior EIRs*, of the SCEA, contains a discussion of the Project's consistency with the applicable mitigation measures contained in SCAG's 2016–2040 RTP/SCS PEIR, the 2020-2045 RTP/SCS PEIR, and the Burbank2035 General Plan EIR in Tables 4-1, 4-2, and 4-3, respectively. As stated therein, SCAG determined that a lead agency can and should consider these mitigation measures, as applicable and feasible, where the lead agency has identified that a project has the potential for significant effects. SCAG does not require implementation of all feasible mitigation measures as the commenter suggests, but rather leaves the decision of inclusion of these measures at the discretion of the lead agency. Nevertheless, the tables included in Chapter 4 include a discussion of the mitigation measures applicability to the Project, identifies regulations that applies that supersede the identified mitigation measure, and, where there is a potential project impact, identifies mitigation that would apply. While these mitigation measures may not be the exact mitigation measure identified in the SCAG PEIRs, they do incorporate elements of these measures where feasible and otherwise offer Project-specific recommendations to reduce potential impacts to less than significant. Per CEQA Guidelines Section 15126.4(a)(3), mitigation measures are not required for effects which are not found to be significant.[5] Thus, contrary to what the commenter claims, the Project would incorporate all feasible mitigation and meets the requirements of PRC Section 21155.2(a). The commenter notes the following mitigation measures, and a discussion of their relevance is included below. As all Project impacts are less than significant with compliance with the applicable regulatory measures and the Project-specific mitigation measures and Project Design Features, no further measures, including those suggested in the comment, are warranted.

As stated in Chapter 4, *Mitigation Measures from Prior EIRs*, page 4-7 and 4-93 of the SCEA, the Project would be consistent with MM-AIR-2(b) of the 2016-2040 RTP/SCS and PMM AQ-1 of the 2020-2045 RTP/SCS as it would comply with existing regulations required by the Southern California Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) to facilitate consistency with plans for attainment for the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), as applicable and feasible. Adherence to the following requirements by SCAQMD, CARB, the State of California, and the federal government would ensure consistency with MM-AIR-2(b) and PMM AQ-1. The Project would be consistent with SCAQMD Rule 403 to limit dust and other particulate matter emissions through watering exposed surfaces, wheel washing, limiting activity in windy conditions greater than 25 mph, and other strategies. The Project would also be consistent with SCAQMD Rule 1113, which would limit architectural coatings to 50 g/l VOC or less and require the use of low VOC cleaning supplies. The Project's contractor(s) would comply with existing rules and regulations that limit the idling of heavy-duty trucks to 5 minutes at a location (Section 2485 of Title 13 CCR), SCAQMD Rule 401, Visible Emissions, that prohibits the discharge of visible emissions in excess of standards in the rule, and CARB's In-Use Off-Road Diesel Fueled Regulation that requires the replacement or repowering of higher polluting equipment to meet increasingly stringent fleet emission standards. The Project would be consistent with the 2019 Title 24 Building Energy Efficiency standards, the CALGreen Code, and include the installation of Minimum Efficiency Reporting Value (MERV) 13 filters in the heating, ventilation, and air

[5] Applicable case law prohibits the imposition of mitigation measures unless they have a nexus to and are proportional to a project's significant impacts. See *Nollan v. California Coastal Commission,* 483 U.S. 825 (1987), and *Dolan v. City of Tigard,* 512 U.S. 374 (1994). Therefore, the measures identified in the comment are legally infeasible.

conditioning (HVAC) systems. As described in the Draft SCEA, the installation of MERV 13 filters typically results in a reduction of up to 85 percent in diesel particulate matter when windows and doors are closed and the HVAC system is functioning,[6] which would reduce cancer risk impacts associated with particulate matter to less than significant.

For GHG emissions, the Project's generation of GHG emissions would not be considered significant and the Project would not conflict with an applicable plan, policy, or regulation of the purposes of reducing the emissions of GHGs applicable to the SCAG region and the Project and, thus, no mitigation was included in the SCEA. However, consistency with MM-GHG-3(b) of the 2016-2040 RTP/SCS, PMM GHG-1 of the 2020-2045 RTP/SCS, and PRC Section 21155 is detailed in Chapter 4, *Mitigation Measures from Prior EIRs*, pages 4-35 to 4-37 and 4-121 to 4-123 of the Draft SCEA. As part of the Project's compliance with the CALGreen Code, City's Green Building Ordinance, and Title 24 standards, the Project would implement ENERGY STAR-rated appliances, energy-efficient HVAC systems, solar panels on office buildings and solar ready wiring on residential buildings, LED security lighting, glass with minimal reflectivity to reduce heat and glare, efficient water management, including use of recycled water, and sustainable (California native and drought tolerant) landscaping, pedestrian- and bike-friendly site design (including benches, courtyards, hardscape, interior and canopy trees, wayfinding signage), active street spaces (including ground floor restaurant uses, wider sidewalks, and outdoor seating), and electric vehicle and bicycle parking as part of the Project design. The Project design would take advantage of passive building design by incorporating natural light and appropriate shading to reduce building energy use and modern, attractive finishes to create a pedestrian friendly neighborhood village. As an infill project within a half mile of a major transit stop, the design will further activate the street as the materials and scale will create a comfortable and safe pedestrian experience. These applicable water and energy conservation measures would further reduce energy consumption and subsequent GHG emissions. As discussed on page 4-160, PMM USSW-2 of the 2020 RTP/SCS, the Project would demonstrate compliance through adherence to AB 939 to ensure waste disposal needs are reduced which would have a GHG co-benefit to reduce emissions associated from solid waste.

With regard to transportation, as stated in Chapter 5, *Initial Study and Environmental Analysis*, Section XVII, *Transportation*, on page 5-129 of the Draft SCEA, the Project satisfies the VMT screening criteria to have a less than significant VMT impact and would additionally include several Transportation Demand Management (TDM) features that would serve to reduce VMT and vehicle trips. The Project is a mixed income density bonus project that locates market rate and affordable housing next to substantial transit opportunities that would reduce VMT. The Project would have a reduced parking supply of 1,613 parking spaces, which is fewer than the 2,239 required under the Burbank Municipal Code. As described on page 5-128, the Project would generate at least 15 percent lower VMT per capita than the Los Angeles County average and reduce single occupancy trips, resulting in a less than significant VMT impact. The Project would also contribute to the productivity and use of the regional transportation system by providing housing and employment near high-quality transit and encourage active transportation through wider sidewalks along public frontages, new bicycle lanes, provision of bicycle parking, and attractive landscaping elements, consistent with RTP/SCS goals. These features further promote Policies 1.1,

6 SCAQMD, *Draft Pilot Study of High Performance Air Filtration for Classrooms Applications*, October 2008.

2.1, 3.2, 3.3, 3.5, 4.7, 4.8, 5.1-5.5, 8.3, 9.2, and 9.3 of the Mobility Element of the Burbank2035 General Plan. Project traffic would not add substantially to congestion or delay on arterial streets, in support of Policies 1.4 and 6.1 through 6.3 of the Mobility Element of the Burbank2035 General Plan (Page 22 and Table 2 of Appendix K). The bike path along north-south paseo through the Project Site would directly support Policies 1 through 3 and Objective A through C of the City's Bicycle Master Plan (Page 23 and Table 3 of Appendix K). The Project's improvements would also support several goals in the Complete Our Streets Plan for the City of Burbank including Goals #3 (build better neighborhoods), #5 (foster a healthier Burbank), #9 (spread shade and shelter), and #10 (be proactive [by promoting active transportation options]) (Page 24 of Appendix K). These TDM features, which are described more in detail in Appendix K, *Transportation Study*, would result in less VMT and therefore less air quality and GHG emissions from mobile sources.

For hazards and hazardous materials, as discussed in Chapter 5, *Initial Study and Environmental Analysis*, Section IX, *Hazards and Hazardous Materials*, starting on page 5-73, all Project construction activities would demonstrate compliance with the applicable laws and regulations governing the use, storage, and transportation of hazardous materials/waste, ensuring that all potentially hazardous materials are used and handled in an appropriate manner. While the nearest school to the Project Site is Providencia Elementary School is located approximately 0.15 miles (804 feet) southeast of the Project Site, it is separated from the site by a large block that contains commercial uses and acts as a buffer. As noted on Page 5-36, the anticipated haul route for Project construction trucks would be to travel north along N. Hollywood Way towards the Interstate 5 (I-5) freeway ramps, and in the opposite direction than Providencia Elementary School. Furthermore, as discussed on page 5-79, the Project would not emit or handle hazardous materials or substances other than those typical in other mixed-use developments during operation and all potentially hazardous materials, such as cleaning supplies, would be used and stored in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations. Given adherence to applicable laws and regulations governing the use, storage, and transportation of hazardous materials/waste and the fact that Project construction traffic would travel in the opposite direction of the nearest school, impacts were determined to be less than significant and did not warrant mitigation.

The comment also claims that the SCEA fails to analyze MM-TRA-5(b) of the 2016-2040 RTP/SCS as it relates to Impact HAZ-5. As discussed in Chapter 4, *Mitigation Measures from Prior EIRs*, in Table 4-1, *SCAG 2016-2040 RTP/SCS Mitigation Measures*, no mitigation applies for Impact HAZ-5, contrary to what the comment claims, and thus there is no need to discuss MM-TRA-5(b) in relation to this impact. Furthermore, as discussed above in Response to Comment 2-3, since publication of the Draft SCEA, the Project Applicant has submitted the Project for review by the FAA and they have made a determination that the Project poses no hazard to air navigation. In addition, the Project was submitted to the ALUC and was deemed to be a "Minor Aviation Case," which means it does not require a public hearing or process. The ALUC also determined that the Project is consistent with the policies contained in the ALUP and with the ALUC Review Procedures for Los Angeles County, subject to two conditions. To account for these updates, Section IX, *Hazards and Hazardous Materials*, page 5-80 of the SCEA, has been revised to reflect recent coordination with the FAA, ALUC, and the Burbank-Glendale-Pasadena Airport Authority. This change is reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final

SCEA. Given that impacts were determined to be less than significant for Impact HAZ-5, implementation of MM-TRA-5(b) is not warranted.

Response to Comment 6-14

This comment claims that the Project fails to demonstrate consistency with SCAG's RTP/SCS plans because the SCEA's parking capacity would not further the goal of expanding the use of public transportation and decreasing VMT. The commenter's claim that the amount of parking supplied as a part of the Project would undercut the increase in the use of public transit is unsupported. Assembly Bill (AB) 2345 provides that certain density bonus projects may elect to provide reduced parking; however, it does not mandate such projects to do so. Moreover, the definition of a TPP does not specify a maximum parking requirement. Nor is there any requirement that, in order to use a SCEA, a project must even qualify for a density bonus, much less take advantage of the maximum allowed density bonus parking reduction. In any event, as noted in Comment Letter 1, Response to Comment 1-3, the amount of Project parking would be significantly less than required under the Burbank Municipal Code.

In addition to residential units, the Project would develop 151,800 square feet of office uses and 9,700 square feet of commercial uses, including restaurant and retail uses, both of which would provide employment opportunities. This would enable workers in these buildings to live in the Project's residential component and walk to work. As discussed in Chapter 5, *Initial Study and Environmental Analysis*, Section VIII, *Greenhouse Gas Emissions*, of the SCEA, the Project would include pedestrian improvements, including widened and new sidewalks and pedestrian paseos, that would encourage pedestrian trips to and from the Project Site and would improve access to public transit. Additionally, given its location within a TPA, the Project is not only served by the Metrolink, but by Los Angeles County Metro, Burbank bus lines, and the Burbank Hollywood Airport. As detailed in Section XVII., *Transportation*, of the SCEA, the Project would generate at least 15 percent lower VMT per capita than the Los Angeles County average given its location near public transit opportunities. Additionally, the Project will provide several design features including new Class II bicycle lanes and would provide for on-site bicycle parking for residents and office employees. This would encourage the use of non-automobile modes to and from the Project by giving residents and employees the option to use bicycles to travel to and from the Project Site; therefore, reducing vehicle trips and VMT. Given these improvements and the Project Site's location within a TPA and access to public transit, the Project would reduce VMT, consistent with the goals of the SCAG's RTP/SCS plans.

Response to Comment 6-15

The comment claims that the SCEA fails to support its findings with substantial evidence. The comment states several CEQA sections and case law, but does not identify a specific environmental issue or information addressed or contained in SCEA. As such, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-16

The comment states that the Draft EIR (DEIR) fails to support its findings on GHG and air quality impacts with substantial evidence as it relies on outdated modeling. This comment is not relevant to the Project as it cites to a DEIR for another project with incorrect page references and incorrect emissions values unrelated to this Project.

The Project's air quality and GHG impacts were analyzed in a SCEA. As stated Chapter 5, *Initial Study and Environmental Analysis*, Section III, *Air Quality*, on page 5-24 of the SCEA, the Project's air quality analyses use the latest CalEEMod version 2020.4.0, which was released in June 2021. Along with air quality, GHG emissions were estimated using CalEEMod Version 2020.4.0 and detailed calculations are included in Appendix A1, *Air Quality and GHG Technical Report*, of the SCEA. Therefore, the commenter's claim that the City relied on an earlier version of this model in incorrect. The commenter provides no credible evidence that the Project's air emissions were undercounted.

The Project's net GHG emissions are quantified in Chapter 5, *Initial Study and Environmental Analysis*, Section VIII, *Greenhouse Gas Emissions*, Table 5-8, *Annual Project Greenhouse Gas Emissions*, of the SCEA. The comment appears to claim that GHG analysis used a target of 3.65 MTCO2e/yr per service population as a significance threshold. However, the Project does not use a quantitative threshold or calculate a service population to evaluate significance. Rather, the GHG emissions estimate is included for disclosure purposes only. As stated on page 5-64 of the SCEA, CEQA Guidelines Section 15064.4(a) allows a lead agency to make a good-faith effort based, to the extent possible, on scientific and factual data to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Section 15064.4(a) further provides that a lead agency shall have the discretion to determine, in the context of a particular project, whether to: (1) quantify GHG emissions resulting from a project; and/or (2) to rely on qualitative analysis or performance-based standards. As stated on pages 5-69 to page 5-72 of the SCEA, the Project is demonstrated to be consistent with CARB 2017 Climate Change Scoping Plan, SCAG 2020–2045 RTP/SCS, the City's Green Building Code (which adopts the 2019 California Green Building Standards Code, or CALGreen), and the City's GGRP to establish significance.

Response to Comment 6-17

This comment states that the SCEA fails to support its conclusions on GHG impacts with substantial evidence. As stated under Response to Comment 6-15, the Project's net GHG emissions are quantified in Chapter 5, *Initial Study and Environmental Analysis*, Section VIII, *Greenhouse Gas Emissions*, Table 5-8, *Annual Project Greenhouse Gas Emissions*, for disclosure purposes. The 3,000 MTCO2e/year threshold for mixed use projects was an interim threshold from a working group by SCAQMD in 2008 but has not been formally adopted.[7] Nor, as the commenter maintains, has the SCAQMD specifically recommended that threshold for mixed-use projects since 2009. According to referenced CEQA Guidelines Section 15064.4, the Lead Agency shall have the discretion to rely on qualitative analysis or performance based standards (page 5-64 of the SCEA).

[7] South Coast Air Quality Management District. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf.

Therefore, the Project demonstrates consistency with CARB's 2017 Climate Change Scoping Plan, SCAG 2020–2045 RTP/SCS, the City's Green Building Code (which adopts the 2019 California Green Building Standards Code, or CALGreen), and the City's Greenhouse Gas Reduction Plan to establish significance (pages 5-69 to 5-72 of the SCEA). Furthermore, the Project would adhere to applicable rules and regulations from SCAQMD, CARB, and the State of California to reduce both air quality and GHG emissions. A discussion regarding applicable rules and regulations were discussed in Response to Comment 6-12.

Response to Comment 6-18

This comment states that the SCEA fails to support its findings on population and housing and air quality impacts with substantial evidence. As discussed in Chapter 5, *Initial Study and Environmental Analysis*, Section XIV, *Population and Housing*, of the SCEA, the Project would result in an estimated addition of approximately 2,121 residents, which is within the overall projected growth of 8,606 persons for the City between 2021 and 2045 per SCAG's 2020-2045 RTP/SCS projections. Since the Project is anticipated to be completed in 2026, a prorated projected growth for the next five years would be approximately 2,066 individuals, which is within 3 percent of the Project's approximately 2,121 individuals. Therefore, it would be fair to assess that this Project would not induce unplanned substantial population growth as it would also provide an additional 862 dwelling units and 249 net new jobs in an urban infill location near existing transportation and utility infrastructure.

The commenter states the Project may have cumulatively considerable impacts with other housing projects in the area. However, other cumulative projects include the Media Studios North Expanded Entitlement, Avion, Aloft Hotels & Residence Inn, and Hollywood Burbank Airport Terminal Replacement Project, which would not provide any additional housing. These projects would create additional office space, an industrial park, recreational (hotel and travel) opportunities, and retail and restaurant spaces, which would increase the number of jobs in the City. Additionally, it is speculative to assume that future projects in the area would include housing.

The 2016 AQMP emissions forecasts are based upon economic and demographic growth projections in SCAG's 2016-2040 RTP/SCS. As described on Chapter 5, *Initial Study and Environmental Analysis*, Section III, *Air Quality*, page 5-26 of the SCEA, the Project would comprise approximately 13.7 percent of SCAG's total population increase, 14.6 percent of the household's increase, and 0.65 percent of the employment increase for the City between 2012 and 2040 per SCAG's 2016-2040 RTP/SCS. Development of the Project would help the City meet its Regional Housing Needs Assessment (RHNA) goals of 2,684 total well units per SCAG's 5th Cycle Final RHNA Allocation Plan (October 2013 through October 2021 planning period) and 8,772 total dwelling units per SCAG's 6th Cycle Final RHNA Allocation Plan (October 2021 through October 2029 planning period) by providing both market rate and affordable housing. Therefore, the Project would not conflict with the demographic and economic assumptions upon which the 2016 AQMP is based. Additionally, the Project would implement control strategies and requirements for construction and operation that would reduce emissions (pages 5-23 to 5-26 of the SCEA).

To the extent that the comment is suggesting that the Project would result in growth inducing impacts, CEQA does not require a SCEA to address this topic.[8]

Response to Comment 6-19

This comment claims that the Project violates the state planning and zoning law as well as the City's general plan. The comment states several CEQA sections and case law, but does not identify a specific environmental issue or information addressed or contained in SCEA. As such, no further response is warranted. However, this comment is noted, and will be presented to the decision makers for their review and consideration.

Response to Comment 6-20

The comment claims, without factual support, that the Project is inconsistent with several General Plan goals, policies, and programs that are relevant to compliance with land use and zoning law and the SCEA should be amended to include analysis of the Project's consistency with Land Use Policies 1.6, 2.1, 11.5, and Mobility Policy 2.4. Chapter 5, *Initial Study and Environmental Analysis*, Section XI, *Land Use*, Table 5-9, *Burbank2035 General Plan Land Use Consistency Analysis*, contains a discussion of the Project's consistency with applicable Burbank2035 Land Use Element goals and policies. Regarding the policies referenced in the comment, a discussion of consistency with Land Use Policy 1.6 is contained in Table 5-9. As described therein, the existing uses on the Project Site are underutilized and construction of the Project Site would better utilize the site and complement nearby uses. Thus, while not adapting the existing building, by better utilizing the site and complementing nearby uses, the Project would be consistent with the intent of this policy. The Project would better utilize the site by providing residential, restaurant/retail, and commercial office uses, in addition to improvement such as bike paths, pedestrian plazas, and widened sidewalks. Regarding Land Use Policies 2.1, 11.5, and Mobility Policy 2.4, Section XI, *Land Use and Planning*, Table 5-9, *Burbank2035 General Plan Land Use Consistency Analysis*, of the SCEA, has been updated to discuss the Project's consistency with these policies. These changes are reflected in Section 2, *Revisions, Clarifications, and Corrections*, of this Final SCEA.

Page 5-80, second paragraph, has been revised as follows:

Land Use	
Policy 2.4: Consider sustainability when making discretionary land use and transportation decisions, policies, regulations, and projects.	**Consistent.** The Project would be required to comply with the 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. In addition, the Project Site is located in a TPA and include pedestrian improvements, including widened and new sidewalks and pedestrian paseos, and new bike lanes, which would encourage pedestrian and bicycle trips to and from the Project Site and would improve access to public transit. Thus, the proposal will contain sustainable features that will contribute to the quality of life in Burbank.

8 Public Resources Code §21159.28(a)

Policy 11.5: Projects with housing shall be subject to a discretionary review process to ensure that the property is being put to its highest and best use and in a manner compatible with citywide objectives for economic development. Within the Airport Influence Area, projects with housing must meet all safety and noise policies in the adopted Los Angeles County Airport Land Use Plan.	**Consistent.** The Project is currently undergoing discretionary review by the City to ensure that the property is being put to its highest and best use. The Project is within the Airport Influence Area of the adopted Los Angeles County Airport Land Use Plan and, as such, will meet all the safety policies, as discussed in Section IX, *Hazards and Hazardous Materials*, and noise policies, as discussed in Section XIII, *Noise*, of this SCEA.
Mobility Element	
Policy 2.4: Require new projects to contribute to the city's transit and/or non-motorized transportation network in proportion to its expected transit generation.	**Consistent.** The Project will provide several design features including new Class I bicycle lanes through the Project Site and would provide for on-site bicycle parking for residents and office employees. Inclusion of these improvements on the transportation network would encourage the use of non-motorized modes to and from the Project by giving residents and employees the option to use bicycles to travel to and from the Project Site; therefore, reducing vehicle trips and VMT. In addition, the Project is located within a TPA and would provide greater opportunities for access to various types of public transit, thereby reducing its transit generation.

Response to Comment 6-21

The letter is concluded by a request that the City revise and recirculate the Project's SCEA and/or prepare an EIR to address the concerns raised in the comment letter. This comment is noted, and will be presented to the decision makers for their review and consideration.

3.7 Comment Letter 7: Evelyn Perez

Comment Letter No. 7

[redacted]

From: epnumbers@charter.net
Sent: Monday, July 12, 2021 9:11 AM
To: Medina, Maciel
Subject: Burbank Aero Crossing Project - Planning Permit No. 20-0003289

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Medina,

I am following up on the Community Meeting held via ZOOM on June 10, 2021, concerning the Burbank Aero Crossing Project.

•How do I obtain a copy of the Environmental Impact Report scheduled to be released in a couple of weeks?

•Will there be two Environmental Impact Reports to cover Option 1 and Option 2?

•Has the hearing date for the Planning Board meeting been set?

I look forward to hearing from you. 7-1

Regards,

Evelyn Pérez

Burbank Resident

2136 North Maple Street, Burbank, CA. 91505

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3.7.1 Response to Comment Letter 7: Evelyn Perez

Response to Comment 7-1

The comment is a follow up to the Project's Community Meeting held via ZOOM on June 10, 2021 and requests information on how to obtain a copy of the Environmental Impact Report (EIR), whether the EIR will consider the two project options, and what date the Planning Board Meeting will be held.

The environmental document prepared for the Project is a Sustainable Communities Environmental Assessment (SCEA) and not an EIR. The SCEA was released by the City for public review on July 9, 2021 for a 30-day review period ending on August 8, 2021. While two project options were presented at the Community Meeting, only one option, Option 2, was evaluated in the SCEA since it is the larger of the two options and impacts evaluated under this option would be greater than any impacts identified for a smaller option, such as Option 1. Given that the SCEA evaluated the option with the larger development footprint, either Option 1 or Option 2 would be within the parameters of what was evaluated in the SCEA and either option could be chosen to move forward in the entitlement process. A Planning Board hearing is scheduled for September 27, 2021 at 6:00 p.m.

3.8 Comment Letter 8: Alek Friedman

Comment Letter No. 8

[redacted]

From: Alek <alek3773@gmail.com>
Sent: Tuesday, July 13, 2021 11:22 AM
To: Medina, Maciel
Cc: justinf@laterradev.com; Contact@LaTerraDev.com
Subject: Re: [UPDATE] 2311 N Hollywood Way development (Fry's site)
Attachments: REVISED.jpg; REVISED_Closeup.jpg

Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Maciel.
Great talking to you! And thank you, once again, for the phone call.

By the way, if you don't mind -- I am including the applicant (LaTerra Development) in this email as well.

So, as mentioned earlier: I happened to see a new post from Urbanize.LA -- with the details of the redevelopment project. Here is the link:
https://urbanize.city/la/post/burbank-aero-crossings-2311-hollywood-way-frys-electronics

I am thrilled to see such a positive transformation! This project will, no doubt, revitalize this area. And the location is perfect, considering the prominent multi-modal Burbank transportation center, including the train station and the airport.

To further illustrate the highlights of the project: the proposed office space, public space, and mixed-use buildings - all greatly complement each other. The addition of bike lanes makes it even better! All in all, this project will make a great use of space (and much more efficient and useful than the former huge parking lot at Fry's Electronics). **8-1**

One thing that I would suggest (as also mentioned on the phone) -- is to improve the pedestrian aesthetics by adding **pavers**. As I'm sure you agree, pavers have been overlooked for much of LA County, mainly because the developers have not given enough attention to the concept of Walkability. In my opinion, pavers are a "Must" for the 2311 N. Hollywood Way development, to improve the pedestrian-oriented aesthetics. ***Attached** please find a couple of renderings that I modified in Photoshop. The 2nd picture is a close-up; you can clearly see how much more vibrant the sidewalks now look, once Pavers are applied.

Thank you, once again, for your consideration. Please keep me informed of the latest updates and developments. Once again, I would like to extend my full **SUPPORT** for this great project!

~ Alek F.
Hollywood, California

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[redacted]

From: Alek <alek3773@gmail.com>
Sent: Tuesday, July 13, 2021 10:15 AM
To: Medina, Maciel
Subject: Re: 2311 N. Hollywood Way

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Maciel.

Please feel free to call me now (if you are available).
Otherwise, any time between 10 a.m. and 6 p.m. is great.

Thank you.
~ Alek
323 . 465 . 8511

On 7/13/21, Medina, Maciel <MMedina@burbankca.gov> wrote:
> Good morning,
> Thank you for reaching out to me regarding the Project at 2311 N. **8-1 (cont)**
> Hollywood Way. Please let me know when would be the best time to give
> you a call. Thank you.
>
> City of Burbank is committed to caring for the health and well-being
> of our employees, customers and our community and to reducing the threat of the
> Coronavirus. Effective Monday, March 16, 2020 City buildings are closed to
> the public. We are seeking ways to continue to provide services for
> existing planning applications and plan check submittals. If you have any
> questions you can contact the City's Planning Division via telephone
> at
> (818) 238-5250 between 9AM and 4PM Monday-Friday or via email at
> planning@burbankca.gov<mailto:planning@burbankca.gov>. We will attempt to
> provide you with a response within 24 to 72 hours.
>
> We recognize this is a challenging time for all, and we remain deeply
> committed to the safety of our customers, teams, and communities. We
> will continue to monitor developments, adjust where necessary, and do
> our part to reduce the spread of the Coronavirus.
> [cid:image001.png@01D777C0.8B7A8E50]
>
>

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Alek Friedman
Urban Development / Smart Growth
Beautification Team Committee Member,
Central Hollywood Neighborhood Council
323 . 465 . 8511 Home/Office
213 . 999 . 1273 Cellular
Database Developer / Graphics Artist
www.ProgrammingAndImaging.com

----- Original Message -----
From: Alek
To: mmedina@burbankca.gov
Cc: justinf@laterradev.com
Sent: Monday, July 12, 2021 12:10
Subject: RE: 2311 N Hollywood Way development (Fry's site)

Dear City Representative / Developer,

A few days ago I saw a poster on the fenced-off location, at the former site of Fry's Electronics, and would like to inquire about the site.

Also, I am a supporter of new developments; and have also been on the Beautification committee for the CHNC. As such, I would like to learn more about the proposed development.

Can you please email me links to (and/or renderings & images) of the proposed development at 2311 N. Hollywood Way. **8-1 (cont)**

Thank you,
Best regards!

--
Alek Friedman
Urban Development / Smart Growth
Beautification Team Committee Member,
Central Hollywood Neighborhood Council
323 . 465 . 8511 Home/Office
213 . 999 . 1273 Cellular
www.ProgrammingAndImaging.com

3.8.1 Response to Comment Letter 8: Alek Friedman

Response to Comment 8-1

This comment states the commenter's support of the Project as proposed in the SCEA and includes email correspondence from the commenter to the City. In addition, this comment proposes pavers be included in the project design and includes simulations with this design. This comment is noted and will be presented to the decision makers for their review and consideration.

3.9 Comment Letter 9: Arin Shahmoradian

Comment Letter No. 9

[redacted]

From: Arin Shahmoradian <gulfbrands@gmail.com>
Sent: Wednesday, July 14, 2021 10:50 AM
To: Medina, Maciel
Subject: Burbank Airport Area Zoning Changes

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Maciel,

For over 15 years, my father (Robik Shahmoradian, Italiano Cabinetry & Stone) has been renting the property at 3104 Vanowen Street, Burbank 91505. **9-1**

The owner of the property is Mr. Ken Arnt. I am contacting you after reading the article below, which describes potential changes to the zoning of the properties in and around that address.

I would like to know if there is any new update, or if there is a proposed timeline on when these changes would occur? Has it been finalized?

Additionally, I would like to know if there is any way to comment or express any concerns on these changes.

Is there an upcoming vote on the city council level? When will more information become available? **9-2**

I appreciate any feedback you can provide.

Regards,

Arin Shahmoradian
818 355 3377

https://urbanize.city/la/post/burbank-launches-zoning-update-airport-adjacent-district

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3.9.1 Response to Comment Letter 9: Arin Shahmoradian

Response to Comment 9-1

This comment introduces the commenters father who is a business owner at a rented property at 3104 Vanowen Street, east of the Project Site, and states that they read about the proposed Project and about the potential changes to zoning of the properties in and around the Project Site. This comment is potentially associated with the Golden State Specific Plan that is currently being considered and includes the Project Site. City staff spoke with the commenter and directed them to where they could obtain more information. This comment is noted and will be presented to the decision makers for their review and consideration.

Response to Comment 9-2

The comment requests an update or proposed timeline for when these changes would occur and wants to know if there is a way to comment on these changes, if there is an upcoming vote on the City Council level, and when more information will be available. The commenter is requesting a schedule that is not related to the Project. Nevertheless, the City provided the commenter this information as requested. This comment is noted and will be presented to the decision makers for their review and consideration.

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Attachment A
Transportation Study

TRANSPORTATION STUDY FOR THE 2311 N. HOLLYWOOD WAY MIXED-USE PROJECT

BURBANK, CALIFORNIA

SEPTEMBER 2021

PREPARED FOR

CITY OF BURBANK

PREPARED BY

Gibson
transportation consulting, inc.

TRANSPORTATION STUDY FOR THE 2311 N. HOLLYWOOD WAY MIXED-USE PROJECT

BURBANK, CALIFORNIA

September 2021

Prepared for:

CITY OF BURBANK

Prepared by:

GIBSON TRANSPORTATION CONSULTING, INC.
555 W. 5th Street, Suite 3375
Los Angeles, California 90013
(213) 683-0088

Ref: J1846a

Table of Contents

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Chapter 1
Introduction

This report presents the transportation study for the proposed Burbank Aero Crossings mixed-use project (Project) located at 2311 N. Hollywood Way (Project Site) in the City of Burbank, California (City). The Project is proposed by NHW Investors, LLC (Applicant). The methodology and base assumptions used in the analysis were established in consultation with the City Community Development Department (CDD).

PROJECT DESCRIPTION

Project Site Location

The Project would replace an existing 101,566 square foot (sf) Fry's Electronics store and surface parking lots.

The Project Site is generally bounded by Vanowen Street to the north, N. Hollywood Way, including the southbound ramp from Vanowen Street to N. Hollywood Way, to the east, Valhalla Drive to the south, and private property to the west. It is located immediately south of Hollywood Burbank Airport and the Metrolink Burbank Airport South train station along the Metrolink Ventura County line. There are commercial and industrial uses to the east, west, and south, beyond which are primarily residential uses. The Project Site location is shown in Figure 1.

Proposed Land Uses

The Project proposes a mixed-use development with up to 862 apartment units (including 80 very-low-income affordable units and 12 live/work units), 151,800 sf of office space, and 9,700 sf of restaurant uses. The apartment units would be constructed in two seven-story buildings (Residential Building 1 to the north and Residential Building 2 to the south) separated by publicly accessible, landscaped open space (Fry's Way). The office space would be provided in one five-story building west of the bicycle and pedestrian paseo on Screenland Drive. The restaurant space would be provided in one 1,500 sf freestanding building along Vanowen Avenue and in 8,200 sf of the ground level of Residential Building 2 along N. Hollywood Way. The Project Site plan is shown in Figure 2.

Project Parking

Each residential building would incorporate a five-story above-grade parking structure to serve that building's residential parking as well as restaurant parking needs. These structures would provide a total of 1,125 residential parking spaces and 32 restaurant spaces. Office parking would be provided west of the office building in a five-story above-grade parking structure with 456 spaces. In total, the Project would provide 1,613 vehicular parking spaces. The Project would also provide a total of 56 bicycle parking spaces, including 51 for residents and five for office workers and retail customers.

Access and Circulation

As shown in Figure 2, the Project would construct two new publicly accessible bicycle and pedestrian paseos for access and circulation. Screenland Drive would run north and south between Vanowen Street and Valhalla Drive and would provide open space, a pedestrian sidewalk, and a two-way Class I bicycle path. It would provide vehicular access on the north end to the parking structure for Residential Building 1 but would be closed to vehicular traffic beyond that point. Fry's Way would run east and west between Screenland Drive and the N. Hollywood Way southbound ramp from Vanowen Street. It would provide vehicular access on the east end to the parking structures for both residential buildings but would be closed to vehicular traffic beyond that point. Both private streets would also serve as a fire lane for emergency vehicle access.

Vehicular access to the Residential Building 1 parking structure would be provided via two-way driveways on the north end of Screenland Drive, the east end of Fry's Way, and mid-block on Vanowen Street. Additionally, three surface parking spaces would be provided at a rideshare drop-off area adjacent to the small restaurant area in the northwest corner of the Project Site. Vehicular access to the Residential Building 2 parking structure would be provided on the east end of Fry's Way and mid-block on Valhalla Drive. A small loading area for the restaurant uses would be provided within the parking structure in Residential Building 2. Access to the office parking structure would be provided at one driveway on Valhalla Drive. Commercial loading for the office building would also be provided curbside along Valhalla Drive.

Pedestrian access to the residential buildings would be provided through residential lobbies along the N. Hollywood Way southbound ramp from Vanowen Street, from inside the parking structure, and via various stairwells around the exteriors of each building, including some that provide access directly onto the Fry's Way promenade.

Project Schedule

The Project would be built in a single phase and is anticipated to be completed and operational in Year 2026.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with CDD and is consistent with *City of Burbank Transportation Study Guidelines* (City of Burbank, December 1, 2020) (City Guidelines). It complies with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following).

ORGANIZATION OF REPORT

This report is divided into five chapters, including this introduction. Chapter 2 describes the Project Context including the study area and existing and future cumulative transportation conditions. Chapter 3 details the CEQA Analysis of Transportation Impacts, which includes analysis of potential Project conflicts with existing transportation programs, plans, ordinances, or policies, analysis of vehicle miles traveled (VMT), analysis of potential hazards resulting from the Project's geometric design, and analysis of potential freeway queuing impacts. Chapter 4 presents the Non-CEQA Transportation Analyses including intersection operational analysis, driveway analysis, and residential street cut-through analysis. Finally, Chapter 5 summarizes the analyses and study conclusions. The appendices contain supporting documentation.

PROJECT SITE LOCATION	FIGURE 1

Source: Urban Architecture Lab. July, 2021.

PROJECT SITE PLAN

FIGURE 2

Chapter 2
Project Context

This Chapter presents a comprehensive review of the existing and future transportation facilities within the Study Area, which is the area within approximately a one-mile radius of the Project Site. It includes a description of the existing freeway and street systems, public transit service, and pedestrian and bicycle circulation. It also provides a discussion of future or in-process development and infrastructure projects that are expected to be in place by Year 2026, which corresponds to the anticipated year of Project completion.

EXISTING TRANSPORTATION CONDITIONS

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 that provide regional, sub-regional, or local access and circulation within the Study Area. Street classifications for roadways within the City are designated in *Chapter 4: Mobility Element* (Mobility Element) of *Burbank2035 General Plan Update* (City of Burbank, 2014) (Burbank2035 General Plan). The Mobility Element includes specific street definitions and design guidelines to illustrate how the street space is divided among roadway, sidewalk, parkway, and other components. The descriptions of each street type are supported by the required street dedications needed for future development. Per the Mobility Element, street classifications are defined as follows:

- <u>Major Arterials</u> are regional transportation corridors that are bounded by commercial and multi-family development. These corridors provide access to all transit modes, with the focus on regional transit and auto traffic. Pedestrian connections provide access from land uses to transit connections.

- <u>Secondary Arterials</u> are streets that serve local cross-town traffic and may also serve regional traffic. These streets provide access to local transit. Pedestrian connections are designed to encourage multi-purpose trips.

- Collectors are streets that provide access between Local Streets and arterials or that provide arterial street crossings for bicycles, pedestrians, and equestrians.

- Local Streets are residential or commercial streets that provide direct access to adjacent land uses.

The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Element:

Roadways

- N. Hollywood Way – N. Hollywood Way is a designated Major Arterial that travels in the north-south direction and is located adjacent to the eastern boundary of the Project Site. It provides two travel lanes in each direction with left-turn lanes at intersections and a two-way left-turn median south of Valhalla Drive. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on both sides of the street south of Valhalla drive, and Class II bicycle lanes are present on both sides of the street within the Study Area.

- Vanowen Street – Vanowen Street is a designated Collector in the Mobility Element that travels in the east-west direction and is located adjacent to the northern boundary of the Project Site. It provides one travel lane in each direction west of N. Hollywood Way and two travel lanes in each direction east of N. Hollywood Way, with a two-way left-turn lane. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on the south side of the street, and Class II bicycle lanes are present on both sides of the street within the Study Area.

- Empire Avenue – Empire Avenue is a designated Major Arterial that travels in the east-west direction and is located north of the Project Site. It provides two travel lanes in each direction with left-turn lanes at intersections and a two-way left-turn median. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on the north side of the street east of Naomi Street, on both sides of the street between Naomi Street and Ontario Street, and on south side of the street between Ontario Street and N. Hollywood Way.

- Victory Boulevard – Victory Boulevard is a designated Major Arterial that travels in the east-west direction and is located south of the Project Site. It provides two travel lanes in each direction with left-turn lanes at intersections and a two-way left-turn median. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on both sides of the street, and Class II bicycle lanes are present on both sides of the street within the Study Area.

- Burbank Boulevard – Burbank Boulevard is a designated Secondary Arterial that travels in the east-west direction and is located south of the Project Site. It provides two travel lanes in each direction with left-turn lanes at intersections and a two-way left-turn median. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on both sides of the street within the Study Area.

- Buena Vista Street – Buena Vista Street is a designated Secondary Arterial that travels in the north-south direction and is located east of the Project Site. It provides two travel lanes in each direction with left-turn lanes at intersections and a two-way left-turn median. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on both sides of the street within the Study Area.

- San Fernando Boulevard – San Fernando is a designated Secondary Arterial that travels in the northwest-southeast direction and is located east of the Project Site. It provides two travel lanes in each direction with left-turn lanes at intersections and a two-way left-turn median. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on the southwest side of the street within the Study Area.

- Winona Avenue – Winona Avenue is a designated Collector that travels in the east-west direction and is located northeast of the Project Site. It provides two travel lanes in each direction. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on both sides of the street within the Study Area. Winona Avenue terminates at N. Hollywood Way to the west and N. San Fernando Boulevard to the east.

- Thornton Avenue – Thornton Avenue is a designated Collector that travels in the east-west direction and is located northeast of the Project Site. It provides one travel lane in each direction with left-turn lanes at intersections and a two-way left-turn median. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on both sides of the street within the Study Area. Thornton Avenue terminates at N. Hollywood Way to the west and N. Lincoln Street to the east.

- Clybourn Avenue – Clybourn Avenue is a designated Collector that travels in the north-south direction and is located west of the Project Site. It runs between Empire Avenue and Vanowen Street and serves as the border with the City of Los Angeles. This stretch of Clybourn Avenue provides one northbound travel lane and two southbound travel lanes. The travel lanes are approximately 10-11 feet wide. No parking is permitted on this stretch of Clybourn Avenue within the Study Area.

- Avon Street – Avon Street is a designated Local Street that travels in the east-west and north-south directions and is located northeast of the Project Site. It serves as a connector road between N. Hollywood Way and Empire Avenue. It provides one travel lane in each direction with turn lanes at N. Hollywood Way. The travel lanes are approximately 10-11 feet wide. No parking is permitted on either side of the street within the Study Area. Avon Street terminates at N. Hollywood Way to the northwest and Empire Avenue to the southeast.

- Valhalla Drive – Valhalla Drive is a designated Local Street that travels in the east-west direction and is located adjacent to the southern boundary of the Project Site. It provides one travel lane in each direction. The travel lanes are approximately 10-11 feet wide. Unmetered parking is generally available on the north side of the street and on the south side of the street west of Screenland Drive within the Study Area. Valhalla Drive becomes part of Memorial Park to the east and terminates at N. Hollywood Way to the west.

- Screenland Drive – Screenland Drive is a designated Local Street that travels in the north-south direction and is located south of the Project Site. It provides one travel lane in each direction. Unmetered parking is generally available on both sides of the street within the Study Area. Screenland Drive terminates at Valhalla Drive to the north.

Freeways are operated by the California Department of Transportation (Caltrans) and serve regional transportation needs. The following two freeways pass through the general study area:

- Interstate 5 (I-5): I-5 is an interstate freeway running in the northwest-southeast direction approximately 0.70 miles northeast of the Project Site. To the north it travels to Santa Clarita and beyond, and to the south it travels to downtown Los Angeles, Orange County and beyond. It provides access to the Study Area via interchanges at N. Hollywood Way, Buena Vista Street, and Empire Avenue (which completed major reconstruction in 2019).

- State Route 170 (SR 170): SR 170 is a state highway running in the north-south direction approximately 3.00 miles west of the Project Site. It travels between the SR 134 / US 101 interchange in North Hollywood and I-5 in Sun Valley. It provides access to the Study Area via an interchange at Victory Boulevard.

The Mobility Element street designations within the Study Area are shown in Figure 3.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by Walk Score and assigned a score out of 100 points. With the various commercial businesses and cultural facilities adjacent to residential neighborhoods, the walkability of the area is approximately 49 points.[1]

Along the Project frontage, sidewalks on both sides of Valhalla Drive, N. Hollywood Way, and the south side of Vanowen Street provide complete pedestrian connections. The sidewalks on N. Hollywood Way pass through a series of stairway pedestrian tunnels with portals on each side of the underpass between Valhalla Drive and Avon Street. The portals are located on the east side of N. Hollywood Way. N. Hollywood Way & Valhalla Drive (Intersection #8) provides crosswalk striping, Americans with Disabilities Act (ADA) accessible curb ramps, and pedestrian phasing near the Project Site along the west and south legs. However, the crosswalks along the south legs of the Vanowen Avenue ramps to/from N. Hollywood Way (Intersections #2 and #3) are

[1] Walk Score (www.walkscore.com) rates the Project Site with a score of 49 of 100 possible points (scores accessed on June 6, 2021, for 2311 N. Hollywood Way). Walk Score calculates the walkability of specific addresses by considering the ease of living in the neighborhood with a reduced reliance on automobile travel.

missing ADA curb ramps on two curbs, thereby not providing a continuous ADA-accessible path between the Project Site and the N. Hollywood Way pedestrian portal.

Existing Bicycle System

Based on *City of Burbank Bicycle Master Plan* (City of Burbank, December 2009) (Bicycle Master Plan), the existing bicycle system consists of a limited network of bicycle paths separated from any street or highway (Class I), bicycle lanes striped for one way travel on a street or highway (Class II), bicycle routes or "sharrows" provided for shared use with pedestrian or vehicle traffic and identified only by signage (Class III), and Bicycle Boulevards defined as low-traffic neighborhoods streets that have been optimized for bicycling with a combination of Class III signage and traffic calming treatments. There are currently Class II bicycle lanes on both sides of N. Hollywood Way north of Pacific Avenue, Class II bicycle lanes on both sides of Vanowen Street west of N. Hollywood Way, and Class II bicycle lanes on both sides of Victory Boulevard within the Study Area. The existing bicycle network is illustrated in Figure 4.

Existing Transit System

The Project Study Area is served by a bus and rail public transportation system operated by BurbankBus, Metrolink, Amtrak, and the Los Angeles County Metropolitan Transportation Authority (Metro). Figure 5 illustrates the existing transit service and transit stops within the Study Area.

The transit routes with stops within 0.25 miles of the Project Site include the following:

BurbankBus

- NoHo to Airport Route, service approximately every 30 minutes[2]

Metrolink

- Ventura County Line, service approximately every hour during the morning and afternoon peak hours

[2] The City plans to restore pre-COVID service frequencies, which include 15-minute peak headways, 20-minute base headways, and 45-minute evening headways, in Fiscal Year 2021-2022.

Amtrak

- Pacific Surfliner, service approximately three times daily

Metro[3]

- Line 90, service approximately every 27 minutes in the morning peak hours and every 30 minutes in the afternoon peak hours
- Line 94, service approximately every 16 minutes in the morning peak hours and every 17 minutes in the afternoon peak hours
- Line 165, service approximately every 16 minutes in the morning peak hours and every 17 minutes in the afternoon peak hours
- Line 169, service approximately every 60 minutes in the morning and afternoon peak hours
- Line 222, service approximately every 24 minutes in the morning peak hours and every 26 minutes in the afternoon peak hours
- Line 294, service approximately every 30 minutes in the morning and afternoon peak hours

FUTURE TRANSPORTATION CONDITIONS

Related Projects

This study considered the effects of the Related Projects on traffic volumes. A list of major development projects within the City is maintained by CDD and is current as of May 2021. Those major projects within the Study Area are detailed in Table 1 and their approximate locations are shown in Figure 6. Other major projects were determined to be too far from the Study Area to substantially affect traffic conditions and, therefore, were not included.

[3] Metro service routes and frequencies are current based on the Metro Next Generation Bus Study at the time of publishing this report.

Future Roadway Improvements

The analysis of Future Conditions accounted for roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the Project. Any roadway improvement that would result in changes to the physical configuration at the study intersections would be incorporated into the analysis.

Two major intersection improvements would be implemented by Related Projects #3 (Avion) and #4 (Hollywood Burbank Airport Terminal Replacement Project). Avion would widen N. Hollywood Way to provide an additional through lane in each direction at Winona Avenue (Intersection #5) and Thornton Avenue (Intersection #6). The Hollywood Burbank Airport Terminal Replacement Project would modify Intersection #5 (N. Hollywood Way & Winona Avenue) to provide additional eastbound capacity as the access point for the new airport terminal.

The following plans were also evaluated for their potential effects on the future roadway configurations.

Mobility Element. In the Mobility Element, the City identifies citywide mobility goals and policies to enhance pedestrian, bicycle, and transit service throughout the City while minimizing neighborhood impacts. The Project Site falls within the Magnolia Park Neighborhood Protection Program, which advocates for appropriate traffic management strategies to be employed alongside specific development projects. The Project would be consistent with the mobility goals and policies and would not preclude future improvements. Table 2 outlines the Project's compatibility with the Mobility Element goals and policies.

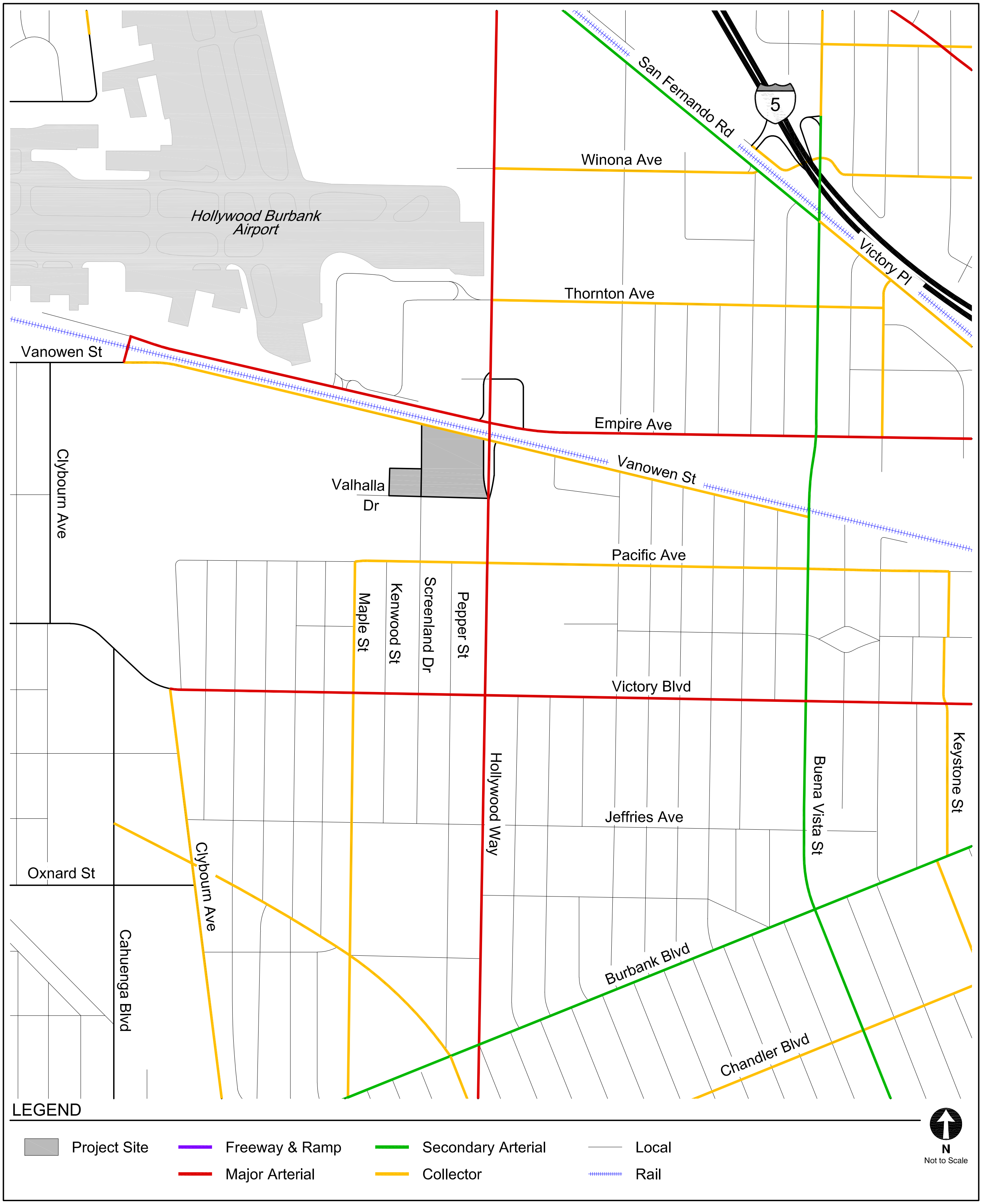
Bicycle Master Plan. The Bicycle Master Plan identifies several priority bicycle projects within the Study Area, including:

- Class III bicycle routes on Empire Avenue form Clybourn Avenue to Buena Vista Street
- Class II bicycle lanes on Empire Avenue from Buena Vista Street to San Fernando Boulevard
- Class I Pacific Park-Vanowen Path from Vanowen Street to Pacific Avenue

The timing and details of implementation for these projects is unknown, and as they are not expected to affect lane configurations at study intersections, no changes were assumed in the analyses.

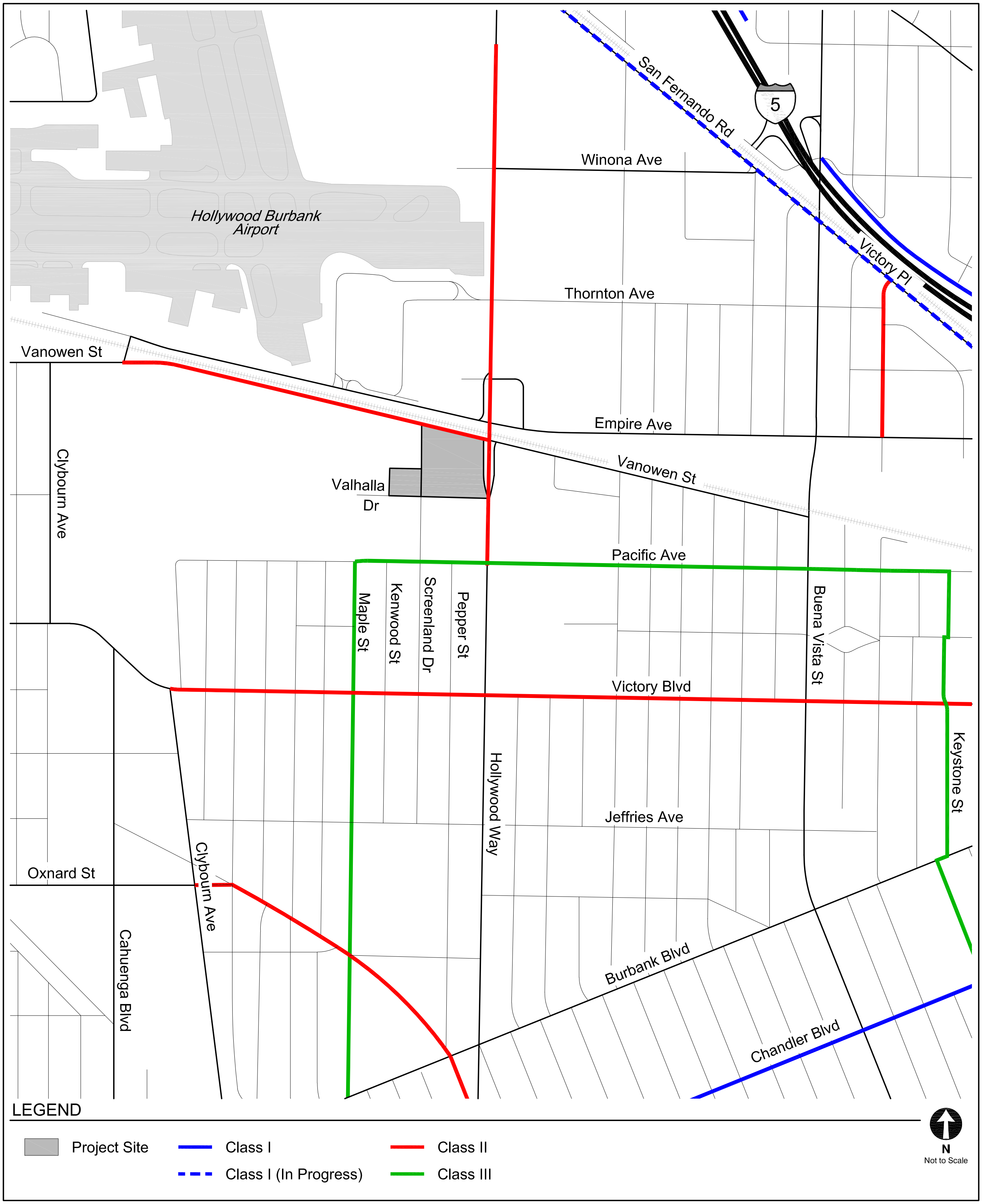
Complete Streets Plan. *Complete Streets Plan* (City of Burbank, June 2020) (Complete Streets Plan) contains the City's goals and policies for the future improvements of City streets. Within the Study Area, the N. Hollywood Way at Empire Avenue Underpass Improvement Project is a long-term priority project that seeks to construct separated elevated sidewalks along the underpass, provide ADA accessibility, and enhance roadway and pedestrian lighting. This project will enhance pedestrian safety and improve first/last mile connectivity adjacent to the Project Site; however, this project would not affect vehicular roadway or intersection configurations.

Safe Routes to School. The Citywide Safe Routes to School Plan is a short-term priority project of the Complete Streets Plan that seeks to conduct site assessments and create conceptual plans for traffic safety improvements at all 27 schools throughout the City. This plan intends to expand the City's local all-way stop and 15 miles per hour (mph) school speed zone criteria to enhance pedestrian safety in the school focus areas. The nearest school to the Project Site is Providencia Elementary School, located 0.25 miles southeast of the Project Site. Currently, there is no schedule for implementation for specific safety improvements; thus, no changes to the future intersection configurations were considered due to this program.



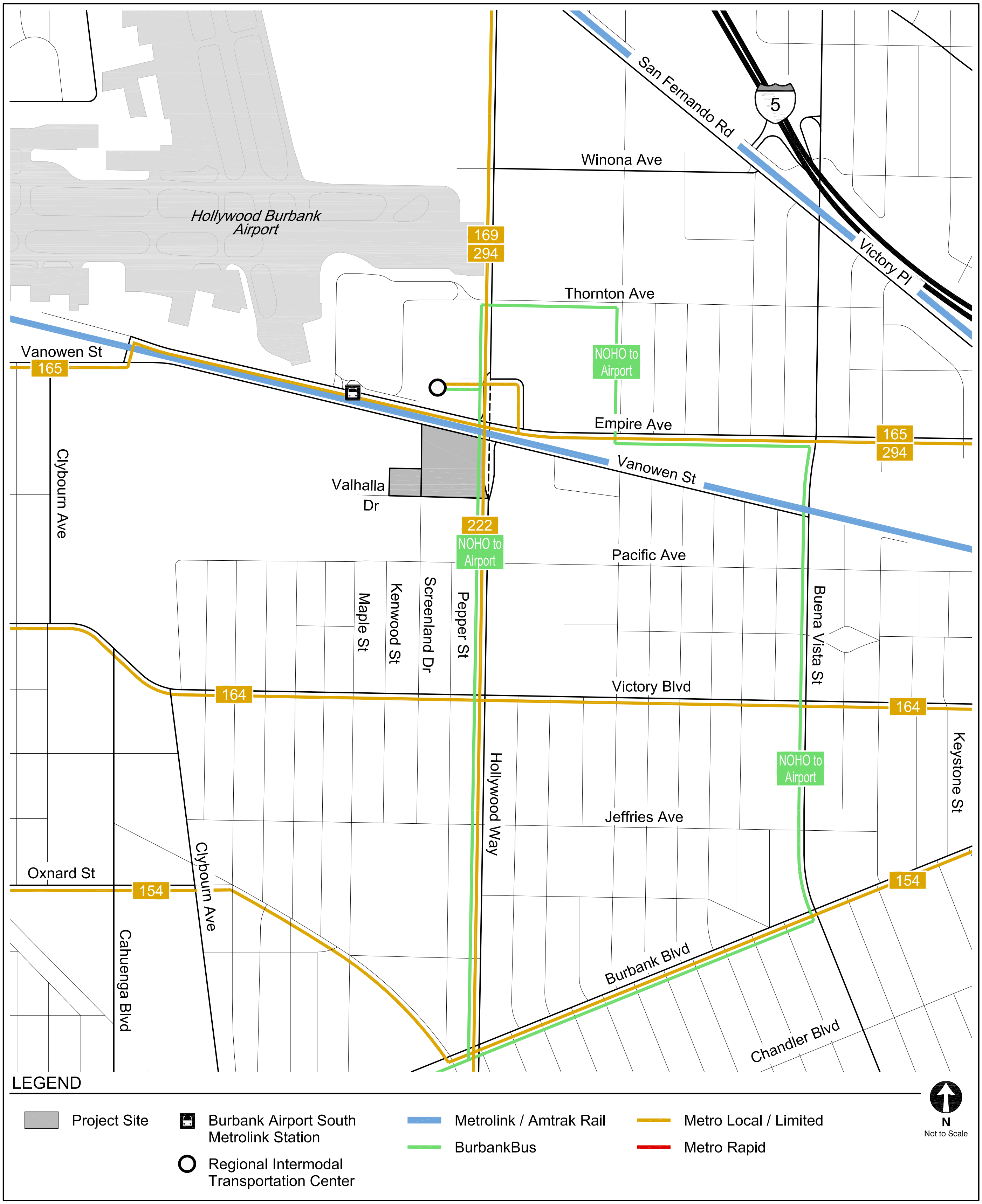
MOBILITY ELEMENT STREET DESIGNATIONS

FIGURE 3



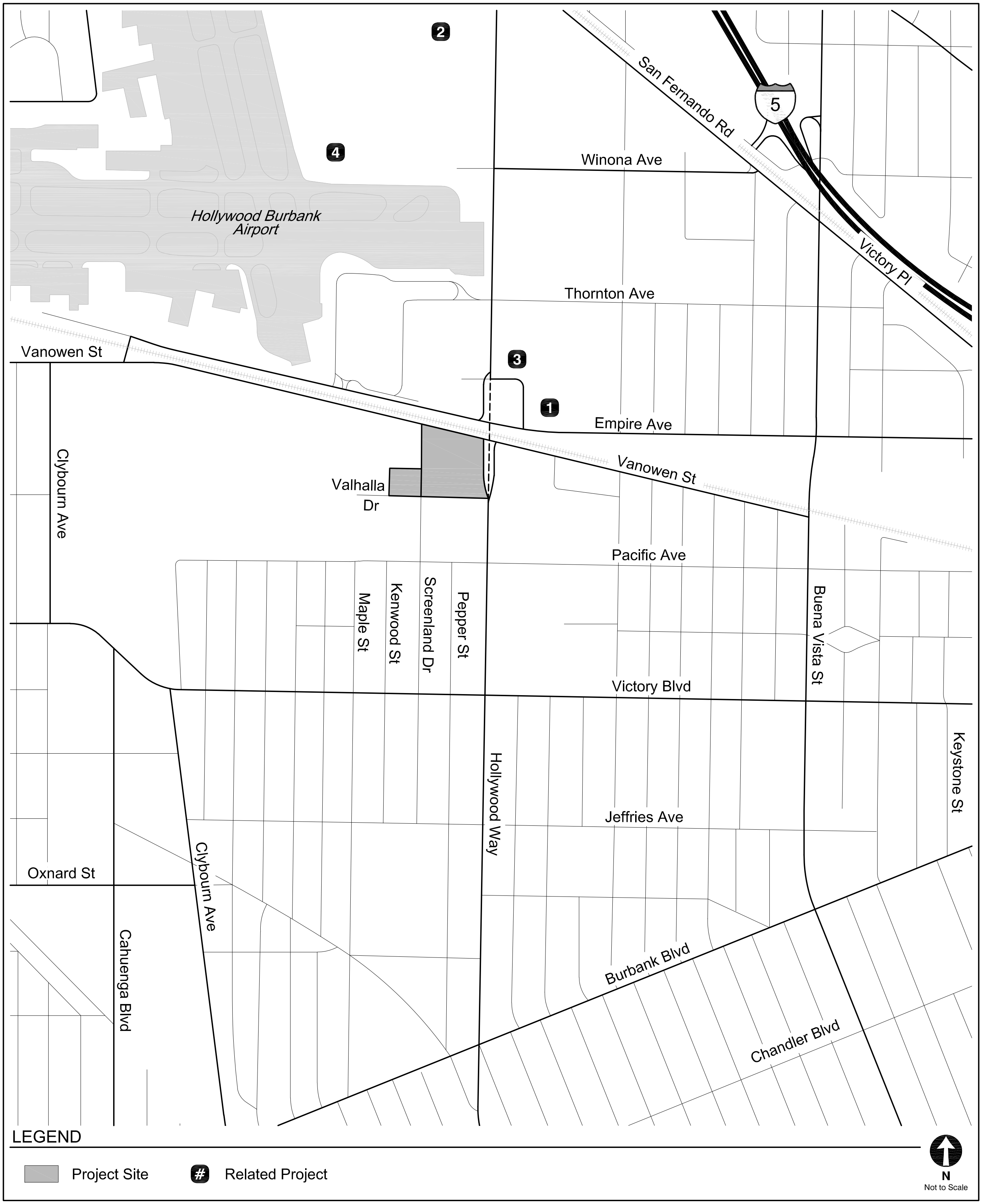
EXISTING BICYCLE NETWORK

FIGURE 4



EXISTING TRANSIT SERVICE

FIGURE 5



LOCATIONS OF RELATED PROJECTS

FIGURE 6

TABLE 1
RELATED PROJECTS

No	Project Name and Address	Description	Trip Generation [a]						
			Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
1.	Media Studios North Expanded Entitlement *3377 W. Empire Avenue*	87,447 sf office	903	132	17	149	27	135	162
2.	Avion *3001 N. Hollywood Way*	1,014,890 sf industrial park, 166 room hotel, 142,250 sf office, 7,740 sf restaurant, and 7,740 sf retail	8,984	723	174	897	286	842	1,128
3.	Aloft Hotels & Residence Inn *2500 N. Hollywood Way*	420 room hotel and 5,700 sf restaurant	4,099	115	80	195	140	135	275
4. [b]	Burbank Bob Hope Airport Terminal Relocation		25,355	884	825	1,709	817	920	1,737

Notes:

Data provided by LADOT or accessed from http://planning.lacity.org based on cases filed since August, 2018. List includes all development projects of at least 20 residential units within a 0.5-mile radius of the Project Site.

[a] Trip generation provided by City of Burbank except where noted.

[b] Trip generation estimated using rates from *Trip Generation, 10th Edition,* Institute of Transportation Engineers, 2017.

Chapter 3

CEQA Analysis of Transportation Impacts

This chapter presents the results of an analysis of CEQA-related transportation impacts. Should any significant impacts of the Project be identified, mitigation measures would be required. Based on the City Guidelines, the following CEQA analyses must be conducted:

1. CEQA Transportation Policy Analysis
2. CEQA VMT Analysis
3. CEQA Safety Analysis: Site Analysis and Circulation
4. CEQA Safety Analysis: Freeway Queuing

Each of the analyses above are addressed in Sections 3A through 3D.

Section 3A
CEQA Transportation Policy Analysis

The first CEQA analysis assesses whether a project would conflict with an adopted program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities. The City Guidelines provide examples of potential impacts including:

- Interfering with existing bicycle facilities or precluding the construction of future bicycle facilities identified in the Bicycle Master Plan or Complete Streets Plan
- Failing to conform to sidewalk standards in the Mobility Element
- Introducing barriers to pedestrian circulation or impacting existing pedestrian paths of travel, amenities, or improvements identified in the Mobility Element or Complete Streets Plan
- Impacting existing or future transit facilities or impacting transit service

In consultation with CDD staff, the relevant programs, plans, ordinances, and policies are found in the Mobility Element, the Bicycle Master Plan, and the Complete Streets Plan. The Project's consistency with each of these documents is reviewed below. A fourth document, the City Transportation Demand Management (TDM) Ordinance, would apply to the Project; however, the Project is not located within the Burbank Center Plan area or the Media District Specific Plan areas, which contain specific objectives.

Additionally, one regional document, *Connect SoCal – The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the Southern California Association of Governments* (Southern California Association of Governments, Adopted September 2020) (RTP/SCS), was reviewed.

MOBILITY ELEMENT OF THE BURBANK2035 GENERAL PLAN

The Mobility Element, in conjunction with the Land Use Element of the Burbank2035 General Plan, is designed to ensure that the City maintains adequate circulation and transportation facilities as the City grows. It also guides implementation of regional transportation management plans and policies. The Mobility Element identifies a series of policies designed to support nine broad goals. A detailed analysis of the Project's potential conflicts with the specific policies of the Mobility Element is provided in Table 2.

As shown in Table 2, the Project does not conflict with any of the policies of the Mobility Element. It is specifically consistent with policies that promote a multi-modal transportation system, connections to transit, and enhanced pedestrian and bicycle access (Policies 1.1, 2.1, 3.2, 3.3, 3.5, 4.7, 4.8, 5.1 through 5.5, 8.3, 9.2, and 9.3) because it would widen sidewalks on all public street frontages (meeting or exceeding the standards from Table M-2 of the Mobility Element), retain existing bicycle lanes on Vanowen Street and N. Hollywood Way and install a new protected bike path on the west side of Screenland Drive between Vanowen Street and Valhalla Drive, and provide two pedestrian paseos (Screenland Drive and Fry's Way). Additionally, consistent with policies advising against acquiring right-of-way (ROW) to widen roads (Policies 1.2, 1.6, 3.4), the Project would not widen any public roadway and would only dedicate land to widen public sidewalks.

As detailed in Section 3B, the Project supports policies that reduce VMT and greenhouse gas (GHG) emissions and improve air quality (Policies 2.5, 8.1, 8.2) by resulting in a lower-than-average VMT per capita and by implementing design features described to further reduce VMT and, thus, reduce GHG emissions, and improve air quality.

The Project also does not conflict with policies that encourage adequate roadway capacity to accommodate vehicles on arterials and prevent spillover to residential streets (Policies 1.4, 6.1 through 6.3) because, as shown in Chapter 4, the Project traffic would not add substantially to congestion or delay on arterial streets and identifies measures to minimize Project traffic on residential streets.

The Project would, therefore, not conflict with any Mobility Element policies.

BICYCLE MASTER PLAN

The Bicycle Master Plan is the City's comprehensive plan to establish a bicycling culture through development of a safe and effective bikeway network and extensive community outreach and education programs. It has an overarching goal of 5% of all trips in the City being made by bicycle by the year 2035. A detailed analysis of the Project's potential conflicts with the specific policies and objectives of the Bicycle Master Plan is provided in Table 3.

As shown in Table 3, the Project does not conflict with any of the policies or objectives of the Bicycle Master Plan. The Project would contribute to the implementation of the City's bicycle network by directly installing and maintaining a portion of a priority bicycle lane identified in the Bicycle Master Plan. The Project would install an off-street, protected bike path along Screenland Drive, a publicly accessible private paseo through the Project Site, between Vanowen Street and Valhalla Drive. The Bicycle Master Plan identifies this route, extending south an additional block to Pacific Avenue, as a secondary priority bikeway project. This implementation directly supports Policies 1 through 3 and Objectives A through C.

The Project would also support Policies 4 and 5 by widening sidewalks on all public street frontages, retaining existing bicycle lanes on Vanowen Street and N. Hollywood Way, installing the forementioned protected bike path on the Screenland Drive paseo, and providing an internal open promenade (Fry's Way) for pedestrian and bicycle use. It would support Objective E by providing long-term and short-term bicycle parking for residents, employees, and visitors in accordance with City requirements. It would support Objectives F through H by increasing bicycle trips by providing a mixed-use development near high-quality transit and implementing bicycle connections.

It would not conflict with Policy 6 because the Project's residential access would be located on or close to arterial streets in accordance with the policy. While Project traffic may nonetheless travel on residential streets, the Project would fund improvements to minimize this traffic, as described in Section 4E.

The Project would, therefore, not conflict with any Bicycle Master Plan policies or objectives.

COMPLETE STREETS PLAN

The Complete Streets Plan is the City's action plan and implementation guide for building better neighborhoods through street design. It establishes design and modal priorities, evaluation metrics, and policy recommendations for pedestrian, transit, bicycle, and vehicular transportation, as well as landscaping and technology policies. The Complete Streets Plan was developed with extensive data collection, community input, and review of best practices.

The Complete Streets Plan identifies a series of roadway priorities, including streets adjacent to the Project Site. Vanowen Street is designated as both a pedestrian and bicyclist priority street. N. Hollywood Way is designated as a pedestrian, bicyclist, transit, and motorist priority street – all travel modes are important on N. Hollywood Way. The Project specifically supports pedestrian and bicycle modes by widening the sidewalks on all public frontage (including Vanowen Street and N. Hollywood Way) and retaining the existing bicycle lanes on those streets. The Project would provide extensive landscaping along the public streets, including double rows of trees along Vanowen Street and Valhalla Drive and a single row of trees along N. Hollywood Way. Additionally, Screenland Drive would be equipped with sidewalks and protected bike paths through the Project Site, adding pedestrian and bicycle connectivity for both Project and community use. The Project supports a proposal by City staff to potentially add bicycle connectivity (Class II or Class III) along the south side of the Project Site on Valhalla Drive between Screenland Drive and N. Hollywood Way.

These improvements support several goals identified in Section 4C of the Complete Streets Plan, including Goals #3 (build better neighborhoods), #5 (foster a healthier Burbank), #9 (spread shade and shelter), and #10 (be proactive [by promoting active transportation options]). They also support the policy recommendations identified for pedestrians and bicyclists in Chapters 5 and 7 and for green infrastructure in Chapter 9.

The Complete Streets Plan also identifies a long-term priority project adjacent to the Project Site. The N. Hollywood Way at Empire Avenue Underpass Project would construct elevated sidewalks along N. Hollywood Way where it travels under Vanowen Street, Empire Avenue, and the train tracks just east of the Project Site. This project would improve pedestrian safety and access for people with disabilities. The on-street bicycle lanes would be retained. The Project does not impede the City's ability to implement this improvement.

The Project would not conflict with any of the goals or policy recommendations in the Complete Streets Plan.

RTP/SCS

The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals. It sets air quality improvement and GHG reduction goals and policies to meet them.

The Project includes a mix of multi-family housing units, office uses, and community-serving commercial uses. As detailed in Section 3B, the Project would generate at least 15% lower VMT per capita than the Los Angeles County (County) average and, this, would result in a less-than-significant VMT impact. The Project would further reduce single occupancy trips to the Project Site through TDM strategies, as also summarized in Section 3B. The Project would also contribute to the productivity and use of the regional transportation system by providing housing and employment near high-quality transit and encourage active transportation through wider sidewalks, retained and new bicycle lanes, provision of bicycle parking, and attractive landscaping elements, consistent with RTP/SCS goals. Thus, the Project encourages a variety of transportation options and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region. It does not conflict with any policy of the RTP/SCS.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, CEQA requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. All of the Related Projects are located north or northeast of the Project Site.

Similar to the Project, the Related Projects would be individually responsible for complying with relevant plans, programs, ordinances, or policies addressing the circulation system. As demonstrated above, the Project does not conflict with, and is consistent with, all plans, programs, ordinances, and policies. Thus, the Project would not contribute to cumulative impacts with respect to consistency with each of the plans, ordinances, or policies reviewed.

TABLE 2
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
Goal 1 – Balance	
Policy 1.1 Consider economic growth, transportation demands, and neighborhood character in developing a comprehensive transportation system that meets Burbank's needs.	**No Conflict.** The Project incorporates a publicly accessible private street (Screenland Drive) and an internal open promenade (Fry's Way) to provide multi-modal access to the various Project Site uses. It also provides minimum 12-foot-wide public sidewalks on all public frontage, which meets or exceeds the standards from Table M-2 of the Mobility Element.
Policy 1.2 Recognize that Burbank is a built-out city and wholesale changes to street rights-of-way are infeasible.	**No Conflict.** The Project does not propose change to public rights-of-way, other than dedications on Vanowen Street and Hollywood Way to provide wider public sidewalks. No roadways would be widened.
Policy 1.3 Maintain and enhance the city's traditional street and alleyway grid network.	**No Conflict.** The Project incorporates two publicly accessible bicycle and pedestrian paseos, one of which is aligned with an existing local street (Screenland Drive) and another of which connects Screenland Drive to N. Hollywood Way (Fry's Way). It does not remove any streets or alleys.
Policy 1.4 Ensure that future land uses can be adequately served by the planned transportation system.	**No Conflict.** An operations analysis was conducted in accordance with City Guidelines to ensure that there is adequate transportation capacity to accommodate Project traffic. The study, provided in Chapter 4, confirms that there is adequate capacity at the studied locations.
Policy 1.5 Design transportation improvements to be compatible with the scale and design of existing infrastructure.	**No Conflict.** The Project does not propose any physical changes to the public roadway network.
Policy 1.6 Use technology and intelligent transportation systems to increase street system capacity and efficiency as an alternative to street widening.	**No Conflict.** The Project does not propose any physical changes to the public roadway network, including widening.
Policy 1.7 Ensure that the transportation system enables Burbank residents, employees, and visitors opportunity to live, work, and play throughout the community.	**No Conflict.** The Project does not propose any physical changes to the public roadway network that could impede City residents, employees, and visitors from living, working, or playing. The Project provides new housing and space for new jobs in close proximity to each other and to high-quality public transit.

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Conflicts
Goal 2 – Sustainability	
Policy 2.1 Improve Burbank's alternative transportation access to local and regional destinations through land use decisions that support multimodal transportation.	**No Conflict.** The Project includes a mix of residential, office, and restaurant uses adjacent to high-quality public transit. It widens sidewalks on all public frontage and provides two internal bicycle and pedestrian paseos (Screenland Drive and Fry's Way). There are also bicycle lanes on N. Hollywood Way and Vanowen Street adjacent to the Project Site.
Policy 2.2 Weigh the benefits of transportation improvements, policies, and programs against the likely external costs.	**No Conflict.** Policy 2.2 is intended for implementation by the City rather than at the project level.
Policy 2.3 Prioritize investments in transportation projects and programs that support viable alternatives to automobile use.	**No Conflict.** Policy 2.3 is intended for implementation by the City rather than at the project level.
Policy 2.4 Require new projects to contribute to the city's transit and/or non-motorized transportation network in proportion to its expected traffic generation.	**No Conflict.** The Project would pay applicable transportation improvement fees for commercial land uses in accordance with BMC Section 10-1-22.
Policy 2.5 Consult with local, regional, and state agencies to improve air quality and limit greenhouse gas emissions from transportation and goods movement.	**No Conflict.** Policy 2.5 is intended for implementation by the City rather than at the project level. Section 3.B demonstrates that the Project would have a less-than-significant impact on VMT. Lower VMT results in lower greenhouse gas emissions and improved air quality. Additionally, the Project is designed with a reduced parking supply and would implement pedestrian and bicycle improvements as described in Section 3B which would further reduce VMT and thus further reduce greenhouse gas emissions and improve air quality.
Goal 3 – Complete Streets	
Policy 3.1 Use multi-modal transportation standards to assess the performance of the City street system.	**No Conflict.** Policy 3.1 is intended for implementation by the City rather than at the project level. An operations analysis was conducted in accordance with City Guidelines to ensure that there is adequate transportation capacity to accommodate Project vehicular traffic.

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
Policy 3.2 Complete city streets by providing facilities for all transportation modes.	**No Conflict.** The Project widens sidewalks on all public frontage and provides an internal open promenade (Fry's Way) for pedestrian use. There are existing bicycle lanes on Hollywood Way and Vanowen Street adjacent to the Project Site and high-quality public transit nearby. The Project incorporates a publicly accessible private street (Screenland Drive) with Class II bicycle lanes on both sides. It therefore serves the primary transportation modes of pedestrian, bicycle, public transit, and vehicle.
Policy 3.3 Provide attractive, safe street designs that improves transit, bicycle, pedestrian, and equestrian connections between homes and other destinations.	**No Conflict.** The Project includes a mix of residential, office, and restaurant uses adjacent to high-quality public transit. It widens sidewalks on all public frontage and provides an internal open promenade (Fry's Way) for pedestrian use. There are bicycle lanes on Hollywood Way and Vanowen Street adjacent to the Project Site, and the Project would incorporate Class II bicycle lanes on Screenland Drive, a publicly accessible private street through the Project Site. There are no equestrian uses in the vicinity of the Project Site.
Policy 3.4 All street improvements should be implemented within the existing right-of-way. Consider street widening and right-of-way acquisition as methods of last resort.	**No Conflict.** The Project does not propose change to public rights-of-way, other than dedications on Vanowen Street and Hollywood Way to provide wider public sidewalks. No roadways would be widened.
Policy 3.5 Design street improvements so they preserve opportunities to maintain or expand bicycle, pedestrian, and transit systems.	**No Conflict.** The Project widens sidewalks on all public frontage. It retains existing bicycle lanes on Vanowen Street and Hollywood Way adjacent to the Project Site and would incorporate Class II bicycle lanes on Screenland Drive, a publicly accessible private street through the Project Site. No other street improvements are proposed
Goal 4 – Transit	
Policy 4.1 New Technologies Ensure that local transit service is reliable, safe, and provides high-quality service to major employment centers, shopping districts, regional transit centers, and residential areas.	**No Conflict.** Policy 4.1 is intended for implementation by the City rather than at the project level. The Project would not impede existing or future transit service.
Policy 4.2 Use best-available transit technology to better link local destinations and improve rider convenience and safety, including specialized services for youth and the elderly.	**No Conflict.** The Project locates housing and employment opportunities in one of the identified Mobility Element Transit Centers, thereby encouraging travel by transit.

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Conflicts
Policy 4.3 Improve and expand transit centers; create a new transit center in the Media District.	**No Conflict.** The Project locates housing and employment opportunities in one of the identified Mobility Element Transit Centers, thereby encouraging travel by transit.
Policy 4.4 Advocate for improved regional bus transit, bus rapid transit, light rail, or heavy rail services linking Burbank's employment and residential centers to the rest of the region.	**No Conflict.** The Project locates housing and employment opportunities within walking distance of the Burbank Airport South Metrolink Station providing train service to Ventura County, downtown Los Angeles, and Orange County. It is also located near several local and regional bus lines.
Policy 4.5 Improve transit connections with nearby communities and connections to Downtown Los Angeles, West San Fernando Valley, Hollywood, and the Westside.	**No Conflict.** The Project locates housing and employment opportunities within walking distance of the Burbank Airport South Metrolink Station and several local and regional bus lines, linking the Project to nearby communities via transit, including downtown Los Angeles and the West San Fernando Valley.
Policy 4.6 Proactively plan for transit deficiencies should Los Angeles County Metropolitan Transportation Authority make cutbacks to local service.	**No Conflict.** Policy 4.6 is intended for implementation by the City rather than at the project level. The additional public transit ridership that the Project would generate could help to encourage maintenance of the transit routes serving the Study Area.
Policy 4.7 Integrate transit nodes and connection points with adjacent land uses and public pedestrian spaces to make them more convenient to transit users.	**No Conflict.** The Project Site is across Vanowen Street from the Metrolink Burbank Airport South train station. There is an existing pedestrian crosswalk across Vanowen Street located approximately 420 feet west of the Project Site. The Project would widen the public sidewalk along all public frontage, enhancing the pedestrian connections to the train station and other public transit on Hollywood Way. The Project would also create a protected bike path from Valhalla Street to Vanowen Street, linking the Metrolink Station to the neighborhoods south of the Project Site.
Policy 4.8 Promote multimodal transit centers and stops to encourage seamless connections between local and regional transit systems, pedestrian and bicycle networks, and commercial and employment centers.	**No Conflict.** The Project Site is located near high-quality transit. It would widen sidewalks and retain existing bicycle lanes on Vanowen Street and Hollywood Way, as well as install a new protected bike path on the Screenland Drive Paseo.
Policy 4.9	**No Conflict.** Policy 4.9 is intended for implementation by the City rather than at the project level.

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
Support efforts to create a seamless fare-transfer system among different transportation modes and operators.	
Policy 4.10 Actively promote public-private partnerships for transit-oriented development opportunities.	**No Conflict.** Policy 4.10 is intended for implementation by the City rather than at the project level. The Project, a transit-oriented development, is proposed by a private developer.
Goal 5 – Bicycle and Pedestrian Mobility	
Policy 5.1 Maximize pedestrian and bicycle safety, accessibility, connectivity, and education throughout Burbank to create neighborhoods where people choose to walk or ride between nearby destinations.	**No Conflict.** The Project widens sidewalks on all public frontage and provides two internal open promenades (Screenland Drive and Fry's Way) for pedestrian and bicycle use, including a protected bike path on Screenland Drive. There are existing bicycle lanes on N. Hollywood Way and Vanowen Street adjacent to the Project Site and high-quality public transit nearby. It therefore improves pedestrian and bicycle safety, accessibility, and connectivity.
Policy 5.2 Implement the Bicycle Master Plan by maintaining and expanding the bicycle network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer.	**No Conflict.** The Project provides a mix of uses, including residential, office, and restaurant uses, at a site served by existing bicycle lanes on N. Hollywood Way and Vanowen Street. The Project incorporates a protected bike path on the Screenland Drive paseo. It also would provide long-term and short-term bicycle/ parking for residents, employees, and visitors.
Policy 5.3 Provide bicycle connections to major employment centers, shopping districts, residential areas, and transit connections.	**No Conflict.** The Project provides a mix of uses, including residential, office, and restaurant uses, at a site served by existing bicycle lanes on N. Hollywood Way and Vanowen Street and located near high-quality transit. The Project incorporates a protected bike path on the Screenland Drive paseo.
Policy 5.4 Ensure that new commercial and residential developments integrate with Burbank's bicycle and pedestrian networks.	**No Conflict.** The Project, which provides residential and commercial uses, widens public sidewalks and connects to existing bicycle lanes on N. Hollywood Way and Vanowen Street by providing a protected bike path on the Screenland Drive paseo and an open pedestrian and bicycle paseo on Fry's Way. It also would provide long-term and short-term bicycle parking for residents, employees, and visitors.
Policy 5.5 Require new development to provide land necessary to accommodate pedestrian infrastructure, including sidewalks at the standard widths specified in Table M-2.	**No Conflict.** The Project provides land dedications on Vanowen Street, Hollywood Way, and Valhalla Street to widen public sidewalks to a minimum 15-foot width, which meets or exceeds the standards from Table M-2 of the Mobility Element.

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
Goal 6 – Neighborhood Protection	
Policy 6.1 Maintain arterial street efficiency to discourage spillover traffic into residential neighborhoods.	**No Conflict.** An operations analysis was conducted in accordance with City Guidelines to ensure that there is adequate transportation capacity on arterial streets to accommodate Project traffic. Additionally, an analysis of potential residential cut-through traffic was conducted. Both of these analyses are provided in Chapter 4. As summarized therein, the Project would not substantially contribute to intersection delay at locations forecast to operate at LOS E and all of the driveways would operate at LOS C or better.
Policy 6.2 Consider reconfiguring travel lanes and introducing reduced speed limits as part of comprehensive efforts to calm traffic.	**No Conflict.** The residential cut-through traffic analysis provided in Section 4E indicates that no traffic calming features are necessary as a result of Project traffic. The Project would not prevent the reconfiguration of travel lanes or reduction of speed limits should the City choose to implement such measures in the future.
Policy 6.3 Pursue comprehensive neighborhood protection programs to avoid diverting unwanted traffic to adjacent streets and neighborhoods.	**No Conflict.** The residential cut-through traffic analysis provided in Section 4E indicates that no traffic calming features are necessary as a result of Project traffic. The Project would not prevent implementation of traffic calming measures should the City choose to implement such measures in the future.
Goal 7 – Parking	
Policy 7.1 Effectively manage citywide parking to improve convenience while maximizing use at all times of the day.	**No Conflict.** Policy 7.1 is intended for implementation by the City rather than at the project level. The Project provides its own parking sufficient to meet Project demand.
Policy 7.2 Design commercial and residential parking standards to limit new vehicle trips, incentivize transit use, and promote non-motorized transportation.	**No Conflict.** The Project's parking requirement is reduced due to a density bonus under Assembly Bill 2345. The reduced parking supply will help to limit vehicle trips, incentivize transit use, and promote alternative modes of transportation.
Policy 7.3 Reconfigure or remove underutilized street parking when needed to accommodate safer bicycle travel, increase walkability, improve transit operation, or improve vehicle safety.	**No Conflict.** Policy 7.3 is intended for implementation by the City rather than at the project level. There is on-street parking on Vanowen Street adjacent to the Project Site, along with on-street bicycle lanes and, once widened by the Project, a standard-width public sidewalk.
Goal 8 – Transportation Demand Management	

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Conflicts
Policy 8.1 Update and expand the citywide transportation demand management requirements to improve individual economic incentives and change traveler choice.	**No Conflict.** Policy 8.1 is intended for implementation by the City rather than at the project level. The Project is subject to the City's TDM ordinance but is not subject to joining a Transportation Management Organization because it is not located within the Burbank Center Plan area or the Media Center Specific Plan area. The TDM ordinance, described in BMC Section 10-1-2304, requires the following for the Project: • A bulletin board or kiosk displaying transit, rideshare, and bicycle information for employees • Preferred carpool/vanpool parking and loading area • Bicycle racks or secure bicycle parking for non-residential uses • Pedestrian connections to the public sidewalks • Bicycle connections to public bicycle facilities • Bus stop improvements, if determined necessary by the City The Project proposes to implement various design features that would reduce VMT as described in Section 3B.
Policy 8.2 Strengthen partnerships with transit management organizations to develop citywide demand management programs and incentives to encourage alternative transportation options.	**No Conflict.** Policy 8.2 is intended for implementation by the City rather than at the project level. The Project proposes to implement various design features that would reduce VMT as described in Section 3B.
Policy 8.3 Require multi-family and commercial development standards that strengthen connections to transit and promote walking to neighborhood services.	**No Conflict.** Policy 8.3 is intended for implementation by the City rather than at the project level. The Project sidewalks on all public frontage, enhancing the pedestrian connections to the Metrolink Burbank Airport South train station and other public transit on Hollywood Way.
Goal 9 – Safety, Accessibility, Equity	
Policy 9.1 Ensure safe interactions between all modes of travel that use the street network, specifically the interaction of bicyclists, pedestrians, and equestrians with motor vehicles.	**No Conflict.** Section 3C provides an analysis of safety with respect to the Project's geometric design of access and other transportation infrastructure. As concluded in Section 3C, the Project would not result in a significant impact with regard to interaction of different modes of travel.
Policy 9.2 Address the needs of people with disabilities and comply with the requirements of the Americans with Disabilities Act during the planning and	**No Conflict.** The Project would meet Americans with Disabilities Act requirements, subject to City review and approval during permitting. The Project would widen sidewalks along all public frontages to improve accessibility for pedestrians, including disabled individuals.

TABLE 2 (CONTINUED)
PROJECT CONFLICTS WITH MOBILITY ELEMENT OF THE GENERAL PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
implementation of transportation improvement projects.	
Policy 9.3 Provide access to transportation alternatives for all users, including senior, disabled, youth, and other transit-dependent residents.	**No Conflict.** The Project is near high-quality transit, including the Metrolink Burbank Airport South train station on the north side of Vanowen Street and various bus routes on Hollywood Way. The Project would widen sidewalks along all public frontages to improve accessibility for pedestrians, including disabled individuals.
Policy 9.4 Preserve and promote safe riding for equestrians to access public riding trails.	**No Conflict.** There are no equestrian trails in the vicinity of the Project Site.

Notes:
[a] Policies based on *Burbank2035 General Plan, Chapter 4: Mobility Element* (City of Burbank, February 2013).

TABLE 3
PROJECT CONFLICTS WITH BICYCLE MASTER PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
Policies	
Policy 1 Make bicycle travel an integral part of daily life in Burbank, particularly for trips of less than five miles, by implementing and maintaining a bicycle network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, making bicycling safer, and engaging the public in bicycling related issues and discussions. **Policy 2** Provide bicycle-friendly connections to transit centers, major employment centers, retail districts, and residential areas to make the overall road network more hospitable to bicycle travel. **Policy 3** Ensure that new commercial and residential development integrates with the City's bicycle network by requiring contributions to the City's non-motorized transportation system in proportion to its expected vehicle trip generation.	**No Conflict.** Policies 1 through 3 are intended for implementation by the City rather than at the project level. However, the Project would contribute to the implementation of the City's bicycle network by directly installing a portion of a priority bicycle lane identified in the *Bicycle Master Plan*. The Project would install a protected bike path on the Screenland Drive paseo through the Project Site between Vanowen Street and Valhalla Drive. The *Bicycle Master Plan* identifies this route, extending south an additional block to Pacific Avenue, as a secondary priority bikeway project. Additionally, the Project would retain the bicycle lanes on Vanowen Street and N. Hollywood Way, which provide connections to high-quality transit and major employment centers.
Policy 4 Encourage a livable street environment through comprehensive roadway planning that considers the interaction between the street, sidewalk, and adjacent land uses. **Policy 5** Encourage all roadways and intersections to incorporate the "complete streets" concept that users of all ages and abilities, pursuing all activities, shall be able to move safely throughout the street network.	**No Conflict.** The Project widens sidewalks on all public frontage and provides two internal open promenades (Screenland Drive and Fry's Way) for pedestrian use. There are existing bicycle lanes on Hollywood Way and Vanowen Street adjacent to the Project Site and high-quality public transit nearby. The Project incorporates a protected bike path on the Screenland Drive paseo. It therefore serves the primary transportation modes of pedestrian, bicycle, public transit, and vehicle.

TABLE 3 (CONTINUED)
PROJECT CONFLICTS WITH BICYCLE MASTER PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Conflicts
Policy 6 Pursue roadway design that will minimize cut-through and spillover traffic in residential neighborhoods and maintain the neighborhoods' character and quality of life.	**No Conflict.** The Project's access plan is designed to reduce the likelihood of cut-through traffic as much as possible. It provides residential access directly to the arterial streets (Vanowen Street and Hollywood Way), along with additional access on Valhalla Drive. The office access would be adjacent to the office use on Valhalla Drive and is necessarily further from the arterial streets. Only Project traffic to or from Victory Boulevard west of Hollywood Way could experience a potential time savings by cutting through residential streets to the south. Based on the detailed residential street cut-through traffic analysis provided in Section 4E, approximately 219 Project trips may pass through the residential streets on a daily basis (less than 5% of Project traffic). As concluded in Section 4E, the Project's traffic on any individual residential street would not exceed thresholds identified by the City.
Objectives	
Objective A Implement the Bicycle Master Plan, which identifies existing and future needs, and provides specific recommendations for facilities and programs over the next 25 years. **Objective B** Identify and implement a network of bikeways that is feasible, fundable, and that serves all bicyclists' needs, especially for travel to employment centers, schools, commercial and retail districts, transit stations, and institutions, while not excluding the needs of recreational cyclists.	**No Conflict.** Objectives A and B are intended for implementation by the City rather than at the project level. However, the Project would contribute to the implementation of the City's bicycle network by directly installing a portion of a priority bicycle lane identified in the *Bicycle Master Plan*. The Project would install Class II bicycle lanes on Screenland Drive, a publicly accessible private street through the Project Site, between Vanowen Street and Valhalla Drive. The *Bicycle Master Plan* identifies this route, extending south an additional block to Pacific Avenue, as a secondary priority bikeway project. Additionally, the Project would retain the bicycle lanes on Vanowen Street and Hollywood Way, which provide connections to high-quality transit and major employment centers.
Objective C Maintain and improve the quality, operation, and integrity of the Burbank bikeway network and roadways regularly used by bicyclists.	**No Conflict.** The Project would preserve all existing bike lanes, would not preclude the completion of other bike plan projects, and would implement a protected bike path on the Screenland Drive paseo.

TABLE 3 (CONTINUED)
PROJECT CONFLICTS WITH BICYCLE MASTER PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Conflicts**
<u>Objective D</u> Encourage the development of safety education programs aimed at youth and adults. Increase public awareness of the benefits of bicycling and of available resources and facilities.	**No Conflict.** Objective D is intended for implementation by the City rather than at the project level.
<u>Objective E</u> Encourage short-term and long-term bicycle parking and other bicycle amenities in employment and commercial areas, in multi-family housing, at schools and colleges, and at transit stations.	**No Conflict.** The Project would provide long-term and short-term bicycle parking for residents, employees, and visitors in accordance with City requirements.
<u>Objective F</u> Increase the number of bicycle-transit trips. **<u>Objective G</u>** Increase government and public recognition of bicyclists' equal right to use public roadways. **<u>Objective H</u>** Encourage roadway design that allows for the equitable use of all transportation modes.	**No Conflict.** The Project would increase the number of bike-transit trips because the Project is located near high quality transit and is implementing bike connections between the Project and the Metrolink Burbank Airport South Station.

<u>Notes:</u>
[a] Policies and Objectives based on *City of Burbank Bicycle Master Plan* (City of Burbank, December 2009).

Section 3B
CEQA VMT Analysis

The City Guidelines identify project-level thresholds of significance for potential VMT impacts:

- <u>Residential Projects</u>: Project VMT exceeds a level of 15% below existing County VMT per capita.
- <u>Office Projects</u>: Project VMT exceeds a level of 15% below existing County VMT per employee.
- <u>Retail/Restaurant</u>: For projects that are not neighborhood-serving (e.g., not less than 50,000 sf), Project causes a net increase in total VMT, after accounting for the VMT of any existing uses.
- <u>Mixed-Use</u>: For mixed-use projects, if any residential, office, or retail use component of the mixed-use project causes a significant impact as calculated by the applicable individual land use methodology, after accounting for internal capture.

The City Guidelines also identify a screening process under which a project may be presumed not to have a significant impact with respect to VMT, without requiring quantitative analysis. Both the thresholds identified above and the screening process are consistent with CEQA requirements and the recommendations from *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Governor's Office of Planning and Research, December 2018) (OPR Technical Advisory).

VMT SCREENING

The City Guidelines identify four criteria under which a proposed development may be presumed to have a less-than-significant VMT impact. The second criterion applies to the Project:

> *The project is a residential, retail, office, or mixed-use project within ½ mile of an existing major transit stop or existing stop along a high-quality transit corridor (as defined by the OPR Technical Advisory) and:*
>
> a. *Does not have a floor-area-ratio less than 0.75*
> b. *Does not include more parking than is required by the Burbank Municipal Code*

c. *Is consistent with the RTP/SCS*
d. *Does not replace affordable housing units with a smaller number of moderate- or high-income units*

The Project is located less than 0.50 miles of both the Metrolink Burbank Airport South train station and the Hollywood Burbank Airport Regional Intermodal Transportation Center, where several Metro bus lines and a BurbankBus route stop. Therefore, it satisfies the primary screening criterion. Additionally:

- The Project would have a floor-area-ratio of 2.1 (greater than 0.75).
- The Project would provide 1,613 parking spaces, fewer than the 2,239 required under the Burbank Municipal Code (BMC). The calculation of required parking according to the BMC is provided in Appendix A.
- As described in Section 3A, the Project is consistent with the RTP/SCS.
- The Project does not replace any existing housing. It would provide 862 apartment units, including 80 affordable units.

Therefore, the Project satisfies the screening criteria and can be presumed to have a less-than-significant VMT impact. No further analysis is required, and no mitigation measures are required.

DESIGN FEATURES TO REDUCE VMT

The Project would include several design features that would serve to reduce VMT and vehicle trips. These include a reduced vehicular parking supply, provision of bicycle infrastructure and parking on-site, and pedestrian network improvements within and around the Project Site.

- Reduced Parking Supply: The Project would provide less parking than would typically be required by the BMC. The BMC requires 2,239 spaces, including 1,686 for residential uses, 32 for restaurant uses, and 456 for office uses. The Project would provide a total of 1,613 spaces, 626 fewer than the BMC requirement. A reduced parking supply makes parking less available and more expensive and, therefore, encourages the use of non-automobile modes to and from the Project Site and reduces VMT.
- Bicycle Infrastructure: The Project would provide a new protected bike path along Screenland Drive through the Project Site, along with retaining the existing bicycle lanes on Vanowen Street and N. Hollywood Way, supporting potential bicycle infrastructure on Valhalla Drive, and providing on-site bicycle parking for residents and office employees.

These facilities give residents and employees the option to use bicycles as part of their mode choice and, therefore, encourages the use of non-automobile modes to and from the Project Site and reduces VMT.

- Pedestrian Infrastructure: The Project would widen the sidewalks on all public frontages, as well as provide new sidewalks and an open pedestrian paseo on Screenland Drive through the Project Site and an open pedestrian promenade along Fry's Way through the Project Site. The enhanced pedestrian connectivity would encourage pedestrian trips to and from the Project Site and improve access to public transit, thereby reducing automobile trips and VMT.

Additionally, the Project would incorporate the features required by the City's TDM ordinance described in BMC Section 10-1-2304 (most of which are inherent in the design of the Project):

- A bulletin board or kiosk displaying transit, rideshare, and bicycle information for employees
- Carpool / vanpool parking and loading area
- Bicycle racks or secure bicycle parking for non-residential uses
- Pedestrian connections to the public sidewalks
- Bicycle connections to the public bicycle facilities
- Bus stop improvements, if determined necessary by the City

CUMULATIVE ANALYSIS

Cumulative VMT effects of development projects are determined based on demonstrated consistency with the Mobility Element, the Bicycle Master Plan, the Complete Streets Plan, and with the air quality and GHG reduction goals of the RTP/SCS. Because the Project would not be in conflict with any of those policy documents, it would not have a significant cumulative VMT impact.

Section 3C
CEQA Safety Analysis: Site Analysis and Circulation

A CEQA safety evaluation addressing access and circulation is required for projects that propose new access points or modifications along the public ROW. Project access plans were reviewed to determine if the Project would substantially increase hazards due to geometric design features, including safety or operational impacts.

ACCESS AND CIRCULATION OVERVIEW

As described in Chapter 1, the Project would construct two new publicly accessible bicycle and pedestrian paseos, including Screenland Drive with vehicular access for Residential Building 1, and Fry's Way with vehicular access to residential parking (both residential buildings) on the east end where it connects to the N. Hollywood Way southbound ramp from Vanowen Street. Additional parking access for Residential Building 1 would be provided on Screenland Drive and Vanowen Street and for Residential Building 2 would be provided on Valhalla Drive. Each of the vehicular access points for Residential Buildings 1 and 2 would be internally connected, so drivers could enter and exit via any driveway. Vehicular access to the office building would be provided on Valhalla Drive. Each of the driveways would provide a single inbound and a single outbound lane allowing full access. Inside the parking structures, gate arms with key card access would be installed to secure residential and office parking areas. On Vanowen Street, the Project would stripe westbound left-turn lanes to replace the two-way left-turn median for accessing Screenland Drive and the residential driveway to Building 1.

The Project would intensify pedestrian and bicycle activity on adjacent streets, and the bicycle lanes and sidewalks along Screenland Drive would attract new pedestrian and bicycle activity in addition to use by Project residents and employees. In order to promote walkability and safety in the vicinity of the Project Site, and to complete gaps in existing infrastructure, the Project proposes to install pedestrian crosswalk improvements on Vanowen Street at the N. Hollywood Way ramps. Specifically, it would install ADA accessible pedestrian ramps at the southeast corner of

Intersection #2 (N. Hollywood Way Southbound On-ramp & Vanowen Street) and the southwest corner of Intersection #3 (N. Hollywood Way Northbound Off-ramp & Vanowen Street). It would add a pedestrian signal phase for Intersection #2 (N. Hollywood Way Southbound On-ramp & Vanowen Street), with which the westbound left-turn would be controlled by a protected left-turn arrow (a movement that is currently uncontrolled).

The Project would provide a protected bike path and sidewalks on the Screenland Drive paseo, and the majority of Fry's Way would be dedicated as a pedestrian promenade with no vehicular traffic (serving as a fire lane in case of emergency). Pedestrian access to the residential buildings would be provided from the parking structures and at various places around the exteriors of each building, separated from vehicular access. The Project supports a proposal by City staff to potentially add bicycle connectivity (Class II or Class III) along the south side of the Project Site on Valhalla Drive between Screenland Drive and N. Hollywood Way.

The ground floor Project Site plan including driveway locations is shown in Figure 2.

POTENTIAL HAZARDS RELATED TO DRIVEWAY LOCATION AND DESIGN

BMC Section 10-1-16 provides guidance on driveway location and design. Driveways may not be closer than 30 feet to an intersecting street and must be between 10 and 38 feet wide. Each of the Project driveways are located greater than 30 feet from any intersection and are between 24 and 30 feet wide. Therefore, all driveways satisfy BMC requirements related to location and design.

With one exception, each of the streets adjacent to the Project Site is straight and level, and the driveways would have unrestricted visibility both in and out. The N. Hollywood Way southbound ramp from Vanowen Street is at a slight downward grade (0.8%) but is also straight with unrestricted visibility. Each driveway is located approximately midway between control points or intersecting roads: the driveway on Vanowen Street is midway between the proposed Screenland Drive and the N. Hollywood Way ramp; the driveway on the N. Hollywood Way ramp is midway between Vanowen Street and the stop control where it merges with N. Hollywood Way; and the driveway on Valhalla Drive is midway between Screenland Drive and N. Hollywood Way. The office driveway is located at the west end of the Project Site, as far as possible from Screenland

Drive. Therefore, driveway locations are optimally placed for ensuring maximum sight distance and minimum interference with adjacent intersections or access.

POTENTIAL HAZARDS RELATED TO BICYCLE AND PEDESTRIAN ACTIVITY

The Residential Building 1 driveways on Screenland Drive and Vanowen Street would cross sidewalks and bicycle lanes, and the Residential Building 2 driveway on Valhalla Street may cross a bicycle lane if the City chooses to install one. All other Project driveways would cross sidewalks. However, these are common conditions at driveways throughout the City and do not present unusual hazards so long as standard design practices are followed to ensure good visibility for all users. As summarized above, the driveways would provide good vehicle-to-vehicle visibility. Additional considerations for pedestrian safety could include convex mirrors at the driveways, signs warning drivers to watch for pedestrians, and/or audible alerts when a vehicle approaches the exit. The driveway designs would encourage slow travel across pedestrian sidewalks by implementing City commercial driveway standard Type 4 per the *Commercial Driveway Standard Plan BS-102* (City of Burbank – Public Works Department, August 18, 1992). These features would be implemented as necessary according to the BMC or the Building and Safety Division of the CDD.

The Project is specifically designed as a mixed-use development supporting active transportation both through provision of pedestrian and bicycle infrastructure and inclusion of pedestrian-oriented land uses with the ground-floor restaurant spaces. In this environment, residents and other drivers would expect to encounter pedestrians and bicyclists and use extra caution when entering and exiting the driveways. Therefore, no significant hazards are anticipated between vehicles and pedestrians and bicyclists.

POTENTIAL OPERATIONAL HAZARDS

Driveway operations were analyzed in detail in Section 4D as part of the City's operations analysis. The analysis was conducted using the *Highway Capacity Manual*, *6th Edition,* (Transportation Research Board, 2016) (HCM) methodology to assess delay, level of service (LOS), and queuing. Based on the analysis in Section 4D, each driveway would operate at LOS

D or better during the morning and afternoon peak hours, as would the intersections of Screenland Drive with Vanowen Street and Valhalla Drive. Similarly, queuing out of each driveway would be minimal. In order to ensure that inbound queuing would not reach back to any public street, any access control system (i.e., gate arms) at the driveways would be located far enough internally that two cars could enter (i.e., one at the gate and one behind) without impeding the public sidewalk.

The intersection operations analysis conducted in Section 4C also indicates that the queue at Intersection #4 (N. Hollywood Way at the southbound ramp from Vanowen Street) could reach six vehicles in the future condition with the Project in place, based on the 95th percentile queue. During the afternoon peak hour (the busiest hour of the day for this location), the queue would be less than the 95th percentile queue length 95% of the time. The proposed driveway at the east end of Fry's Way is located on that ramp approximately 150 feet north of the control point. A queue of six car lengths is approximately 150 linear feet (assuming 25 feet per car); therefore, 95% of the time during the busiest hour of the day, the queue would not reach back to that driveway. In the rare event that the queue did reach the driveway, residents leaving via that driveway would wait on Fry's Way within the Project Site without affecting the public ROW. Further, residents have the ability to use any driveway and, should queuing at this driveway during a particular time of day be a regular issue, they would learn to use a different driveway when leaving at that time. As discussed above, there are no queuing issues at the other driveways, which could easily accommodate additional Project traffic if necessary. Therefore, this potential operational deficiency would not result in a significant impact.

CUMULATIVE ANALYSIS

There are no Related Projects adjacent to the Project Site that could affect any of the Project-specific conclusions above. Therefore, the Project would not contribute to cumulative impacts that would substantially increase hazards due to geometric design features, including safety or operational impacts.

Section 3D
CEQA Safety Analysis: Freeway Queuing

The City Guidelines specify that a freeway queuing analysis should be conducted in accordance with *Interim Guidance for Freeway Safety Analysis* (Los Angeles Department of Transportation, May 1, 2020) (Freeway Queuing Guidance).

ANALYSIS METHODOLOGY

The Freeway Queuing Guidance relates to the identification of potential safety impacts at freeway off-ramps as a result of increased traffic from development projects. It provides a methodology and significance criteria for assessing whether additional vehicle queueing at off-ramps could result in a safety impact due to speed differentials between the mainline freeway lanes and the queued vehicles at the off-ramp.

Based on the Freeway Queuing Guidance, a transportation study for a development project must include analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project would result in a significant impact at such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes[4].
2. A project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.
3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

[4] If an auxiliary lane is provided on the freeway, then half the length of the auxiliary lane is added to the ramp storage length.

Should a significant impact be identified, mitigation measures to be considered include TDM strategies to reduce a project's trip generation, investments in active transportation or transit system infrastructure to reduce a project's trip generation, changes to the traffic signal timing or lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

FREEWAY QUEUING ANALYSIS

Based on the Project's trip generation estimates and trip distribution pattern detailed in Section 4B, the Project would add 25 or more net new peak hour trips to the I-5 northbound off-ramp to Empire Avenue. The Project would add approximately 34 trips during the morning peak hour. Other off-ramps, including the I-5 southbound off-ramps to N. Hollywood Way and to Empire Avenue, would carry fewer than 25 net new peak hour trips during any peak hour and, therefore, would not meet the first criterion of the Freeway Queuing Guidance and would not require analysis.

The 85th percentile ramp queue[5] was calculated using the HCM methodology used in the operating conditions analysis in Section 4B. The intersection was analyzed under the Future with Project Conditions in Year 2026. The HCM worksheet is provided in Appendix B. The analysis shows that the queue for left turns at that off-ramp would be approximately 14 vehicles, or approximately 350 feet at 25 feet per vehicle. The I-5 northbound off-ramp to Empire Avenue is over 600 feet long and, therefore, the queue would not reach the mainline and would not result in a significant safety impact. No further analysis is required.

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[5] Synchro software, used to implement the HCM methodology, reports the 85th percentile queue at signalized intersections (vs. the 95th percentile queue at unsignalized intersections as in the driveway analysis referenced in Section 3C).

Chapter 4

Non-CEQA Operations Analysis

This chapter summarizes the non-CEQA operations analysis for the Project as required by the City Guidelines. It provides an evaluation of existing and future traffic conditions with and without the Project. The analysis was conducted for intersections and for street segments.

The operations analysis consists of six parts, addressed in Sections 4A through 4F:

1. Study Area and Baseline Traffic Volumes
2. Project Traffic Volumes
3. Intersection Operations Analysis
4. Driveway Operations Analysis
5. Residential Street Cut-Through Traffic Analysis
6. Recommended Transportation Improvements (to be provided)

Section 4A
Study Area and Baseline Traffic Volumes

The Study Area for this operations analysis was identified in consultation with CDD and includes 15 intersections and four residential street segments in the vicinity of the Project Site along with all Project driveways. The intersections and street segments are shown in Figure 7 and listed in Table 4. The existing and future lane configurations at the analyzed intersections are provided in Appendix C.

EXISTING TRAFFIC VOLUMES

Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses in full operation, in weeks without holidays, etc.) However, due to the ongoing effects of the COVID-19 pandemic, typical traffic patterns are disrupted, and an alternative approach was necessary to identify existing traffic volumes. Traffic count data collected in May 2018 (prior to the pandemic) was available for nine of the study intersections from a recent transportation study in the vicinity. New traffic count data was collected at the remaining six intersections, along with two of the locations with May 2018 count data, in April 2021. The traffic count data at the two overlapping locations was compared to develop adjustment factors to apply to the April 2021 data.

The traffic comparisons were conducted at Intersections #9 (N. Hollywood Way & Victory Boulevard) and #11 (Buena Vista Street & Empire Avenue). Three separate adjustment factors were developed based on the afternoon peak hour results. A factor of 1.59 was applied to intersections on N. Hollywood Way and in the immediate vicinity of the Project Site. A factor of 1.39 was applied to intersections on Buena Vista Street, with the exception of Intersection #11 (Buena Vista Street & Empire Avenue). That intersection, where traffic patterns were substantially affected by the opening of the I-5 Interchange at Empire Avenue in September 2019, used a factor of 1.19. Details of how these factors were developed are provided in Appendix D. The factors were applied to the April 2021 peak hour traffic counts as a representative estimate of existing traffic conditions without the COVID-19 pandemic.

The existing peak hour traffic volumes, representing Existing Conditions in Year 2021, are illustrated in Figure 8. The traffic count details are provided in Appendix D.

FUTURE CUMULATIVE TRAFFIC VOLUMES

The forecast of Future without Project Conditions for Year 2026 (the anticipated year of Project completion) was prepared in consultation with CDD. It includes increases to traffic from Related Projects and from regional growth projections.

Ambient Traffic Growth

Existing traffic is expected to increase as a result of regional growth and development outside the Study Area. In consultation with CDD, an ambient growth factor of 0.72% per year was applied based on forecasts from the City's travel demand forecasting model (City Model). The total adjustment applied over the five-year period between Year 2021 and the anticipated buildout year of the Project was 3.60%

Related Projects

This study also considered the effects of the Related Projects on traffic volumes. The Related Projects detailed in Table 1 and shown in Figure 6 were considered as part of this Study and conservatively assumed to be completed by Year 2026. Therefore, the traffic growth due to the development of Related Projects considered in this analysis is highly conservative and likely overestimates the actual traffic volume growth in the area that would occur in the next two years prior to Project buildout. With the addition of the 3.60% ambient growth factor previously discussed, the Future without Project Condition is even more conservative.

The development of estimated traffic volumes added to the study intersections as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

Trip Generation. Trip generation estimates for the Related Projects were provided by CDD or sourced from previous transportation studies. The Related Projects trip generation estimates summarized in Table 1 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 (e.g., transit, bus, bicycling, walking, carpool, etc.) Further, in many cases, they do not account for the internal capture trips within a multi-use development or for the interaction of trips between multiple Related Projects, in which one Related Project serves as the origin for a trip destined for another Related Project.

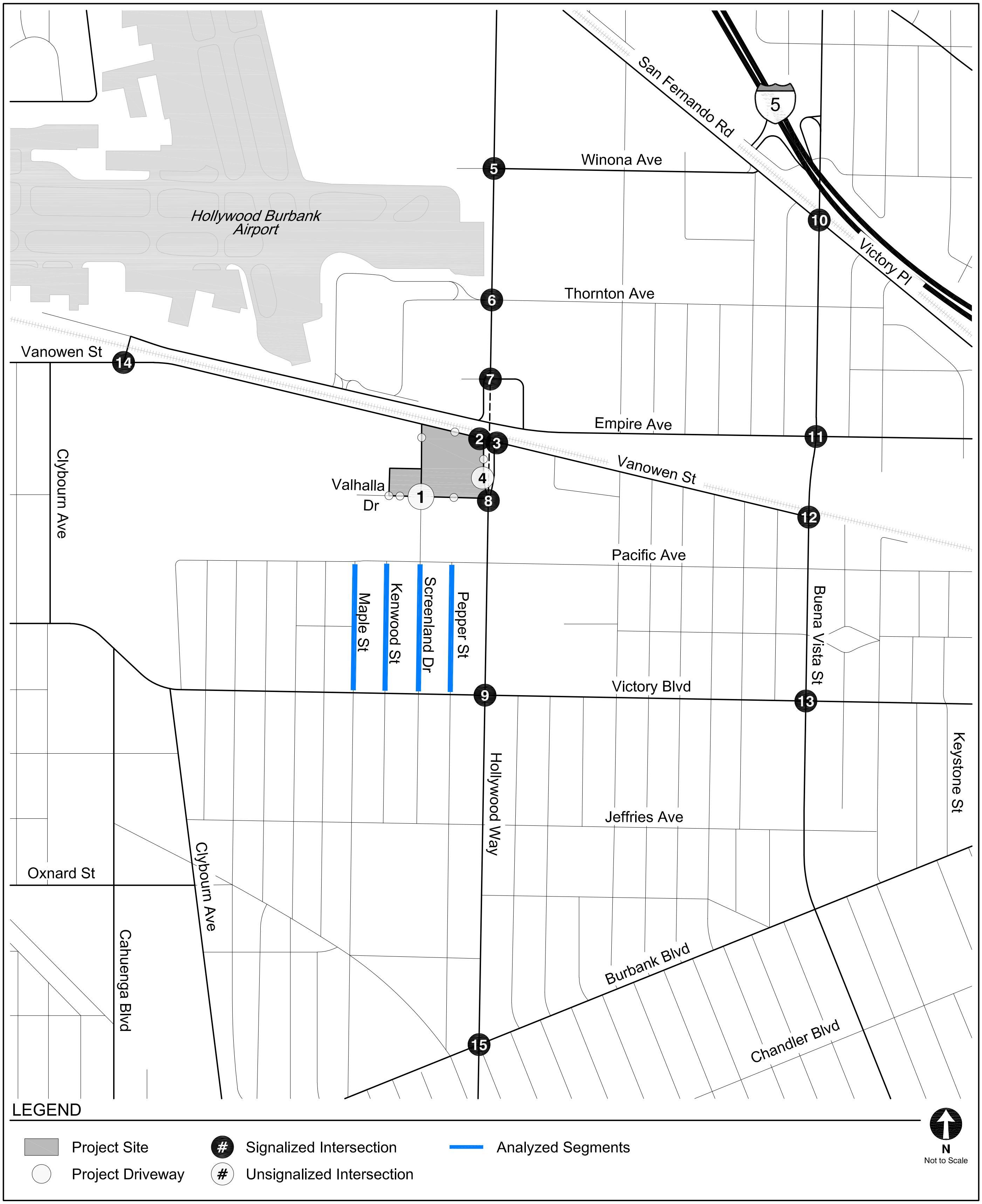
Trip Distribution. The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These include the type and density of the proposed land uses, the geographic distribution of the population from which the residents of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors are considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

Traffic Assignment. The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution process described above. For Related Projects #2 (Avion) and #4 (Hollywood Burbank Airport Terminal Replacement Project), volumes from their respective transportation studies[6] were used directly at the study intersections where applicable and extrapolated for the remaining intersections. Figure 9 shows the peak hour traffic volumes associated with these Related Projects at the study intersections.

[6] *Draft Transportation Impact Study for the Avion Mixed Use Development Project* (Fehr & Peers, March 2018) and Appendix K (Surface Traffic) of *Draft Environmental Impact Statement for the Proposed Replacement Passenger Terminal Project, Bob Hope "Hollywood Burbank" Airport* (U.S. Department of Transportation and Federal Aviation Authority, August 2020)

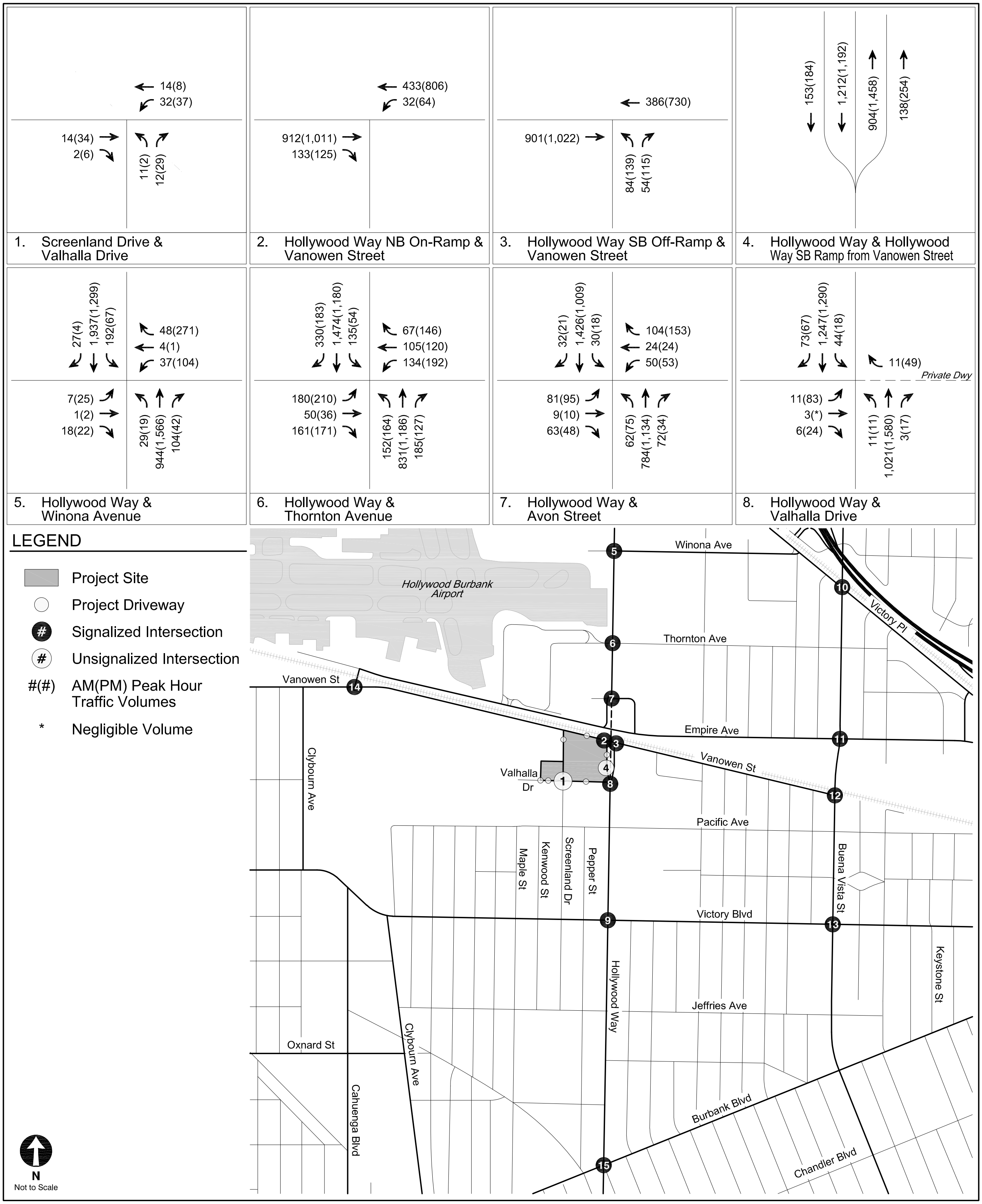
Future without Project Traffic Volumes

The Future without Project Conditions peak hour traffic volumes are the combination of Existing Conditions traffic volumes, ambient growth, and Related Project traffic. These volumes at the study intersections are shown in Figure 10.



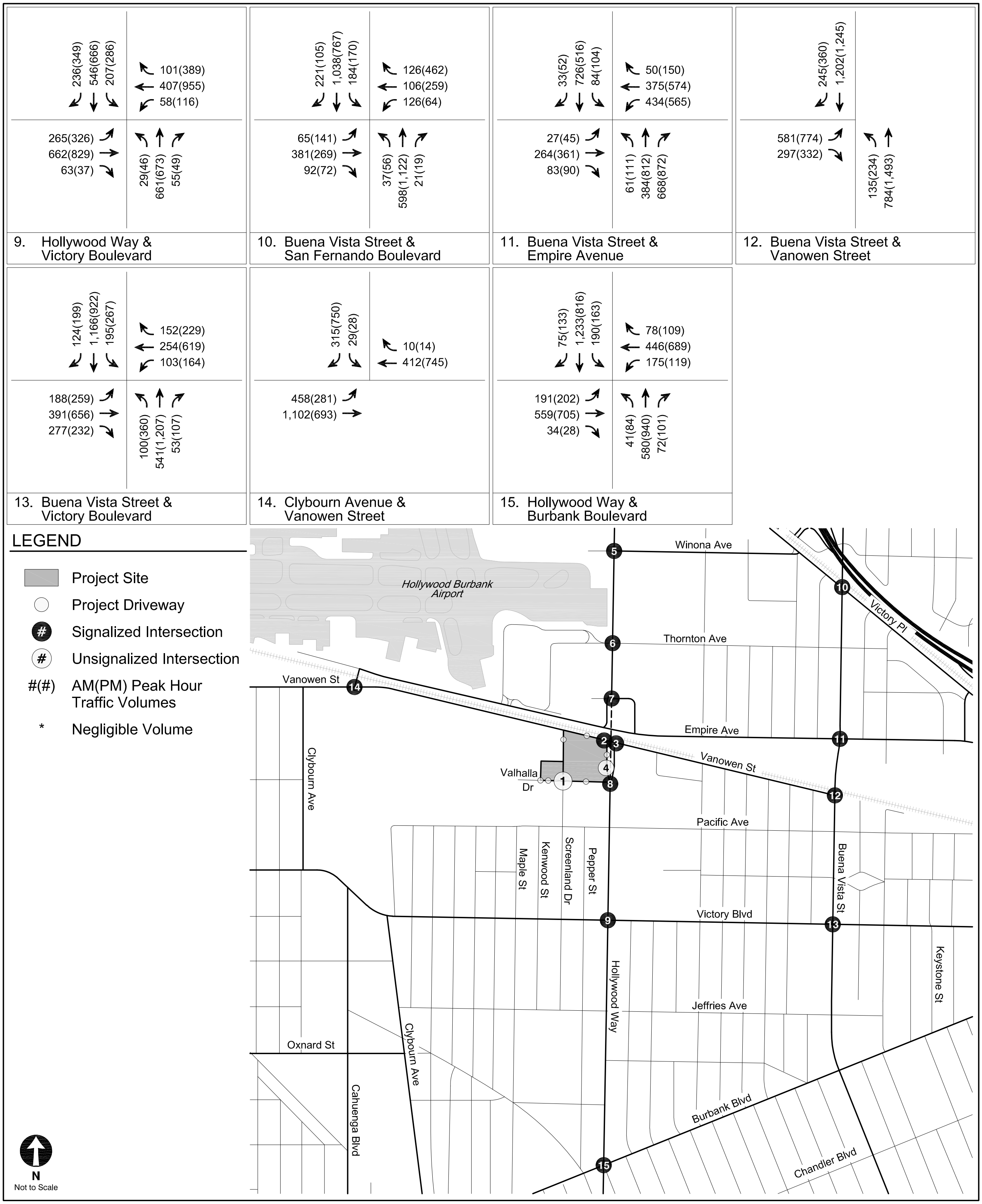
ANALYZED LOCATIONS

FIGURE 7



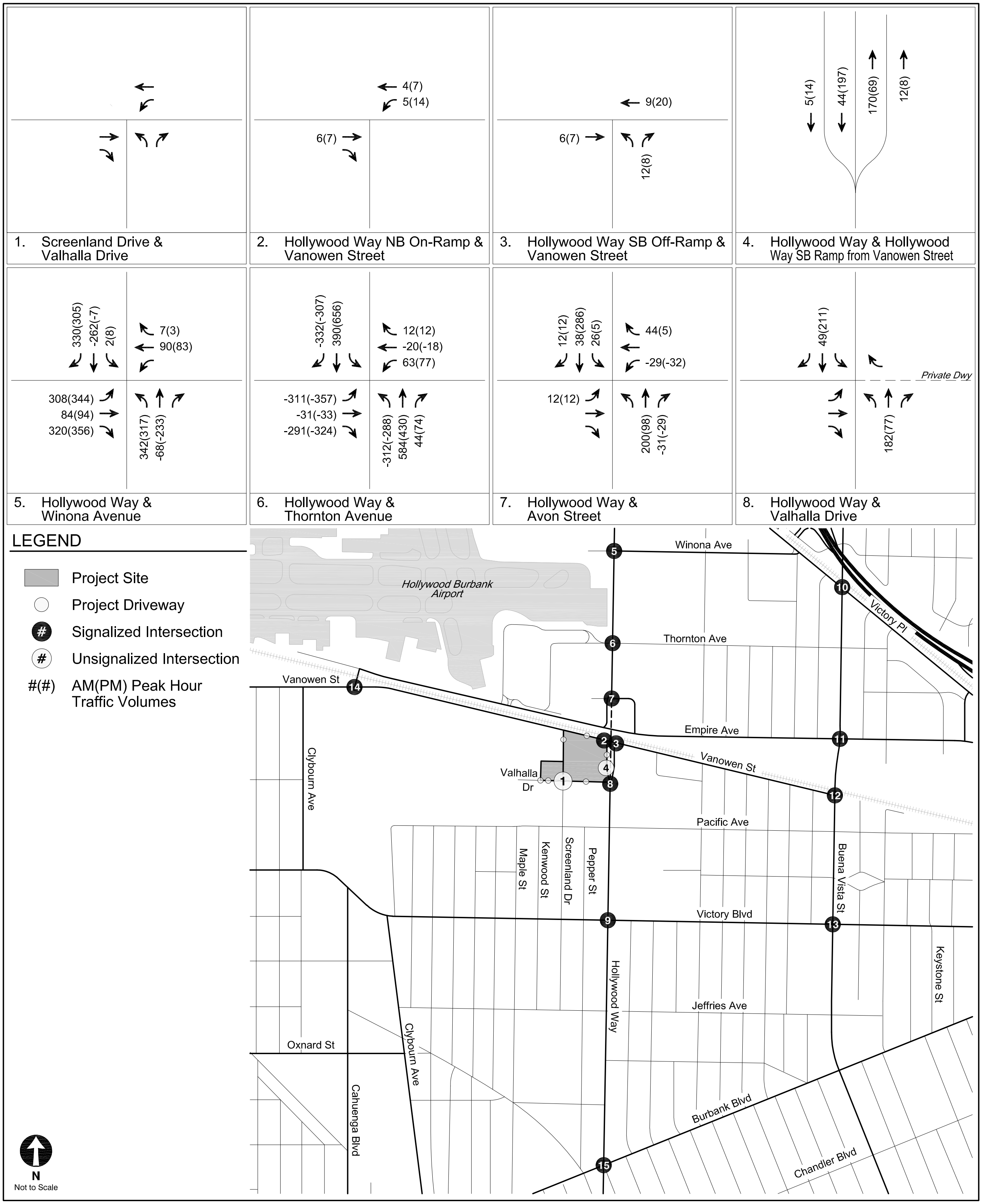
EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



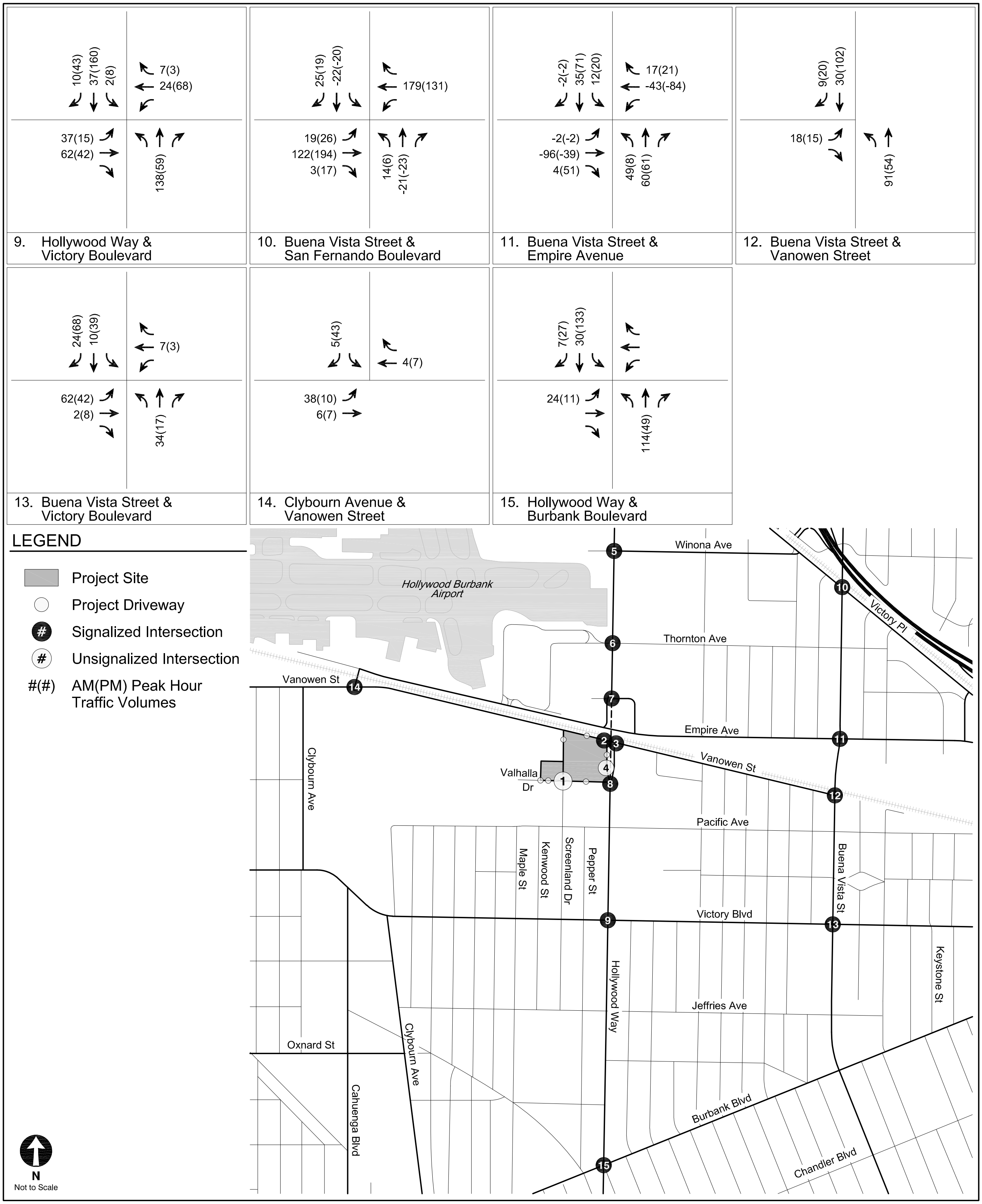
EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8 (CONT.)



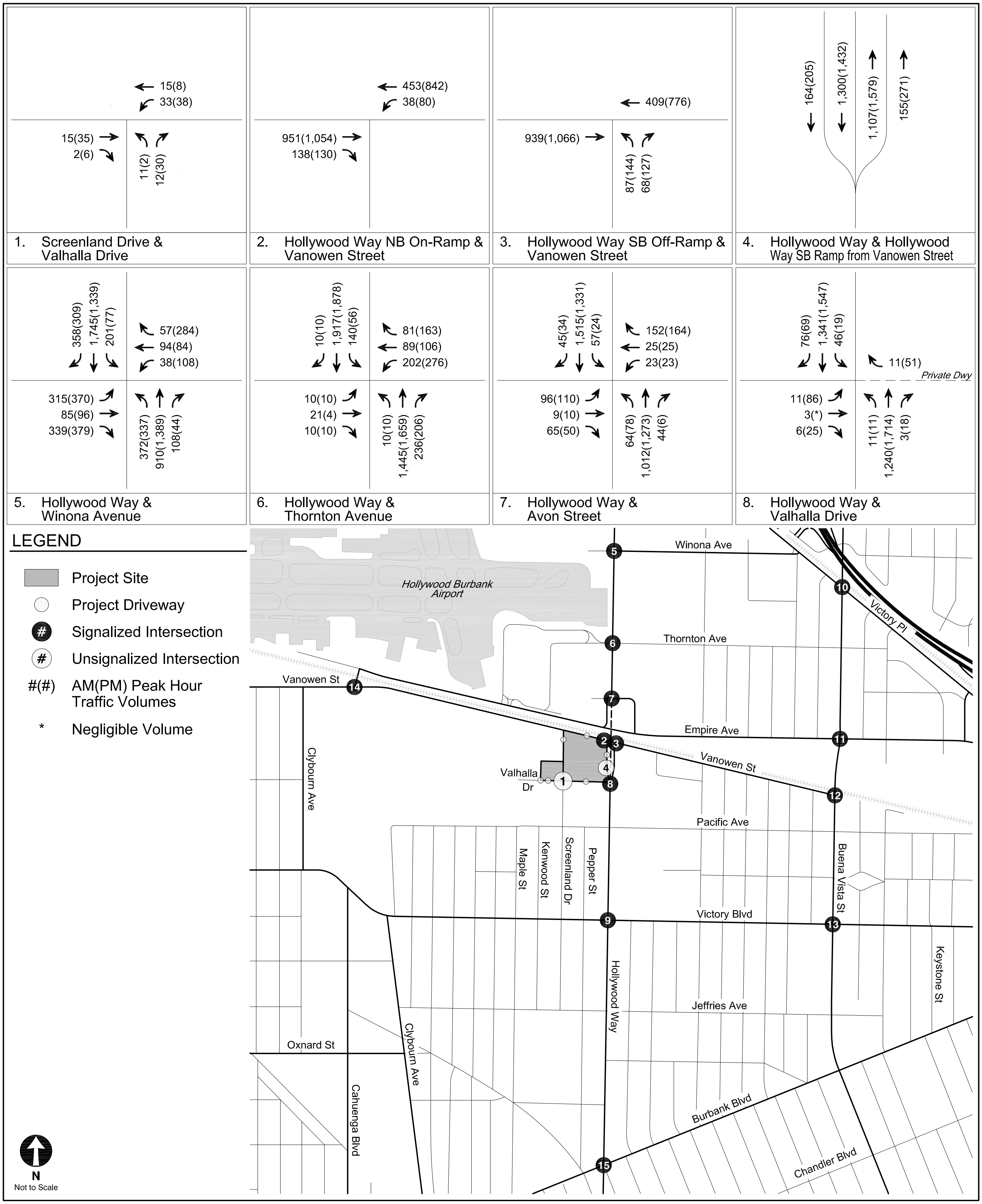
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 9



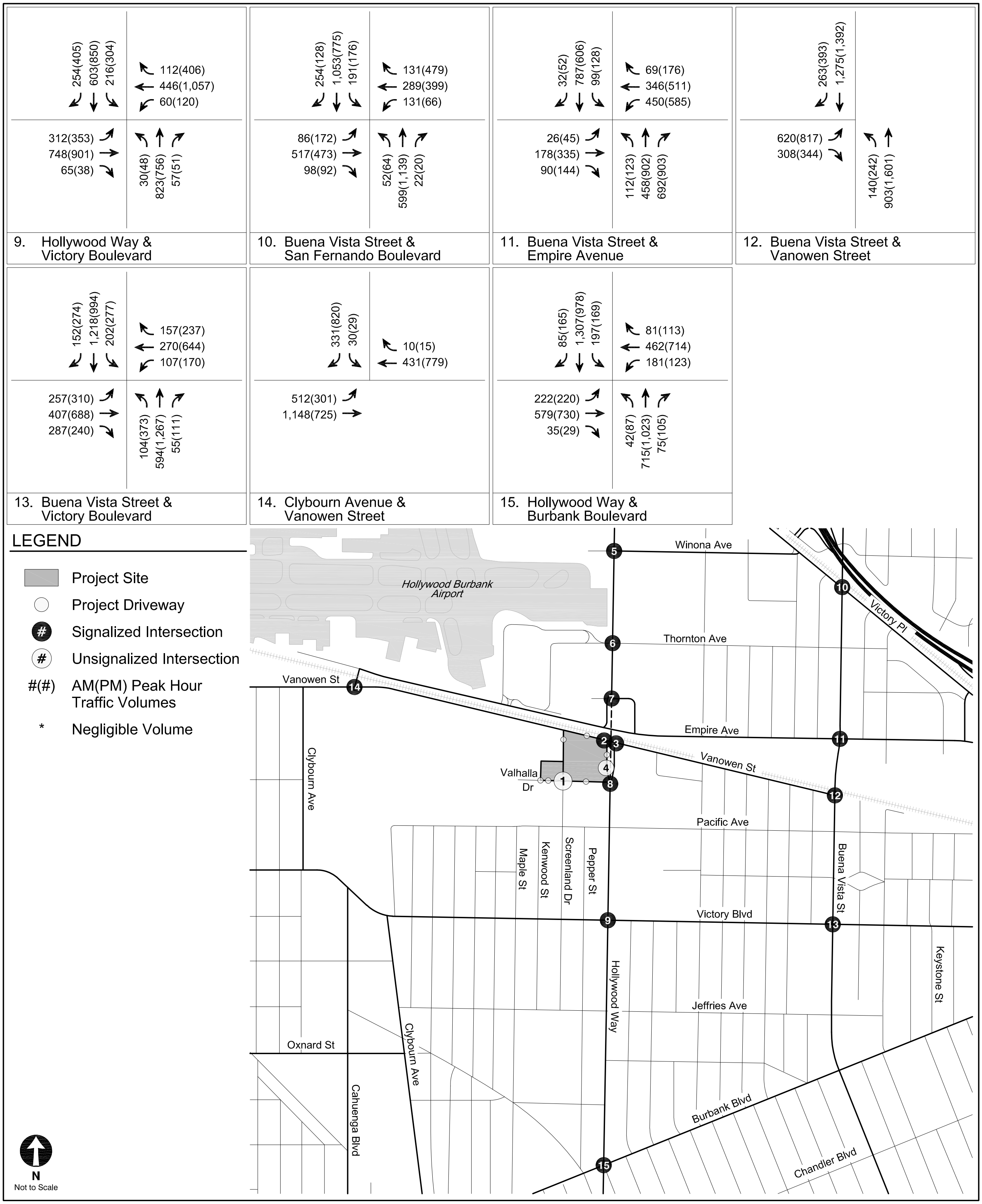
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9 (CONT.)



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 10



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 10 (CONT.)

TABLE 4
ANALYZED LOCATIONS

No.	Location
Intersections	
1. [a]	Screenland Drive & Valhalla Drive
2.	N Hollywood Way SB On Ramp & Vanowen Street
3.	N Hollywood Way NB Off Ramp & Vanowen Street
4. [a]	N Hollywood Way at the SB Ramp from Vanowen Street
5.	N Hollywood Way & Winona Avenue
6.	N Hollywood Way & Thornton Avenue
7.	N Hollywood Way & Avon Street
8.	N Hollywood Way & Valhalla Drive
9.	N Hollywood Way & Victory Boulevard
10.	Buena Vista Street & San Fernando Boulevard
11.	Buena Vista Street & Empire Avenue
12.	Buena Vista Street & Vanowen Street
13.	Buena Vista Street & Victory Boulevard
14.	Clybourn Avenue & Vanowen Street
15.	N Hollywood Way & Burbank Boulevard
Residential Streets (all between Pacific Avenue & Victory Boulevard)	
1.	Maple Street
2.	Kenwood Street
3.	Screenland Drive
4.	Pepper Drive

Notes:
[a] Unsignalized intersection.

Section 4B
Project Traffic Volumes

Trip generation estimates, trip distribution patterns, and trip assignments were prepared for the Project. These components form the basis of the Project's traffic analysis.

PROJECT TRIP GENERATION

The number of peak hour vehicle trips expected to be generated by the Project was estimated using rates published in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). Specifically, trips for the residential units were estimated using Multi-Family Housing (Mid-Rise) rates (land use code 221), trips for the restaurant uses were estimated using the High-Turnover Sit-Down Restaurant rates (land use code 932), and trips for the office use were estimated using the General Office rates (land use code 710).

Trip generation reductions were included to account for public transit usage (applied to all Project land uses) and pass-by and internal capture for the restaurant uses. The pass-by reduction accounts for trips by people already driving by the Project Site for another purpose, which are not new trips generated by the Project. The internal capture reduction accounts for interactions between land uses in a mixed-use development (i.e., restaurant patronage by residents and office workers at the Project Site, who would not make an additional trip). Additionally, the Project trip generation estimates account for the removal of the existing Fry's Electronics store by estimating those trips using the Electronics Superstore land use from *Trip Generation Manual, 10th Edition* (land use code 863) and applying transit and pass-by trip reductions. Each of these reductions were reviewed and approved by CDD staff for use in this study.

After accounting for the adjustments described above, the Project is estimated to generate a net total of 3,254 daily trips, including 475 trips during the morning peak hour (228 inbound, 247 outbound) and 247 trips during the afternoon peak hour (118 inbound, 129 outbound), as summarized in Table 5.

Saturday Mid-Day Trip Generation

Additionally, because the Project has a commercial restaurant component which is typically busier on weekends than weekdays, a trip generation estimate was prepared for the Saturday mid-day peak hour using rates from *Trip Generation Manual, 10th Edition*. While restaurant trip generation is higher, office trip generation is lower on Saturdays, and trip generation for the Fry's Electronics is substantially higher compared to weekdays. The trip generation estimates for Saturday are shown in Table 6. As shown, the Project would generate fewer trips than the Fry's Electronics and, therefore, would result in a net reduction in peak hour trips. Therefore, this transportation study does not include an operations analysis of the effects of Project traffic on Saturdays.

PROJECT TRIP DISTRIBUTION

The geographic distribution of trips generated by the Project is primarily dependent on the location of office and commercial uses to which residents of the Project would be drawn as well as the location of residential uses where Project office employees may live, along with characteristics of the street system serving the Project Site, existing intersection traffic volumes, and the location of the proposed driveways.

The City Model was used to forecast the likely regional distribution of Project traffic based on the factors above and the socioeconomic data built into the City Model. The Project land uses were added to the City Model and distribution plots were prepared, the results of which are provided in Appendix E. The regional distribution pattern is shown in Figure 11 and was used to inform the intersection-level trip distribution for the Project, shown in Figure 12 for residential and restaurant trips and Figure 13 for office trips.

PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 5 and the trip distribution patterns shown in Figures 12 and 13 were used to assign the Project-generated traffic through the study intersections. Figure 14 illustrates the Project-only traffic volumes at the study intersections during typical weekday morning and afternoon peak hours.

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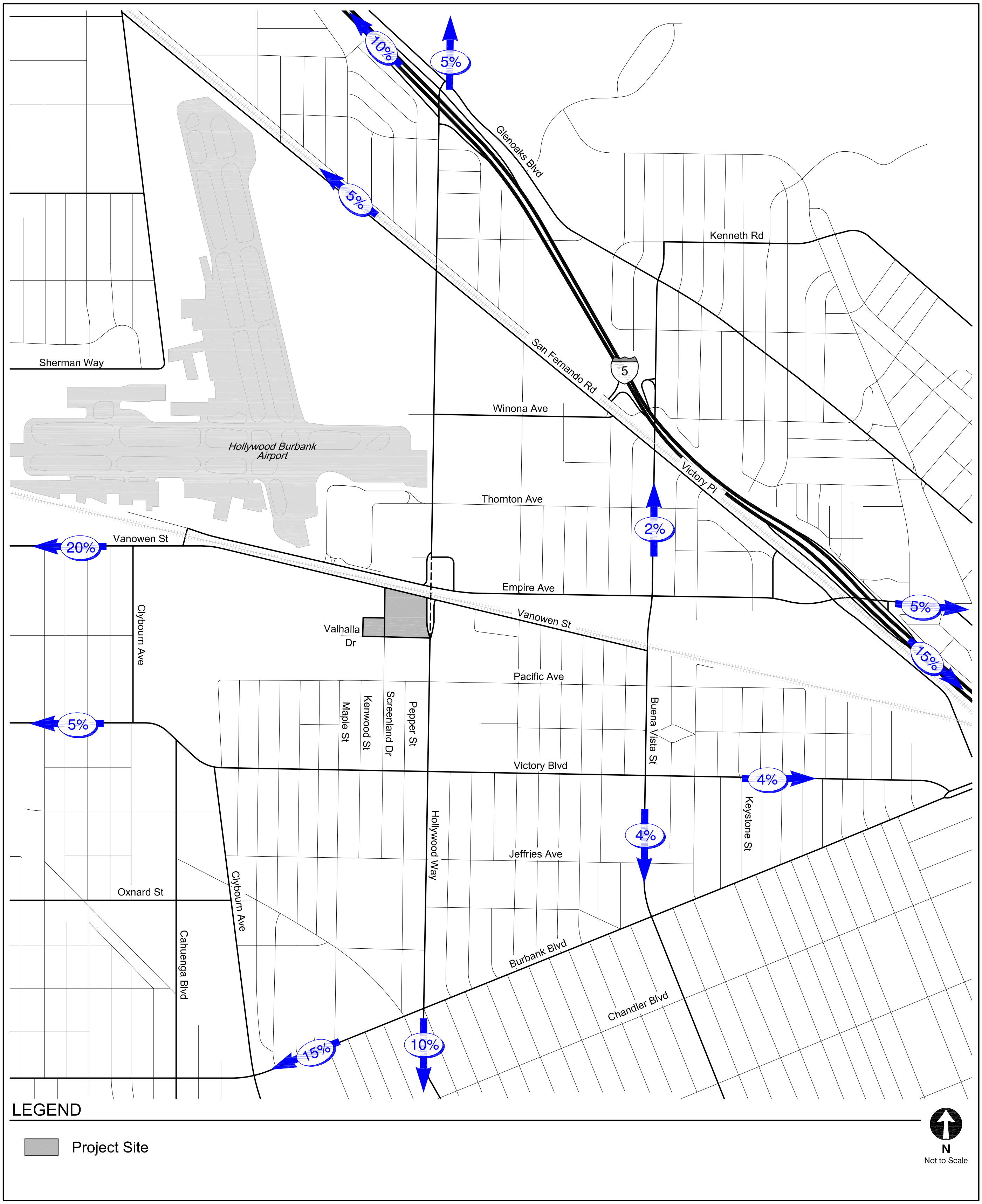

REGIONAL TRIP DISTRIBUTION

FIGURE 11

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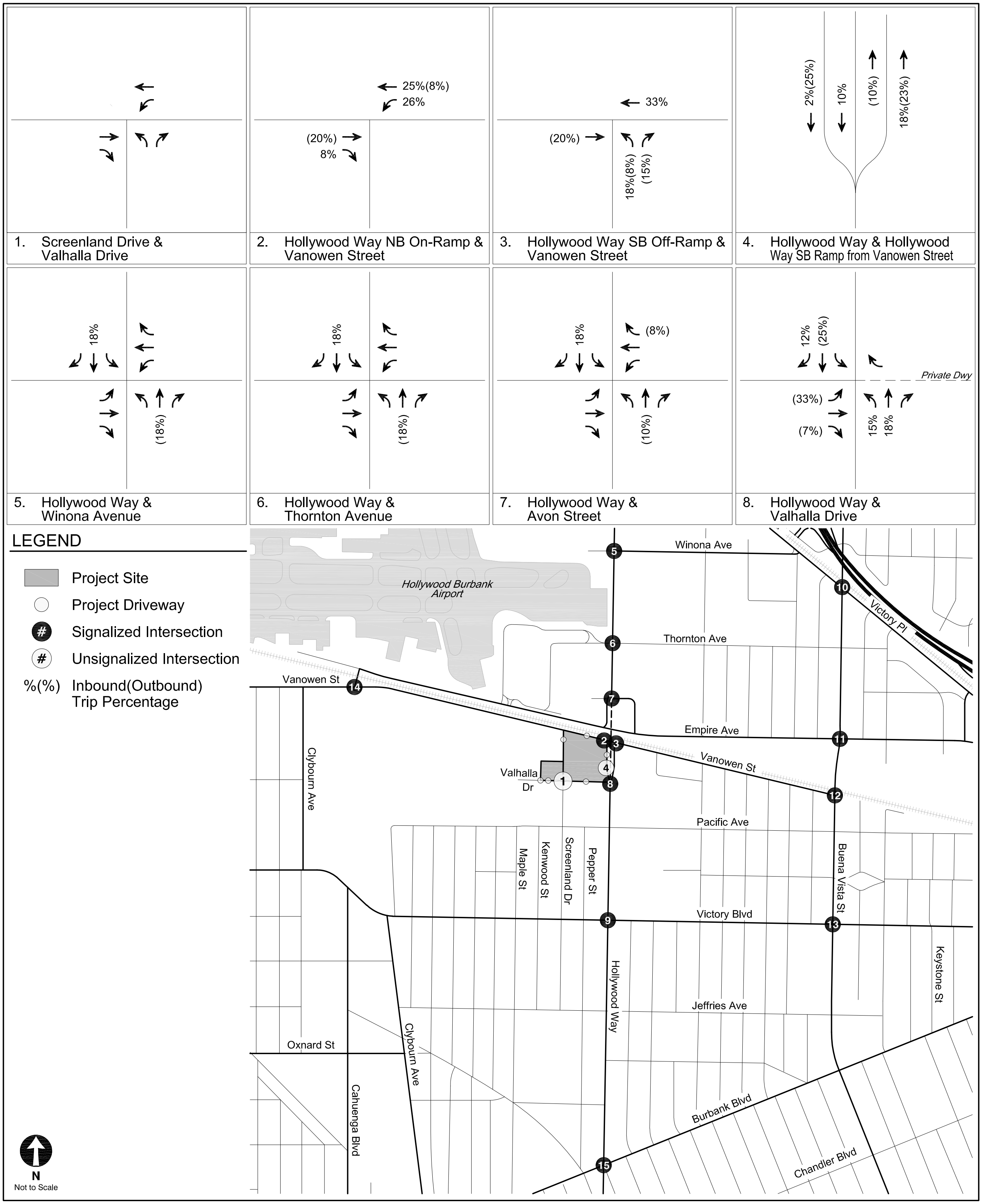
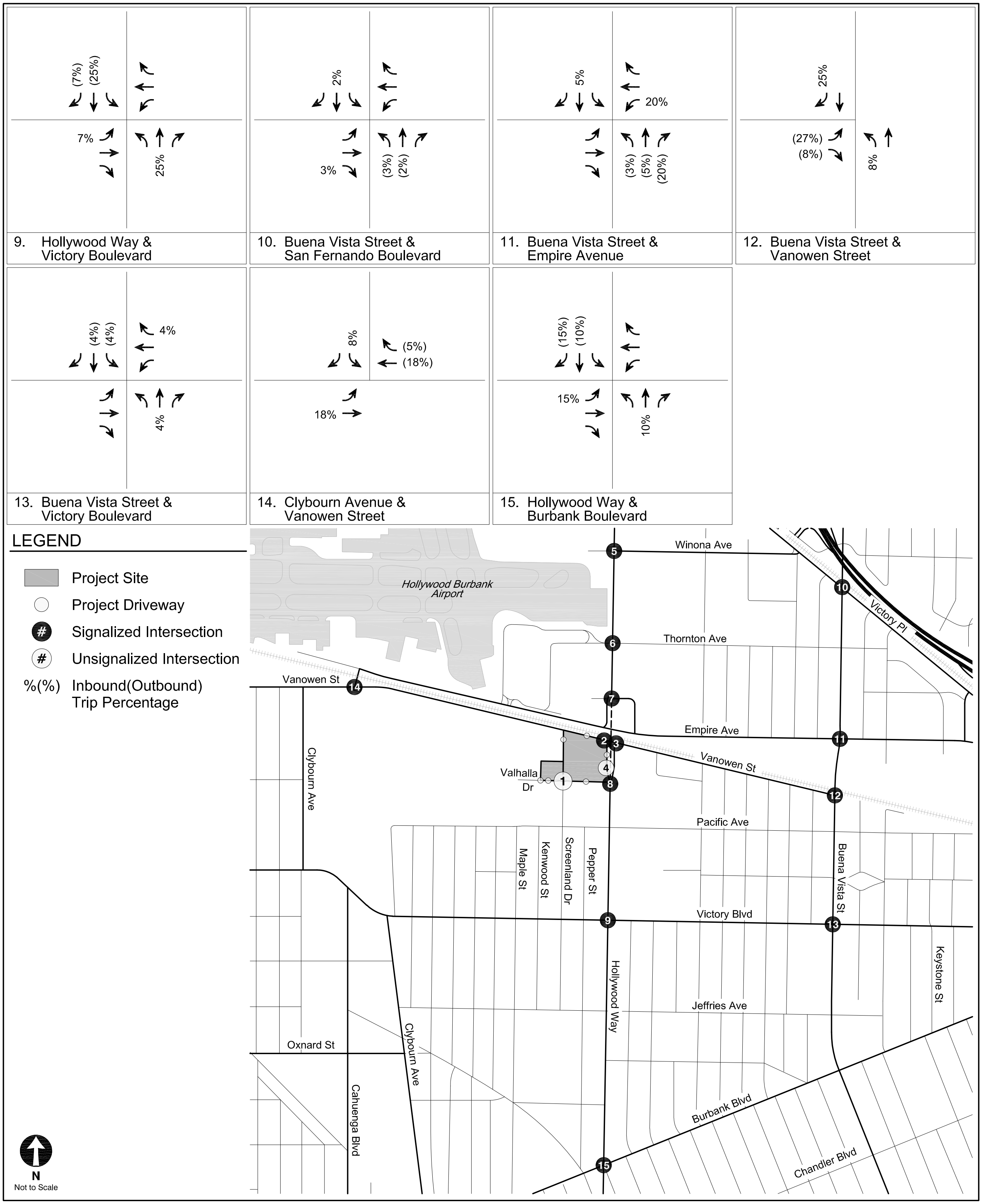


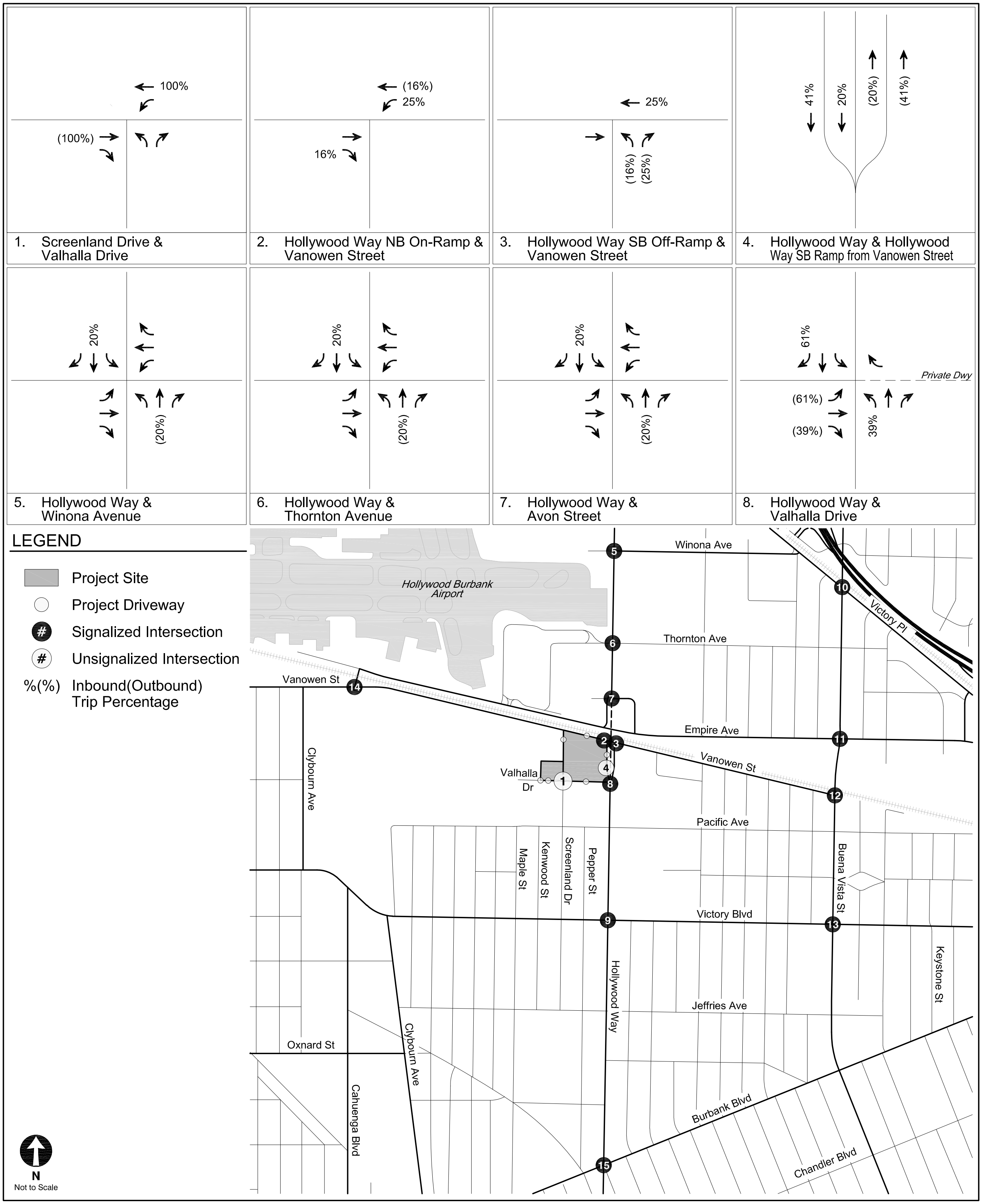
PROJECT TRIP DISTRIBUTION
RESIDENTIAL AND RESTAURANT

FIGURE 12



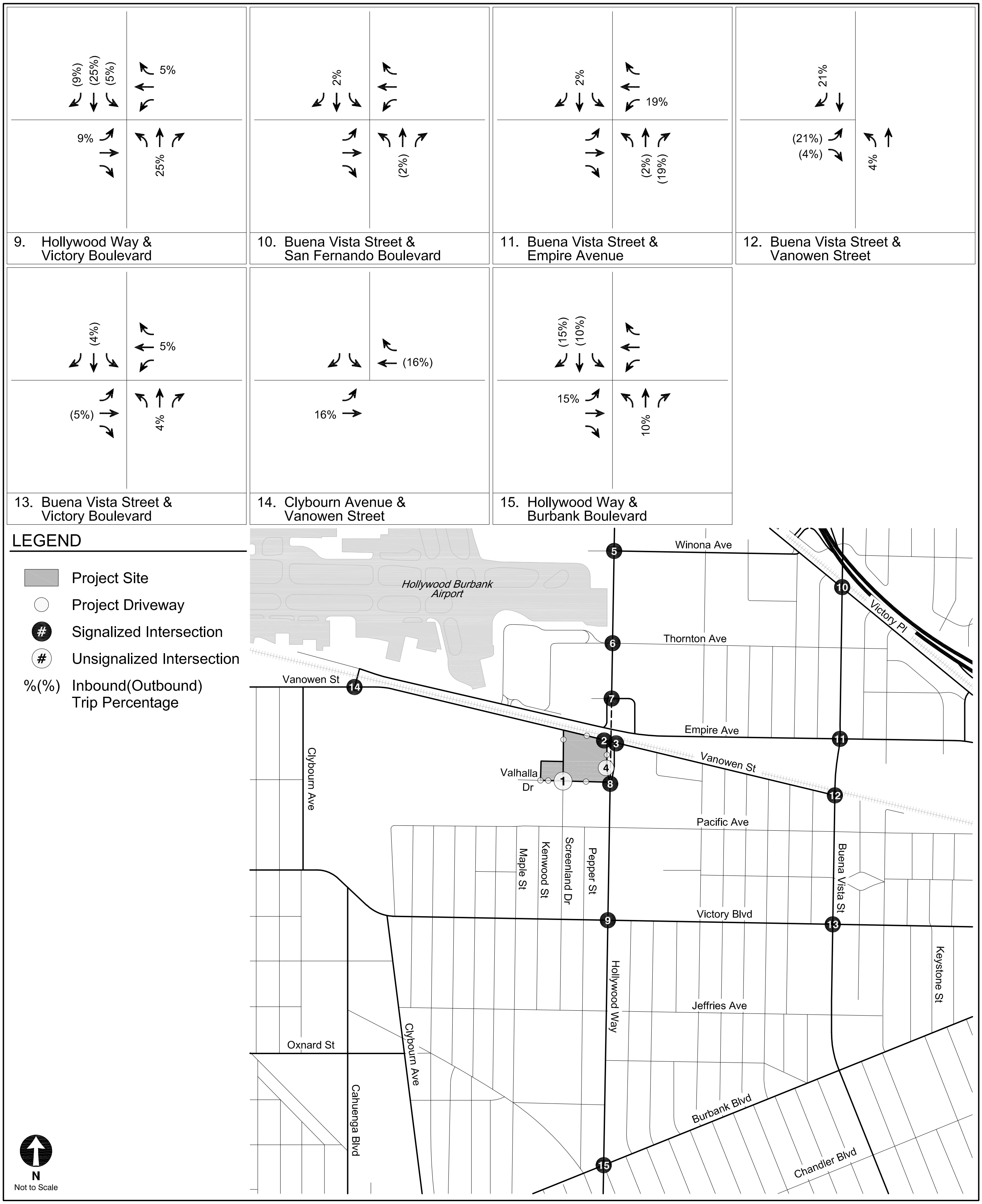
PROJECT TRIP DISTRIBUTION
RESIDENTIAL AND RESTAURANT

FIGURE
12 (CONT.)



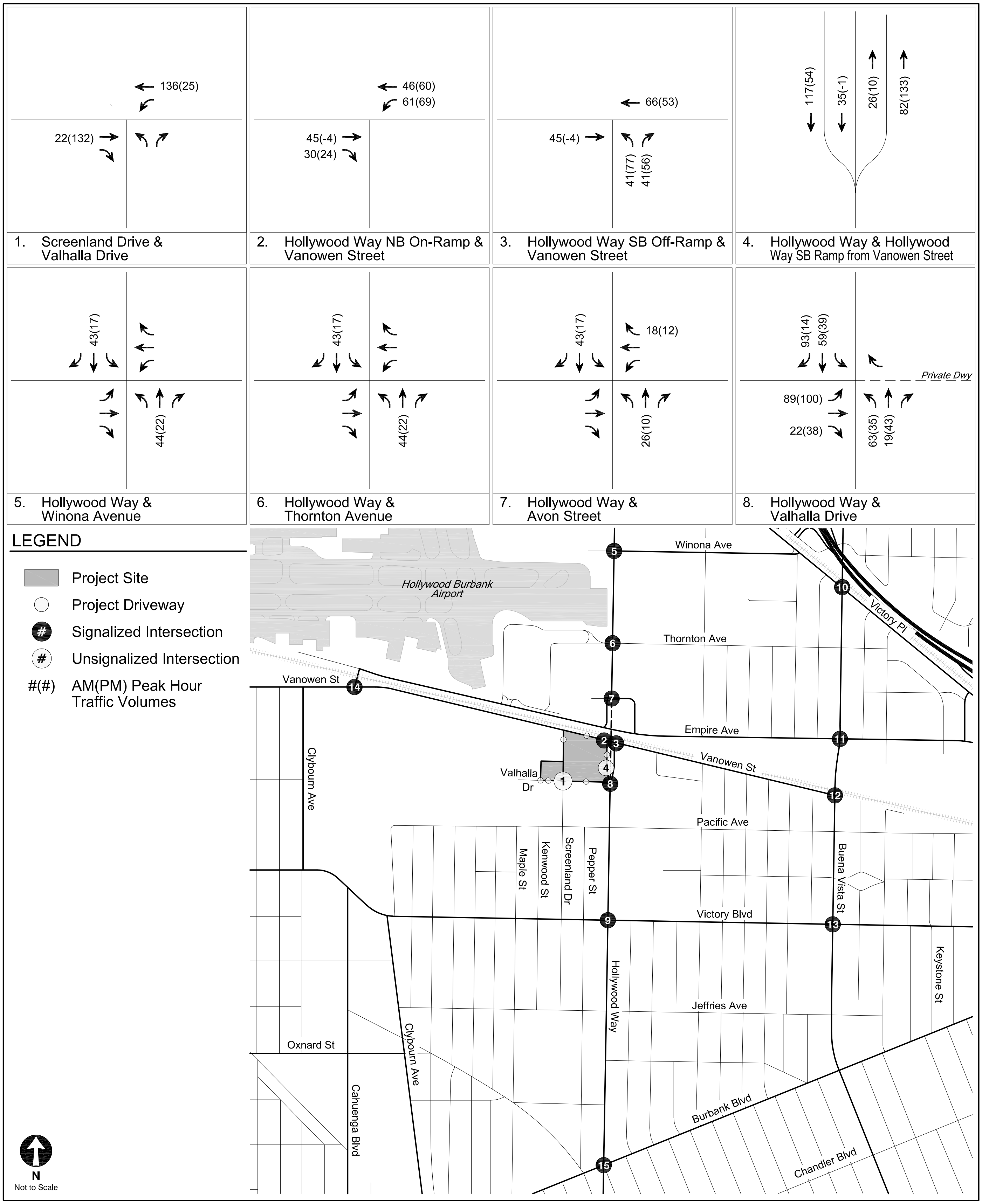
PROJECT TRIP DISTRIBUTION
OFFICE

FIGURE 13



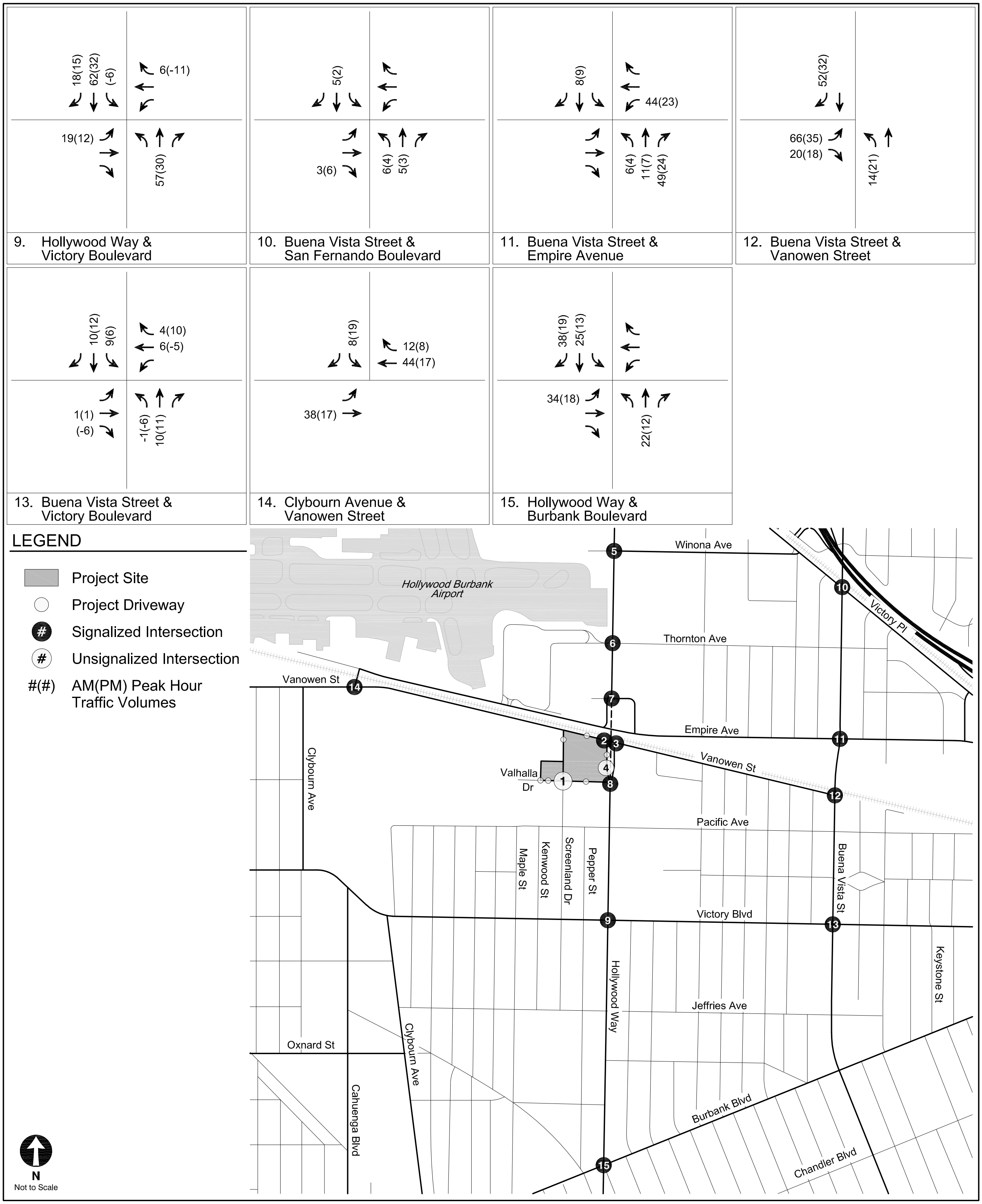
PROJECT TRIP DISTRIBUTION
OFFICE

FIGURE
13 (CONT.)



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 14



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14 (CONT.)

TABLE 5
PROJECT TRIP GENERATION - WEEKDAY

Land Use	ITE Land Use	Rate	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Trip Generation Rates [a]									
Multifamily Housing (Mid-Rise)	221	per du	5.44	26%	74%	0.36	61%	39%	0.44
General Office Building	710	per ksf	9.74	86%	14%	1.16	16%	84%	1.15
Electronics Superstore	863	per ksf	41.05	64%	36%	0.32	49%	51%	4.26
High-Turnover (Sit-Down) Restaurant	932	per ksf	112.18	55%	45%	9.94	62%	38%	9.77
Trip Generation Estimates									
Multi-family Housing	221	862 du	4,689	81	229	310	231	148	379
Transit/Walk Adjustment - 10% [b]			*(469)*	*(8)*	*(23)*	*(31)*	*(23)*	*(15)*	*(38)*
Subtotal - Residential			**4,220**	**73**	**206**	**279**	**208**	**133**	**341**
Commercial - Office	710	151.800 ksf	1,479	151	25	176	28	147	175
Transit/Walk Adjustment - 10% [b]			*(148)*	*(15)*	*(3)*	*(18)*	*(3)*	*(15)*	*(18)*
Commercial - Restaurant	932	9.700 ksf	1,088	53	43	96	59	36	95
Internal Capture Adjustment - 10% [c]			*(109)*	*(5)*	*(5)*	*(10)*	*(6)*	*(4)*	*(10)*
Transit/Walk Adjustment - 10% [b]			*(98)*	*(5)*	*(4)*	*(9)*	*(5)*	*(4)*	*(9)*
Pass-by Adjustment - 20% [d]			*(176)*	*(9)*	*(6)*	*(15)*	*(10)*	*(5)*	*(15)*
Subtotal - Commercial			**2,036**	**170**	**50**	**220**	**63**	**155**	**218**
TOTAL TRIPS - PROPOSED PROJECT			**6,256**	**243**	**256**	**499**	**271**	**288**	**559**
Existing Uses to be Removed									
Fry's Electronics	863	101.566 ksf	4,169	21	12	33	212	221	433
Transit/Walk Adjustment - 10% [b]			*(417)*	*(2)*	*(1)*	*(3)*	*(21)*	*(22)*	*(43)*
Pass-by Adjustment - 20% [d]			*(750)*	*(4)*	*(2)*	*(6)*	*(38)*	*(40)*	*(78)*
TOTAL NET TRIPS - EXISTING USES TO BE REMOVED			**(3,002)**	**(15)**	**(9)**	**(24)**	**(153)**	**(159)**	**(312)**
TOTAL PROJECT TRIPS			**3,254**	**228**	**247**	**475**	**118**	**129**	**247**

Notes:

du: dwelling unit; ksf: 1,000 square feet

[a] Trip generation source is *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers, 2017.

[b] The Project Site is located adjacent to a bus stop located at the intersection of N. Hollywood Way and Valhalla Drive, which serves both Metro Line 222 bus and the BurbankBus NoHo-Airport Route, and 010-miles from the Bob Hope Airport Metrolink Station. Therefore, a 10% transit adjustment was applied to account for transit usage and walking visitor arrivals.

[c] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e., between residential and restaurant).

[d] Pass-by adjustments account for Project trips made by drivers already passing by on N Hollywood Way for a different primary trip purpose.

TABLE 6
PROJECT TRIP GENERATION - SATURDAY

Land Use	ITE Land Use	Rate	Saturday Peak Hour		
			In	Out	Total
Trip Generation Rates [a]					
Multifamily Housing (Mid-Rise)	221	per du	49%	51%	0.44
General Office Building	710	per ksf	54%	46%	0.53
Electronics Superstore	863	per ksf	51%	49%	7.02
High-Turnover (Sit-Down) Restaurant	932	per ksf	51%	49%	11.19
Trip Generation Estimates					
Multi-family Housing	221	862 du	186	193	379
Transit/Walk Adjustment - 10% [b]			*(19)*	*(19)*	*(38)*
Subtotal - Residential			**167**	**174**	**341**
Commercial - Office	710	151.800 ksf	43	37	80
Transit/Walk Adjustment - 10% [b]			*(4)*	*(4)*	*(8)*
Commercial - Restaurant	932	9.700 ksf	56	53	109
Internal Capture Adjustment - 10% [c]			*(6)*	*(5)*	*(11)*
Transit/Walk Adjustment - 10% [b]			*(5)*	*(5)*	*(10)*
Pass-by Adjustment - 20% [d]			*(9)*	*(9)*	*(18)*
Subtotal - Commercial			**75**	**67**	**142**
TOTAL TRIPS - PROPOSED PROJECT			**242**	**241**	**483**
Existing Uses to be Removed					
Fry's Electronics	863	101.566 ksf	364	349	713
Transit/Walk Adjustment - 10% [b]			*(36)*	*(35)*	*(71)*
Pass-by Adjustment - 20% [d]			*(66)*	*(63)*	*(128)*
TOTAL NET TRIPS - EXISTING USES TO BE REMOVED			**(262)**	**(251)**	**(514)**
TOTAL PROJECT TRIPS			**(20)**	**(10)**	**(31)**

Notes:

du: dwelling unit; ksf: 1,000 square feet

[a] Trip generation source is *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017.

[b] The Project Site is located adjacent to a bus stop located at the intersection of N. Hollywood Way and Valhalla Drive, which serves both Metro Line 222 bus and the BurbankBus NoHo-Airport Route, and 010-miles from the Bob Hope Airport Metrolink Station. Therefore, a 10% transit adjustment was applied to account for transit usage and walking visitor arrivals.

[c] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e., between residential and restaurant).

[d] Pass-by adjustments account for Project trips made by drivers already passing by on N Hollywood Way for a different primary trip purpose.

Section 4C
Intersection Operations Analysis

Intersection operating conditions were evaluated for typical weekday morning and afternoon peak hours. The analysis includes Existing Conditions (Year 2021) based on the peak hour traffic volumes from Figure 8, Future without Project Conditions (Year 2026) based on the peak hour traffic volumes from Figure 10, and Future with Project Conditions (Year 2026) shown in Figure 15, which adds the Project-only traffic volumes from Figure 14 to the Future without Project Conditions traffic volumes. The comparison of the Future with Project Conditions to the Future without Project Conditions demonstrates the anticipated operational effects of Project traffic on the study intersections.

METHODOLOGY AND CRITERIA

In accordance with the City Guidelines, the intersection delay and LOS analyses for the operational evaluation were conducted using the HCM methodology, which was implemented using Synchro software and signal timing worksheets from the City. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through an intersection, while the HCM unsignalized two-way stop-control methodology calculates the control delay, in seconds, for the intersection approach with the highest delay (typically, left turns from the smaller stop-controlled street onto the larger uncontrolled street). Table 7 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. LOS worksheets for each analyzed scenario are provided in Appendix F.

The Mobility Element sets a goal of maintaining LOS D or better conditions at City intersections to provide adequate transportation efficiency. Therefore, intersections that operate at LOS E or F during one or both peak hours should be examined to determine whether the Project contributes to that substandard condition. If a nexus is identified, improvements should be suggested that could reduce delay. Such a nexus is not a CEQA significant impact, and improvements are not required to be implemented by CEQA. However, it is within the City's authority to require a development project to provide transportation improvements to offset detrimental effects of Project traffic.

EXISTING TRAFFIC CONDITIONS

Table 8 summarizes the delay and LOS under Existing Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown, two intersections currently operate worse than LOS D during one peak hour: Intersection #6 (N. Hollywood Way & Thornton Avenue) operates at LOS E during the morning peak hour and Intersection #13 (Buena Vista Street & Victory Boulevard) operates at LOS E during the afternoon peak hour. The remaining 13 intersections all operate at LOS D or better during both peak hours.

FUTURE TRAFFIC CONDITIONS

Table 9 summarizes the delay and LOS under Future without Project Conditions and Future with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown, two intersections would operate at LOS E or F under Future without Project Conditions: Intersections #9 (N. Hollywood Way & Victory Boulevard) and #13 (Buena Vista Street & Victory Boulevard) would operate at LOS E during the afternoon peak hour. Intersection #6 (N. Hollywood Way & Thornton Avenue), which operates at LOS E during the morning peak hour under Existing Conditions, would improve operations both due to physical expansion to increase capacity and the relocation of the primary airport access point away from Thornton Avenue as part of the Hollywood Burbank Airport Terminal Replacement Project.

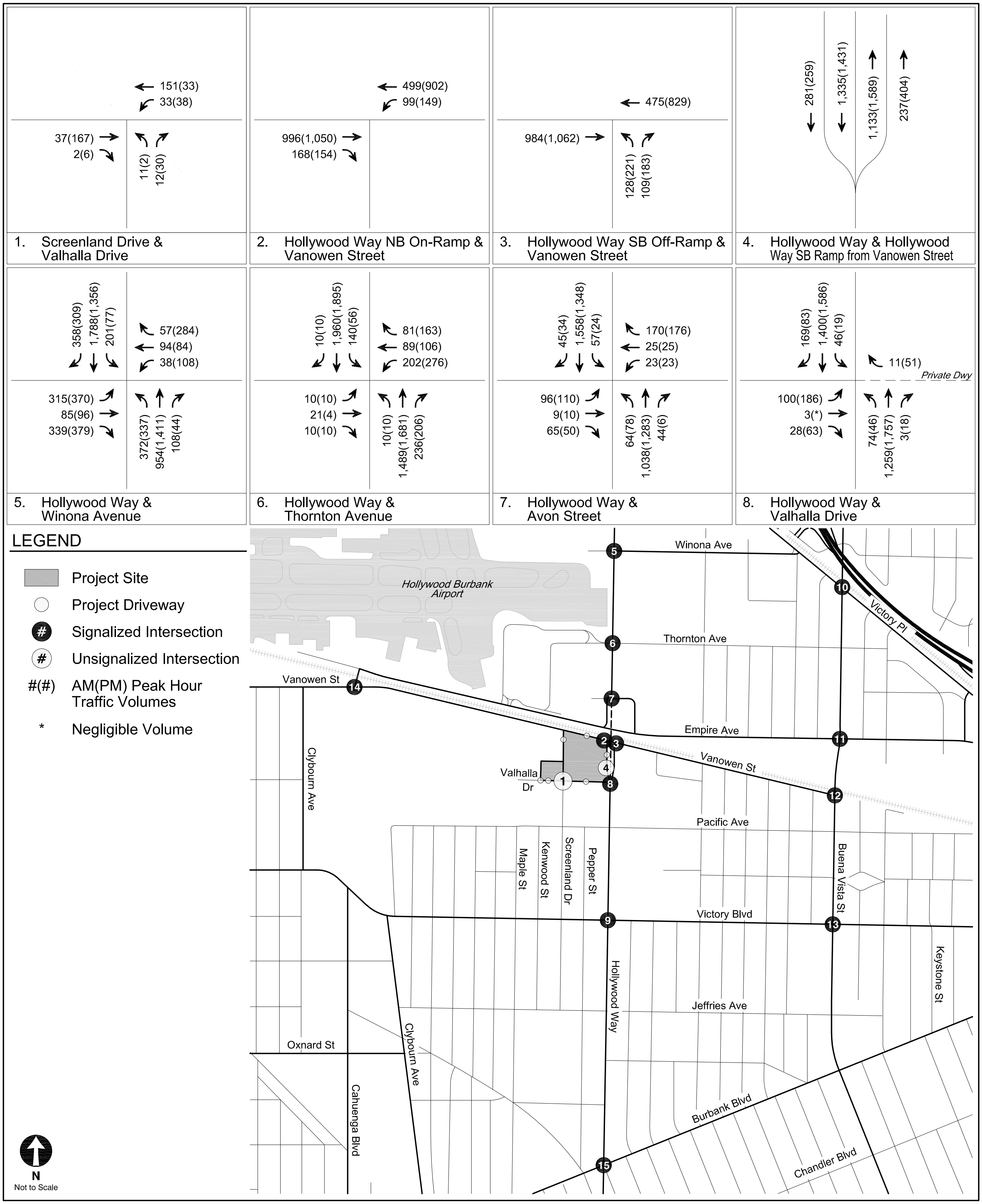
When Project traffic is added under Future with Project Conditions, one additional intersection (Intersection #4, N. Hollywood Way at the southbound ramp from Vanowen Street) would operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour based on the worst-case delay experienced by ramp traffic. That intersection operates as a stop-controlled merge of ramp traffic with southbound traffic on N. Hollywood Way, and traffic on N. Hollywood Way is not delayed. Due to the unique configuration of this merge, and its proximity to the downstream Intersection #8 (N. Hollywood Way & Valhalla Drive), approximately 100 feet to the south, there is little opportunity to modify the configuration or operation of this intersection without requiring substantial roadway widening.

At the other two locations operating at LOS E during the afternoon peak hour, the Project would result in increases in average delay of 5.5 seconds at Intersection #9 (N. Hollywood Way & Victory Boulevard) and 1.2 seconds at Intersection #13 (Buena Vista Street & Victory Boulevard). It should be noted that the Future with Project Conditions analysis of Intersection #2 (N. Hollywood Way Southbound On-ramp & Vanowen Street) assumes implementation of pedestrian crossing phase along with a protected westbound left-turn phase, as discussed in Section 3C.

INTERSECTION OPERATIONS ANALYSIS FINDINGS

The purpose of the intersection operations analysis is to determine if the traffic caused by the Project would substantially increase delay, causing an operational deficiency on the City roadway network or be incompatible with the Burbank2035 General Plan. The results of the intersection operations analysis conclude that, for most study intersections, the Project does not add additional delay that would be perceptible to most drivers or affect overall driver convenience.

For Intersection #4 (N. Hollywood Way & southbound ramp from Vanowen Street), the Project would add between approximately 17 and 26 seconds of delay to drivers traveling on the ramp between Vanowen Street and N. Hollywood Way under Future with Project Conditions and would shift the intersection performance from LOS C to LOS E for ramp traffic during the morning peak hour and from LOS D to LOS F for ramp traffic during the afternoon peak hour. While the Project traffic would add perceptible delay to ramp traffic during the peak hours, it would not affect traffic on other legs of the intersection. Due to the unique configuration that allows this ramp traffic to merge with N. Hollywood Way traffic, there is no reasonable improvement that could be made to reduce this delay that would not conflict with other goals and policies of the Burbank2035 General Plan. Given that the Project's traffic does not appreciably affect delay on the City's roadway network, the Project is not shown to cause an operational deficiency or be incompatible with the Burbank2035 General Plan.



FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 15

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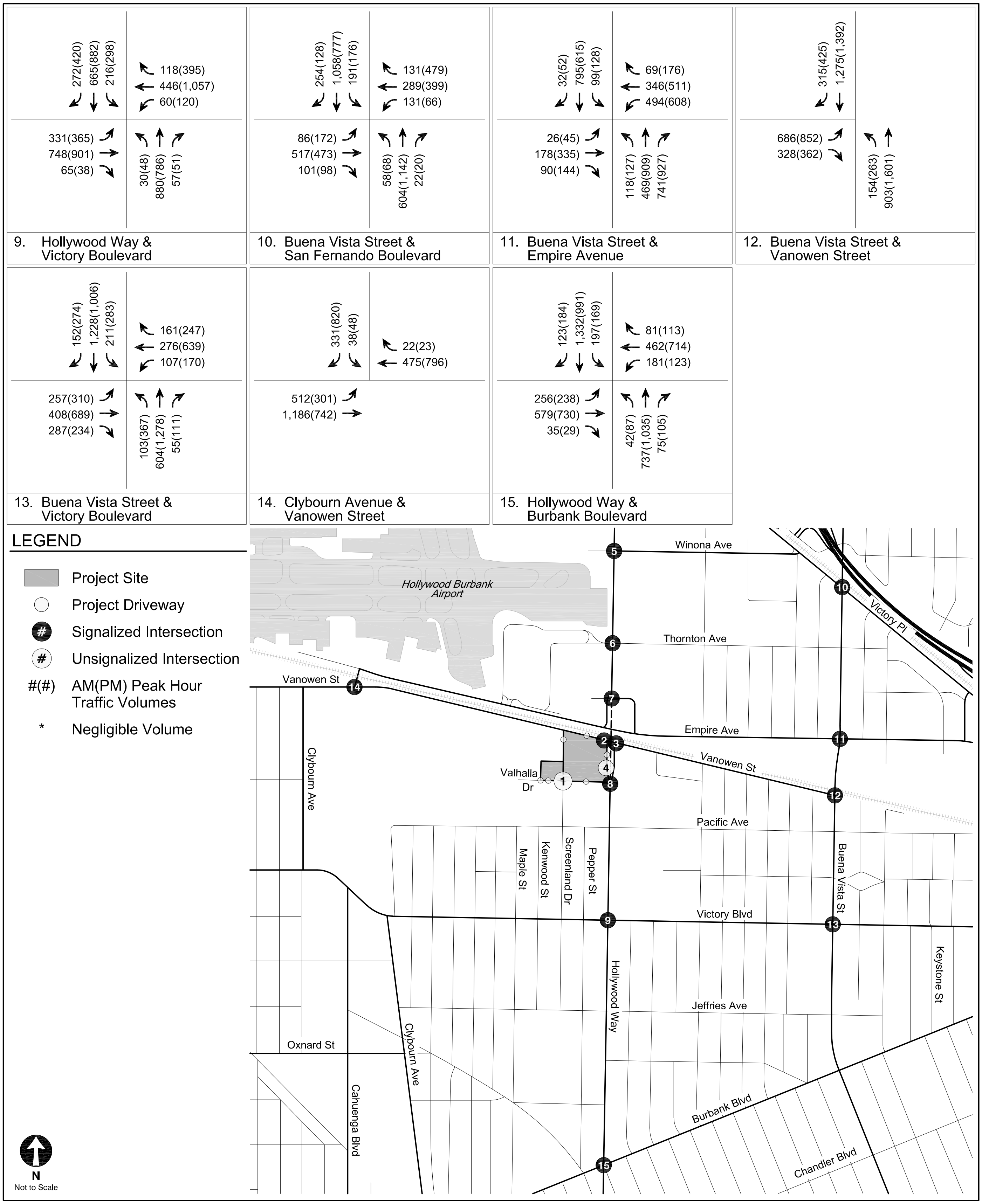


FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15 (CONT.)

TABLE 7
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Delay [a]	
		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: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).
[a] Measured in seconds.

TABLE 8
EXISTING CONDITIONS (YEAR 2021)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing Conditions	
			Delay	LOS
1. [a]	Screenland Drive & Valhalla Drive	AM PM	8.9 8.7	A A
2.	N Hollywood Way SB On Ramp & Vanowen Street	AM PM	0.4 0.4	A A
3.	N Hollywood Way NB Off Ramp & Vanowen Street	AM PM	19.2 20.7	B C
4. [a]	N Hollywood Way at the SB Ramp from Vanowen Street	AM PM	19.9 21.6	C C
5.	N Hollywood Way & Winona Avenue	AM PM	10.0 27.2	A C
6.	N Hollywood Way & Thornton Avenue	AM PM	56.9 25.4	**E** C
7.	N Hollywood Way & Avon Street	AM PM	9.9 10.3	A B
8.	N Hollywood Way & Valhalla Drive	AM PM	8.0 12.3	A B
9.	N Hollywood Way & Victory Boulevard	AM PM	30.7 47.3	C D
10.	Buena Vista Street & San Fernando Boulevard	AM PM	34.2 47.1	C D
11.	Buena Vista Street & Empire Avenue	AM PM	39.5 53.7	D D
12.	Buena Vista Street & Vanowen Street	AM PM	24.4 33.8	C C
13.	Buena Vista Street & Victory Boulevard	AM PM	31.9 60.9	C **E**
14.	Clybourne Avenue & Vanowen Street	AM PM	13.0 25.0	B C
15.	N Hollywood Way & Burbank Boulevard	AM PM	26.0 17.5	C B

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

Unless otherwise noted, intersection analysis based on HCM signalized methodology, which calculates the average intersection delay, in seconds, for all vehicles passing through.

[a] Intersection analysis based on the HCM Two-Way Stop Control Unsignalized methodology, which reports the worst-case delay for any controlled movement.

TABLE 9
FUTURE CONDITIONS (YEAR 2026)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Screenland Drive & Valhalla Drive	AM PM	8.9 8.7	A A	9.6 9.5	A A
2.	N Hollywood Way SB On Ramp & Vanowen Street	AM PM	0.4 0.4	A A	6.0 7.4	A A
3.	N Hollywood Way NB Off Ramp & Vanowen Street	AM PM	19.6 16.2	B B	20.8 20.5	C C
4. [a]	N Hollywood Way at the SB Ramp from Vanowen Street	AM PM	22.7 33.8	C D	48.5 51.1	**E** **F**
5.	N Hollywood Way & Winona Avenue	AM PM	48.6 52.1	D D	50.6 52.1	D D
6.	N Hollywood Way & Thornton Avenue	AM PM	35.2 20.2	D C	37.9 24.5	D C
7.	N Hollywood Way & Avon Street	AM PM	10.5 25.9	B C	10.1 26.2	B C
8.	N Hollywood Way & Valhalla Drive	AM PM	9.2 11.8	A B	11.5 14.2	B B
9.	N Hollywood Way & Victory Boulevard	AM PM	35.5 64.0	D **E**	37.0 69.5	D **E**
10.	Buena Vista Street & San Fernando Boulevard	AM PM	30.6 50.5	C D	30.9 46.9	C D
11.	Buena Vista Street & Empire Avenue	AM PM	42.8 48.5	D D	43.6 51.4	D D
12.	Buena Vista Street & Vanowen Street	AM PM	25.3 42.6	C D	27.7 46.9	C D
13.	Buena Vista Street & Victory Boulevard	AM PM	34.1 74.9	C **E**	34.5 76.1	C **E**
14.	Clybourne Avenue & Vanowen Street	AM PM	13.5 37.2	B D	13.9 35.8	B D
15.	N Hollywood Way & Burbank Boulevard	AM PM	28.3 36.3	C D	30.5 38.2	C D

Notes:
Delay is measured in seconds per vehicle. LOS = Level of Service.
Unless otherwise noted, intersection analysis based on HCM signalized methodology, which calculates the average intersection delay, in seconds, for all vehicles passing through.
[a] Intersection analysis based on the HCM Two-Way Stop Control Unsignalized methodology, which reports the worst-case delay for any controlled movement.

Section 4D
Driveway Operations Analysis

Driveway operating conditions were evaluated for typical weekday morning and afternoon peak hours using the same methodology as the intersections. The driveways were only analyzed for Future with Project Conditions. Ambient traffic volumes (i.e., through traffic on the adjacent public roadway) were estimated based on the volumes at the nearest upstream or downstream intersection as appropriate. The peak hour driveway traffic volumes, excluding pass-by trip adjustments and trip credits from the removal of the Fry's Electronics, are shown in Figure 16.

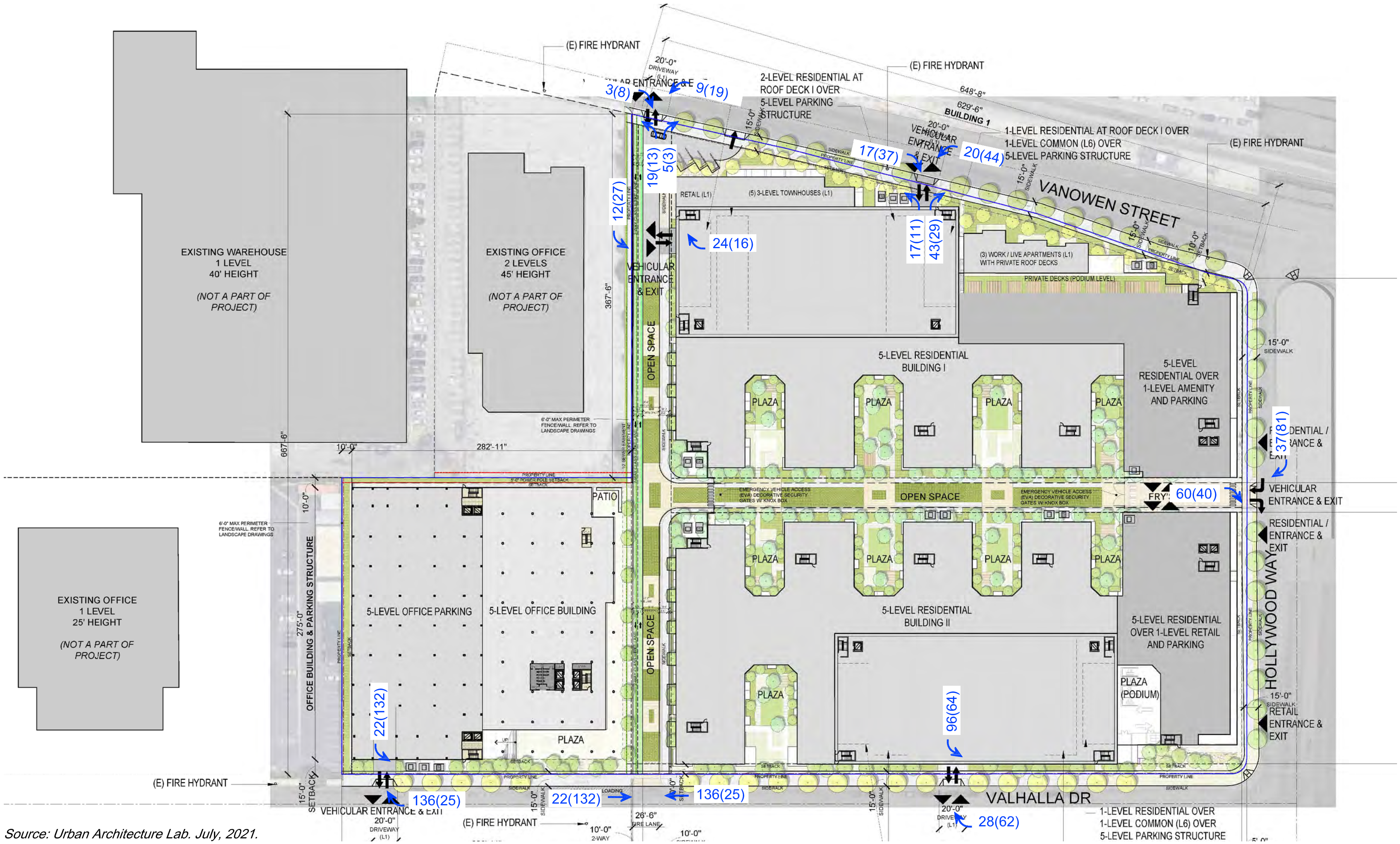
The delay and LOS results for each driveway are summarized in Table 10 and the HCM worksheets are provided in Appendix G. As shown, each of the driveways would operate at LOS D or better during both the morning and afternoon peak hours. The 95th percentile queue results for each driveway are summarized in Table 11 and the HCM worksheets are provided in Appendix G. As shown, inbound and outbound queueing at each location would be minimal, and the vehicle storage capacity exceeds the 95th percentile vehicle queue lengths at all driveways.

As discussed in Section 3C, any access controls would be set far enough into the Project Site to allow two vehicles to pull in without blocking the public sidewalks. Typical parking gate arms with key card access can advance approximately six vehicles per minute (10 seconds per vehicle). Based on the driveway traffic volumes shown in Figure 16, fewer than one vehicle per minute on average would enter each residential driveway during peak hours. As such, it would be rare that any queue of vehicles would form at residential driveways, and any such queue would be brief, as it only takes 10 seconds for a resident to pass through a security gate with a key card. At the office driveway, an average of just over two vehicle arrivals per minute would occur during the morning peak hour. As with the residential driveways, queues would form rarely and disperse rapidly. Further, all inbound office traffic would be making a right turn from Valhalla Drive, a lightly traveled Local Street with a dead end, such that an inbound queue, were it to reach Valhalla Drive, would have inconsequential effects on ambient traffic.

The driveways would be equipped with any pedestrian safety features determined to be necessary during detailed building design and permitting.

DRIVEWAY OPERATIONS ANALYSIS FINDINGS

The results of the driveway analysis show that the Project does not cause delay at any Project driveway that would exceed the City's LOS D standard, showing that the addition of Project traffic into and out of the site would not significantly affect operations on the City's adjacent roadway network. Also, the configuration and access control of these driveways would not cause vehicle queuing that would significantly affect the flow of traffic on City streets.



Source: Urban Architecture Lab. July, 2021.

LEGEND

#(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 16

TABLE 10
DRIVEWAY LEVELS OF SERVICE

Driveway	Peak Hour	Future with Project Conditions	
		Delay	LOS
Parking Access Points			
Residential Driveway to Screenland Drive (West Driveway)	AM PM	0.0 0.0	A A
Residential Driveway to Vanowen Street (North Driveway)	AM PM	29.5 33.3	D D
Residential Driveway to N. Hollywood Way Ramp (East Driveway)	AM PM	10.1 10.1	B B
Residential Driveway to Valhalla Drive (South Driveway)	AM PM	11.2 11.9	B B
Office Driveway to Valhalla Drive	AM PM	9.1 9.2	A A
Screenland Drive Intersections			
Screenland Drive & Vanowen Street	AM PM	22.1 26.7	C D
Screenland Drive & Valhalla Drive (Intersection #1)	AM PM	9.6 9.5	A A

Notes:
Delay is measured in seconds per vehicle. LOS = Level of Service.
Driveway analysis based on HCM Two-Way Stop Control Unsignalized methodology, which reports the worst-case delay for any controlled movement.

TABLE 11
FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
DRIVEWAY QUEUING ANALYSIS

Driveway	Lane Description	Vehicle Storage Capacity (ft)	Future with Project Conditions (Year 2026)			
			Morning Peak Hour		Afternoon Peak Hour	
			Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?
Residential Driveway to Vanowen Street (North Driveway)	NBL/NBR	90	33	NO	25	NO
	WBL	200	3	NO	8	NO
Residential Driveway to N. Hollywood Way Ramp (East Driveway)	EBR	85	8	NO	5	NO
Residential Driveway to Valhalla Drive (South Driveway)	SBL/SBR	50	13	NO	10	NO
Office Driveway to Valhalla Drive	SBL/SBR	65	3	NO	13	NO
Screenland Drive & Vanowen Street	NBL/NBR	125	10	NO	8	NO
	WBL	250	3	NO	3	NO

Notes:
Results per Synchro 10.
Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.

Section 4E
Residential Street Cut-Through Analysis

This chapter summarizes the residential street cut-through analysis for the Project. The objective of the residential street cut-through analysis is to determine potential Project-related increases in average daily traffic volumes on designated Local Streets, as classified in the Mobility Element, with residential uses. Such trips could adversely affect the character and function of those streets.

ANALYSIS LOCATIONS

As discussed in Section 4A and shown in Figure 7, four parallel residential street segments between Pacific Avenue and Victory Boulevard, south of the Project Site, were identified for analysis: Maple Street, Kenwood Street, Screenland Drive, and Pepper Street. Maple Street is formally designated a Collector Street by the Mobility Element but was included in this analysis due to its similar configuration to the other streets. Each street has a similar number of single-family residences on it. There are six additional parallel residential streets west of Maple Street, but as Project traffic can only connect to Pacific Avenue via Screenland Drive, it is unlikely that any Project traffic would use any of the streets farther west.

Maple Street is signalized at Victory Boulevard and, thus, provides controlled left-turn access onto Victory Boulevard. The remaining three locations are not signalized at Victory Boulevard and are equipped with three speed humps each to reduce travel speeds and make them less desirable as a cut-through route. These traffic calming measures were installed in the 1990s at the request of a majority of residents living on Screenland Drive, ostensibly to reduce instances of drivers turning left from eastbound Victory Boulevard to avoid the left-turn signal at N. Hollywood Way.

EXISTING CONDITIONS

Traffic counts were collected on the four residential streets in April 2021, the results of which are shown in Table 12. Though these represent traffic conditions during the COVID-19 pandemic, which are likely lower than typical volumes, they still reveal information about the use of these streets as summarized below:

- Maple Street carries the most daily and peak hour traffic, the majority of it in the southbound direction. This suggests that this street may be used by residents of neighboring streets as a preferred exit to Victory Boulevard. Maple Street is signalized at Victory Boulevard and, thus, provides controlled left-turn access onto Victory Boulevard.
- Traffic volumes on Kenwood Street are the lowest of any of the streets and fairly evenly split between northbound and southbound traffic, suggesting that most of the traffic using Kenwood Street is that street's residents.
- Traffic volumes on Screenland Drive are approximately 30% higher than on Kenwood Street. Because Screenland Drive continues north from Pacific Avenue to Valhalla Drive, it likely carries some cut-through traffic to and from the existing businesses along Screenland Drive and Valhalla Drive.
- Traffic volumes on Pepper Street are slightly higher than on Screenland Drive and are majority northbound trips on a daily basis and during the afternoon peak hour. This suggests that this street is likely used as a cut-through for traffic that would otherwise turn left from eastbound Victory Boulevard to northbound N. Hollywood Way.

PROJECT CUT-THROUGH TRAFFIC

For the purposes of conducting the intersection operations analysis in Section 4C, all Project traffic was assumed to use the arterial streets to get to and from the Project Site. However, Project traffic could pass through one of the four analyzed residential streets to get to or from Victory Boulevard by traveling on Screenland Drive between Valhalla Drive and Pacific Avenue. The residential streets provide a direct shortcut to traffic traveling to or from Victory Boulevard west of N. Hollywood Way, as such trips would avoid traveling through Intersection #9 (N. Hollywood Way & Victory Boulevard), which is forecast to operate at LOS E during the afternoon peak hour.

Cut-through traffic occurs when it results in a savings of time or frustration for a driver that would otherwise drive on arterial streets. For office traffic traveling to or from Victory Boulevard west of N. Hollywood Way, using the residential streets would result in a shorter trip by distance and, likely, by time because the office driveway is west of Screenland Drive. For residential traffic traveling to or from Victory Boulevard west of N. Hollywood Way, the residential streets could result in a shorter trip by distance depending on the driveway a driver uses but may not save time.

The local access patterns to the residential buildings (which are shared by the Project's restaurant uses) substantially affect the likelihood of cut-through traffic. Residential Building 1, which has no access to Valhalla Drive, would have to drive on N. Hollywood Way for a portion of any trip that could involve cutting through the residential neighborhood, thereby limiting the likelihood of cut-through traffic for that building. Residential Building 2 does have access to Valhalla Drive and, therefore, traffic to and from Residential Building 2 could avoid N. Hollywood Way altogether by traveling on Screenland Drive to Pacific Avenue and using one of the residential streets to Victory Boulevard.

Outbound traffic heading to Victory Boulevard from the residential buildings would typically travel south on N. Hollywood Way, which allows a faster travel speed and provides a dedicated right-turn lane onto Victory Boulevard. Inbound traffic is somewhat more likely to choose to turn left from Victory Boulevard onto one of the four residential streets to avoid the delay associated with a left turn onto N. Hollywood Way and one or more subsequent left turns to access the Project Site.

Total Potential Cut-Through Traffic

As shown in Figure 11, based on the City Model, a total of 5% of Project traffic is expected to travel to and from Victory Boulevard west of N. Hollywood Way. Given the difficulty of accessing Vanowen Street to the west (20% of Project traffic based on Figure 11) for office traffic and Residential Building 2 traffic, a portion of those trips (4% each) were also assumed to use Victory Boulevard. As a result, 9% of office traffic and approximately 7% of residential and restaurant traffic (reflecting 5% of Residential Building 1 and 9% of Residential Building 2) are expected to travel to and from Victory Boulevard west of N. Hollywood Way.

For the purposes of this analysis, with respect to Project traffic traveling to and from Victory Boulevard west of N. Hollywood Way, it was conservatively assumed that all office traffic would use one of the residential streets; that 75% of the inbound residential and restaurant traffic would use one of the residential streets (which assumes all Residential Building 1 traffic and half of Residential

Building 2 traffic); and that 50% of the outbound residential and restaurant traffic would use one of the residential streets. Table 13 summarizes the amount of Project traffic expected to travel through the residential streets on a daily basis and during the peak hours. As shown, up to 335 Project trips would travel on residential streets on a daily basis, including 27 during the morning peak hour and 33 during the afternoon peak hour. This estimate does not include the removal of any cut-through trips associated with the existing Fry's Electronics.

Cut-Through Traffic by Street

It is anticipated that nearly all of the potential cut-through traffic identified in Table 13 would travel on Screenland Drive or Maple Street. Screenland Drive provides the most direct route for cut-through traffic, but it has three speed humps between Pacific Avenue and Victory Boulevard. Maple Street requires traveling nearly 700 feet on Pacific Avenue but does not have any speed humps and provides signal control at Victory Boulevard. If Project traffic were evenly split between the two streets, it would result in a total of approximately 110 daily trips on each street.

Evaluation of Cut-Through Traffic

The City Guidelines consider project cut-through traffic to be a nuisance requiring neighborhood traffic protection measures if it results in an increase of 20% of daily traffic on a street with 500 to 1,000 daily trips or an increase of 12% of daily traffic on a street with 1,000 to 2,000 daily trips (including Project trips). Based on the results in Table 14, both Maple Street and Screenland Drive could experience Project-related increases in cut-through traffic in excess of the City's thresholds. On Maple Street, the Project could represent approximately 16% of total traffic; and on Screenland Drive, the Project could represent approximately 25% of total traffic.

This analysis is very conservative in that it assumes that most of the traffic with the potential to cut through the residential neighborhood would do so. Further, it assumes that the current traffic volumes, collected during a pandemic, are representative of non-pandemic conditions. With typical (i.e., non-pandemic) traffic conditions, the percentage of daily traffic represented by the Project would likely decrease and, thus, the Project's percentage of traffic on those streets would decrease.

RECOMMENDED IMPROVEMENTS

Based on this analysis, cut-through traffic could occur on Maple Street and Screenland Drive exceeding the City's thresholds. There are several strategies to lessen the amount of cut-through traffic through that residential neighborhood. One option would be to close Screenland Drive to vehicular through traffic between Valhalla Drive and Pacific Avenue, thereby eliminating any travel distance savings and substantially reducing (or potentially eliminating) any time savings from cutting through the residential neighborhood. With this change, the only Project traffic that could still cut through the neighborhood would be seeking to avoid traveling through the intersection of N. Hollywood Way & Victory Boulevard by using one of the residential streets and Pacific Avenue to cut the corner. With this change, the remaining amount of cut-through traffic would be below the City's thresholds.

The alternative is to implement neighborhood traffic calming measures on the streets directly affected through a process that incorporates resident input and feedback. Potential traffic calming measures could include speed humps, bump-outs, traffic diverters to prevent traffic from passing in one direction or another, or cul-de-sacs to fully prevent through traffic at a particular location (e.g., just north of Victory Boulevard). The neighborhood traffic management plan process is typically administered by the City and funded by the Project Applicant, and must be carefully considered to ensure that, by implementing measures on one street (e.g., Screenland Drive), it does not result in an increase in cut-through traffic on neighboring streets (e.g., Kenwood Street or Pepper Drive).

TABLE 12
EXISTING RESIDENTIAL STREET TRAFFIC VOLUMES

Volume	Maple Street	Kenwood Street	Screenland Drive	Pepper Drive
24-Hour Traffic Volume				
Northbound Direction	339	181	230	314
Southbound Direction	526	193	267	226
Two-way Total	865	374	497	540
Morning Peak Hour Volume				
Northbound Direction	30	11	12	16
Southbound Direction	43	16	25	22
Two-way Total	73	27	37	38
Afternoon Peak Hour Volume				
Northbound Direction	47	18	33	45
Southbound Direction	53	19	31	22
Two-way Total	100	37	64	67

Notes:
Traffic counts collected in April 2021.

TABLE 13
ESTIMATED PROJECT CUT-THROUGH TRAFFIC

Volume	Residential and Restaurant Traffic		Office Traffic		Total
	Inbound	Outbound	Inbound	Outbound	
Total Project Trip Generation [a]					
Daily	**2,463**	**2,463**	**666**	**666**	
Morning Peak Hour	**107**	**234**	**136**	**22**	
Afternoon Peak Hour	**246**	**156**	**25**	**132**	
Project Traffic Using Victory Boulevard west of N. Hollywood Way [b]					
Daily	172	172	60	60	464
Morning Peak Hour	7	16	12	2	37
Afternoon Peak Hour	17	11	2	12	42
Project Traffic on Residential Streets					
Percentage	75%	50%	100%	100%	
Direction	**Northbound**	**Southbound**	**Northbound**	**Southbound**	**Total**
Daily	129	86	60	60	335
Morning Peak Hour	5	8	12	2	27
Afternoon Peak Hour	13	6	2	12	33

Notes:
[a] Trip generation estimates from Table 5, excluding existing use credit for Fry's Electronics.
[b] 7% of residential and restaurant traffic and 9% of office traffic.

TABLE 14
PROJECT CUT-THROUGH TRAFFIC BY STREET

Volume	Maple Street	Kenwood Street	Screenland Drive	Pepper Drive
Existing 24-hour Traffic Volume [a]	865	374	497	540
Potential Cut-Through Traffic Using Street	50%	0%	50%	0%
Potential Project Cut-Through Traffic [b]	168	0	168	0
Total 24-hour Traffic Volume with Project	1,033	374	665	540
Project Percent of Total Traffic	16%	0%	25%	0%

Notes:
[a] See Table 11.
[b] See Table 12.

Section 4F
Recommended Transportation Improvements

The Project incorporates various features to help reduce VMT, reduce trips, and improve the transportation environment for all travel modes. Based on the findings from this report, it is also recommended that the Project contribute to various off-site transportation improvements.

TDM MEASURES

As described in Section 3B, the Project incorporates features to reduce VMT, including:

- A reduced parking supply compared to the standard BMC requirement
- Bicycle infrastructure, including a two-way protected bike path on Screenland Drive and on-site bicycle parking
- Pedestrian infrastructure, including sidewalks widened to 15 feet around all Project frontages and two open pedestrian paseos within the Project Site (Screenland Drive and Fry's Way)

Additionally, in accordance with the City's TDM Ordinance, the Project would incorporate a bulletin board or kiosk with transportation information for employees, a carpool / vanpool loading area for the office building on Valhalla Drive, and, if determined necessary by the City, improvements to nearby bus stops.

Provision of a reduced parking supply is designed to take advantage of the many alternatives to automobile travel that a mixed-use, transit-oriented site like the Project provides. It does this both by discouraging residents from owning multiple vehicles and by attracting residents who wish to reside in a location where multiple vehicles (or any vehicles) are not necessary. However, it has the potential to lead to off-site parking, including on surrounding streets. Valhalla Drive and Screenland Drive south of the Project Site are currently signed to prohibit overnight parking, but the residential neighborhoods south of Pacific Avenue (beginning approximately 700 feet south of the Project Site) have no such prohibition. Therefore, the Applicant proposes that residential leases would prohibit resident parking on nearby residential streets with threat of penalty for noncompliance.

OFF-SITE TRANSPORTATION IMPROVEMENTS AND SUPPORT

The Project should contribute toward the construction of several off-site improvements that would benefit pedestrians, bicycles, and vehicles:

- The Project should restripe Vanowen Street to provide westbound left-turn lanes into Screenland Drive and the Residential Building 1 driveway, replacing portions of the existing two-way left-turn median.
- The Project should upgrade Intersection #2 (N. Hollywood Way Southbound On-ramp & Vanowen Street) to include a protected pedestrian signal for the east/west crosswalk and a protected westbound left turn signal to provide safer pedestrian and vehicular access.
- The Project should construct ADA accessible curb ramps on the south side of Vanowen Street between the Project Site and the N. Hollywood Way pedestrian portal on the east side of N. Hollywood Way. There are two locations without ADA accessible curb ramps, precluding passage by people with disabilities.
- The Project should support any proposal to provide bicycle lane connectivity on Valhalla Drive between Screenland Drive and N. Hollywood Way. This could be in the form of Class II bicycle lanes (requiring the elimination of the on-street parking on the north side of Valhalla Drive) or a Class III bicycle route (which would not require the elimination of parking).

NEIGHBORHOOD TRAFFIC MANAGEMENT

Based on the results of Section 4E, residential street cut-through traffic could exceed City thresholds on Maple Street and Screenland Drive between Pacific Avenue and Victory Boulevard. One potential corrective measure would be to close Screenland Drive to vehicular through traffic between Valhalla Drive and Pacific Avenue. If this is not an acceptable measure to the City or to local stakeholders, it is recommended that the City initiate a neighborhood traffic management plan (NTMP) process with the residents of Maple Street and Screenland Drive to be funded by the Applicant. The NTMP process should consider traffic calming measures to reduce the amount of cut-through traffic on those streets and, if necessary, should be extended to include Kenwood

Street and Pepper Drive to ensure that the measures do not simply relocate cut-through traffic to those streets.

Chapter 5

Summary and Conclusions

This study was undertaken to analyze the potential transportation impacts of the Project on the transportation system. The following summarizes the results of this analysis:

PROJECT DESCRIPTION

- The Project is located at 2311 N. Hollywood Way.
- The Project proposes up to 862 residential apartment units (including 80 very-low-income affordable units and 12 live/work units), 151,800 sf of office space, and 9,700 sf of restaurant uses.
- The Project would provide 1,613 vehicular parking spaces and 56 bicycle parking spaces.
- The Project would construct two new publicly accessible bicycle and pedestrian paseos for access and circulation. Screenland Drive between Valhalla Drive and Vanowen Street would provide open space, a pedestrian sidewalk, and a new two-way Class I bicycle path. Fry's Way between Screenland Drive and the N. Hollywood Way southbound ramp would provide open space for pedestrians and bicycles. Both would also serve as fire lanes.
- Vehicular access to the residences would be provided on Vanowen Street, the ramp to southbound N. Hollywood Way, Valhalla Drive, and the Screenland Drive extension. Vehicular access to the office would be provided on Valhalla Drive.
- The Project would replace an existing 101,566 sf Fry's Electronics store and surface parking lots.
- The Project is anticipated to be completed in Year 2026.

CEQA ANALYSIS RESULTS

- The Project would not conflict with adopted programs, plans, ordinances, or policies.
- The Project is presumed to have a less-than-significant VMT impact due to its proximity to transit and other qualifying characteristics based on the City's VMT screening process.

- The Project would not have a significant impact on safety or operations due to site access and circulation.

- The Project would not have a significant impact on safety due to freeway ramp queuing.

NON-CEQA OPERATIONAL ANALYSIS

- A total of 15 intersections and four residential street segments were analyzed.

- The Project is estimated to generate a net total of 3,254 daily trips, including 475 net new morning peak hour trips and 247 net new afternoon peak hour trips on a typical weekday.

- The Project is estimated to result in a net decrease in traffic compared to the existing condition on a Saturday, and therefore no Saturday analysis was conducted.

- Project traffic distribution assumptions were based on a distribution plot generated from the City Model.

- Two intersections currently operate at LOS E and two intersections would operate at LOS E in Year 2026 without the Project.

- With the Project, three intersections would operate at LOS E or F during one or both peak hours. The delay caused by the Project at the study intersections would generally be imperceptible to drivers and no intersection improvements are recommended.

- All Project driveways would operate at LOS D or better.

- The Project is not shown to cause an intersection or driveway operational deficiency or be incompatible with the Burbank2035 General Plan.

- The addition of Project trips could adversely affect two residential Local Streets (Maple Street and Screenland Drive between Pacific Avenue and Victory Boulevard), requiring traffic calming measures.

RECOMMENDED TRANSPORTATION IMPROVEMENTS

- Project design features including a reduced parking supply and the incorporation of bicycle and pedestrian infrastructure that would serve to further reduce VMT. The Project would also incorporate features required by the City’s TDM Ordinance.

- The Project should restripe Vanowen Street to provide westbound left-turn lanes into Screenland Drive and the Residential Building 1 driveway, replacing portions of the existing two-way left-turn median.

- The Project should upgrade Intersection #2 (N. Hollywood Way Southbound On-ramp & Vanowen Street) to include a protected pedestrian signal for the east/west crosswalk and a protected westbound left turn signal to provide safer pedestrian and vehicular access.

- The Project should construct ADA accessible curb ramps on the south side of Vanowen Street between the Project Site and the N. Hollywood Way pedestrian portal on the east side of N. Hollywood Way. There are two locations without ADA accessible curb ramps, precluding passage by people with disabilities.

- The Project should support any proposal to provide bicycle lane connectivity on Valhalla Drive between Screenland Drive and N. Hollywood Way. This could be in the form of Class II bicycle lanes (requiring the elimination of the on-street parking on the north side of Valhalla Drive) or a Class III bicycle route (which would not require the elimination of parking).

- The Project should explore traffic calming measures. One potential traffic calming measure would be to close Screenland Drive to through vehicular access between Valhalla Drive and Pacific Avenue, which would substantially reduce the amount of Project cut-through traffic in the residential neighborhood and nullify the need for an NTMP.

- Alternatively, the Applicant should fund a NTMP process to identify traffic calming measures to be implemented on those streets and, if necessary, adjacent streets to prevent shifting the traffic from one residential street to another.

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Appendix A

Project Parking Requirements

PROJECT VEHICULAR PARKING REQUIREMENTS

Type of Room or Land Use	Units or Size	Burbank Municipal Code Requirement [a]	Reduced Requirement [b]
Parking Ratios			
Residential Units [b]			
Studio ≤ 500 sf	per unit	1.25	0.5
Studio > 500 sf	per unit	1.75	0.5
One Bedroom	per unit	1.75	0.5
Two Bedrooms	per unit	2.0	0.5
Three Bedrooms	per unit	2.0	0.5
Guest Parking Spaces	per unit	0.25	-
Office	per 1,000 sf	3	
Restaurant [c]	per 1,000 sf	10.0	3.3
Project Parking Requirements			
Residential Units			
Studio ≤ 500 sf	156 units	195.0	78.0
Studio > 500 sf	182 units	318.5	91.0
One Bedroom	365 units	638.8	182.5
Two Bedrooms	133 units	266.0	66.5
Three Bedrooms	26 units	52.0	13.0
Guest Parking Spaces	862 units	215.5	0.0
Residential Subtotal		**1,686**	**431**
Office	151,800 sf	**456**	**456**
Restaurant	9,700 sf	**97**	**32**
TOTAL VEHICULAR PARKING REQUIREMENT		**2,239**	**919**

Notes:

sf = square feet

[a] Pursuant to Burbank Municipal Code Sections 10-1-628 and 10-1-1408.

[b] Reduced residential parking requirementpursuant to Assembly Bill 2345.

[c] Reduced restaurant parking permit may be allowed by the City with approval of an Administrative Use Permit.

Appendix B

Freeway Queuing Level of Service Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	680	0	0	762	292	759	5	150	0	0	0
Future Volume (veh/h)	31	680	0	0	762	292	759	5	150	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	34	739	0	0	828	317	829	0	163			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	492	1955	0	0	1109	424	1182	0	526			
Arrive On Green	0.12	1.00	0.00	0.00	0.44	0.44	0.33	0.00	0.33			
Sat Flow, veh/h	3456	3647	0	0	2607	960	3563	0	1585			
Grp Volume(v), veh/h	34	739	0	0	585	560	829	0	163			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1697	1781	0	1585			
Q Serve(g_s), s	0.5	0.0	0.0	0.0	30.1	30.3	22.3	0.0	8.4			
Cycle Q Clear(g_c), s	0.5	0.0	0.0	0.0	30.1	30.3	22.3	0.0	8.4			
Prop In Lane	1.00		0.00	0.00		0.57	1.00		1.00			
Lane Grp Cap(c), veh/h	492	1955	0	0	784	749	1182	0	526			
V/C Ratio(X)	0.07	0.38	0.00	0.00	0.75	0.75	0.70	0.00	0.31			
Avail Cap(c_a), veh/h	606	1955	0	0	784	749	1182	0	526			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.7	0.0	0.0	0.0	25.6	25.6	32.0	0.0	27.4			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	4.2	4.5	3.5	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(85%),veh/ln	0.3	0.3	0.0	0.0	17.1	16.5	13.3	0.0	5.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.5	0.0	0.0	29.8	30.1	35.5	0.0	28.9			
LnGrp LOS	B	A	A	A	C	C	D	A	C			
Approach Vol, veh/h		773			1145			992				
Approach Delay, s/veh		1.2			29.9			34.4				
Approach LOS		A			C			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		67.0			12.0	55.0		43.0				
Change Period (Y+Rc), s		6.5			5.5	6.5		6.5				
Max Green Setting (Gmax), s		60.5			10.1	44.9		36.5				
Max Q Clear Time (g_c+I1), s		2.0			2.5	32.3		24.3				
Green Ext Time (p_c), s		9.2			0.0	7.8		3.3				

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1005	0	0	870	557	614	5	238	0	0	0
Future Volume (veh/h)	106	1005	0	0	870	557	614	5	238	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	115	1092	0	0	946	455	671	0	259			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	528	2265	0	0	1194	565	905	0	403			
Arrive On Green	0.16	1.00	0.00	0.00	0.51	0.51	0.25	0.00	0.25			
Sat Flow, veh/h	3456	3647	0	0	2433	1108	3563	0	1585			
Grp Volume(v), veh/h	115	1092	0	0	715	686	671	0	259			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1671	1781	0	1585			
Q Serve(g_s), s	1.5	0.0	0.0	0.0	39.6	41.0	20.8	0.0	17.5			
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.0	39.6	41.0	20.8	0.0	17.5			
Prop In Lane	1.00		0.00	0.00		0.66	1.00		1.00			
Lane Grp Cap(c), veh/h	528	2265	0	0	906	852	905	0	403			
V/C Ratio(X)	0.22	0.48	0.00	0.00	0.79	0.81	0.74	0.00	0.64			
Avail Cap(c_a), veh/h	537	2265	0	0	906	852	905	0	403			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.90	0.90	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.8	0.0	0.0	0.0	24.1	24.4	41.1	0.0	39.9			
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.0	5.0	6.0	5.4	0.0	7.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(85%),veh/ln	1.0	0.4	0.0	0.0	21.6	21.4	13.0	0.0	10.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	0.7	0.0	0.0	29.1	30.4	46.6	0.0	47.6			
LnGrp LOS	B	A	A	A	C	C	D	A	D			
Approach Vol, veh/h		1207			1401			930				
Approach Delay, s/veh		2.2			29.7			46.8				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		83.0			15.3	67.7		37.0				
Change Period (Y+Rc), s		6.5			5.5	6.5		6.5				
Max Green Setting (Gmax), s		76.5			10.1	60.9		30.5				
Max Q Clear Time (g_c+I1), s		2.0			3.5	43.0		22.8				
Green Ext Time (p_c), s		17.1			0.1	12.3		2.4				
Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	693	0	0	772	292	793	5	150	0	0	0
Future Volume (veh/h)	31	693	0	0	772	292	793	5	150	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	34	753	0	0	839	317	866	0	163			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	474	1922	0	0	1091	411	1215	0	540			
Arrive On Green	0.08	0.72	0.00	0.00	0.43	0.43	0.34	0.00	0.34			
Sat Flow, veh/h	3456	3647	0	0	2618	952	3563	0	1585			
Grp Volume(v), veh/h	34	753	0	0	590	566	866	0	163			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1699	1781	0	1585			
Q Serve(g_s), s	0.5	9.1	0.0	0.0	31.1	31.2	23.3	0.0	8.3			
Cycle Q Clear(g_c), s	0.5	9.1	0.0	0.0	31.1	31.2	23.3	0.0	8.3			
Prop In Lane	1.00		0.00	0.00		0.56	1.00		1.00			
Lane Grp Cap(c), veh/h	474	1922	0	0	768	734	1215	0	540			
V/C Ratio(X)	0.07	0.39	0.00	0.00	0.77	0.77	0.71	0.00	0.30			
Avail Cap(c_a), veh/h	588	1922	0	0	768	734	1215	0	540			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.2	8.4	0.0	0.0	26.5	26.6	31.6	0.0	26.6			
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	5.0	5.4	3.6	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(85%),veh/ln	0.4	4.9	0.0	0.0	17.7	17.2	13.8	0.0	5.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	8.9	0.0	0.0	31.6	31.9	35.1	0.0	28.1			
LnGrp LOS	B	A	A	A	C	C	D	A	C			
Approach Vol, veh/h		787			1156			1029				
Approach Delay, s/veh		9.3			31.8			34.0				
Approach LOS		A			C			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		66.0			12.0	54.0		44.0				
Change Period (Y+Rc), s		6.5			5.5	6.5		6.5				
Max Green Setting (Gmax), s		59.5			10.1	43.9		37.5				
Max Q Clear Time (g_c+I1), s		11.1			2.5	33.2		25.3				
Green Ext Time (p_c), s		9.3			0.0	7.0		3.4				

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

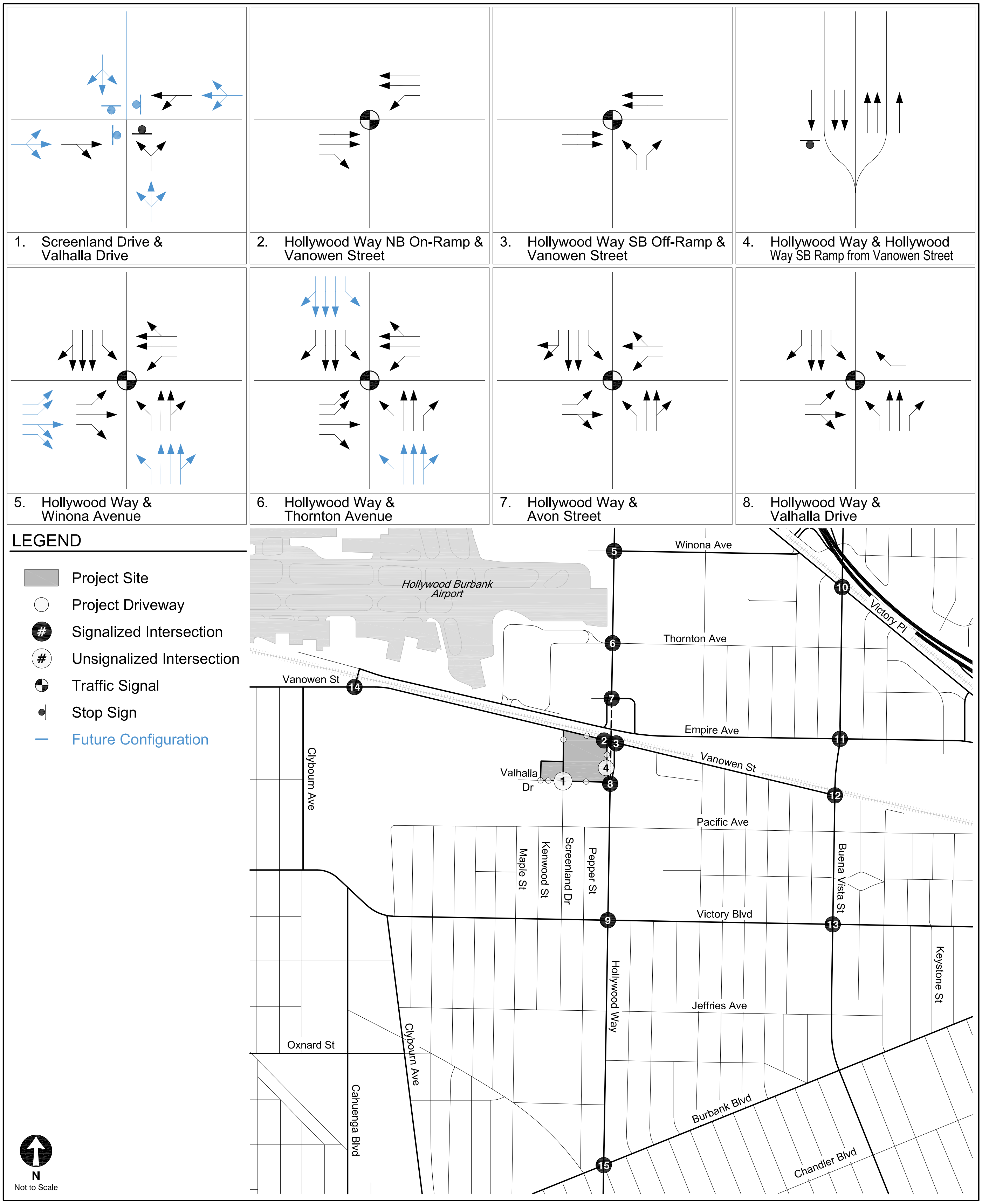
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1010	0	0	875	557	632	5	238	0	0	0
Future Volume (veh/h)	106	1010	0	0	875	557	632	5	238	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	115	1098	0	0	951	605	691	0	195			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	444	2236	0	0	1063	651	935	0	416			
Arrive On Green	0.16	1.00	0.00	0.00	0.50	0.50	0.26	0.00	0.26			
Sat Flow, veh/h	3456	3647	0	0	2211	1296	3563	0	1585			
Grp Volume(v), veh/h	115	1098	0	0	792	764	691	0	195			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1637	1781	0	1585			
Q Serve(g_s), s	1.6	0.0	0.0	0.0	48.1	52.3	21.3	0.0	12.4			
Cycle Q Clear(g_c), s	1.6	0.0	0.0	0.0	48.1	52.3	21.3	0.0	12.4			
Prop In Lane	1.00		0.00	0.00		0.79	1.00		1.00			
Lane Grp Cap(c), veh/h	444	2236	0	0	892	821	935	0	416			
V/C Ratio(X)	0.26	0.49	0.00	0.00	0.89	0.93	0.74	0.00	0.47			
Avail Cap(c_a), veh/h	453	2236	0	0	892	821	935	0	416			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.90	0.90	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	22.3	0.0	0.0	0.0	26.9	27.9	40.5	0.0	37.2			
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.0	11.1	17.1	5.2	0.0	3.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(85%),veh/ln	1.4	0.4	0.0	0.0	27.3	28.6	13.3	0.0	7.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.7	0.0	0.0	38.0	45.0	45.7	0.0	41.0			
LnGrp LOS	C	A	A	A	D	D	D	A	D			
Approach Vol, veh/h		1213			1556			886				
Approach Delay, s/veh		2.8			41.4			44.7				
Approach LOS		A			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		82.0			15.3	66.7		38.0				
Change Period (Y+Rc), s		6.5			5.5	6.5		6.5				
Max Green Setting (Gmax), s		75.5			10.1	59.9		31.5				
Max Q Clear Time (g_c+I1), s		2.0			3.6	54.3		23.3				
Green Ext Time (p_c), s		17.2			0.1	4.8		2.3				
Intersection Summary												
HCM 6th Ctrl Delay			29.4									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

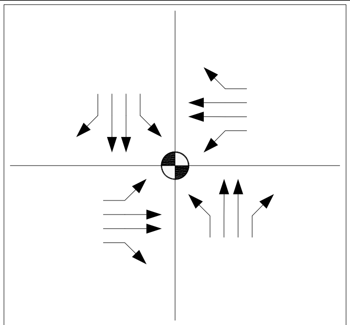
Appendix C

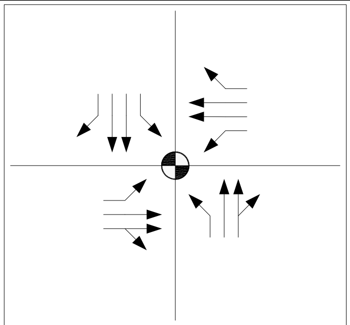
Intersection Lane Configurations

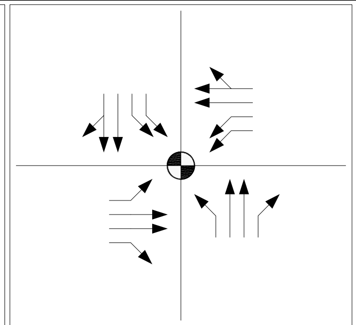


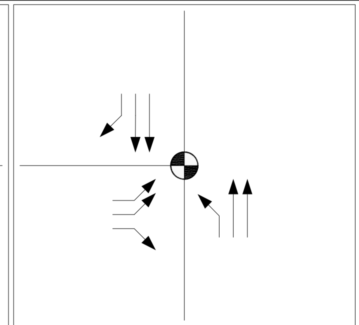
INTERSECTION LANE CONFIGURATIONS

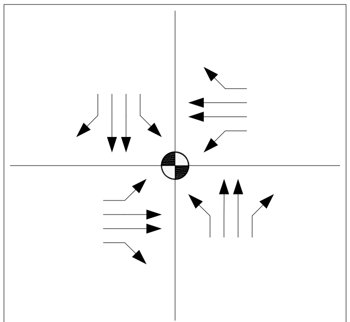
APPENDIX C

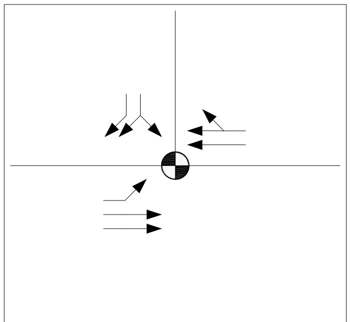

9. Hollywood Way & Victory Boulevard

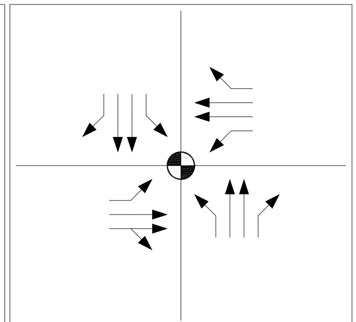

10. Buena Vista Street & San Fernando Boulevard

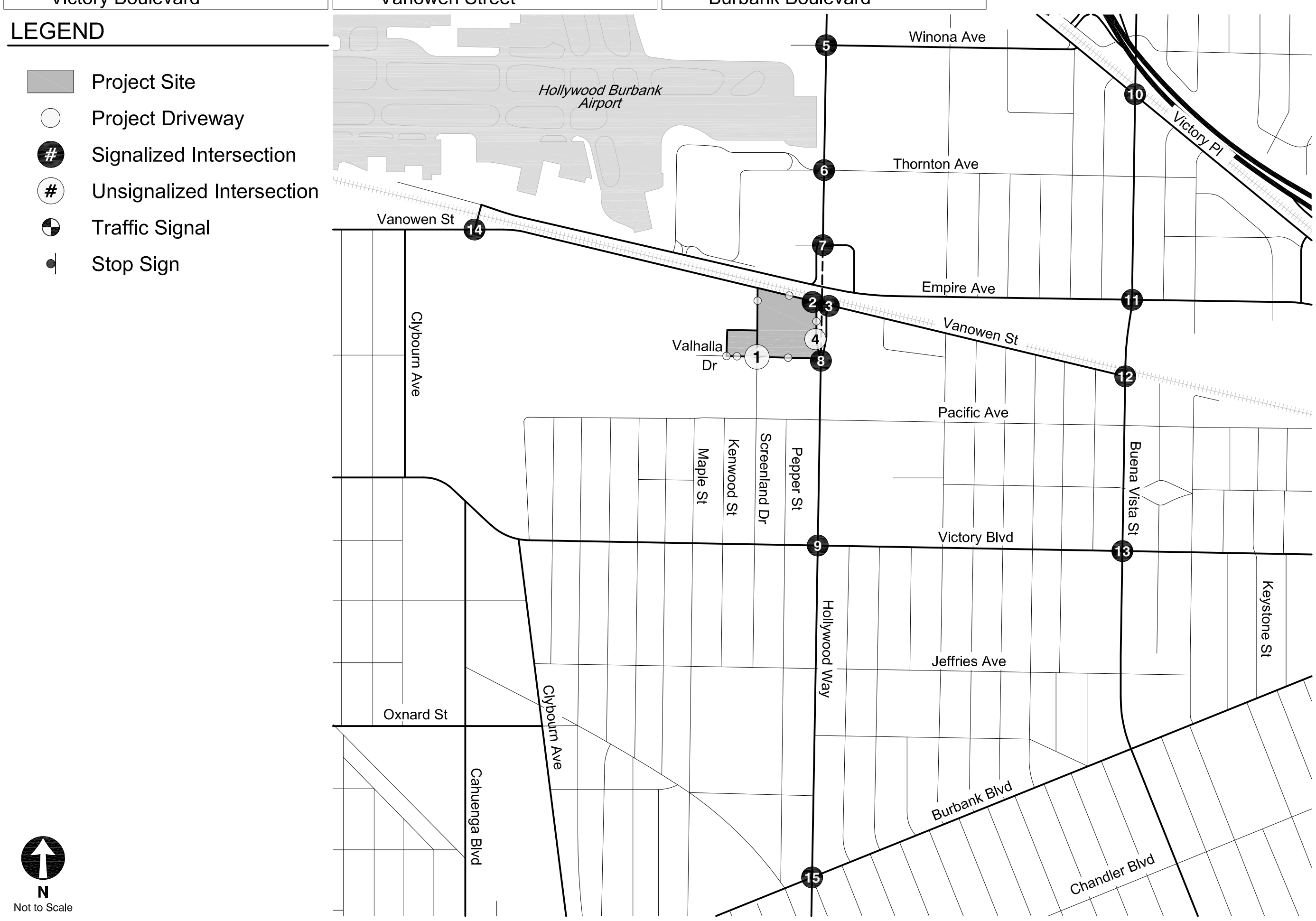

11. Buena Vista Street & Empire Avenue


12. Buena Vista Street & Vanowen Street


13. Buena Vista Street & Victory Boulevard


14. Clybourn Avenue & Vanowen Street


15. Hollywood Way & Burbank Boulevard



INTERSECTION LANE CONFIGURATIONS

APPENDIX C (CONT.)

Appendix D

Traffic Counts and COVID-19 Volume Adjustments

Intersection Traffic Counts
from May 2018

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969 info@wiltecusa.com

INTERSECTION VEHICLE CLASSIFICATION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		WEDNESDAY MAY 9, 2018
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	HOLLYWOOD WAY
	E/W	WINONA AVENUE
CITY:		BURBANK

VEHICLE COUNTS

	1 SBRT			2 SBTH			3 SBLT			4 WBRT			5 WBTH			6 WBLT		
15-MIN COUNTS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS
700-715	7	0	7	375	0	375	46	0	46	10	0	10	0	0	0	3	0	3
715-730	7	0	7	413	0	413	28	0	28	14	0	14	0	0	0	3	0	3
730-745	9	0	9	469	0	469	42	0	42	9	0	9	0	0	0	12	0	12
745-800	1	0	1	508	0	508	52	0	52	12	0	12	1	0	1	10	0	10
800-815	8	0	8	493	0	493	45	0	45	14	0	14	0	0	0	10	0	10
815-830	11	0	11	471	0	471	53	0	53	8	0	8	0	0	0	4	0	4
830-845	7	0	7	465	0	465	42	0	42	14	0	14	0	0	0	13	0	13
845-900	10	0	10	489	0	489	46	0	46	13	0	13	0	0	0	15	0	15
900-915	4	0	4	436	0	436	42	0	42	15	0	15	0	0	0	13	0	13
915-930	1	0	1	391	0	391	33	0	33	15	0	15	0	0	0	11	0	11
930-945	8	0	8	373	0	373	27	0	27	13	0	13	0	0	0	13	0	13
945-1000	2	0	2	375	0	375	19	0	19	12	0	12	0	0	0	8	0	8
HOUR TOTALS																		
700-800	24	0	24	1765	0	1765	168	0	168	45	0	45	1	0	1	28	0	28
715-815	25	0	25	1883	0	1883	167	0	167	49	0	49	1	0	1	35	0	35
730-830	29	0	29	1941	0	1941	192	0	192	43	0	43	1	0	1	36	0	36
745-845	27	0	27	1937	0	1937	192	0	192	48	0	48	1	0	1	37	0	37
800-900	36	0	36	1918	0	1918	186	0	186	49	0	49	0	0	0	42	0	42
815-915	32	0	32	1861	0	1861	183	0	183	50	0	50	0	0	0	45	0	45
830-930	22	0	22	1781	0	1781	163	0	163	57	0	57	0	0	0	52	0	52
845-945	23	0	23	1689	0	1689	148	0	148	56	0	56	0	0	0	52	0	52
900-1000	15	0	15	1575	0	1575	121	0	121	55	0	55	0	0	0	45	0	45

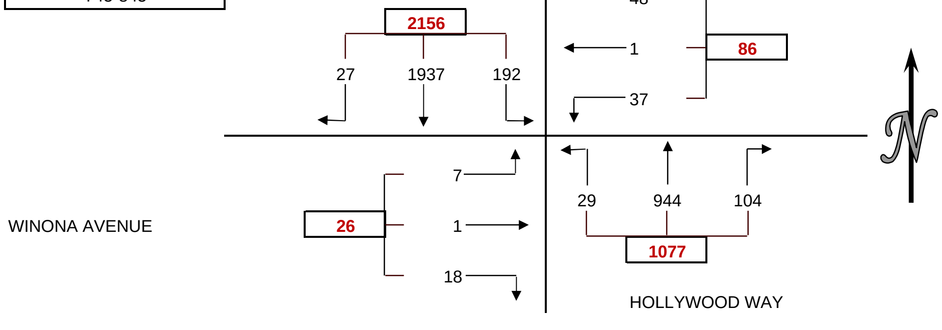
	7 NBRT			8 NBTH			9 NBLT			10 EBRT			11 EBTH			12 EBLT			TOTALS		
15-MIN COUNTS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS
700-715	25	0	25	143	0	143	8	3	11	1	2	3	1	0	1	0	0	0	619	5	624
715-730	17	0	17	156	0	156	2	3	5	0	5	5	1	0	1	0	0	0	641	8	649
730-745	22	0	22	195	0	195	3	3	6	0	2	2	0	0	0	1	0	1	762	5	767
745-800	28	0	28	255	0	255	2	3	5	1	3	4	0	0	0	0	0	0	870	6	876
800-815	25	0	25	236	0	236	3	2	5	1	3	4	0	0	0	1	0	1	836	5	841
815-830	26	0	26	233	0	233	6	4	10	2	3	5	1	0	1	3	2	5	818	9	827
830-845	25	0	25	220	0	220	6	3	9	3	2	5	0	0	0	1	0	1	796	5	801
845-900	22	0	22	235	0	235	4	4	8	4	1	5	0	0	0	1	1	2	839	6	845
900-915	28	0	28	209	0	209	4	2	6	2	4	6	0	0	0	2	0	2	755	6	761
915-930	18	0	18	203	0	203	6	4	10	1	4	5	0	0	0	1	0	1	680	8	688
930-945	26	0	26	224	0	224	2	2	4	2	1	3	0	0	0	4	0	4	692	3	695
945-1000	21	0	21	202	0	202	5	2	7	3	3	6	0	0	0	2	1	3	649	6	655

HOUR TOTALS																					
700-800	92	0	92	749	0	749	15	12	27	2	12	14	2	0	2	1	0	1	2892	24	2916
715-815	92	0	92	842	0	842	10	11	21	2	13	15	1	0	1	2	0	2	3109	24	3133
730-830	101	0	101	919	0	919	14	12	26	4	11	15	1	0	1	5	2	7	3286	25	3311
745-845	104	0	104	944	0	944	17	12	29	7	11	18	1	0	1	5	2	7	3320	25	3345
800-900	98	0	98	924	0	924	19	13	32	10	9	19	1	0	1	6	3	9	3289	25	3314
815-915	101	0	101	897	0	897	20	13	33	11	10	21	1	0	1	7	3	10	3208	26	3234
830-930	93	0	93	867	0	867	20	13	33	10	11	21	0	0	0	5	1	6	3070	25	3095
845-945	94	0	94	871	0	871	16	12	28	9	10	19	0	0	0	8	1	9	2966	23	2989
900-1000	93	0	93	838	0	838	17	10	27	8	12	20	0	0	0	9	1	10	2776	23	2799

VEHICLE TOTALS SUMMARY

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	7	375	46	10	0	3	25	143	11	3	1	0	624
715-730	7	413	28	14	0	3	17	156	5	5	1	0	649
730-745	9	469	42	9	0	12	22	195	6	2	0	1	767
745-800	1	508	52	12	1	10	28	255	5	4	0	0	876
800-815	8	493	45	14	0	10	25	236	5	4	0	1	841
815-830	11	471	53	8	0	4	26	233	10	5	1	5	827
830-845	7	465	42	14	0	13	25	220	9	5	0	1	801
845-900	10	489	46	13	0	15	22	235	8	5	0	2	845
900-915	4	436	42	15	0	13	28	209	6	6	0	2	761
915-930	1	391	33	15	0	11	18	203	10	5	0	1	688
930-945	8	373	27	13	0	13	26	224	4	3	0	4	695
945-1000	2	375	19	12	0	8	21	202	7	6	0	3	655
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	24	1765	168	45	1	28	92	749	27	14	2	1	2916
715-815	25	1883	167	49	1	35	92	842	21	15	1	2	3133
730-830	29	1941	192	43	1	36	101	919	26	15	1	7	3311
745-845	27	1937	192	48	1	37	104	944	29	18	1	7	3345
800-900	36	1918	186	49	0	42	98	924	32	19	1	9	3314
815-915	32	1861	183	50	0	45	101	897	33	21	1	10	3234
830-930	22	1781	163	57	0	52	93	867	33	21	0	6	3095
845-945	23	1689	148	56	0	52	94	871	28	19	0	9	2989
900-1000	15	1575	121	55	0	45	93	838	27	20	0	10	2799

PEAK HOUR
745-845



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	1	0	0	1
715-730	1	2	0	2	5
730-745	0	2	0	0	2
745-800	0	2	0	0	2
800-815	1	0	0	1	2
815-830	0	0	0	1	1
830-845	0	1	0	0	1
845-900	0	0	0	0	0
900-915	0	1	0	1	2
915-930	0	2	1	0	3
930-945	0	2	0	0	2
945-1000	0	1	0	0	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	1	7	0	2	10
715-815	2	6	0	3	11
730-830	1	4	0	2	7
745-845	1	3	0	2	6
800-900	1	1	0	2	4
815-915	0	2	0	2	4
830-930	0	4	1	1	6
845-945	0	5	1	1	7
900-1000	0	6	1	1	8

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	1	1
715-730	1	1	0	1	3
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
900-915	0	0	0	0	0
915-930	0	0	0	1	1
930-945	0	0	0	0	0
945-1000	0	0	0	1	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	1	1	0	2	4
715-815	1	1	0	1	3
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0
815-915	0	0	0	0	0
830-930	0	0	0	1	1
845-945	0	0	0	1	1
900-1000	0	0	0	2	2

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	1957	795		74	262		868	1807		17	52
715-815	2075	893		85	260		955	1933		18	47
730-830	2162	969		80	294		1046	1992		23	56
745-845	2156	999		86	297		1077	1992		26	57
800-900	2140	982		91	285		1054	1979		29	68
815-915	2076	957		95	285		1031	1927		32	65
830-930	1966	930		109	256		993	1854		27	55
845-945	1860	936		108	242		993	1760		28	51
900-1000	1711	903		100	214		958	1640		30	42

WILTEC

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INTERSECTION VEHICLE CLASSIFICATION TURNING MOVEMENT COUNT SUMMARY

CLIENT: GIBSON TRANSPORTATION
PROJECT: BURBANK AIRPORT - 2018
DATE: WEDNESDAY MAY 9, 2018
PERIOD: 4:30 PM TO 7:30 PM
INTERSECTION: N/S HOLLYWOOD WAY
E/W WINONA AVENUE
CITY: BURBANK

VEHICLE COUNTS

	1 SBRT			2 SBTH			3 SBLT			4 WBRT			5 WBTH			6 WBLT		
15-MIN COUNTS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS
430-445	3	0	3	293	0	293	12	0	12	57	0	57	1	0	1	20	0	20
445-500	1	0	1	317	0	317	18	0	18	79	0	79	0	0	0	21	0	21
500-515	1	0	1	312	0	312	17	0	17	93	0	93	0	0	0	47	0	47
515-530	1	0	1	309	0	309	19	0	19	57	0	57	1	0	1	20	0	20
530-545	1	0	1	361	0	361	13	0	13	42	0	42	0	0	0	16	0	16
545-600	3	0	3	299	0	299	16	0	16	47	0	47	0	0	0	21	0	21
600-615	2	0	2	284	0	284	8	0	8	44	0	44	0	0	0	20	0	20
615-630	4	0	4	261	0	261	17	0	17	33	0	33	0	1	1	23	0	23
630-645	3	0	3	252	0	252	13	0	13	25	0	25	0	0	0	12	0	12
645-700	3	0	3	257	0	257	7	0	7	17	0	17	0	0	0	13	0	13
700-715	1	0	1	210	0	210	17	0	17	30	0	30	2	0	2	21	0	21
715-730	1	0	1	199	0	199	2	0	2	14	0	14	0	0	0	9	0	9

HOUR TOTALS																		
430-530	6	0	6	1231	0	1231	66	0	66	286	0	286	2	0	2	108	0	108
445-545	4	0	4	1299	0	1299	67	0	67	271	0	271	1	0	1	104	0	104
500-600	6	0	6	1281	0	1281	65	0	65	239	0	239	1	0	1	104	0	104
515-615	7	0	7	1253	0	1253	56	0	56	190	0	190	1	0	1	77	0	77
530-630	10	0	10	1205	0	1205	54	0	54	166	0	166	0	1	1	80	0	80
545-645	12	0	12	1096	0	1096	54	0	54	149	0	149	0	1	1	76	0	76
600-700	12	0	12	1054	0	1054	45	0	45	119	0	119	0	1	1	68	0	68
615-715	11	0	11	980	0	980	54	0	54	105	0	105	2	1	3	69	0	69
630-730	8	0	8	918	0	918	39	0	39	86	0	86	2	0	2	55	0	55

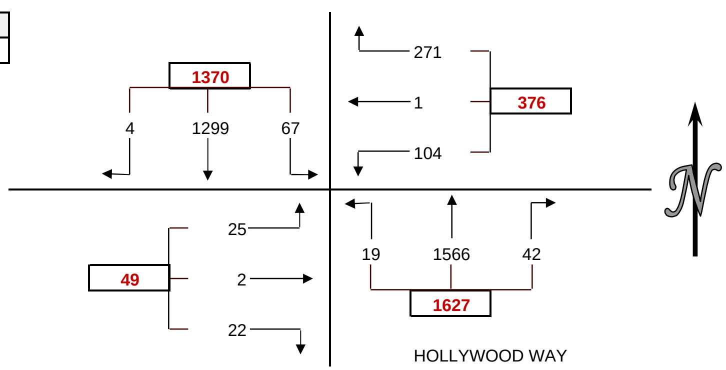
	7 NBRT			8 NBTH			9 NBLT			10 EBRT			11 EBTH			12 EBLT			TOTALS		
15-MIN COUNTS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS	AUTOS	AIRPT SHTTLS	MVT TOTALS
430-445	10	0	10	341	0	341	4	2	6	3	2	5	0	0	0	6	0	6	750	4	754
445-500	16	0	16	390	0	390	1	3	4	4	2	6	0	0	0	5	0	5	852	5	857
500-515	7	0	7	420	0	420	4	2	6	4	2	6	1	1	2	9	0	9	915	5	920
515-530	8	0	8	371	0	371	2	3	5	2	3	5	0	0	0	8	0	8	798	6	804
530-545	11	0	11	385	0	385	2	2	4	4	1	5	0	0	0	3	0	3	838	3	841
545-600	9	0	9	327	0	327	4	3	7	5	3	8	0	0	0	11	0	11	742	6	748
600-615	13	0	13	410	0	410	0	2	2	0	4	4	0	1	1	4	0	4	785	7	792
615-630	12	0	12	445	0	445	2	3	5	6	4	10	0	0	0	3	0	3	806	8	814
630-645	7	0	7	404	0	404	5	4	9	2	4	6	1	0	1	6	0	6	730	8	738
645-700	11	0	11	325	0	325	4	4	8	4	2	6	0	0	0	4	0	4	645	6	651
700-715	14	0	14	323	0	323	2	2	4	4	4	8	0	0	0	7	0	7	631	6	637
715-730	11	0	11	319	0	319	6	3	9	3	2	5	1	0	1	4	0	4	569	5	574

HOUR TOTALS																					
430-530	41	0	41	1522	0	1522	11	10	21	13	9	22	1	1	2	28	0	28	3315	20	3335
445-545	42	0	42	1566	0	1566	9	10	19	14	8	22	1	1	2	25	0	25	3403	19	3422
500-600	35	0	35	1503	0	1503	12	10	22	15	9	24	1	1	2	31	0	31	3293	20	3313
515-615	41	0	41	1493	0	1493	8	10	18	11	11	22	0	1	1	26	0	26	3163	22	3185
530-630	45	0	45	1567	0	1567	8	10	18	15	12	27	0	1	1	21	0	21	3171	24	3195
545-645	41	0	41	1586	0	1586	11	12	23	13	15	28	1	1	2	24	0	24	3063	29	3092
600-700	43	0	43	1584	0	1584	11	13	24	12	14	26	1	1	2	17	0	17	2966	29	2995
615-715	44	0	44	1497	0	1497	13	13	26	16	14	30	1	0	1	20	0	20	2812	28	2840
630-730	43	0	43	1371	0	1371	17	13	30	13	12	25	2	0	2	21	0	21	2575	25	2600

VEHICLE TOTALS SUMMARY

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-445	3	293	12	57	1	20	10	341	6	5	0	6	754
445-500	1	317	18	79	0	21	16	390	4	6	0	5	857
500-515	1	312	17	93	0	47	7	420	6	6	2	9	920
515-530	1	309	19	57	1	20	8	371	5	5	0	8	804
530-545	1	361	13	42	0	16	11	385	4	5	0	3	841
545-600	3	299	16	47	0	21	9	327	7	8	0	11	748
600-615	2	284	8	44	0	20	13	410	2	4	1	4	792
615-630	4	261	17	33	1	23	12	445	5	10	0	3	814
630-645	3	252	13	25	0	12	7	404	9	6	1	6	738
645-700	3	257	7	17	0	13	11	325	8	6	0	4	651
700-715	1	210	17	30	2	21	14	323	4	8	0	7	637
715-730	1	199	2	14	0	9	11	319	9	5	1	4	574
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-530	6	1231	66	286	2	108	41	1522	21	22	2	28	3335
445-545	4	1299	67	271	1	104	42	1566	19	22	2	25	3422
500-600	6	1281	65	239	1	104	35	1503	22	24	2	31	3313
515-615	7	1253	56	190	1	77	41	1493	18	22	1	26	3185
530-630	10	1205	54	166	1	80	45	1567	18	27	1	21	3195
545-645	12	1096	54	149	1	76	41	1586	23	28	2	24	3092
600-700	12	1054	45	119	1	68	43	1584	24	26	2	17	2995
615-715	11	980	54	105	3	69	44	1497	26	30	1	20	2840
630-730	8	918	39	86	2	55	43	1371	30	25	2	21	2600

PEAK HOUR
445-545



WINONA AVENUE

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	0	0	0	0
445-500	0	0	0	0	0
500-515	0	0	0	0	0
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	0	0	0
600-615	0	0	0	0	0
615-630	0	0	0	0	0
630-645	0	0	0	0	0
645-700	0	0	0	0	0
700-715	0	0	0	0	0
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	0	0	0	0	0
445-545	0	0	0	0	0
500-600	0	0	0	0	0
515-615	0	0	0	0	0
530-630	0	0	0	0	0
545-645	0	0	0	0	0
600-700	0	0	0	0	0
615-715	0	0	0	0	0
630-730	0	0	0	0	0

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	0	0	0	0
445-500	0	0	0	0	0
500-515	0	0	0	0	0
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	0	0	0
600-615	0	0	0	0	0
615-630	0	0	0	0	0
630-645	0	0	0	0	0
645-700	0	0	0	0	0
700-715	0	0	0	0	0
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	0	0	0	0	0
445-545	0	0	0	0	0
500-600	0	0	0	0	0
515-615	0	0	0	0	0
530-630	0	0	0	0	0
545-645	0	0	0	0	0
600-700	0	0	0	0	0
615-715	0	0	0	0	0
630-730	0	0	0	0	0

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
430-530	1303	1836		396	109		1584	1361		52	29
445-545	1370	1862		376	111		1627	1425		49	24
500-600	1352	1773		344	102		1560	1409		57	29
515-615	1316	1709		268	98		1552	1352		49	26
530-630	1269	1754		247	100		1630	1312		49	29
545-645	1162	1759		226	97		1650	1200		54	36
600-700	1111	1720		188	90		1651	1148		45	37
615-715	1045	1622		177	99		1567	1079		51	40
630-730	965	1478		143	84		1444	998		48	40

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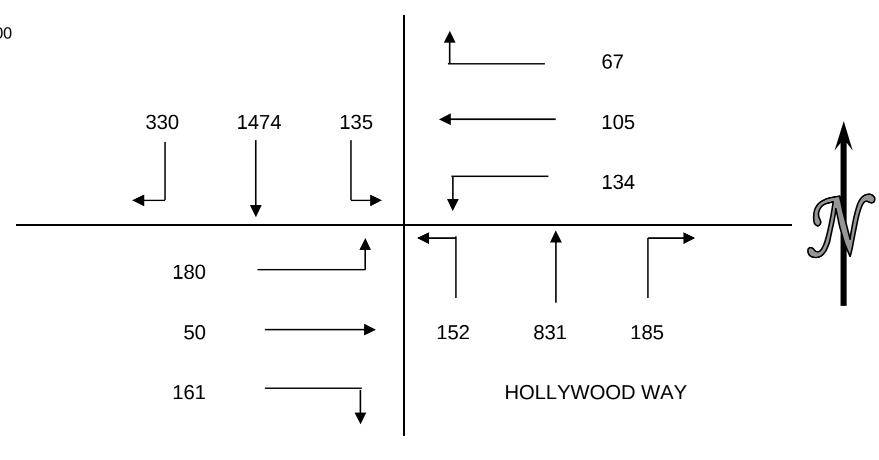
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		WEDNESDAY MAY 9, 2018
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	HOLLYWOOD WAY
	E/W	THORNTON AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	53	293	16	6	29	27	12	152	36	11	7	25	667
715-730	59	326	25	12	24	34	18	160	38	11	5	23	735
730-745	33	395	24	11	25	47	29	190	27	22	10	29	842
745-800	44	457	35	12	13	22	38	232	14	18	8	37	930
800-815	63	319	35	13	25	41	51	221	41	35	10	41	895
815-830	70	401	28	15	17	26	40	199	29	27	16	49	917
830-845	88	391	40	23	30	34	39	233	35	41	9	23	986
845-900	109	363	32	16	33	33	55	178	47	58	15	67	1006
900-915	90	314	37	11	23	36	37	165	34	41	11	68	867
915-930	76	303	31	17	27	27	19	144	33	65	16	73	831
930-945	56	307	28	17	25	31	29	185	40	58	8	46	830
945-1000	59	288	32	18	22	26	40	149	42	54	3	62	795
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	189	1471	100	41	91	130	97	734	115	62	30	114	3174
715-815	199	1497	119	48	87	144	136	803	120	86	33	130	3402
730-830	210	1572	122	51	80	136	158	842	111	102	44	156	3584
745-845	265	1568	138	63	85	123	168	885	119	121	43	150	3728
800-900	330	1474	135	67	105	134	185	831	152	161	50	180	3804
815-915	357	1469	137	65	103	129	171	775	145	167	51	207	3776
830-930	363	1371	140	67	113	130	150	720	149	205	51	231	3690
845-945	331	1287	128	61	108	127	140	672	154	222	50	254	3534
900-1000	281	1212	128	63	97	120	125	643	149	218	38	249	3323

AM PEAK HOUR: 800-900



THORNTON AVENUE

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	1	0	2	2	5
715-730	4	3	3	5	15
730-745	1	1	4	3	9
745-800	0	2	5	3	10
800-815	2	2	7	2	13
815-830	2	3	10	0	15
830-845	1	1	1	4	7
845-900	8	6	6	5	25
900-915	2	5	5	8	20
915-930	3	1	5	8	17
930-945	3	2	6	6	17
945-1000	2	2	7	2	13
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	6	6	14	13	39
715-815	7	8	19	13	47
730-830	5	8	26	8	47
745-845	5	8	23	9	45
800-900	13	12	24	11	60

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	1	1
715-730	0	1	0	2	3
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
900-915	0	0	0	0	0
915-930	0	0	1	1	2
930-945	0	0	0	0	0
945-1000	0	0	0	1	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	0	1	0	3	4
715-815	0	1	0	2	3
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969 info@wiltecusa.com

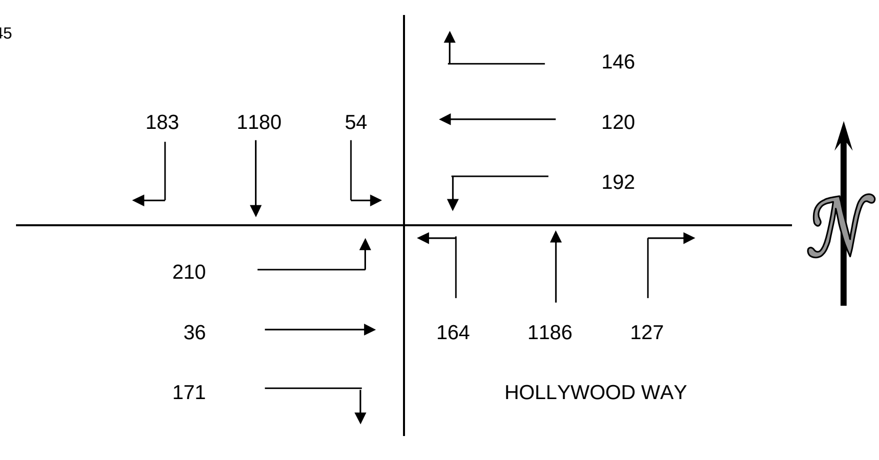
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION
PROJECT: BURBANK AIRPORT - 2018
DATE: WEDNESDAY MAY 9, 2018
PERIOD: 4:30 PM TO 7:30 PM
INTERSECTION: N/S HOLLYWOOD WAY
E/W THORNTON AVENUE
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-445	66	225	13	40	28	34	27	254	46	27	11	66	837
445-500	60	289	11	31	33	34	27	277	39	46	8	64	919
500-515	37	287	12	50	36	61	28	326	47	52	8	61	1005
515-530	42	319	11	27	18	37	33	281	30	20	10	46	874
530-545	44	285	20	38	33	60	39	302	48	53	10	39	971
545-600	44	273	13	22	22	42	38	264	34	40	11	52	855
600-615	33	248	15	30	30	60	24	329	44	49	12	47	921
615-630	45	227	8	26	39	47	22	327	54	65	14	106	980
630-645	42	233	8	34	22	32	36	299	43	48	12	89	898
645-700	47	200	12	19	30	44	24	284	33	25	7	39	764
700-715	51	192	9	15	22	40	22	273	48	17	13	50	752
715-730	58	143	10	23	31	20	32	231	57	42	5	77	729
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-530	205	1120	47	148	115	166	115	1138	162	145	37	237	3635
445-545	183	1180	54	146	120	192	127	1186	164	171	36	210	3769
500-600	167	1164	56	137	109	200	138	1173	159	165	39	198	3705
515-615	163	1125	59	117	103	199	134	1176	156	162	43	184	3621
530-630	166	1033	56	116	124	209	123	1222	180	207	47	244	3727
545-645	164	981	44	112	113	181	120	1219	175	202	49	294	3654
600-700	167	908	43	109	121	183	106	1239	174	187	45	281	3563
615-715	185	852	37	94	113	163	104	1183	178	155	46	284	3394
630-730	198	768	39	91	105	136	114	1087	181	132	37	255	3143

PM PEAK HOUR 445-545



THORNTON AVENUE

PEDESTRIAN COUNTS					
15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	1	2	7	4	14
445-500	1	2	3	3	9
500-515	3	1	3	3	10
515-530	0	2	4	2	8
530-545	5	2	4	7	18
545-600	0	0	5	5	10
600-615	0	1	5	1	7
615-630	6	0	0	3	9
630-645	1	5	5	7	18
645-700	2	0	1	2	5
700-715	0	0	4	3	7
715-730	6	0	4	6	16
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	5	7	17	12	41
445-545	9	7	14	15	45
500-600	8	5	16	17	46
515-615	5	5	18	15	43
530-630	11	3	14	16	44

BICYCLE COUNTS					
15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	0	0	1	1
445-500	0	0	0	0	0
500-515	0	1	0	0	1
515-530	0	0	0	0	0
530-545	0	0	1	2	3
545-600	0	0	0	0	0
600-615	0	0	0	1	1
615-630	0	0	0	0	0
630-645	0	0	0	0	0
645-700	0	0	0	0	0
700-715	0	0	0	0	0
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	0	1	0	1	2
445-545	0	1	1	2	4
500-600	0	1	1	2	4
515-615	0	0	1	3	4
530-630	0	0	1	3	4

WILTEC

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INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		WEDNESDAY MAY 9, 2018
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	HOLLYWOOD WAY
	E/W	AIRPORT / AVON AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2a	2b	3	4	5	6a	6b	7	8	9b	9a	10a	10b	11	12	
PERIOD	SBRT	SBTH	SBTH	SBLT	WBRT	WBTH	WBLT	WBLT	NBRT	NBTH	NBLT	NBLT	EBRT	EBRT	EBTH	EBLT	TOTAL
700-715	15	40	264	7	13	3	0	5	10	169	11	2	5	12	1	20	577
715-730	2	30	316	2	19	2	0	10	5	181	8	0	1	8	1	11	596
730-745	3	39	407	5	35	5	0	14	7	195	10	1	3	6	1	17	748
745-800	4	54	426	2	24	6	0	14	18	252	10	0	3	6	5	20	844
800-815	5	66	336	6	30	8	0	10	20	248	18	0	0	15	1	14	777
815-830	7	45	401	8	39	6	1	14	17	223	14	0	3	0	3	11	792
830-845	8	53	379	8	25	3	0	10	24	236	22	0	7	10	4	29	818
845-900	9	58	353	6	30	5	0	8	12	229	13	0	4	8	2	25	762
900-915	8	45	305	8	26	7	0	18	18	210	13	1	5	13	2	22	701
915-930	6	47	336	5	25	6	1	11	16	183	17	0	4	10	2	20	689
930-945	3	47	303	11	29	7	2	8	18	208	11	0	10	8	2	18	685
945-1000	15	58	285	6	24	5	1	9	20	183	19	1	6	7	3	21	663
	32	1426		30	104	25	50		72	784	62		63		9	81	
HOUR TOTALS	1	2a	2b	3	4	5	6a	6b	7	8	9b	9a	10a	10b	11	12	
PERIOD	SBRT	SBTH	SBTH	SBLT	WBRT	WBTH	WBLT	WBLT	NBRT	NBTH	NBLT	NBLT	EBRT	EBRT	EBTH	EBLT	TOTAL
700-800	24	163	1413	16	91	16	0	43	40	797	39	3	12	32	8	68	2765
715-815	14	189	1485	15	108	21	0	48	50	876	46	1	7	35	8	62	2965
730-830	19	204	1570	21	128	25	1	52	62	918	52	1	9	27	10	62	3161
745-845	24	218	1542	24	118	23	1	48	79	959	64	0	13	31	13	74	3231
800-900	29	222	1469	28	124	22	1	42	73	936	67	0	14	33	10	79	3149
815-915	32	201	1438	30	120	21	1	50	71	898	62	1	19	31	11	87	3073
830-930	31	203	1373	27	106	21	1	47	70	858	65	1	20	41	10	96	2970
845-945	26	197	1297	30	110	25	3	45	64	830	54	1	23	39	8	85	2837
900-1000	32	197	1229	30	104	25	4	46	72	784	60	2	25	38	9	81	2738

AM PEAK HOUR: 900-1000

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	2	0	0	0	2
715-730	1	0	0	0	1
730-745	2	0	0	1	3
745-800	2	1	0	4	7
800-815	0	2	2	1	5
815-830	0	0	0	1	1
830-845	2	0	0	3	5
845-900	0	0	0	3	3
900-915	0	0	0	1	1
915-930	4	1	0	8	13
930-945	3	2	0	7	12
945-1000	2	0	0	2	4
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	7	1	0	5	13
715-815	5	3	2	6	16
730-830	4	3	2	7	16
745-845	4	3	2	9	18
800-900	2	2	2	8	14
815-915	2	0	0	8	10
830-930	6	1	0	15	22
845-945	7	3	0	19	29
900-1000	9	3	0	18	30

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	1	1
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
900-915	0	1	0	0	1
915-930	0	0	0	0	0
930-945	0	0	0	0	0
945-1000	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	0	0	0	1	1
715-815	0	0	0	1	1
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0
815-915	0	1	0	0	1
830-930	0	1	0	0	1
845-945	0	1	0	0	1
900-1000	0	1	0	0	1

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	1616	956		150	64		879	1488		120	79
715-815	1703	1046		177	73		973	1568		112	81
730-830	1814	1108		206	93		1033	1649		108	96
745-845	1808	1151		190	116		1102	1621		131	111
800-900	1748	1139		189	111		1076	1544		136	118
815-915	1701	1105		192	112		1032	1519		148	115
830-930	1634	1060		175	107		994	1461		167	117
845-945	1550	1025		183	102		949	1381		155	105
900-1000	1488	969		179	111		918	1313		153	117

WILTEC

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INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		WEDNESDAY MAY 9, 2018
PERIOD:		4:30 PM TO 7:30 PM
INTERSECTION:	N/S	HOLLYWOOD WAY
	E/W	AIRPORT / AVON AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2a	2b	3	4	5	6a	6b	7	8	9b	9a	10a	10b	11	12	
PERIOD	SBRT	SBTH	SBTH	SBLT	WBRT	WBTH	WBLT	WBLT	NBRT	NBTH	NBLT	NBLT	EBRT	EBRT	EBTH	EBLT	TOTAL
700-715	6	52	251	6	40	6	0	18	7	262	18	0	4	10	1	17	698
715-730	3	52	266	5	38	4	1	15	12	282	13	0	3	4	0	29	727
730-745	7	68	304	14	51	3	0	21	13	316	28	1	0	8	2	23	859
745-800	6	50	336	3	44	7	0	26	12	288	20	0	4	13	1	21	831
800-815	5	55	307	11	30	8	1	21	13	322	26	0	5	6	2	25	837
815-830	3	55	307	10	42	6	0	26	15	292	14	3	7	7	2	20	809
830-845	7	59	284	5	49	5	1	29	11	347	21	0	5	10	1	21	855
845-900	4	60	253	6	45	4	0	20	13	328	21	1	9	7	2	20	793
900-915	4	58	247	4	30	8	0	15	7	311	16	0	8	5	5	22	740
915-930	11	51	204	9	32	9	0	14	12	291	18	0	6	7	4	16	684
930-945	1	40	178	2	55	4	0	13	8	272	28	1	7	8	0	33	650
945-1000	5	38	193	3	36	3	0	11	7	260	12	0	3	4	1	24	600
	21	1009		18	153	24	53		34	1134	75		48		10	95	
HOUR TOTALS	1	2a	2b	3	4	5	6a	6b	7	8	9b	9a	10a	10b	11	12	
PERIOD	SBRT	SBTH	SBTH	SBLT	WBRT	WBTH	WBLT	WBLT	NBRT	NBTH	NBLT	NBLT	EBRT	EBRT	EBTH	EBLT	TOTAL
700-800	22	222	1157	28	173	20	1	80	44	1148	79	1	11	35	4	90	3115
715-815	21	225	1213	33	163	22	2	83	50	1208	87	1	12	31	5	98	3254
730-830	21	228	1254	38	167	24	1	94	53	1218	88	4	16	34	7	89	3336
745-845	21	219	1234	29	165	26	2	102	51	1249	81	3	21	36	6	87	3332
800-900	19	229	1151	32	166	23	2	96	52	1289	82	4	26	30	7	86	3294
815-915	18	232	1091	25	166	23	1	90	46	1278	72	4	29	29	10	83	3197
830-930	26	228	988	24	156	26	1	78	43	1277	76	1	28	29	12	79	3072
845-945	20	209	882	21	162	25	0	62	40	1202	83	2	30	27	11	91	2867
900-1000	21	187	822	18	153	24	0	53	34	1134	74	1	24	24	10	95	2674

AM PEAK HOUR: 845-945

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	9	0	0	6	15
715-730	7	0	0	4	11
730-745	4	0	0	5	9
745-800	1	0	0	2	3
800-815	2	1	0	5	8
815-830	3	0	0	4	7
830-845	1	0	0	1	2
845-900	0	0	0	0	0
900-915	1	1	0	0	2
915-930	3	0	0	1	4
930-945	1	0	0	3	4
945-1000	0	0	0	1	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	21	0	0	17	38
715-815	14	1	0	16	31
730-830	10	1	0	16	27
745-845	7	1	0	12	20
800-900	6	1	0	10	17
815-915	5	1	0	5	11
830-930	5	1	0	2	8
845-945	5	1	0	4	10
900-1000	5	1	0	5	11

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	1	1
730-745	0	0	0	1	1
745-800	1	0	0	1	2
800-815	0	0	0	1	1
815-830	0	1	0	0	1
830-845	0	0	0	1	1
845-900	0	0	0	0	0
900-915	0	0	0	0	0
915-930	0	1	0	0	1
930-945	0	0	0	0	0
945-1000	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	1	0	0	3	4
715-815	1	0	0	4	5
730-830	1	1	0	3	5
745-845	1	1	0	3	5
800-900	0	1	0	2	3
815-915	0	1	0	1	2
830-930	0	1	0	1	2
845-945	0	1	0	0	1
900-1000	0	1	0	0	1

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	1429	1411		274	76		1272	1272		140	121
715-815	1492	1469		270	88		1346	1327		146	130
730-830	1541	1474		286	98		1363	1382		146	133
745-845	1503	1501		295	86		1384	1372		150	128
800-900	1431	1541		287	91		1427	1277		149	124
815-915	1366	1527		280	81		1400	1210		151	113
830-930	1266	1512		261	79		1397	1095		148	128
845-945	1132	1455		249	72		1327	971		159	128
900-1000	1048	1382		230	62		1243	899		153	119

WILTEC

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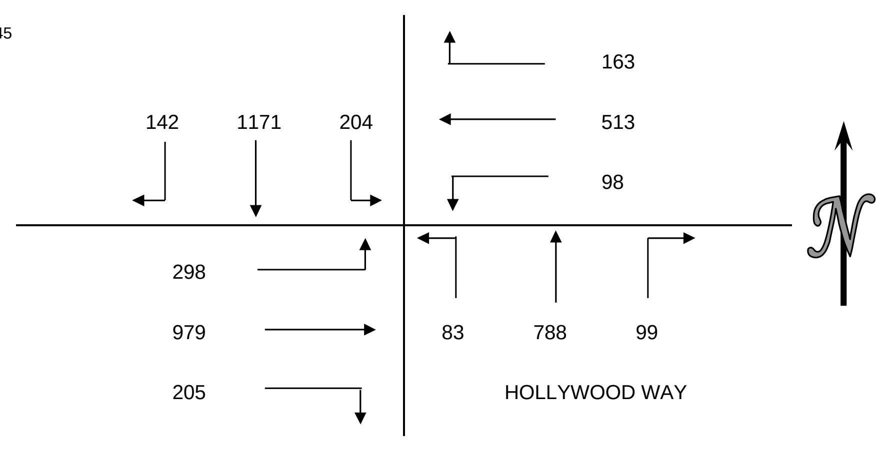
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		TUESDAY MAY 9, 2018
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	HOLLYWOOD WAY
	E/W	VICTORY BOULEVARD
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	32	213	36	21	93	20	4	132	16	29	125	51	772
715-730	41	264	41	22	120	12	12	133	11	32	180	62	930
730-745	53	312	46	18	136	19	14	156	17	54	225	63	1113
745-800	62	288	55	40	139	34	43	239	15	63	277	84	1339
800-815	27	289	48	43	132	24	23	195	22	40	211	66	1120
815-830	20	292	35	34	117	16	18	187	27	49	254	76	1125
830-845	33	302	66	46	125	24	15	167	19	53	237	72	1159
845-900	25	304	39	44	110	18	14	191	19	45	223	92	1124
900-915	21	264	39	29	106	21	15	141	12	47	171	76	942
915-930	30	256	35	40	94	14	13	125	21	38	155	76	897
930-945	20	259	27	25	108	21	14	156	17	20	189	68	924
945-1000	32	232	28	29	104	11	21	157	16	31	172	62	895
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	188	1077	178	101	488	85	73	660	59	178	807	260	4154
715-815	183	1153	190	123	527	89	92	723	65	189	893	275	4502
730-830	162	1181	184	135	524	93	98	777	81	206	967	289	4697
745-845	142	1171	204	163	513	98	99	788	83	205	979	298	4743
800-900	105	1187	188	167	484	82	70	740	87	187	925	306	4528
815-915	99	1162	179	153	458	79	62	686	77	194	885	316	4350
830-930	109	1126	179	159	435	77	57	624	71	183	786	316	4122
845-945	96	1083	140	138	418	74	56	613	69	150	738	312	3887
900-1000	103	1011	129	123	412	67	63	579	66	136	687	282	3658

AM PEAK HOUR: 745-845



VICTORY BOULEVARD

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	5	4	1	3	13
715-730	3	2	1	1	7
730-745	0	0	0	0	0
745-800	1	3	0	1	5
800-815	0	1	3	0	4
815-830	3	4	1	0	8
830-845	1	5	2	1	9
845-900	0	6	1	0	7
900-915	3	9	3	0	15
915-930	5	3	1	2	11
930-945	9	2	2	6	19
945-1000	3	7	5	1	16
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	9	9	2	5	25
715-815	4	6	4	2	16
730-830	4	8	4	1	17
745-845	5	13	6	2	26
800-900	4	16	7	1	28
815-915	7	24	7	1	39
830-930	9	23	7	3	42
845-945	17	20	7	8	52
900-1000	20	21	11	9	61

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	1	0	1	1	3
730-745	0	0	1	2	3
745-800	1	0	0	1	2
800-815	0	0	0	0	0
815-830	0	0	1	0	1
830-845	0	0	1	0	1
845-900	0	0	0	0	0
900-915	1	1	1	1	4
915-930	0	0	0	0	0
930-945	0	0	1	0	1
945-1000	1	1	1	1	4
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	2	0	2	4	8
715-815	2	0	2	4	8
730-830	1	0	2	3	6
745-845	1	0	2	1	4
800-900	0	0	2	0	2
815-915	1	1	3	1	6
830-930	1	1	2	1	5
845-945	1	1	2	1	5
900-1000	2	2	3	2	9

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	1443	1021		674	1058		792	1340		1245	735
715-815	1526	1121		739	1175		880	1431		1357	775
730-830	1527	1201		752	1249		956	1480		1462	767
745-845	1517	1249		774	1282		970	1474		1482	738
800-900	1480	1213		733	1183		897	1456		1418	676
815-915	1440	1155		690	1126		825	1435		1395	634
830-930	1414	1099		671	1022		752	1386		1285	615
845-945	1319	1063		630	934		738	1307		1200	583
900-1000	1243	984		602	879		708	1214		1105	581

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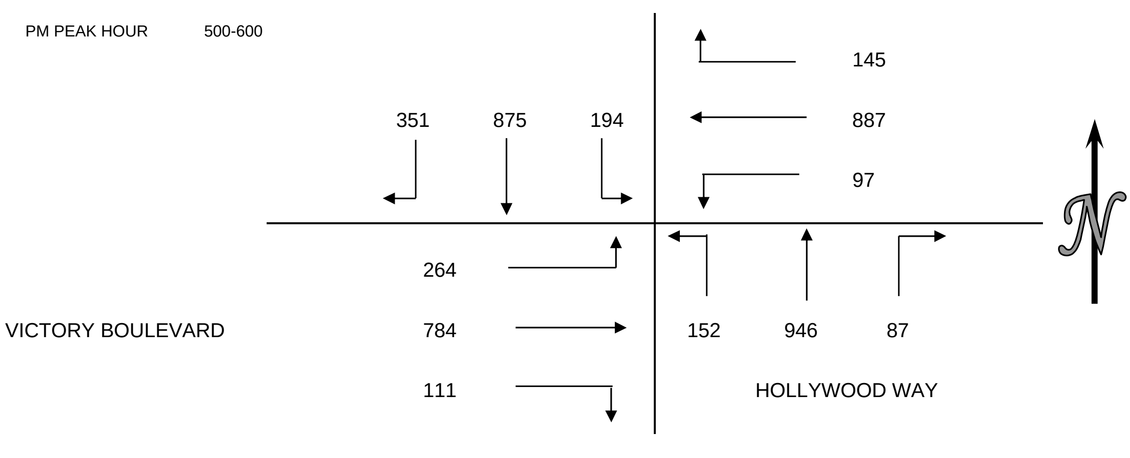
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION
PROJECT: BURBANK AIRPORT - 2018
DATE: WEDNESDAY MAY 9, 2018
PERIOD: 4:30 PM TO 7:30 PM
INTERSECTION: N/S HOLLYWOOD WAY
E/W VICTORY BOULEVARD
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-445	58	186	42	30	203	12	11	205	33	23	147	57	1007
445-500	55	171	45	39	191	16	21	232	32	25	188	73	1088
500-515	80	227	44	30	210	26	18	231	44	31	188	71	1200
515-530	101	211	49	41	221	18	21	222	37	25	200	64	1210
530-545	83	217	59	31	225	23	25	259	35	34	193	60	1244
545-600	87	220	42	43	231	30	23	234	36	21	203	69	1239
600-615	81	172	60	36	218	21	22	243	34	23	208	65	1183
615-630	84	211	59	38	247	26	19	222	42	13	184	54	1199
630-645	63	190	45	34	204	20	34	215	33	29	188	45	1100
645-700	50	174	52	28	180	14	17	201	40	18	175	48	997
700-715	52	141	45	33	174	27	23	190	43	37	166	49	980
715-730	40	142	27	19	190	19	18	181	28	28	143	46	881
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-530	294	795	180	140	825	72	71	890	146	104	723	265	4505
445-545	319	826	197	141	847	83	85	944	148	115	769	268	4742
500-600	351	875	194	145	887	97	87	946	152	111	784	264	4893
515-615	352	820	210	151	895	92	91	958	142	103	804	258	4876
530-630	335	820	220	148	921	100	89	958	147	91	788	248	4865
545-645	315	793	206	151	900	97	98	914	145	86	783	233	4721
600-700	278	747	216	136	849	81	92	881	149	83	755	212	4479
615-715	249	716	201	133	805	87	93	828	158	97	713	196	4276
630-730	205	647	169	114	748	80	92	787	144	112	672	188	3958

PM PEAK HOUR 500-600



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	7	6	10	9	32
445-500	12	19	3	10	44
500-515	12	1	1	4	18
515-530	6	2	4	4	16
530-545	2	1	6	8	17
545-600	2	6	4	5	17
600-615	0	6	0	0	6
615-630	2	4	2	3	11
630-645	5	3	1	5	14
645-700	0	1	2	5	8
700-715	3	8	5	3	19
715-730	4	5	1	3	13
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	37	28	18	27	110
445-545	32	23	14	26	95
500-600	22	10	15	21	68
515-615	10	15	14	17	56
530-630	6	17	12	16	51
545-645	9	19	7	13	48
600-700	7	14	5	13	39
615-715	10	16	10	16	52
630-730	12	17	9	16	54

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	0	0	0	0
445-500	0	5	3	0	8
500-515	0	1	7	0	8
515-530	0	0	1	0	1
530-545	0	0	1	0	1
545-600	0	0	0	0	0
600-615	0	1	0	0	1
615-630	0	0	0	0	0
630-645	0	1	0	0	1
645-700	0	0	3	0	3
700-715	0	1	1	0	2
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	0	6	11	0	17
445-545	0	6	12	0	18
500-600	0	1	9	0	10
515-615	0	1	2	0	3
530-630	0	1	1	0	2
545-645	0	2	0	0	2
600-700	0	2	3	0	5
615-715	0	2	4	0	6
630-730	0	2	4	0	6

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
430-530	1269	1295		1037	974		1107	971		1092	1265
445-545	1342	1353		1071	1051		1177	1024		1152	1314
500-600	1420	1355		1129	1065		1185	1083		1159	1390
515-615	1382	1367		1138	1105		1191	1015		1165	1389
530-630	1375	1354		1169	1097		1194	1011		1127	1403
545-645	1314	1298		1148	1087		1157	976		1102	1360
600-700	1241	1229		1066	1063		1122	911		1050	1276
615-715	1166	1157		1025	1007		1079	900		1006	1212
630-730	1021	1089		942	933		1023	839		972	1097

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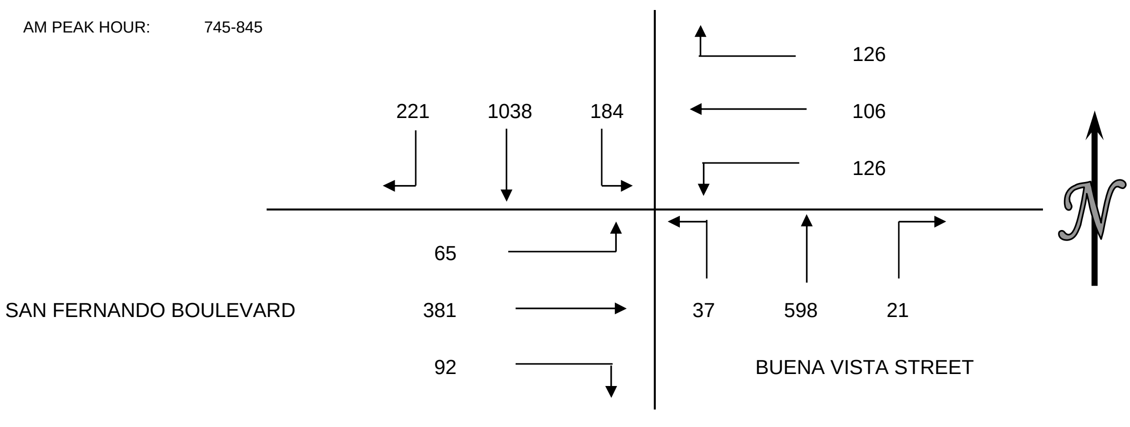
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: BURBANK AIRPORT - 2018
DATE: THURSDAY AUGUST 16, 2018
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S BUENA VISTA STREET
E/W SAN FERNANDO BOULEVARD
CITY: BURBANK

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	69	235	28	29	28	29	4	98	11	18	74	10	633
715-730	53	238	35	21	15	21	3	110	6	25	106	14	647
730-745	52	226	38	34	30	34	1	138	7	19	96	25	700
745-800	70	282	45	32	25	32	8	147	12	23	99	14	789
800-815	51	237	54	36	31	36	5	149	11	18	111	22	761
815-830	43	275	38	32	22	32	5	164	5	22	74	13	725
830-845	57	244	47	26	28	26	3	138	9	29	97	16	720
845-900	45	287	35	31	35	31	3	124	6	29	97	14	737
900-915	44	270	45	37	27	37	5	107	9	24	77	11	693
915-930	48	242	56	36	21	36	3	126	9	24	72	15	688
930-945	37	219	53	44	34	44	3	128	6	15	73	8	664
945-1000	41	245	49	31	27	31	4	113	13	33	92	13	692
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	244	981	146	116	98	116	16	493	36	85	375	63	2769
715-815	226	983	172	123	101	123	17	544	36	85	412	75	2897
730-830	216	1020	175	134	108	134	19	598	35	82	380	74	2975
745-845	221	1038	184	126	106	126	21	598	37	92	381	65	2995
800-900	196	1043	174	125	116	125	16	575	31	98	379	65	2943
815-915	189	1076	165	126	112	126	16	533	29	104	345	54	2875
830-930	194	1043	183	130	111	130	14	495	33	106	343	56	2838
845-945	174	1018	189	148	117	148	14	485	30	92	319	48	2782
900-1000	170	976	203	148	109	148	15	474	37	96	314	47	2737

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	2	1	3
715-730	0	1	1	0	2
730-745	0	6	0	0	6
745-800	0	1	2	0	3
800-815	0	7	10	0	17
815-830	0	9	4	0	13
830-845	0	5	10	0	15
845-900	0	0	0	0	0
900-915	0	7	3	0	10
915-930	0	0	1	0	1
930-945	0	1	1	0	2
945-1000	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	0	8	5	1	14
715-815	0	15	13	0	28
730-830	0	23	16	0	39
745-845	0	22	26	0	48
800-900	0	21	24	0	45
815-915	0	21	17	0	38
830-930	0	12	14	0	26
845-945	0	8	5	0	13
900-1000	0	8	5	0	13

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	1	0	1
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	1	0	0	1
800-815	0	1	0	0	1
815-830	0	0	0	0	0
830-845	0	0	1	0	1
845-900	0	2	2	0	4
900-915	0	0	0	0	0
915-930	0	1	0	0	1
930-945	0	0	0	0	0
945-1000	0	0	1	0	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	0	1	1	0	2
715-815	0	2	0	0	2
730-830	0	2	0	0	2
745-845	0	2	1	0	3
800-900	0	3	3	0	6
815-915	0	2	3	0	5
830-930	0	3	3	0	6
845-945	0	3	2	0	5
900-1000	0	1	1	0	2

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	1371	672		330	537		545	1182		523	378
715-815	1381	742		347	601		597	1191		572	363
730-830	1411	806		376	574		652	1236		536	359
745-845	1443	789		358	586		656	1256		538	364
800-900	1413	765		366	569		622	1266		542	343
815-915	1430	713		364	526		578	1306		503	330
830-930	1420	681		371	540		542	1279		505	338
845-945	1381	681		413	522		529	1258		459	321
900-1000	1349	669		405	532		526	1220		457	316

WILTEC

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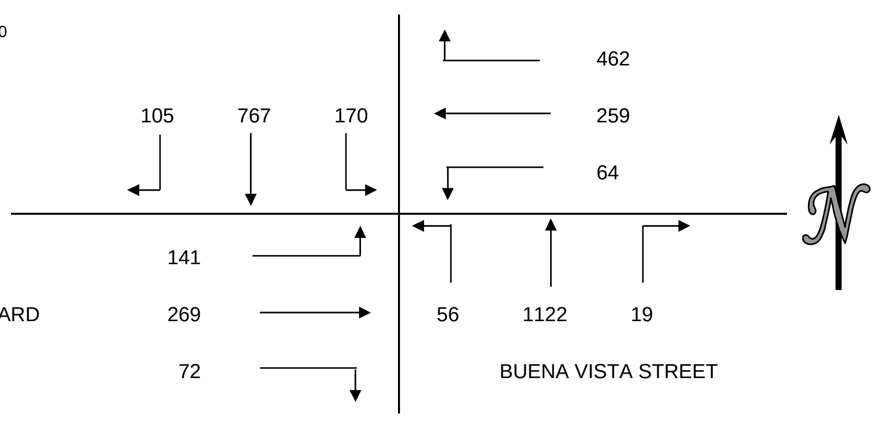
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT:		BURBANK AIRPORT - 2018
DATE:		THURSDAY AUGUST 16, 2018
PERIOD:		4:30 PM TO 7:30 PM
INTERSECTION:	N/S	BUENA VISTA STREET
	E/W	SAN FERNANDO BOULEVARD
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-445	24	166	25	111	87	11	5	262	12	10	51	33	797
445-500	36	205	64	95	57	19	6	209	14	10	67	29	811
500-515	28	179	44	120	78	15	3	290	10	22	72	36	897
515-530	36	200	45	109	65	18	8	277	19	15	66	33	891
530-545	25	203	36	104	57	14	1	284	16	18	72	27	857
545-600	16	185	45	129	59	17	7	271	11	17	59	45	861
600-615	23	178	38	106	50	20	8	299	11	19	89	42	883
615-630	27	188	41	94	60	18	9	303	11	15	60	29	855
630-645	19	190	35	104	55	16	7	273	11	12	53	18	793
645-700	24	151	48	118	56	18	8	255	6	15	62	28	789
700-715	28	186	45	94	40	15	2	286	8	11	42	18	775
715-730	31	173	50	87	46	19	8	271	10	7	58	29	789
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-530	124	750	178	435	287	63	22	1038	55	57	256	131	3396
445-545	125	787	189	428	257	66	18	1060	59	65	277	125	3456
500-600	105	767	170	462	259	64	19	1122	56	72	269	141	3506
515-615	100	766	164	448	231	69	24	1131	57	69	286	147	3492
530-630	91	754	160	433	226	69	25	1157	49	69	280	143	3456
545-645	85	741	159	433	224	71	31	1146	44	63	261	134	3392
600-700	93	707	162	422	221	72	32	1130	39	61	264	117	3320
615-715	98	715	169	410	211	67	26	1117	36	53	217	93	3212
630-730	102	700	178	403	197	68	25	1085	35	45	215	93	3146

PM PEAK HOUR 500-600



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	4	1	0	5
445-500	0	3	4	0	7
500-515	0	1	0	0	1
515-530	0	2	5	1	8
530-545	0	2	0	0	2
545-600	0	1	2	0	3
600-615	0	0	2	0	2
615-630	0	1	2	0	3
630-645	0	0	1	0	1
645-700	0	0	1	0	1
700-715	0	0	1	0	1
715-730	0	0	4	0	4
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	0	10	10	1	21
445-545	0	8	9	1	18
500-600	0	6	7	1	14
515-615	0	5	9	1	15
530-630	0	4	6	0	10
545-645	0	2	7	0	9
600-700	0	1	6	0	7
615-715	0	1	5	0	6
630-730	0	0	7	0	7

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	1	0	0	1
445-500	0	0	0	0	0
500-515	0	3	0	0	3
515-530	0	0	2	0	2
530-545	0	1	1	0	2
545-600	0	1	0	0	1
600-615	0	2	1	0	3
615-630	0	0	0	0	0
630-645	0	0	0	0	0
645-700	0	1	1	1	3
700-715	0	0	0	0	0
715-730	0	0	0	1	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	0	4	2	0	6
445-545	0	4	3	0	7
500-600	0	5	3	0	8
515-615	0	4	4	0	8
530-630	0	4	2	0	6
545-645	0	3	1	0	4
600-700	0	3	2	1	6
615-715	0	1	1	1	3
630-730	0	1	1	2	4

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
430-530	1052	1604		785	456		1115	870		444	466
445-545	1101	1613		751	484		1137	918		467	441
500-600	1042	1725		785	458		1197	903		482	420
515-615	1030	1726		748	474		1212	904		502	388
530-630	1005	1733		728	465		1231	892		492	366
545-645	985	1713		728	451		1221	875		458	353
600-700	962	1669		715	458		1201	840		442	353
615-715	982	1620		688	412		1179	835		363	345
630-730	980	1581		668	418		1145	813		353	334

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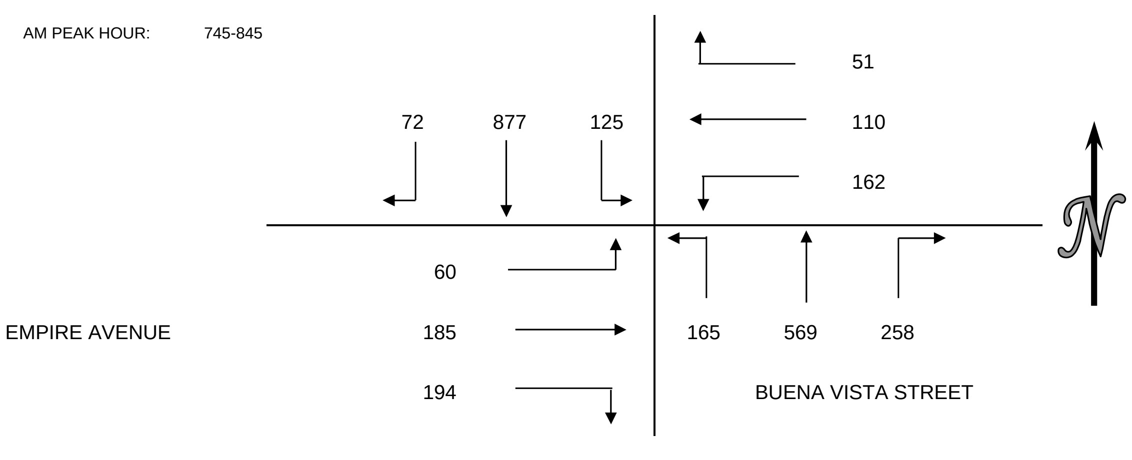
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		THURSDAY MAY 10, 2018
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	BUENA VISTA STREET
	E/W	EMPIRE AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	14	162	8	11	16	23	33	78	11	30	23	8	417
715-730	18	188	13	7	15	18	42	94	21	31	36	13	496
730-745	11	182	14	7	33	30	50	97	25	39	44	21	553
745-800	17	243	30	7	20	28	79	160	41	48	55	10	738
800-815	19	217	24	12	35	37	40	144	39	56	48	17	688
815-830	22	190	30	14	30	57	78	144	48	50	44	18	725
830-845	14	227	41	18	25	40	61	121	37	40	38	15	677
845-900	21	166	30	13	42	36	73	100	39	42	45	21	628
900-915	27	191	37	14	32	34	31	112	37	30	51	23	619
915-930	18	202	32	18	24	46	85	102	31	45	39	14	656
930-945	23	200	50	18	18	50	104	107	25	31	32	17	675
945-1000	17	216	43	17	30	61	90	81	24	43	43	25	690
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	60	775	65	32	84	99	204	429	98	148	158	52	2204
715-815	65	830	81	33	103	113	211	495	126	174	183	61	2475
730-830	69	832	98	40	118	152	247	545	153	193	191	66	2704
745-845	72	877	125	51	110	162	258	569	165	194	185	60	2828
800-900	76	800	125	57	132	170	252	509	163	188	175	71	2718
815-915	84	774	138	59	129	167	243	477	161	162	178	77	2649
830-930	80	786	140	63	123	156	250	435	144	157	173	73	2580
845-945	89	759	149	63	116	166	293	421	132	148	167	75	2578
900-1000	85	809	162	67	104	191	310	402	117	149	165	79	2640

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	2	0	1	0	3
715-730	3	0	0	1	4
730-745	1	2	1	2	6
745-800	0	0	1	2	3
800-815	1	1	2	3	7
815-830	2	1	3	5	11
830-845	0	1	6	4	11
845-900	0	0	5	2	7
900-915	1	0	7	4	12
915-930	2	0	2	0	4
930-945	1	0	2	1	4
945-1000	1	2	4	1	8
HOUR TOTALS PERIOD	**NORTH LEG**	**EAST LEG**	**SOUTH LEG**	**WEST LEG**	**TOTAL**
700-800	6	2	3	5	16
715-815	5	3	4	8	20
730-830	4	4	7	12	27
745-845	3	3	12	14	32
800-900	3	3	16	14	36
815-915	3	2	21	15	41
830-930	3	1	20	10	34
845-945	4	0	16	7	27
900-1000	5	2	15	6	28

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	1	1
715-730	0	1	1	0	2
730-745	0	0	3	3	6
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	1	0	1
830-845	0	0	0	0	0
845-900	0	0	0	0	0
900-915	1	1	0	0	2
915-930	0	0	0	0	0
930-945	0	1	0	0	1
945-1000	0	1	0	0	1
HOUR TOTALS PERIOD	**NORTH LEG**	**EAST LEG**	**SOUTH LEG**	**WEST LEG**	**TOTAL**
700-800	0	1	4	4	9
715-815	0	1	4	3	8
730-830	0	0	4	3	7
745-845	0	0	1	0	1
800-900	0	0	1	0	1
815-915	1	1	1	0	3
830-930	1	1	0	0	2
845-945	1	2	0	0	3
900-1000	1	3	0	0	4

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	900	513		215	427		731	1022		358	242
715-815	976	589		249	475		832	1117		418	294
730-830	999	651		310	536		945	1177		450	340
745-845	1074	680		323	568		992	1233		439	347
800-900	1001	637		359	552		924	1158		434	371
815-915	996	613		355	559		881	1103		417	374
830-930	1006	571		342	563		829	1099		403	347
845-945	997	559		345	609		846	1073		390	337
900-1000	1056	548		362	637		829	1149		393	306

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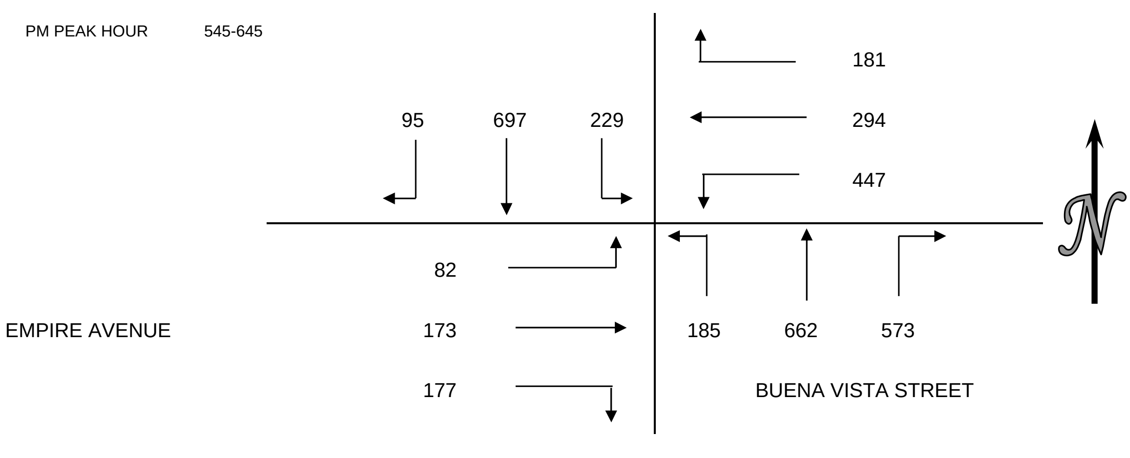
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		THURSDAY MAY 10, 2018
PERIOD:		4:30 PM TO 7:30 PM
INTERSECTION:	N/S	BUENA VISTA STREET
	E/W	EMPIRE AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-445	17	187	38	32	65	80	105	173	33	48	33	34	845
445-500	14	131	40	49	61	108	122	188	27	43	44	37	864
500-515	14	157	40	52	56	94	97	199	55	56	40	34	894
515-530	32	178	52	31	65	104	118	150	49	45	47	27	898
530-545	23	147	38	51	76	113	127	192	44	45	63	19	938
545-600	27	166	63	44	73	111	133	209	46	37	49	14	972
600-615	20	160	58	58	78	90	135	155	37	62	44	25	922
615-630	26	206	59	40	78	115	150	138	49	32	35	21	949
630-645	22	165	49	39	65	131	155	160	53	46	45	22	952
645-700	18	143	51	42	74	102	147	164	37	43	35	20	876
700-715	10	134	69	58	63	119	127	141	33	41	39	23	857
715-730	18	133	54	44	58	101	130	155	33	32	39	27	824
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-530	77	653	170	164	247	386	442	710	164	192	164	132	3501
445-545	83	613	170	183	258	419	464	729	175	189	194	117	3594
500-600	96	648	193	178	270	422	475	750	194	183	199	94	3702
515-615	102	651	211	184	292	418	513	706	176	189	203	85	3730
530-630	96	679	218	193	305	429	545	694	176	176	191	79	3781
545-645	95	697	229	181	294	447	573	662	185	177	173	82	3795
600-700	86	674	217	179	295	438	587	617	176	183	159	88	3699
615-715	76	648	228	179	280	467	579	603	172	162	154	86	3634
630-730	68	575	223	183	260	453	559	620	156	162	158	92	3509

PM PEAK HOUR 545-645



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	7	2	5	2	16
445-500	2	0	0	1	3
500-515	1	3	3	2	9
515-530	6	1	4	0	11
530-545	3	2	1	0	6
545-600	4	2	5	4	15
600-615	2	2	5	6	15
615-630	3	2	3	1	9
630-645	3	0	1	2	6
645-700	6	2	1	2	11
700-715	0	0	2	4	6
715-730	3	0	1	1	5
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	16	6	12	5	39
445-545	12	6	8	3	29
500-600	14	8	13	6	41
515-615	15	7	15	10	47
530-630	12	8	14	11	45
545-645	12	6	14	13	45
600-700	14	6	10	11	41
615-715	12	4	7	9	32
630-730	12	2	5	9	28

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	1	0	0	0	1
445-500	0	0	0	0	0
500-515	0	0	0	0	0
515-530	0	0	1	0	1
530-545	0	0	1	0	1
545-600	1	0	0	0	1
600-615	1	0	0	1	2
615-630	0	0	0	0	0
630-645	1	1	0	0	2
645-700	0	0	0	0	0
700-715	0	0	0	0	0
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	1	0	1	0	2
445-545	0	0	2	0	2
500-600	1	0	2	0	3
515-615	2	0	2	1	5
530-630	2	0	1	1	4
545-645	3	1	0	1	5
600-700	2	1	0	1	4
615-715	1	1	0	0	2
630-730	1	1	0	0	2

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
430-530	900	1006		797	776		1316	1231		488	488
445-545	866	1029		860	828		1368	1221		500	516
500-600	937	1022		870	867		1419	1253		476	560
515-615	964	975		894	927		1395	1258		477	570
530-630	993	966		927	954		1415	1284		446	577
545-645	1021	925		922	975		1420	1321		432	574
600-700	977	884		912	963		1380	1295		430	557
615-715	952	868		926	961		1354	1277		402	528
630-730	866	895		896	940		1335	1190		412	484

WILTEC

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INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

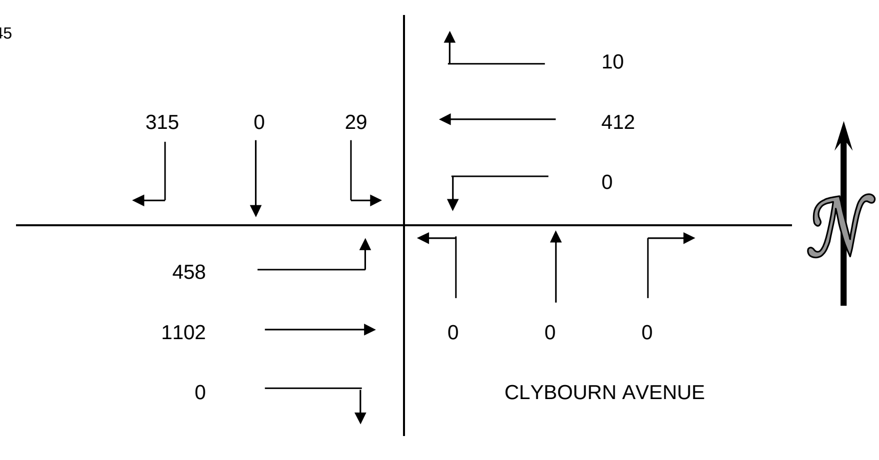
CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		WEDNESDAY MAY 9, 2018
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	CLYBOURN AVENUE
	E/W	VANOWEN STREET
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	81	0	3	2	73	0	0	0	0	0	175	67	401
715-730	83	0	2	1	82	0	0	0	0	0	204	69	441
730-745	83	0	0	2	78	0	0	0	0	0	287	74	524
745-800	84	0	9	1	112	0	0	0	0	0	269	121	596
800-815	75	0	4	3	94	0	0	0	0	0	254	106	536
815-830	78	0	8	2	113	0	0	0	0	0	288	114	603
830-845	78	0	8	4	93	0	0	0	0	0	291	117	591
845-900	95	0	8	6	82	0	0	0	0	0	257	131	579
900-915	93	0	9	7	76	0	0	0	0	0	234	122	541
915-930	75	0	8	2	67	0	0	0	0	0	206	115	473
930-945	85	0	11	4	67	0	0	0	0	0	174	82	423
945-1000	83	0	10	4	77	0	0	0	0	0	177	102	453
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	331	0	14	6	345	0	0	0	0	0	935	331	1962
715-815	325	0	15	7	366	0	0	0	0	0	1014	370	2097
730-830	320	0	21	8	397	0	0	0	0	0	1098	415	2259
745-845	315	0	29	10	412	0	0	0	0	0	1102	458	2326
800-900	326	0	28	15	382	0	0	0	0	0	1090	468	2309
815-915	344	0	33	19	364	0	0	0	0	0	1070	484	2314
830-930	341	0	33	19	318	0	0	0	0	0	988	485	2184
845-945	348	0	36	19	292	0	0	0	0	0	871	450	2016
900-1000	336	0	38	17	287	0	0	0	0	0	791	421	1890

AM PEAK HOUR: 745-845

VANOWEN STREET



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	1	0	0	1
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	1	0	0	1
845-900	0	1	0	0	1
900-915	0	0	0	0	0
915-930	0	0	0	0	0
930-945	0	1	0	0	1
945-1000	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	0	1	0	0	1
715-815	0	1	0	0	1
730-830	0	0	0	0	0
745-845	0	1	0	0	1
800-900	0	2	0	0	2
815-915	0	2	0	0	2
830-930	0	2	0	0	2
845-945	0	2	0	0	2
900-1000	0	1	0	0	1

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	1	0	0	0	1
830-845	1	0	0	0	1
845-900	1	0	0	0	1
900-915	0	0	0	0	0
915-930	0	0	0	0	0
930-945	0	0	0	0	0
945-1000	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	1	0	0	0	1
745-845	2	0	0	0	2
800-900	3	0	0	0	3
815-915	3	0	0	0	3
830-930	2	0	0	0	2
845-945	1	0	0	0	1
900-1000	0	0	0	0	0

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	345	337		351	949		0	0		1266	676
715-815	340	377		373	1029		0	0		1384	691
730-830	341	423		405	1119		0	0		1513	717
745-845	344	468		422	1131		0	0		1560	727
800-900	354	483		397	1118		0	0		1558	708
815-915	377	503		383	1103		0	0		1554	708
830-930	374	504		337	1021		0	0		1473	659
845-945	384	469		311	907		0	0		1321	640
900-1000	374	438		304	829		0	0		1212	623

WILTEC

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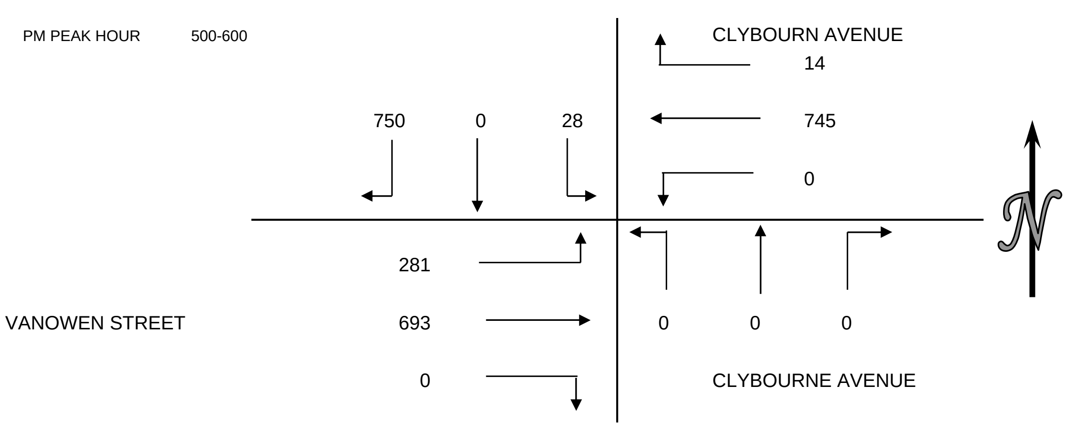
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		GIBSON TRANSPORTATION
PROJECT:		BURBANK AIRPORT - 2018
DATE:		WEDNESDAY MAY 9, 2018
PERIOD:		3:00 PM TO 7:30 PM
INTERSECTION:	N/S	CLYBOURN AVENUE
	E/W	VANOWEN STREET
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	138	0	3	7	134	0	0	0	0	0	133	72	487
315-330	115	0	7	7	155	0	0	0	0	0	132	63	479
330-345	148	0	10	6	150	0	0	0	0	0	157	66	537
345-400	119	0	7	4	124	0	0	0	0	0	144	68	466
400-415	173	0	8	11	138	0	0	0	0	0	162	71	563
415-430	130	0	4	6	128	0	0	0	0	0	150	61	479
430-445	153	0	5	4	186	0	0	0	0	0	151	73	572
445-500	167	0	7	7	152	0	0	0	0	0	155	73	561
500-515	207	0	8	6	210	0	0	0	0	0	192	92	715
515-530	172	0	4	3	166	0	0	0	0	0	146	63	554
530-545	194	0	8	4	189	0	0	0	0	0	183	51	629
545-600	177	0	8	1	180	0	0	0	0	0	172	75	613
600-615	165	0	3	4	202	0	0	0	0	0	172	75	621
615-630	177	0	7	5	170	0	0	0	0	0	151	84	594
630-645	138	0	3	3	163	0	0	0	0	0	136	69	512
645-700	137	0	4	1	116	0	0	0	0	0	122	67	447
700-715	131	0	7	1	129	0	0	0	0	0	132	76	476
715-730	122	0	7	1	82	0	0	0	0	0	118	59	389
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	520	0	27	24	563	0	0	0	0	0	566	269	1969
315-415	555	0	32	28	567	0	0	0	0	0	595	268	2045
330-430	570	0	29	27	540	0	0	0	0	0	613	266	2045
345-445	575	0	24	25	576	0	0	0	0	0	607	273	2080
400-500	623	0	24	28	604	0	0	0	0	0	618	278	2175
415-515	657	0	24	23	676	0	0	0	0	0	648	299	2327
430-530	699	0	24	20	714	0	0	0	0	0	644	301	2402
445-545	740	0	27	20	717	0	0	0	0	0	676	279	2459
500-600	750	0	28	14	745	0	0	0	0	0	693	281	2511
515-615	708	0	23	12	737	0	0	0	0	0	673	264	2417
530-630	713	0	26	14	741	0	0	0	0	0	678	285	2457
545-645	657	0	21	13	715	0	0	0	0	0	631	303	2340
600-700	617	0	17	13	651	0	0	0	0	0	581	295	2174
615-715	583	0	21	10	578	0	0	0	0	0	541	296	2029
630-730	528	0	21	6	490	0	0	0	0	0	508	271	1824



PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	0	0	0	0	0
345-400	1	0	0	0	1
400-415	0	0	0	0	0
415-430	0	0	0	0	0
430-445	0	0	0	0	0
445-500	1	0	0	0	1
500-515	0	0	0	0	0
515-530	1	1	0	0	2
530-545	0	0	0	0	0
545-600	1	1	0	0	2
600-615	0	0	0	0	0
615-630	0	0	0	0	0
630-645	1	1	0	0	2
645-700	3	3	0	0	6
700-715	0	0	0	0	0
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-400	1	0	0	0	1
315-415	1	0	0	0	1
330-430	1	0	0	0	1
345-445	1	0	0	0	1
400-500	1	0	0	0	1
415-515	1	0	0	0	1
430-530	2	1	0	0	3
445-545	2	1	0	0	3
500-600	2	2	0	0	4
515-615	2	2	0	0	4
530-630	1	1	0	0	2
545-645	2	2	0	0	4
600-700	4	4	0	0	8
615-715	4	4	0	0	8
630-730	4	4	0	0	8

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	1	0	0	0	1
330-345	1	1	0	0	2
345-400	0	0	0	0	0
400-415	0	0	0	0	0
415-430	0	0	0	0	0
430-445	0	0	0	0	0
445-500	0	0	0	0	0
500-515	0	0	0	0	0
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	0	0	0
600-615	1	0	0	0	1
615-630	0	0	0	0	0
630-645	0	0	0	0	0
645-700	0	0	0	0	0
700-715	0	0	0	0	0
715-730	0	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-400	2	1	0	0	3
315-415	2	1	0	0	3
330-430	1	1	0	0	2
345-445	0	0	0	0	0
400-500	0	0	0	0	0
415-515	0	0	0	0	0
430-530	0	0	0	0	0
445-545	0	0	0	0	0
500-600	0	0	0	0	0
515-615	1	0	0	0	1
530-630	1	0	0	0	1
545-645	1	0	0	0	1
600-700	1	0	0	0	1
615-715	0	0	0	0	0
630-730	0	0	0	0	0

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
300-400	547	293		587	593		0	0		835	1083
315-415	587	296		595	627		0	0		863	1122
330-430	599	293		567	642		0	0		879	1110
345-445	599	298		601	631		0	0		880	1151
400-500	647	306		632	642		0	0		896	1227
415-515	681	322		699	672		0	0		947	1333
430-530	723	321		734	668		0	0		945	1413
445-545	767	299		737	703		0	0		955	1457
500-600	778	295		759	721		0	0		974	1495
515-615	731	276		749	696		0	0		937	1445
530-630	739	299		755	704		0	0		963	1454
545-645	678	316		728	652		0	0		934	1372
600-700	634	308		664	598		0	0		876	1268
615-715	604	306		588	562		0	0		837	1161
630-730	549	277		496	529		0	0		779	1018

WILTEC

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INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION
PROJECT: BURBANK AIRPORT - 2018
DATE: TUESDAY MAY 9, 2018
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S HOLLYWOOD WAY
E/W BURBANK BOULEVARD
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7a	7b	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	20	232	26	19	80	22	1	11	90	12	3	73	30	619
715-730	13	276	31	12	97	21	1	9	121	8	9	82	21	701
730-745	15	324	53	14	116	37	4	12	130	13	9	146	40	913
745-800	16	292	66	29	107	48	2	21	164	15	8	161	50	979
800-815	22	331	42	19	119	41	3	20	137	8	12	123	54	931
815-830	22	286	29	16	104	49	0	19	149	5	5	129	47	860
830-845	23	305	26	3	97	37	0	13	157	8	11	139	28	847
845-900	13	292	41	28	100	36	1	23	148	7	13	142	40	884
900-915	24	308	26	14	88	32	2	19	150	15	17	121	36	852
915-930	15	237	33	20	97	36	1	10	121	8	15	155	27	775
930-945	20	266	37	23	76	27	4	21	166	12	10	159	39	860
945-1000	22	260	25	18	95	27	0	22	137	13	6	132	31	788
HOUR TOTALS	1	2	3	4	5	6	7a	7b	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	64	1124	176	74	400	128	8	53	505	48	29	462	141	3212
715-815	66	1223	192	74	439	147	10	62	552	44	38	512	165	3524
730-830	75	1233	190	78	446	175	9	72	580	41	34	559	191	3683
745-845	83	1214	163	67	427	175	5	73	607	36	36	552	179	3617
800-900	80	1214	138	66	420	163	4	75	591	28	41	533	169	3522
815-915	82	1191	122	61	389	154	3	74	604	35	46	531	151	3443
830-930	75	1142	126	65	382	141	4	65	576	38	56	557	131	3358
845-945	72	1103	137	85	361	131	8	73	585	42	55	577	142	3371
900-1000	81	1071	121	75	356	122	7	72	574	48	48	567	133	3275

PEAK HOUR 730-830

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	1	0	1	0	2
715-730	1	0	2	0	3
730-745	2	3	1	1	7
745-800	4	1	0	0	5
800-815	5	3	2	1	11
815-830	7	5	1	1	14
830-845	3	2	1	1	7
845-900	3	1	1	1	6
900-915	4	2	2	0	8
915-930	0	1	1	0	2
930-945	0	10	0	0	10
945-1000	6	1	2	0	9
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	8	4	4	1	17
715-815	12	7	5	2	26
730-830	18	12	4	3	37
745-845	19	11	4	3	37
800-900	18	11	5	4	38
815-915	17	10	5	3	35
830-930	10	6	5	2	23
845-945	7	14	4	1	26
900-1000	10	14	5	0	29

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	1	0	1	2	4
715-730	0	0	1	1	2
730-745	1	1	1	1	4
745-800	2	0	0	0	2
800-815	0	2	1	0	3
815-830	0	0	0	1	1
830-845	0	0	0	0	0
845-900	1	0	1	0	2
900-915	0	0	0	0	0
915-930	1	0	0	0	1
930-945	3	1	0	0	4
945-1000	1	0	0	0	1
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	4	1	3	4	12
715-815	3	3	3	2	11
730-830	3	3	2	2	10
745-845	2	2	1	1	6
800-900	1	2	2	1	6
815-915	1	0	1	1	3
830-930	2	0	1	0	3
845-945	5	1	1	0	7
900-1000	5	1	0	0	6

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
700-800	1364	720		602	699		606	1281		632	512
715-815	1481	791		660	776		658	1408		715	549
730-830	1498	849		699	830		693	1442		784	562
745-845	1460	853		669	793		716	1425		767	546
800-900	1432	826		649	750		694	1418		743	528
815-915	1395	816		604	730		713	1391		728	506
830-930	1343	772		588	752		679	1339		744	495
845-945	1312	812		577	795		700	1289		774	475
900-1000	1273	782		553	767		694	1241		748	485

WILTEC

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INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION
PROJECT: BURBANK AIRPORT - 2018
DATE: WEDNESDAY MAY 9, 2018
PERIOD: 4:30 PM TO 7:30 PM
INTERSECTION: N/S HOLLYWOOD WAY
E/W BURBANK BOULEVARD
CITY: BURBANK

VEHICLE COUNTS														
15 MIN COUNTS	1	2	3	4	5	6	7a	7b	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-445	20	177	23	24	156	28	1	30	222	9	8	145	40	883
445-500	26	167	25	19	169	27	3	18	193	22	5	148	42	864
500-515	35	200	24	20	166	35	8	20	244	13	13	165	43	986
515-530	34	207	45	25	196	35	1	25	233	14	6	177	55	1053
530-545	33	210	44	30	152	35	2	25	244	23	6	174	42	1020
545-600	37	209	40	27	156	24	3	25	248	28	8	153	50	1008
600-615	29	190	34	27	185	25	3	26	215	19	8	201	55	1017
615-630	37	186	28	16	173	29	3	35	246	22	5	178	39	997
630-645	30	177	25	22	176	40	4	20	217	21	10	167	51	960
645-700	20	166	17	21	146	27	1	38	227	18	5	132	34	852
700-715	21	161	23	18	148	27	4	25	191	13	15	162	36	844
715-730	19	152	20	13	112	31	4	20	186	19	6	114	35	731
HOUR TOTALS	1	2	3	4	5	6	7a	7b	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
430-530	115	751	117	88	687	125	13	93	892	58	32	635	180	3786
445-545	128	784	138	94	683	132	14	88	914	72	30	664	182	3923
500-600	139	826	153	102	670	129	14	95	969	78	33	669	190	4067
515-615	133	816	163	109	689	119	9	101	940	84	28	705	202	4098
530-630	136	795	146	100	666	113	11	111	953	92	27	706	186	4042
545-645	133	762	127	92	690	118	13	106	926	90	31	699	195	3982
600-700	116	719	104	86	680	121	11	119	905	80	28	678	179	3826
615-715	108	690	93	77	643	123	12	118	881	74	35	639	160	3653
630-730	90	656	85	74	582	125	13	103	821	71	36	575	156	3387

PM PEAK HOUR 515-615

PEDESTRIAN COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	3	1	1	2	7
445-500	0	3	2	2	7
500-515	3	6	1	3	13
515-530	2	6	2	3	13
530-545	7	2	1	7	17
545-600	4	1	3	3	11
600-615	4	2	2	3	11
615-630	4	9	1	1	15
630-645	7	1	1	1	10
645-700	2	4	1	0	7
700-715	6	2	0	1	9
715-730	1	5	0	0	6
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	8	16	6	10	40
445-545	12	17	6	15	50
500-600	16	15	7	16	54
515-615	17	11	8	16	52
530-630	19	14	7	14	54
545-645	19	13	7	8	47
600-700	17	16	5	5	43
615-715	19	16	3	3	41
630-730	16	12	2	2	32

BICYCLE COUNTS

15 MIN COUNTS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-445	0	1	1	0	2
445-500	0	1	0	0	1
500-515	1	0	0	0	1
515-530	0	1	1	1	3
530-545	1	0	0	0	1
545-600	0	1	0	1	2
600-615	2	4	1	0	7
615-630	0	2	1	1	4
630-645	2	2	0	1	5
645-700	0	0	0	0	0
700-715	3	1	0	0	4
715-730	3	0	1	0	4
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
430-530	1	3	2	1	7
445-545	2	2	1	1	6
500-600	2	2	1	2	7
515-615	3	6	2	2	13
530-630	3	7	2	2	14
545-645	4	9	2	3	18
600-700	4	8	2	2	16
615-715	5	5	1	2	13
630-730	8	3	1	1	13

APPROACH SUMMARIES

	NORTH APRCH			EAST APRCH			SOUTH APRCH			WEST APRCH	
	APRCH	EXIT		APRCH	EXIT		APRCH	EXIT		APRCH	EXIT
430-530	983	1160		900	858		1043	908		847	860
445-545	1050	1190		909	904		1074	946		876	883
500-600	1118	1261		901	931		1142	988		892	887
515-615	1112	1251		917	978		1125	963		935	906
530-630	1077	1239		879	974		1156	935		919	894
545-645	1022	1213		900	945		1122	911		925	913
600-700	939	1170		887	912		1104	868		885	876
615-715	891	1118		843	862		1073	848		834	825
630-730	831	1051		781	776		995	817		767	743

Turning Movement Count Report AM

Location ID: [freeway ramp]
North/South: I-5 Northbound Off-Ramp
East/West: Empire Avenue

Date: 04/13/21
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	46	90	0	12	1	88	0	84	2	323
7:15	0	0	0	49	121	0	18	3	95	0	76	3	365
7:30	0	0	0	67	158	0	19	0	122	0	86	8	460
7:45	0	0	0	58	165	0	30	0	167	0	130	8	558
8:00	0	0	0	73	153	0	13	1	130	0	98	4	472
8:15	0	0	0	59	149	0	25	0	129	0	117	8	487
8:30	0	0	0	64	157	0	31	0	145	0	142	3	542
8:45	0	0	0	57	159	0	35	3	131	0	157	3	545
9:00	0	0	0	57	153	0	31	1	117	0	134	11	504
9:15	0	0	0	52	116	0	30	0	105	0	122	5	430
9:30	0	0	0	48	154	0	31	1	120	0	110	9	473
9:45	0	0	0	59	146	0	35	2	109	0	138	11	500

Total Volume:	0	0	0	689	1721	0	310	12	1458	0	1394	75	5659
Approach %	0%	0%	0%	29%	71%	0%	17%	1%	82%	0%	95%	5%	

Peak Hr Begin:	8:15												
PHV	0	0	0	237	618	0	122	4	522	0	550	25	2078
PHF	0.000			0.967			0.920			0.898			0.953

Turning Movement Count Report PM

Location ID: [freeway ramp]
North/South: I-5 Northbound Off-Ramp
East/West: Empire Avenue

Date: 04/13/21
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	
4:30	0	0	0	124	187	0	22	3	70	0	197	21	624
4:45	0	0	0	131	206	0	29	0	72	0	219	22	679
5:00	0	0	0	134	169	0	33	1	100	0	192	32	661
5:15	0	0	0	103	187	0	53	2	110	0	205	23	683
5:30	0	0	0	111	165	0	59	1	118	0	184	18	656
5:45	0	0	0	104	184	0	48	0	128	0	233	13	710
6:00	0	0	0	84	194	0	52	1	119	0	185	16	651
6:15	0	0	0	106	197	0	47	0	105	0	188	16	659
6:30	0	0	0	68	148	0	62	1	140	0	169	16	604
6:45	0	0	0	77	179	0	69	0	111	0	171	18	625
7:00	0	0	0	93	166	0	47	0	109	0	176	19	610
7:15	0	0	0	83	149	0	48	1	102	0	169	12	564

Total Volume:	0	0	0	1218	2131	0	569	10	1284	0	2288	226	7726
Approach %	0%	0%	0%	36%	64%	0%	31%	1%	69%	0%	91%	9%	

Peak Hr Begin:	5:00												
PHV	0	0	0	452	705	0	193	4	456	0	814	86	2710
PHF	0.000			0.955			0.917			0.915			0.954

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	2	0	0	0
7:30	0	0	0	0	1	0	0	0
7:45	0	0	2	0	1	0	0	0
8:00	0	0	0	1	1	1	0	0
8:15	0	0	0	0	1	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	1	0	0	0
9:00	0	0	1	0	2	0	0	0
9:15	0	0	0	0	1	0	0	0
9:30	0	0	0	0	2	0	0	0
9:45	0	0	0	0	1	0	0	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	0	0	2	1	0	0
4:45	0	0	1	0	2	0	0	0
5:00	0	0	0	0	3	0	0	0
5:15	0	0	0	0	2	0	0	0
5:30	0	0	1	0	1	1	0	0
5:45	0	0	0	0	1	0	0	0
6:00	0	0	0	0	2	0	0	0
6:15	0	0	0	0	1	0	0	0
6:30	0	0	1	0	3	0	0	0
6:45	0	0	0	0	3	0	0	0
7:00	0	0	0	1	1	0	0	0
7:15	0	0	0	0	2	0	0	0

Intersection Traffic Counts
from April 2021

Turning Movement Count Report AM

Location ID: 1
North/South: Screenland Drive
East/West: Valhalla Drive
Date: 04/13/21
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	4	3	1	0	0	1	1	0	10
7:15	0	0	0	0	1	7	2	0	0	0	0	0	10
7:30	0	0	0	0	0	6	0	0	0	0	1	0	7
7:45	0	0	0	0	6	6	1	0	1	0	2	0	16
8:00	0	0	0	0	3	6	2	0	1	1	1	0	14
8:15	0	0	0	0	2	5	1	0	4	1	1	0	14
8:30	0	0	0	0	4	2	1	0	1	1	0	0	9
8:45	0	0	0	0	4	6	0	0	0	0	2	0	12
9:00	0	0	0	0	2	6	2	0	3	0	2	0	15
9:15	0	0	0	0	3	6	3	0	1	0	4	0	17
9:30	0	0	0	0	1	2	3	0	2	0	2	0	10
9:45	0	0	0	0	3	7	0	0	1	1	1	0	13

Total Volume:	0	0	0	0	33	62	16	0	14	5	17	0	147
Approach %	0%	0%	0%	0%	35%	65%	53%	0%	47%	23%	77%	0%	

Peak Hr Begin:	9:00												
PHV	0	0	0	0	9	21	8	0	7	1	9	0	55
PHF	0.000			0.750			0.750			0.625			0.809

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 1
North/South: Screenland Drive
East/West: Valhalla Drive

Date: 04/13/21
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	
4:30	0	0	0	0	3	5	3	0	1	2	5	0	19
4:45	0	0	0	0	1	7	5	0	0	0	4	0	17
5:00	0	0	0	0	1	3	5	0	0	2	10	0	21
5:15	0	0	0	0	2	7	1	0	0	2	2	0	14
5:30	0	0	0	0	1	7	8	0	1	0	6	0	23
5:45	0	0	0	0	0	5	4	0	1	1	0	0	11
6:00	0	0	0	0	0	5	3	0	0	0	0	0	8
6:15	0	0	0	0	1	6	1	0	0	0	1	0	9
6:30	0	0	0	0	1	5	0	0	0	0	0	0	6
6:45	0	0	0	0	0	0	3	0	0	0	0	0	3
7:00	0	0	0	0	0	2	3	0	0	0	2	0	7
7:15	0	0	0	0	0	2	0	0	0	0	0	0	2

Total Volume:	0	0	0	0	10	54	36	0	3	7	30	0	140
Approach %	0%	0%	0%	0%	16%	84%	92%	0%	8%	19%	81%	0%	

Peak Hr Begin:	4:45												
PHV	0	0	0	0	5	24	19	0	1	4	22	0	75
PHF	0.000			0.806			0.556			0.542			0.815

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	2	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	2	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	1	0	2	0	2	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	1	0
9:45	0	0	0	0	0	0	2	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	0	0	0	0	1	0
4:45	0	0	1	0	2	0	0	0
5:00	0	0	0	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0
5:30	0	0	0	0	0	0	0	0
5:45	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0
6:15	0	0	0	0	0	0	0	0
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	1	0
7:00	0	0	0	0	1	0	1	0
7:15	0	0	0	0	0	0	1	0

Turning Movement Count Report AM

Location ID: 2
North/South: Hollywood Way Southbound Ramp
East/West: Vanowen Street
Date: 04/13/21
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	43	4	0	0	0	12	84	0	143
7:15	0	0	0	0	55	6	0	0	0	15	102	0	178
7:30	0	0	0	0	49	5	0	0	0	21	141	0	216
7:45	0	0	0	0	72	7	0	0	0	19	154	0	252
8:00	0	0	0	0	84	5	0	0	0	20	138	0	247
8:15	0	0	0	0	59	2	0	0	0	21	158	0	240
8:30	0	0	0	0	68	7	0	0	0	27	146	0	248
8:45	0	0	0	0	77	4	0	0	0	18	148	0	247
9:00	0	0	0	0	48	7	0	0	0	23	126	0	204
9:15	0	0	0	0	79	10	0	0	0	22	123	0	234
9:30	0	0	0	0	62	8	0	0	0	17	107	0	194
9:45	0	0	0	0	67	7	0	0	0	19	129	0	222
Total Volume:	0	0	0	0	763	72	0	0	0	234	1556	0	2625
Approach %	0%	0%	0%	0%	91%	9%	0%	0%	0%	13%	87%	0%	

Peak Hr Begin:	7:45												
PHV	0	0	0	0	283	21	0	0	0	87	596	0	987
PHF	0.000			0.854			0.000			0.954			0.979

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 2
North/South: Hollywood Way Southbound Ramp
East/West: Vanowen Street
Date: 04/13/21
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	
4:30	0	0	0	0	113	5	0	0	0	25	171	0	314
4:45	0	0	0	0	112	8	0	0	0	21	168	0	309
5:00	0	0	0	0	134	7	0	0	0	19	183	0	343
5:15	0	0	0	0	149	9	0	0	0	16	151	0	325
5:30	0	0	0	0	132	18	0	0	0	26	159	0	335
5:45	0	0	0	0	109	11	0	0	0	19	134	0	273
6:00	0	0	0	0	115	9	0	0	0	28	152	0	304
6:15	0	0	0	0	111	10	0	0	0	18	141	0	280
6:30	0	0	0	0	95	6	0	0	0	9	120	0	230
6:45	0	0	0	0	84	3	0	0	0	21	121	0	229
7:00	0	0	0	0	80	6	0	0	0	12	98	0	196
7:15	0	0	0	0	81	10	0	0	0	8	102	0	201

Total Volume:	0	0	0	0	1315	102	0	0	0	222	1700	0	3339
Approach %	0%	0%	0%	0%	93%	7%	0%	0%	0%	12%	88%	0%	

Peak Hr Begin:	4:45												
PHV	0	0	0	0	527	42	0	0	0	82	661	0	1312
PHF	0.000			0.900			0.000			0.920			0.956

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	1	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	2	0	0	0
8:00	0	0	0	0	1	0	0	0
8:15	0	0	0	0	1	0	0	0
8:30	0	0	0	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	0	0	0	0	0	0	0	0
9:30	0	0	0	0	1	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0
5:00	0	0	0	0	1	0	0	0
5:15	0	0	0	0	0	0	0	0
5:30	0	0	0	0	1	0	0	0
5:45	0	0	0	0	1	0	0	0
6:00	0	0	0	0	0	0	0	0
6:15	0	0	0	0	0	0	0	0
6:30	0	0	0	0	1	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 3
North/South: Hollywood Way Northbound Ramp
East/West: Vanowen Street
Date: 04/13/21
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	44	0	4	0	8	0	86	0	142
7:15	0	0	0	0	53	0	1	0	2	0	101	0	157
7:30	0	0	0	0	44	0	4	0	11	0	147	0	206
7:45	0	0	0	0	68	0	11	0	13	0	146	0	238
8:00	0	0	0	0	70	0	9	0	18	0	139	0	236
8:15	0	0	0	0	52	0	10	0	14	0	153	0	229
8:30	0	0	0	0	62	0	5	0	10	0	151	0	228
8:45	0	0	0	0	70	0	11	0	11	0	138	0	230
9:00	0	0	0	0	37	0	10	0	17	0	127	0	191
9:15	0	0	0	0	75	0	6	0	15	0	128	0	224
9:30	0	0	0	0	58	0	2	0	12	0	110	0	182
9:45	0	0	0	0	57	0	16	0	15	0	130	0	218

Total Volume:	0	0	0	0	690	0	89	0	146	0	1556	0	2481
Approach %	0%	0%	0%	0%	100%	0%	38%	0%	62%	0%	100%	0%	

Peak Hr Begin:	7:45												
PHV	0	0	0	0	252	0	35	0	55	0	589	0	931
PHF	0.000			0.900			0.833			0.962			0.978

Turning Movement Count Report PM

Location ID: 3
North/South: Hollywood Way Northbound Ramp
East/West: Vanowen Street
Date: 04/13/21
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	
4:30	0	0	0	0	96	0	11	0	24	0	163	0	294
4:45	0	0	0	0	98	0	23	0	18	0	174	0	313
5:00	0	0	0	0	112	0	18	0	31	0	181	0	342
5:15	0	0	0	0	137	0	20	0	25	0	148	0	330
5:30	0	0	0	0	130	0	14	0	17	0	165	0	326
5:45	0	0	0	0	102	0	16	0	15	0	133	0	266
6:00	0	0	0	0	108	0	13	0	19	0	151	0	291
6:15	0	0	0	0	106	0	18	0	14	0	137	0	275
6:30	0	0	0	0	73	0	18	0	21	0	128	0	240
6:45	0	0	0	0	82	0	9	0	11	0	120	0	222
7:00	0	0	0	0	73	0	9	0	12	0	95	0	189
7:15	0	0	0	0	80	0	12	0	15	0	98	0	205

Total Volume:	0	0	0	0	1197	0	181	0	222	0	1693	0	3293
Approach %	0%	0%	0%	0%	100%	0%	45%	0%	55%	0%	100%	0%	

Peak Hr Begin:	4:45												
PHV	0	0	0	0	477	0	75	0	91	0	668	0	1311
PHF	0.000			0.870			0.847			0.923			0.958

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	1	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	2	0	0	0
8:00	0	0	0	0	1	0	0	0
8:15	0	0	0	0	1	0	0	0
8:30	0	0	0	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	0	0	0	0	0	0	0	0
9:30	0	0	0	0	1	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	0	0	0	0	0	0
4:45	0	0	0	0	1	0	0	0
5:00	0	0	1	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0
5:30	0	0	0	0	1	0	0	0
5:45	0	0	0	0	1	0	0	0
6:00	0	0	0	0	0	0	0	0
6:15	0	0	0	0	0	0	0	0
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 4
North/South: Hollywood Way SB Ramp from
East/West: Vanowen Street

Date: 04/13/21
City: Burbank, CA

	Southbound			*Westbound*			*Northbound*			*SB Ramp From Vanowen*			
	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	178	0	0	0	0	12	81	0	16	0	0	287
7:15	0	147	0	0	0	0	3	116	0	21	0	0	287
7:30	0	167	0	0	0	0	15	151	0	23	0	0	356
7:45	0	223	0	0	0	0	24	154	0	28	0	0	429
8:00	0	201	0	0	0	0	27	156	0	26	0	0	410
8:15	0	201	0	0	0	0	24	130	0	23	0	0	378
8:30	0	171	0	0	0	0	15	130	0	31	0	0	347
8:45	0	132	0	0	0	0	22	131	0	26	0	0	311
9:00	0	139	0	0	0	0	27	138	0	32	0	0	336
9:15	0	155	0	0	0	0	21	139	0	31	0	0	346
9:30	0	132	0	0	0	0	14	145	0	24	0	0	315
9:45	0	124	0	0	0	0	31	125	0	23	0	0	303

Total Volume:	0	1970	0	0	0	0	235	1596	0	304	0	0	4105
Approach %	0%	100%	0%	0%	0%	0%	13%	87%	0%	100%	0%	0%	

Peak Hr Begin:	7:30												
PHV	0	792	0	0	0	0	90	591	0	100	0	0	1573
PHF		0.888			0.000			0.930			0.893		0.917

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 4
North/South: Hollywood Way SB Ramp from
East/West: Vanowen Street
Date: 04/13/21
City: Burbank, CA

	Southbound			Westbound			Northbound			SB Ramp From Vanowen			
	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	
4:30	0	172	0	0	0	0	35	189	0	29	0	0	425
4:45	0	179	0	0	0	0	41	223	0	30	0	0	473
5:00	0	228	0	0	0	0	49	255	0	26	0	0	558
5:15	0	193	0	0	0	0	45	245	0	24	0	0	507
5:30	0	179	0	0	0	0	31	230	0	40	0	0	480
5:45	0	194	0	0	0	0	31	207	0	35	0	0	467
6:00	0	180	0	0	0	0	32	172	0	37	0	0	421
6:15	0	139	0	0	0	0	32	187	0	25	0	0	383
6:30	0	149	0	0	0	0	39	172	0	16	0	0	376
6:45	0	142	0	0	0	0	20	151	0	26	0	0	339
7:00	0	139	0	0	0	0	21	128	0	17	0	0	305
7:15	0	106	0	0	0	0	27	108	0	19	0	0	260

Total Volume:	0	2000	0	0	0	0	403	2267	0	324	0	0	4994
Approach %	0%	100%	0%	0%	0%	0%	15%	85%	0%	100%	0%	0%	

Peak Hr Begin:	4:45												
PHV	0	779	0	0	0	0	166	953	0	120	0	0	2018
PHF		0.854			0.000			0.920			0.750		0.904

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*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	0	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	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

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0
5:30	0	0	0	0	0	0	0	0
5:45	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0
6:15	0	0	0	0	0	0	0	0
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 8
North/South: Hollywood Way
East/West: Valhalla Drive

Date: 04/13/21
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	182	3	0	0	0	0	90	2	1	0	3	290
7:15	13	152	3	0	0	0	1	118	0	0	0	1	288
7:30	6	180	4	1	0	0	0	165	2	1	1	0	360
7:45	13	225	13	2	0	0	1	172	4	0	0	4	434
8:00	12	206	9	3	0	0	1	178	0	1	0	2	412
8:15	17	204	3	1	0	0	0	152	1	2	1	1	382
8:30	17	179	6	1	0	0	0	141	3	2	0	3	352
8:45	10	142	6	1	0	0	0	149	1	1	0	3	313
9:00	13	152	6	0	0	0	3	159	2	2	0	6	343
9:15	9	170	7	0	0	0	0	154	1	4	0	6	351
9:30	3	151	2	7	0	0	4	151	3	6	1	1	329
9:45	9	134	4	2	0	0	4	152	5	1	0	2	313

Total Volume:	131	2077	66	18	0	0	14	1781	24	21	3	32	4167
Approach %	6%	91%	3%	100%	0%	0%	1%	98%	1%	38%	5%	57%	

Peak Hr Begin:	7:30												
PHV	48	815	29	7	0	0	2	667	7	4	2	7	1588
PHF	0.888			0.583			0.944			0.813			0.915

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 8
North/South: Hollywood Way
East/West: Valhalla Drive

Date: 04/13/21
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	
4:30	13	185	3	6	0	0	10	205	0	3	0	13	438
4:45	14	190	5	9	0	0	3	246	1	2	0	9	479
5:00	8	244	2	15	0	0	3	268	3	9	0	21	573
5:15	9	206	2	4	0	0	3	281	1	1	0	5	512
5:30	13	203	3	4	0	0	2	238	2	4	0	19	488
5:45	6	220	3	6	0	0	1	227	0	3	0	5	471
6:00	7	206	4	6	0	0	0	185	1	3	0	13	425
6:15	4	158	2	3	0	0	1	211	2	0	0	5	386
6:30	7	155	3	3	0	0	2	205	0	1	0	3	379
6:45	0	165	3	6	0	0	1	162	1	3	0	3	344
7:00	2	152	2	4	0	0	2	141	1	2	0	4	310
7:15	1	120	4	3	0	0	2	131	1	3	0	1	266

Total Volume:	84	2204	36	69	0	0	30	2500	13	34	0	101	5071
Approach %	4%	95%	2%	100%	0%	0%	1%	98%	1%	25%	0%	75%	

Peak Hr Begin:	4:45												
PHV	44	843	12	32	0	0	11	1033	7	16	0	54	2052
PHF	0.885			0.533			0.922			0.583			0.895

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	2	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	1	0	0	1	0
7:45	0	0	0	0	0	0	1	0
8:00	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	1
8:30	0	0	0	0	0	0	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	0	0	0	0
9:45	0	0	2	0	0	0	0	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	5	0	0	0	0	0
4:45	0	0	0	0	0	0	1	0
5:00	0	0	1	0	0	0	1	0
5:15	0	0	0	0	0	0	0	1
5:30	0	0	0	0	0	0	0	0
5:45	0	0	2	0	0	0	0	0
6:00	0	0	2	0	0	0	1	0
6:15	0	0	0	0	0	0	2	0
6:30	0	0	2	0	0	0	0	0
6:45	0	0	2	0	0	0	0	0
7:00	0	0	1	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 9
North/South: Hollywood Way
East/West: Victory Blvd

Date: 04/13/21
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	96	36	12	40	5	6	63	5	7	68	18	371
7:15	10	83	26	10	35	7	4	85	4	10	79	23	376
7:30	36	87	33	18	54	13	11	100	1	19	102	40	514
7:45	44	84	34	16	68	10	9	122	6	9	120	39	561
8:00	42	90	36	16	64	9	5	125	3	8	106	44	548
8:15	32	96	32	16	80	6	11	85	9	5	105	50	527
8:30	28	83	23	14	60	4	8	85	6	5	138	43	497
8:45	24	86	27	20	72	3	9	98	15	6	112	37	509
9:00	29	92	14	20	77	6	10	114	9	5	119	40	535
9:15	31	81	12	21	81	7	3	96	8	5	81	33	459
9:30	34	95	26	17	77	5	6	113	1	9	108	31	522
9:45	25	94	13	13	80	15	14	109	2	3	117	36	521

Total Volume:	350	1067	312	193	788	90	96	1195	69	91	1255	434	5940
Approach %	20%	62%	18%	18%	74%	8%	7%	88%	5%	5%	71%	24%	

Peak Hr Begin:	7:30												
PHV	154	357	135	66	266	38	36	432	19	41	433	173	2150
PHF	0.961			0.907			0.889			0.963			0.958

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 9
North/South: Hollywood Way
East/West: Victory Blvd

Date: 04/13/21
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	
4:30	47	125	43	63	138	9	2	88	9	6	126	42	698
4:45	46	119	31	71	161	9	3	62	7	3	138	65	715
5:00	63	103	63	90	162	24	3	93	7	4	144	51	807
5:15	60	107	50	69	162	15	5	93	6	5	128	63	763
5:30	42	106	40	55	179	24	11	134	11	7	136	46	791
5:45	63	119	34	40	121	13	13	120	6	8	134	53	724
6:00	66	105	40	37	172	15	10	103	5	7	139	43	742
6:15	41	101	34	36	125	7	8	136	8	8	114	37	655
6:30	39	78	27	35	132	12	10	112	10	7	117	48	627
6:45	39	92	33	14	97	7	19	103	12	10	103	31	560
7:00	39	92	34	11	123	6	7	82	2	3	100	35	534
7:15	40	61	28	14	120	13	15	93	3	6	94	24	511

Total Volume:	585	1208	457	535	1692	154	106	1219	86	74	1473	538	8127
Approach %	26%	54%	20%	22%	71%	6%	8%	86%	6%	4%	71%	26%	

Peak Hr Begin:	5:00												
PHV	228	435	187	254	624	76	32	440	30	24	542	213	3085
PHF	0.928			0.864			0.804			0.979			0.956

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	2	1	2	0	0	0	0	0
7:15	2	1	2	1	0	0	1	0
7:30	2	0	2	0	2	1	2	0
7:45	0	0	2	0	1	0	0	0
8:00	1	0	1	0	1	0	0	0
8:15	2	1	0	2	0	0	0	1
8:30	1	0	2	0	2	0	1	0
8:45	0	0	0	0	0	2	0	0
9:00	3	0	2	0	0	0	2	1
9:15	3	0	1	0	0	0	1	0
9:30	4	0	2	0	0	0	1	0
9:45	1	0	3	0	0	0	1	1

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	2	0	1	0	1	0	2	0
4:45	3	1	3	0	0	0	3	2
5:00	7	0	3	0	0	0	0	0
5:15	1	0	0	0	0	0	0	2
5:30	6	1	0	0	2	0	3	0
5:45	7	1	1	0	0	0	2	0
6:00	7	3	1	1	0	0	2	2
6:15	2	0	1	0	0	0	2	1
6:30	5	1	0	1	6	0	5	0
6:45	9	0	0	0	0	0	5	0
7:00	2	1	7	0	5	0	1	0
7:15	5	0	2	3	0	0	0	0

Turning Movement Count Report AM

Location ID: 11
North/South: Buena Vista Street
East/West: Empire Avenue

Date: 04/13/21
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	108	13	9	42	47	79	47	6	7	28	3	392
7:15	3	103	6	6	42	46	83	58	7	11	26	3	394
7:30	7	134	13	7	78	68	127	77	14	14	53	8	600
7:45	7	169	19	9	93	94	136	85	13	23	73	7	728
8:00	6	155	23	15	87	92	126	77	12	20	52	5	670
8:15	5	126	15	7	54	86	141	83	14	13	45	3	592
8:30	10	160	14	11	81	93	158	78	12	14	52	8	691
8:45	5	188	13	12	74	75	129	99	21	25	61	3	705
9:00	6	146	14	8	77	82	113	74	10	37	64	9	640
9:15	6	165	16	14	57	78	133	83	13	9	45	3	622
9:30	11	117	18	14	60	84	141	85	7	20	54	15	626
9:45	7	148	14	15	66	75	153	78	11	19	53	13	652

Total Volume:	76	1719	178	127	811	920	1519	924	140	212	606	80	7312
Approach %	4%	87%	9%	7%	44%	50%	59%	36%	5%	24%	67%	9%	

Peak Hr Begin:	7:45												
PHV	28	610	71	42	315	365	561	323	51	70	222	23	2681
PHF	0.909			0.921			0.943			0.765			0.921

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 11
North/South: Buena Vista Street
East/West: Empire Avenue

Date: 04/13/21
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	
4:30	9	119	18	32	98	109	193	172	22	21	79	13	885
4:45	6	91	24	33	133	120	177	135	32	25	70	6	852
5:00	15	99	19	26	128	121	172	145	16	17	81	11	850
5:15	14	99	20	32	125	128	173	201	32	23	64	10	921
5:30	2	122	26	36	114	128	191	175	26	18	89	9	936
5:45	13	114	22	32	115	98	197	161	19	18	69	8	866
6:00	5	98	24	33	101	122	155	119	18	13	72	14	774
6:15	10	104	17	28	102	103	198	126	18	19	38	2	765
6:30	11	91	16	49	95	104	161	117	14	16	55	4	733
6:45	9	89	31	21	97	106	151	92	20	15	47	7	685
7:00	7	81	16	28	87	105	159	112	22	9	57	6	689
7:15	6	77	17	34	107	102	143	80	14	20	32	4	636

Total Volume:	107	1184	250	384	1302	1346	2070	1635	253	214	753	94	9592
Approach %	7%	77%	16%	13%	43%	44%	52%	41%	6%	20%	71%	9%	

Peak Hr Begin:	5:00												
PHV	44	434	87	126	482	475	733	682	93	76	303	38	3573
PHF		0.942			0.950			0.929			0.899		0.954

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	1	0	1	0	0	0
7:15	1	0	2	0	3	0	2	0
7:30	0	0	0	0	0	0	1	0
7:45	2	0	2	0	2	0	0	0
8:00	0	0	1	0	1	0	2	0
8:15	1	0	2	0	1	0	1	0
8:30	1	0	0	0	0	0	0	0
8:45	1	0	1	0	0	1	0	0
9:00	1	0	0	0	2	1	2	0
9:15	2	0	0	0	1	0	1	0
9:30	2	0	1	0	2	0	1	0
9:45	2	1	0	0	2	0	1	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	1	0	2	0	0	0	1	0
4:45	4	1	1	0	0	0	1	0
5:00	0	0	1	0	0	0	0	0
5:15	1	0	0	0	2	0	1	0
5:30	0	0	0	0	0	0	0	0
5:45	1	0	0	0	0	1	0	0
6:00	1	0	1	1	1	0	1	1
6:15	0	0	0	2	1	0	0	0
6:30	0	2	0	0	1	0	1	0
6:45	0	0	1	0	4	0	2	0
7:00	1	0	0	0	0	0	1	0
7:15	0	0	0	0	2	0	1	0

Turning Movement Count Report AM

Location ID: 12
North/South: Buena Vista Street
East/West: Vanowen Street
Date: 04/13/21
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	33	126	0	0	0	0	0	86	15	47	0	48	355
7:15	34	120	0	0	0	0	0	94	16	39	0	62	365
7:30	43	183	0	0	0	0	0	134	18	47	0	94	519
7:45	52	221	0	0	0	0	0	143	21	68	0	106	611
8:00	42	214	0	0	0	0	0	141	27	40	0	90	554
8:15	46	178	0	0	0	0	0	121	16	70	0	116	547
8:30	46	221	0	0	0	0	0	150	28	54	0	115	614
8:45	42	252	0	0	0	0	0	152	26	50	0	97	619
9:00	32	217	0	0	0	0	0	144	14	49	0	74	530
9:15	29	188	0	0	0	0	0	134	28	59	0	87	525
9:30	43	194	0	0	0	0	0	154	19	35	0	79	524
9:45	36	214	0	0	0	0	0	147	22	42	0	107	568

Total Volume:	478	2328	0	0	0	0	0	1600	250	600	0	1075	6331
Approach %	17%	83%	0%	0%	0%	0%	0%	86%	14%	36%	0%	64%	

Peak Hr Begin:	8:00												
PHV	176	865	0	0	0	0	0	564	97	214	0	418	2334
PHF	0.885			0.000			0.928			0.849			0.943

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 12
North/South: Buena Vista Street
East/West: Vanowen Street

Date: 04/13/21
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	
4:30	49	215	0	0	0	0	0	266	40	45	0	123	738
4:45	33	166	0	0	0	0	0	234	48	66	0	134	681
5:00	46	214	0	0	0	0	0	216	38	80	0	152	746
5:15	69	250	0	0	0	0	0	330	44	52	0	156	901
5:30	76	230	0	0	0	0	0	262	45	54	0	141	808
5:45	68	202	0	0	0	0	0	266	41	53	0	108	738
6:00	70	169	0	0	0	0	0	213	40	42	0	120	654
6:15	47	215	0	0	0	0	0	241	37	46	0	124	710
6:30	41	156	0	0	0	0	0	186	19	37	0	117	556
6:45	56	193	0	0	0	0	0	189	34	42	0	90	604
7:00	53	174	0	0	0	0	0	202	27	33	0	85	574
7:15	43	164	0	0	0	0	0	164	26	25	0	91	513

Total Volume:	651	2348	0	0	0	0	0	2769	439	575	0	1441	8223
Approach %	22%	78%	0%	0%	0%	0%	0%	86%	14%	29%	0%	71%	

Peak Hr Begin:	5:00												
PHV	259	896	0	0	0	0	0	1074	168	239	0	557	3193
PHF	0.905			0.000			0.830			0.858			0.886

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	0	0	1	1
7:15	0	0	0	0	2	0	2	0
7:30	0	0	0	0	1	0	2	0
7:45	0	0	0	0	1	0	0	0
8:00	0	0	0	0	0	0	1	0
8:15	0	0	0	0	1	0	1	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	1	0	2	0
9:00	0	0	0	0	0	0	0	1
9:15	0	0	0	0	1	0	0	0
9:30	0	0	0	0	2	0	3	0
9:45	0	0	0	0	1	0	3	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	0	0	0	0	2	0	2	0
4:45	0	0	0	0	2	0	3	0
5:00	0	0	0	0	0	0	0	1
5:15	0	0	0	0	0	0	1	0
5:30	0	0	0	0	1	0	2	0
5:45	0	0	0	0	1	0	1	2
6:00	0	0	0	0	0	0	1	0
6:15	0	0	0	0	1	0	0	2
6:30	0	0	0	0	0	0	2	1
6:45	0	0	0	0	3	0	4	0
7:00	0	0	0	0	1	0	3	0
7:15	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 13
North/South: Buena Vista Street
East/West: Victory Boulevard
Date: 04/13/21
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	11	114	28	21	22	30	3	54	17	32	61	23	416
7:15	12	136	29	19	30	15	7	51	11	38	56	26	430
7:30	19	170	20	27	43	11	5	76	17	44	69	39	540
7:45	31	223	32	20	55	17	9	112	14	60	83	32	688
8:00	16	213	28	35	38	15	8	100	21	43	61	28	606
8:15	18	206	34	31	56	20	14	79	21	54	69	37	639
8:30	24	197	46	23	34	22	7	98	16	42	68	38	615
8:45	27	188	44	30	49	15	13	105	19	44	84	32	650
9:00	30	203	44	23	44	22	8	85	20	30	77	40	626
9:15	31	204	27	20	51	20	12	122	26	18	75	33	639
9:30	27	157	39	18	44	24	13	94	24	28	71	36	575
9:45	28	159	41	22	48	20	8	102	35	42	92	37	634

Total Volume:	274	2170	412	289	514	231	107	1078	241	475	866	401	7058
Approach %	10%	76%	14%	28%	50%	22%	8%	76%	17%	27%	50%	23%	

Peak Hr Begin:	7:45												
PHV	89	839	140	109	183	74	38	389	72	199	281	135	2548
PHF		0.934			0.855			0.924			0.879		0.926

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 13
North/South: Buena Vista Street
East/West: Victory Boulevard

Date: 04/13/21
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	
4:30	29	170	34	45	119	25	14	202	45	30	96	52	861
4:45	34	158	39	41	95	32	21	233	59	27	123	48	910
5:00	33	152	65	31	108	29	20	209	72	51	121	48	939
5:15	45	182	47	48	109	29	19	223	78	34	124	41	979
5:30	31	171	41	45	133	28	17	203	50	55	104	49	927
5:45	21	152	42	35	78	14	13	180	48	27	112	58	780
6:00	24	110	37	39	122	14	15	179	42	26	102	43	753
6:15	27	173	49	33	87	28	15	180	44	30	80	54	800
6:30	42	126	47	32	89	21	17	147	34	21	64	49	689
6:45	17	159	32	23	76	23	19	141	31	29	88	54	692
7:00	22	96	21	32	75	18	10	142	27	21	75	39	578
7:15	32	113	26	29	64	17	11	133	22	21	71	27	566

Total Volume:	357	1762	480	433	1155	278	191	2172	552	372	1160	562	9474
Approach %	14%	68%	18%	23%	62%	15%	7%	75%	19%	18%	55%	27%	

Peak Hr Begin:	4:45												
PHV	143	663	192	165	445	118	77	868	259	167	472	186	3755
PHF		0.911			0.883			0.941			0.938		0.959

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	0	2	1	1	0	4	0
7:15	0	0	3	0	2	0	3	0
7:30	0	0	2	0	1	0	3	0
7:45	0	0	1	0	1	0	3	0
8:00	2	0	3	0	6	0	2	0
8:15	0	0	1	0	1	0	2	0
8:30	2	0	6	0	5	0	4	0
8:45	1	0	1	0	1	0	3	0
9:00	0	0	3	0	2	0	1	0
9:15	1	1	0	0	1	0	1	0
9:30	2	0	3	0	2	0	4	0
9:45	4	0	3	0	1	0	8	0

Leg:	North		East		South		West	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
4:30	1	0	4	0	2	0	2	0
4:45	1	0	1	0	2	0	4	0
5:00	3	0	2	0	2	0	6	0
5:15	9	0	2	0	4	0	1	0
5:30	2	0	5	0	1	0	7	0
5:45	2	0	3	0	1	0	13	0
6:00	4	0	5	0	2	0	0	0
6:15	2	1	2	0	1	0	8	1
6:30	3	1	6	0	2	0	4	1
6:45	8	0	11	0	3	0	2	0
7:00	3	0	3	0	1	0	2	0
7:15	7	0	4	0	2	0	6	0

COVID-19 Volume Adjustment Process

CALCULATION OF COVID-19 ADJUSTMENT FACTORS

Adjustment Factor for N.Hollywood Way and Project-Adjacent Locations

Based on Intersection #9, N. Hollywood Way & Victory Boulevard

	Southbound			Westbound			Northbound			Eastbound			Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Pre-Pandemic Count *May 2018*	351	875	194	145	887	97	87	946	152	111	784	264	4,893
Pandemic Count *April 2021*	228	435	187	254	624	76	32	440	30	24	542	213	3,085
												Adjustment Factor	**1.59**

Applies to Intersections: #1, Screenland Drive & Valhalla Drive
#2, N Hollywood Way SB On Ramp & Vanowen Street
#3, N Hollywood Way NB Off Ramp & Vanowen Street
#4, N Hollywood Way at the SB Ramp from Vanowen Street
#8, N Hollywood Way & Valhalla Drive
#9, N Hollywood Way & Victory Boulevard

Adjustment Factor for Buena Vista Street

Based on Intersection #11, Buena Vista Street & Empire Avenue [a]

	Southbound			Westbound			Northbound			Eastbound			Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Pre-Pandemic Count *May 2018*	95	697	229	181	294	447	573	662	185	177	173	82	1,898
Pandemic Count *April 2021*	44	434	87	126	482	475	733	682	93	76	303	38	1,367
												Adjustment Factor	**1.39**

Applies to Intersections: #12, Buena Vista Street & Vanowen Street
#13, Buena Vista Street & Victory Boulevard

Adjustment Factor for Empire Avenue

Based on Intersection #11, Buena Vista Street & Empire Avenue [b]

	Southbound			Westbound			Northbound			Eastbound			Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Pre-Pandemic Count *May 2018*	95	697	229	181	294	447	573	662	185	177	173	82	1,897
Pandemic Count *April 2021*	44	434	87	126	482	475	733	682	93	76	303	38	2,206
												Calculated Change	0.86
												[c] **Adjustment Factor**	**1.19**

Applies to Intersections: #11, Buena Vista Street & Empire Avenue
I-5 Northbound Ramps at Empire Avenue (used in Freeway Queuing Analysis)

Note: Adjustment factors based on afternoon peak hour traffic volumes.

[a] The I-5 Ramps at Empire Avenue opened in September 2019 and substantially changed traffic patterns on Empire Avenue east of Buena Vista Street. For the purposes of calculating the Buena Vista Street adjustment factor, only those movements that do not involve Empire Avenue east of Buena Vista Street were considered.

[b] The I-5 Ramps at Empire Avenue opened in September 2019 and substantially changed traffic patterns on Empire Avenue east of Buena Vista Street. For reference, the change in traffic at the movements involving Empire Avenue east of Buena Vista Street is shown here. (The actual adjustment factor for Empire Avenue was estimated per footnote [c] below.)

[c] The opening of the I-5 Ramps at Empire Avenue resulted in an increase in traffic on Empire Avenue since the pre-pandemic count was conducted. However, it is likely that the pandemic has reduced traffic on empire Avenue from what it would be under normal conditions. Therefore, an adjustment factor half that of the Buena Vista Street adjustment factor was chosen for Empire Avenue.

ADJUSTED EXISTING TRAFFIC VOLUMES

Pandemic Counts (April 2021)		Morning Peak Hour												Afternoon Peak Hour												Adjustment Factor
		Southbound			Westbound			Northbound			Eastbound			Southbound			Westbound			Northbound			Eastbound			
Int	Location	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	
1	Screenland Drive & Valhalla Drive	0	0	0	0	9	21	8	0	7	1	9	0	0	0	0	0	5	24	19	0	1	4	22	0	**1.53**
2	N Hollywood Way SB On Ramp & Vanowen Street	0	0	0	0	283	21	0	0	0	87	596	0	0	0	0	0	527	42	0	0	0	82	661	0	**1.53**
3	N Hollywood Way NB Off Ramp & Vanowen Street	0	0	0	0	252	0	35	0	55	0	589	0	0	0	0	0	477	0	75	0	91	0	668	0	**1.53**
4	N Hollywood Way at the SB Ramp from Vanowen Street	0	792	0	0	0	0	90	591	0	100	0	0	0	779	0	0	0	0	166	953	0	120	0	0	**1.53**
8	N Hollywood Way & Valhalla Drive	48	815	29	7	0	0	2	667	7	4	2	7	44	843	12	32	0	0	11	1,033	7	16	0	54	**1.53**
9	N Hollywood Way & Victory Boulevard	154	357	135	66	266	38	36	432	19	41	433	173	228	435	187	254	624	76	32	440	30	24	542	213	**1.53**
11	Buena Vista Street & Empire Avenue	28	610	71	42	315	365	561	323	51	70	222	23	44	434	87	126	482	475	733	682	93	76	303	38	**1.19**
12	Buena Vista Street & Vanowen Street	176	865	0	0	0	0	0	564	97	214	0	418	259	896	0	0	0	0	0	1,074	168	239	0	557	**1.39**
13	Buena Vista Street & Victory Boulevard	89	839	140	109	183	74	38	389	72	199	281	135	143	663	192	165	445	118	77	868	259	167	472	186	**1.39**
	I-5 NB Ramps at Empire Avenue	0	0	0	237	618	0	122	4	522	0	550	25	0	0	0	452	705	0	193	4	456	0	814	86	**1.19**

Counts Adjusted by Adjustment Factor		Morning Peak Hour												Afternoon Peak Hour												Adjustment Factor
		Southbound			Westbound			Northbound			Eastbound			Southbound			Westbound			Northbound			Eastbound			
Int	Location	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	
1	Screenland Drive & Valhalla Drive	0	0	0	0	14	32	12	0	11	2	14	0	0	0	0	0	8	37	29	0	2	6	34	0	**1.53**
2	N Hollywood Way SB On Ramp & Vanowen Street	0	0	0	0	433	32	0	0	0	133	912	0	0	0	0	0	806	64	0	0	0	125	1,011	0	**1.53**
3	N Hollywood Way NB Off Ramp & Vanowen Street	0	0	0	0	386	0	54	0	84	0	901	0	0	0	0	0	730	0	115	0	139	0	1,022	0	**1.53**
4	N Hollywood Way at the SB Ramp from Vanowen Street	0	1,212	0	0	0	0	138	904	0	153	0	0	0	1,192	0	0	0	0	254	1,458	0	184	0	0	**1.53**
8	N Hollywood Way & Valhalla Drive	73	1,247	44	11	0	0	3	1,021	11	6	3	11	67	1,290	18	49	0	0	17	1,580	11	24	0	83	**1.53**
9	N Hollywood Way & Victory Boulevard	236	546	207	101	407	58	55	661	29	63	662	265	349	666	286	389	955	116	49	673	46	37	829	326	**1.53**
11	Buena Vista Street & Empire Avenue	33	726	84	50	375	434	668	384	61	83	264	27	52	516	104	150	574	565	872	812	111	90	361	45	**1.19**
12	Buena Vista Street & Vanowen Street	245	1,202	0	0	0	0	0	784	135	297	0	581	360	1,245	0	0	0	0	0	1,493	234	332	0	774	**1.39**
13	Buena Vista Street & Victory Boulevard	124	1,166	195	152	254	103	53	541	100	277	391	188	199	922	267	229	619	164	107	1,207	360	232	656	259	**1.39**
	I-5 NB Ramps at Empire Avenue	0	0	0	282	735	0	145	5	621	0	655	30	0	0	0	538	839	0	230	5	543	0	969	102	**1.19**

Residential Street Segment Traffic Counts

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Maple Street between Victory Blvd & Pacific Ave

Day: Tuesday, April 13, 2021 **City:** Burbank, CA

Daily Totals	NB	SB	EB	WB	Total
	339	526	0	0	865

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	0		0				0		12:00	6		8				14	
00:15	0		1				1		12:15	8		7				15	
00:30	0		1				1		12:30	6		12				18	
00:45	0	0	0	2			0	2	12:45	2	22	10	37			12	59
01:00	0		0				0		13:00	3		8				11	
01:15	0		0				0		13:15	6		2				8	
01:30	0		0				0		13:30	5		6				11	
01:45	0	0	0	0			0	0	13:45	2	16	5	21			7	37
02:00	0		0				0		14:00	7		11				18	
02:15	0		0				0		14:15	9		9				18	
02:30	0		0				0		14:30	12		12				24	
02:45	1	1	0	0			1	1	14:45	4	32	12	44			16	76
03:00	0		0				0		15:00	8		13				21	
03:15	0		0				0		15:15	13		15				28	
03:30	0		0				0		15:30	7		7				14	
03:45	0	0	0	0			0	0	15:45	8	36	10	45			18	81
04:00	0		0				0		16:00	8		10				18	
04:15	0		0				0		16:15	7		12				19	
04:30	0		0				0		16:30	13		14				27	
04:45	0	0	0	0			0	0	16:45	12	40	11	47			23	87
05:00	0		0				0		17:00	15		16				31	
05:15	0		3				3		17:15	8		4				12	
05:30	0		1				1		17:30	6		22				28	
05:45	1	1	2	6			3	7	17:45	4	33	14	56			18	89
06:00	0		1				1		18:00	9		8				17	
06:15	1		3				4		18:15	6		9				15	
06:30	2		2				4		18:30	3		8				11	
06:45	2	5	3	9			5	14	18:45	7	25	5	30			12	55
07:00	0		5				5		19:00	7		8				15	
07:15	4		6				10		19:15	1		7				8	
07:30	0		10				10		19:30	4		4				8	
07:45	1	5	5	26			6	31	19:45	4	16	2	21			6	37
08:00	3		10				13		20:00	3		9				12	
08:15	11		9				20		20:15	4		3				7	
08:30	3		13				16		20:30	2		7				9	
08:45	8	25	9	41			17	66	20:45	0	9	3	22			3	31
09:00	8		12				20		21:00	3		1				4	
09:15	5		9				14		21:15	1		4				5	
09:30	3		5				8		21:30	0		1				1	
09:45	2	18	5	31			7	49	21:45	0	4	1	7			1	11
10:00	6		7				13		22:00	1		3				4	
10:15	0		6				6		22:15	0		1				1	
10:30	5		9				14		22:30	6		1				7	
10:45	7	18	10	32			17	50	22:45	1	8	2	7			3	15
11:00	8		7				15		23:00	2		0				2	
11:15	3		12				15		23:15	1		1				2	
11:30	4		11				15		23:30	2		1				3	
11:45	5	20	10	40			15	60	23:45	0	5	0	2			0	7
Totals		93		187			**280**		**Totals**		246		339			**585**	
Split %		33.2%		66.8%			**32.4%**		**Split %**		42.1%		57.9%			**67.6%**	

Daily Totals	NB	SB	EB	WB	Total
	339	526	0	0	865

AM Peak Hour	08:15	08:30	08:15	**PM Peak Hour**	16:30	17:00	16:15
AM Peak Volume	30	43	73	**PM Peak Volume**	48	56	100
AM Pk Hr Factor	0.682	0.827	0.913	**PM Pk Hr Factor**	0.800	0.636	0.806

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Kenwood Street between Victory Blvd & Pacific Ave

Day: Tuesday, April 13, 2021 **City:** Burbank, CA

Daily Totals	NB	SB	EB	WB	Total
	181	193	0	0	374

AM	NB		SB		EB	WB	Total	
00:00	1		0				1	
00:15	0		0				0	
00:30	0		0				0	
00:45	0	1	0	0			0	1
01:00	0		0				0	
01:15	0		0				0	
01:30	0		0				0	
01:45	0	0	0	0			0	0
02:00	0		0				0	
02:15	0		0				0	
02:30	0		0				0	
02:45	0	0	1	1			1	1
03:00	0		1				1	
03:15	0		0				0	
03:30	0		0				0	
03:45	0	0	0	1			0	1
04:00	0		0				0	
04:15	0		0				0	
04:30	0		0				0	
04:45	0	0	4	4			4	4
05:00	0		0				0	
05:15	0		1				1	
05:30	0		1				1	
05:45	1	1	2	4			3	5
06:00	0		1				1	
06:15	0		2				2	
06:30	1		0				1	
06:45	0	1	4	7			4	8
07:00	0		1				1	
07:15	0		4				4	
07:30	1		1				2	
07:45	0	1	1	7			1	8
08:00	1		1				2	
08:15	5		7				12	
08:30	1		2				3	
08:45	3	10	6	16			9	26
09:00	2		1				3	
09:15	4		2				6	
09:30	2		3				5	
09:45	2	10	4	10			6	20
10:00	3		3				6	
10:15	2		1				3	
10:30	2		3				5	
10:45	2	9	4	11			6	20
11:00	2		5				7	
11:15	0		3				3	
11:30	8		5				13	
11:45	2	12	2	15			4	27
Totals		45		76			**121**	
Split %		37.2%		62.8%			**32.4%**	

PM	NB		SB		EB	WB	Total	
12:00	5		6				11	
12:15	5		2				7	
12:30	4		7				11	
12:45	4	18	6	21			10	39
13:00	3		2				5	
13:15	6		1				7	
13:30	1		2				3	
13:45	2	12	1	6			3	18
14:00	4		3				7	
14:15	1		2				3	
14:30	4		1				5	
14:45	2	11	6	12			8	23
15:00	7		5				12	
15:15	4		5				9	
15:30	2		3				5	
15:45	7	20	3	16			10	36
16:00	3		3				6	
16:15	3		3				6	
16:30	7		5				12	
16:45	6	19	2	13			8	32
17:00	2		9				11	
17:15	3		3				6	
17:30	3		2				5	
17:45	2	10	2	16			4	26
18:00	5		4				9	
18:15	9		4				13	
18:30	6		0				6	
18:45	2	22	3	11			5	33
19:00	2		4				6	
19:15	0		4				4	
19:30	1		1				2	
19:45	0	3	1	10			1	13
20:00	2		3				5	
20:15	1		0				1	
20:30	2		2				4	
20:45	4	9	1	6			5	15
21:00	0		2				2	
21:15	3		0				3	
21:30	2		1				3	
21:45	1	6	1	4			2	10
22:00	1		1				2	
22:15	2		0				2	
22:30	1		1				2	
22:45	0	4	0	2			0	6
23:00	0		0				0	
23:15	1		0				1	
23:30	0		0				0	
23:45	1	2	0	0			1	2
Totals		136		117			**253**	
Split %		53.8%		46.2%			**67.6%**	

Daily Totals	NB	SB	EB	WB	Total
	181	193	0	0	374

	NB	SB	Total
AM Peak Hour	11:00	10:45	10:45
AM Peak Volume	12	17	29
AM Pk Hr Factor	0.375	0.850	0.558

	NB	SB	Total
PM Peak Hour	18:00	12:00	12:00
PM Peak Volume	22	21	39
PM Pk Hr Factor	0.611	0.750	0.886

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Screenland Drive between Victory Blvd & Pacific Ave

Day: Tuesday, April 13, 2021 **City:** Burbank, CA

Daily Totals	NB	SB	EB	WB	Total
	230	267	0	0	497

AM	NB		SB		EB	WB	Total	
00:00	1		0				1	
00:15	1		1				2	
00:30	0		0				0	
00:45	0	2	0	1			0	3
01:00	2		0				2	
01:15	0		0				0	
01:30	0		0				0	
01:45	0	2	0	0			0	2
02:00	0		0				0	
02:15	0		0				0	
02:30	1		0				1	
02:45	0	1	0	0			0	1
03:00	0		0				0	
03:15	0		0				0	
03:30	0		0				0	
03:45	0	0	0	0			0	0
04:00	0		0				0	
04:15	0		0				0	
04:30	0		0				0	
04:45	0	0	2	2			2	2
05:00	0		0				0	
05:15	0		1				1	
05:30	1		0				1	
05:45	0	1	0	1			0	2
06:00	0		0				0	
06:15	1		2				3	
06:30	0		2				2	
06:45	1	2	3	7			4	9
07:00	2		1				3	
07:15	2		5				7	
07:30	0		0				0	
07:45	1	5	5	11			6	16
08:00	2		8				10	
08:15	6		4				10	
08:30	2		6				8	
08:45	2	12	7	25			9	37
09:00	2		3				5	
09:15	1		6				7	
09:30	1		4				5	
09:45	4	8	4	17			8	25
10:00	3		2				5	
10:15	3		3				6	
10:30	1		3				4	
10:45	2	9	1	9			3	18
11:00	6		5				11	
11:15	3		6				9	
11:30	9		13				22	
11:45	7	25	5	29			12	54
Totals		67		102			**169**	
Split %		39.6%		60.4%			**34.0%**	

PM	NB		SB		EB	WB	Total	
12:00	4		7				11	
12:15	3		7				10	
12:30	4		6				10	
12:45	4	15	4	24			8	39
13:00	2		4				6	
13:15	5		3				8	
13:30	2		3				5	
13:45	3	12	3	13			6	25
14:00	3		10				13	
14:15	6		4				10	
14:30	2		5				7	
14:45	6	17	11	30			17	47
15:00	11		3				14	
15:15	11		11				22	
15:30	5		6				11	
15:45	3	30	7	27			10	57
16:00	8		7				15	
16:15	3		4				7	
16:30	5		9				14	
16:45	13	29	3	23			16	52
17:00	8		2				10	
17:15	5		3				8	
17:30	4		3				7	
17:45	4	21	2	10			6	31
18:00	3		7				10	
18:15	3		5				8	
18:30	1		3				4	
18:45	2	9	4	19			6	28
19:00	2		1				3	
19:15	8		2				10	
19:30	2		2				4	
19:45	2	14	3	8			5	22
20:00	1		2				3	
20:15	2		0				2	
20:30	1		0				1	
20:45	3	7	0	2			3	9
21:00	1		3				4	
21:15	0		0				0	
21:30	0		1				1	
21:45	2	3	2	6			4	9
22:00	0		1				1	
22:15	0		0				0	
22:30	1		0				1	
22:45	0	1	1	2			1	3
23:00	0		0				0	
23:15	3		0				3	
23:30	1		0				1	
23:45	1	5	1	1			2	6
Totals		163		165			**328**	
Split %		49.7%		50.3%			**66.0%**	

Daily Totals	NB	SB	EB	WB	Total
	230	267	0	0	497

	NB	SB	Total		NB	SB	Total
AM Peak Hour	11:00	11:00	11:00	**PM Peak Hour**	14:45	15:15	14:45
AM Peak Volume	25	29	54	**PM Peak Volume**	33	31	64
AM Pk Hr Factor	0.694	0.558	0.614	**PM Pk Hr Factor**	0.750	0.705	0.727

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Pepper Street between Victory Blvd & Pacific Ave

Day: Tuesday, April 13, 2021 **City:** Burbank, CA

Daily Totals	NB	SB	EB	WB	Total
	314	226	0	0	540

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	0		0				0		12:00	5		1				6	
00:15	0		0				0		12:15	7		1				8	
00:30	0		0				0		12:30	10		5				15	
00:45	0	0	0	0			0	0	12:45	6	28	6	13			12	41
01:00	0		0				0		13:00	5		0				5	
01:15	0		0				0		13:15	4		2				6	
01:30	0		0				0		13:30	5		5				10	
01:45	0	0	0	0			0	0	13:45	6	20	3	10			9	30
02:00	1		0				1		14:00	7		3				10	
02:15	0		0				0		14:15	9		7				16	
02:30	1		0				1		14:30	10		6				16	
02:45	0	2	0	0			0	2	14:45	8	34	4	20			12	54
03:00	0		0				0		15:00	9		7				16	
03:15	0		0				0		15:15	10		6				16	
03:30	0		0				0		15:30	4		5				9	
03:45	0	0	0	0			0	0	15:45	14	37	4	22			18	59
04:00	0		0				0		16:00	8		3				11	
04:15	0		1				1		16:15	3		1				4	
04:30	0		0				0		16:30	5		4				9	
04:45	0	0	1	2			1	2	16:45	18	34	4	12			22	46
05:00	0		0				0		17:00	9		5				14	
05:15	0		0				0		17:15	9		3				12	
05:30	1		1				2		17:30	9		10				19	
05:45	0	1	0	1			0	2	17:45	5	32	4	22			9	54
06:00	0		0				0		18:00	4		4				8	
06:15	0		2				2		18:15	8		4				12	
06:30	0		1				1		18:30	7		5				12	
06:45	1	1	2	5			3	6	18:45	5	24	4	17			9	41
07:00	3		5				8		19:00	5		6				11	
07:15	1		2				3		19:15	8		3				11	
07:30	3		2				5		19:30	1		3				4	
07:45	1	8	3	12			4	20	19:45	2	16	0	12			2	28
08:00	1		4				5		20:00	2		1				3	
08:15	5		4				9		20:15	0		2				2	
08:30	0		6				6		20:30	1		2				3	
08:45	5	11	5	19			10	30	20:45	1	4	2	7			3	11
09:00	6		3				9		21:00	1		2				3	
09:15	0		4				4		21:15	2		1				3	
09:30	4		3				7		21:30	1		1				2	
09:45	4	14	8	18			12	32	21:45	0	4	0	4			0	8
10:00	5		2				7		22:00	2		0				2	
10:15	3		1				4		22:15	0		1				1	
10:30	3		1				4		22:30	0		0				0	
10:45	6	17	3	7			9	24	22:45	0	2	0	1			0	3
11:00	6		6				12		23:00	2		0				2	
11:15	7		3				10		23:15	0		0				0	
11:30	2		7				9		23:30	1		0				1	
11:45	7	22	6	22			13	44	23:45	0	3	0	0			0	3
Totals		76		86			**162**		**Totals**		238		140			**378**	
Split %		46.9%		53.1%			**30.0%**		**Split %**		63.0%		37.0%			**70.0%**	

Daily Totals	NB	SB	EB	WB	Total
	314	226	0	0	540

	NB	SB	Total		NB	SB	Total
AM Peak Hour	11:00	11:00	11:00	**PM Peak Hour**	16:45	14:15	16:45
AM Peak Volume	22	22	44	**PM Peak Volume**	45	24	67
AM Pk Hr Factor	0.786	0.786	0.846	**PM Pk Hr Factor**	0.625	0.857	0.761

Appendix E

City Model
(Project Traffic Distribution)

Memorandum

Date: May 18, 2021

To: Jonathan Chambers, Gibson Transportation Consulting, Inc.

From: Ribeka Toda and John Muggridge, Fehr & Peers

Subject: Burbank Travel Demand Model Data for the 2311 N Hollywood Way Project

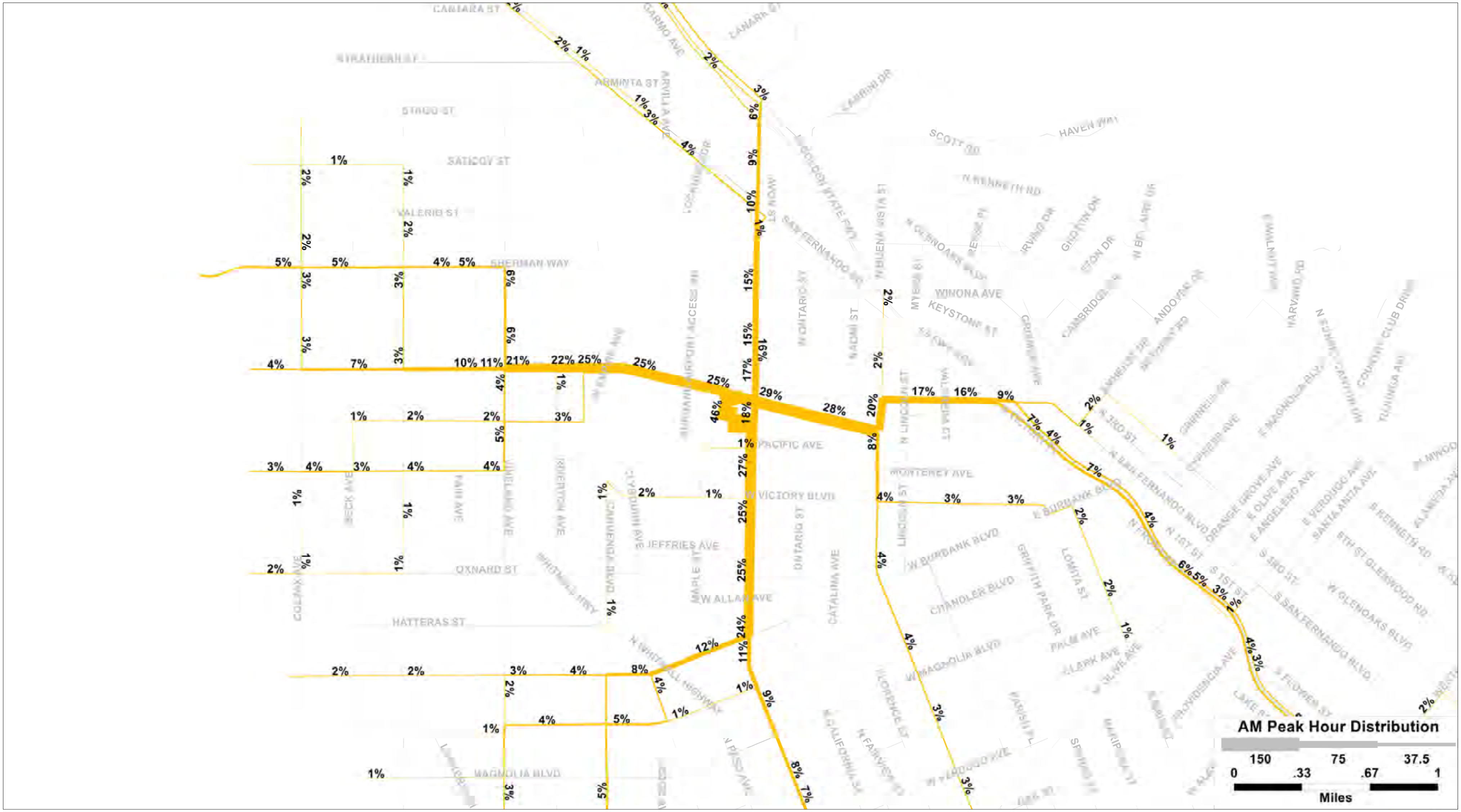
LA21-3284

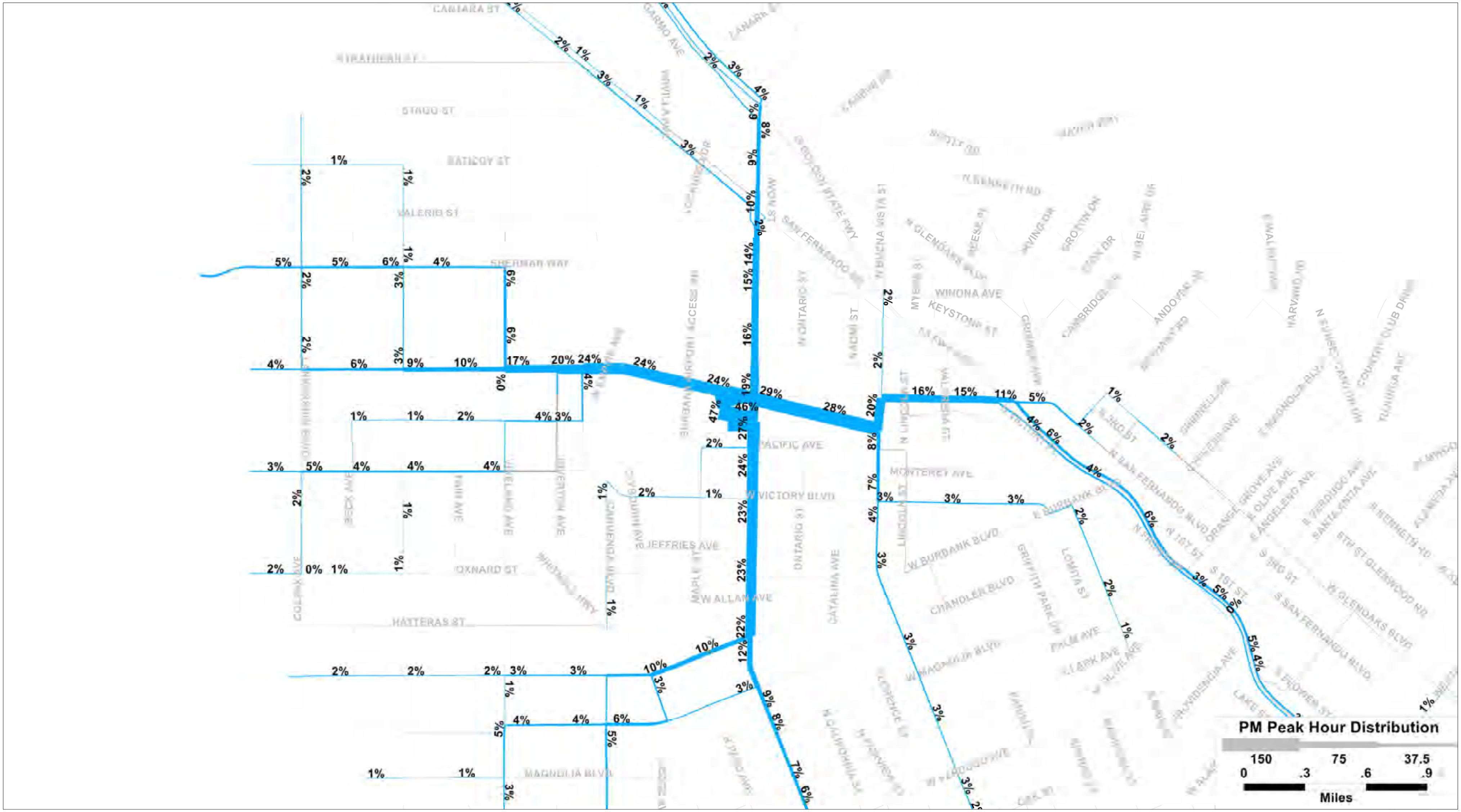
Based on a request made by Gibson Transportation, Inc, Fehr & Peers has compiled trip distribution plots from the City of Burbank Travel Demand Forecasting (TDF) model for the 2311 N Hollywood Way Project. The Burbank TDF was developed in 2011 for the Burbank2035 General Plan update. The information provided in this memo was taken from the validated 2035 future year scenario. The 2035 scenario is consistent with the adopted Burbank2035 General Plan and includes the I-5 widening project and the Empire Avenue Interchange reconfiguration.

The following land use assumptions for the project were added to the travel model input files.

- 860 apartment units
- 5,000 square feet of ground floor retail
- 5,000 square feet of ground floor restaurants
- 150,000 square feet of office

The 2035 model was run and the trip distribution was output to plots, which are attached to this memo.


AM Peak Hour Distribution
150
75
37.5
0
.33
.67
1
Miles
SATICOY ST
SHERMAN WAY
OXNARD ST
HATTERAS ST
MAGNOLIA BLVD
PACIFIC AVE
VICTORY BLVD
MONTEREY AVE
JEFFRIES AVE
W ALLAN AVE
WINONA AVE
W BURBANK BLVD
CHANDLER BLVD
W MAGNOLIA BLVD
E BURBANK BLVD



PM Peak Hour Distribution
150
75
37.5
0
.3
.6
.9
Miles
SHERMAN WAY
BATICOY ST
VALERIO ST
OXNARD ST
HATTERAS ST
MAGNOLIA BLVD
PACIFIC AVE
MONTEREY AVE
W VICTORY BLVD
JEFFRIES AVE
W ALLAN AVE
WINONA AVE
KEYSTONE ST
W BURBANK BLVD
CHANDLER BLVD
W MAGNOLIA BLVD
N BUENA VISTA ST
N ONTARIO ST
NAOMI ST
CATALINA AVE
LOMITA ST
PALM AVE
N SAN FERNANDO BLVD
S SAN FERNANDO BLVD
W GLENOAKS BLVD
COUNTRY CLUB DR
TUJUNGA AVE
HARVARD RD

Appendix F

Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	14	2	32	14	0	11	0	12	0	0	0
Future Vol, veh/h	0	14	2	32	14	0	11	0	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	2	35	15	0	12	0	13	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	17	0	0	101	101	16	108	102	15
Stage 1	-	-	-	-	-	-	16	16	-	85	85	-
Stage 2	-	-	-	-	-	-	85	85	-	23	17	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1603	-	-	1600	-	-	880	789	1063	871	788	1065
Stage 1	-	-	-	-	-	-	1004	882	-	923	824	-
Stage 2	-	-	-	-	-	-	923	824	-	995	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1603	-	-	1600	-	-	865	772	1063	846	771	1065
Mov Cap-2 Maneuver	-	-	-	-	-	-	865	772	-	846	771	-
Stage 1	-	-	-	-	-	-	1004	882	-	923	806	-
Stage 2	-	-	-	-	-	-	903	806	-	983	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	5.1	8.9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	958	1603	-	-	1600	-	-	-
HCM Lane V/C Ratio	0.026	-	-	-	0.022	-	-	-
HCM Control Delay (s)	8.9	0	-	-	7.3	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	912	133	32	433	0	0
Future Volume (veh/h)	912	133	32	433	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	991	145	35	471		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	3318	1480	515	3318		
Arrive On Green	0.93	0.93	1.00	1.00		
Sat Flow, veh/h	3647	1585	495	3647		
Grp Volume(v), veh/h	991	145	35	471		
Grp Sat Flow(s),veh/h/ln	1777	1585	495	1777		
Q Serve(g_s), s	2.8	0.7	0.2	0.0		
Cycle Q Clear(g_c), s	2.8	0.7	3.1	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	3318	1480	515	3318		
V/C Ratio(X)	0.30	0.10	0.07	0.14		
Avail Cap(c_a), veh/h	3318	1480	515	3318		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.88	0.88		
Uniform Delay (d), s/veh	0.3	0.3	0.0	0.0		
Incr Delay (d2), s/veh	0.2	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(85%),veh/ln	0.2	0.1	0.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.6	0.4	0.3	0.1		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	1136			506		
Approach Delay, s/veh	0.5			0.1		
Approach LOS	A			A		
Timer - Assigned Phs		2				6
Phs Duration (G+Y+Rc), s		110.0				110.0
Change Period (Y+Rc), s		7.3				7.3
Max Green Setting (Gmax), s		102.7				102.7
Max Q Clear Time (g_c+I1), s		5.1				4.8
Green Ext Time (p_c), s		4.2				10.3
Intersection Summary						
HCM 6th Ctrl Delay			0.4			
HCM 6th LOS			A			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	901	0	0	386	84	54
Future Volume (veh/h)	901	0	0	386	84	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	979	0	0	420	91	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2542	0	0	2542	314	280
Arrive On Green	0.24	0.00	0.00	0.72	0.18	0.18
Sat Flow, veh/h	3741	0	0	3741	1781	1585
Grp Volume(v), veh/h	979	0	0	420	91	59
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1781	1585
Q Serve(g_s), s	25.5	0.0	0.0	4.2	4.9	3.5
Cycle Q Clear(g_c), s	25.5	0.0	0.0	4.2	4.9	3.5
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2542	0	0	2542	314	280
V/C Ratio(X)	0.39	0.00	0.00	0.17	0.29	0.21
Avail Cap(c_a), veh/h	2542	0	0	2542	314	280
HCM Platoon Ratio	0.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	5.0	39.3	38.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	2.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	15.7	0.0	0.0	2.6	3.9	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.8	0.0	0.0	5.2	41.6	40.5
LnGrp LOS	C	A	A	A	D	D
Approach Vol, veh/h	979			420	150	
Approach Delay, s/veh	21.8			5.2	41.2	
Approach LOS	C			A	D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0
Change Period (Y+Rc), s		7.3		4.6		7.3
Max Green Setting (Gmax), s		24.7		19.4		46.7
Max Q Clear Time (g_c+I1), s		6.2		6.9		27.5
Green Ext Time (p_c), s		2.6		0.2		7.0
Intersection Summary						
HCM 6th Ctrl Delay			19.2			
HCM 6th LOS			B			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	153	0	0	0	0	904	138	0	1212	0
Future Vol, veh/h	0	0	153	0	0	0	0	904	138	0	1212	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	166	0	0	0	0	983	150	0	1317	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	-	-	659				-	0	0	-	-	0
Stage 1	-	-	-				-	-	-	-	-	-
Stage 2	-	-	-				-	-	-	-	-	-
Critical Hdwy	-	-	6.94				-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-				-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32				-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	406				0	-	-	0	-	0
Stage 1	0	0	-				0	-	-	0	-	0
Stage 2	0	0	-				0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	0	406				-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-	-	-	-
Stage 1	-	0	-				-	-	-	-	-	-
Stage 2	-	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBT
Capacity (veh/h)	-	-	406	-
HCM Lane V/C Ratio	-	-	0.41	-
HCM Control Delay (s)	-	-	19.9	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1	18	37	4	48	29	944	104	192	1937	27
Future Volume (veh/h)	7	1	18	37	4	48	29	944	104	192	1937	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	1	20	40	4	52	32	1026	113	209	2105	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	150	127	176	142	127	245	2225	245	464	3718	51
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.05	0.69	0.69	0.07	0.72	0.72
Sat Flow, veh/h	1348	1870	1585	1391	1777	1585	1781	3228	355	1781	5190	71
Grp Volume(v), veh/h	8	1	20	40	4	52	32	565	574	209	1380	754
Grp Sat Flow(s),veh/h/ln	1348	1870	1585	1391	1777	1585	1781	1777	1806	1781	1702	1858
Q Serve(g_s), s	0.6	0.1	1.3	3.0	0.2	3.4	0.5	15.9	15.9	3.5	21.3	21.3
Cycle Q Clear(g_c), s	4.1	0.1	1.3	3.1	0.2	3.4	0.5	15.9	15.9	3.5	21.3	21.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.04
Lane Grp Cap(c), veh/h	131	150	127	176	142	127	245	1225	1245	464	2439	1331
V/C Ratio(X)	0.06	0.01	0.16	0.23	0.03	0.41	0.13	0.46	0.46	0.45	0.57	0.57
Avail Cap(c_a), veh/h	342	442	375	394	420	375	295	1225	1245	640	2439	1331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	46.6	47.1	48.0	46.7	48.1	5.8	7.8	7.8	5.5	7.4	7.4
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.6	0.1	2.1	0.2	1.3	1.2	0.5	1.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.4	0.0	1.0	1.9	0.2	2.6	0.3	8.4	8.5	2.0	9.8	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	46.6	47.7	48.6	46.7	50.2	6.0	9.0	9.0	6.0	8.4	9.2
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		29			96			1171			2343	
Approach Delay, s/veh		48.4			49.4			8.9			8.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	85.3		14.8	12.9	82.3		14.8
Change Period (Y+Rc), s	4.9	6.5		6.0	4.9	6.5		6.0
Max Green Setting (Gmax), s	8.1	58.5		26.0	18.9	47.7		26.0
Max Q Clear Time (g_c+I1), s	2.5	23.3		5.4	5.5	17.9		6.1
Green Ext Time (p_c), s	0.0	22.8		0.3	0.3	9.2		0.0

Intersection Summary			
HCM 6th Ctrl Delay			10.0
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	50	161	134	105	67	152	831	185	135	1474	330
Future Volume (veh/h)	180	50	161	134	105	67	152	831	185	135	1474	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	196	54	175	146	114	73	165	903	201	147	1602	359
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	505	153	129	290	175	105	445	2388	1209	270	1421	634
Arrive On Green	0.09	0.08	0.08	0.09	0.08	0.08	0.43	1.00	1.00	0.40	0.40	0.40
Sat Flow, veh/h	3456	1870	1585	1781	2139	1278	1781	3554	1585	511	3554	1585
Grp Volume(v), veh/h	196	54	175	146	93	94	165	903	201	147	1602	359
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1640	1781	1777	1585	511	1777	1585
Q Serve(g_s), s	5.5	3.0	5.8	8.1	5.6	6.1	2.2	0.0	0.0	26.7	44.0	13.2
Cycle Q Clear(g_c), s	5.5	3.0	5.8	8.1	5.6	6.1	2.2	0.0	0.0	26.7	44.0	13.2
Prop In Lane	1.00		1.00	1.00		0.78	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	505	153	129	290	146	134	445	2388	1209	270	1421	634
V/C Ratio(X)	0.39	0.35	1.35	0.50	0.64	0.70	0.37	0.38	0.17	0.55	1.13	0.57
Avail Cap(c_a), veh/h	506	425	360	290	404	373	445	2388	1209	270	1421	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	47.8	21.0	41.1	48.9	49.2	25.1	0.0	0.0	27.8	33.0	11.9
Incr Delay (d2), s/veh	0.5	1.4	168.9	0.5	4.6	6.4	0.3	0.4	0.3	7.7	66.8	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.0	2.6	14.0	5.6	4.4	4.5	4.2	0.2	0.2	5.8	40.5	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	49.1	189.9	41.6	53.6	55.5	25.4	0.4	0.3	35.5	99.8	15.5
LnGrp LOS	D	D	F	D	D	E	C	A	A	D	F	B
Approach Vol, veh/h		425			333			1269			2108	
Approach Delay, s/veh		103.2			48.9			3.6			80.9	
Approach LOS		F			D			A			F	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	29.9	50.5	14.6	15.0		80.4	14.6	15.0
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	9.0	* 44	10.0	25.0		57.9	10.0	25.0
Max Q Clear Time (g_c+I1), s	14.2	46.0	7.5	8.1		2.0	10.1	7.8
Green Ext Time (p_c), s	0.1	0.0	0.1	0.9		9.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	9	63	50	24	104	62	784	72	30	1426	32
Future Volume (veh/h)	81	9	63	50	24	104	62	784	72	30	1426	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	10	68	54	26	113	67	852	78	33	1550	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	35	239	234	52	225	403	1601	147	338	2312	52
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.45	0.97	0.97	0.38	0.90	0.90
Sat Flow, veh/h	1250	207	1409	1321	305	1326	1781	3292	301	1781	5138	116
Grp Volume(v), veh/h	88	0	78	54	0	139	67	460	470	33	1027	558
Grp Sat Flow(s),veh/h/ln	1250	0	1617	1321	0	1632	1781	1777	1816	1781	1702	1849
Q Serve(g_s), s	7.6	0.0	4.6	4.1	0.0	8.5	2.5	1.6	1.6	1.3	8.4	8.4
Cycle Q Clear(g_c), s	16.1	0.0	4.6	8.7	0.0	8.5	2.5	1.6	1.6	1.3	8.4	8.4
Prop In Lane	1.00		0.87	1.00		0.81	1.00		0.17	1.00		0.06
Lane Grp Cap(c), veh/h	180	0	274	234	0	276	403	864	883	338	1532	832
V/C Ratio(X)	0.49	0.00	0.28	0.23	0.00	0.50	0.17	0.53	0.53	0.10	0.67	0.67
Avail Cap(c_a), veh/h	332	0	470	394	0	475	403	864	883	338	1532	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	48.8	0.0	39.9	43.7	0.0	41.5	24.0	0.8	0.8	28.1	3.4	3.4
Incr Delay (d2), s/veh	2.0	0.0	0.6	0.5	0.0	1.4	0.9	2.3	2.3	0.3	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.1	0.0	3.3	2.5	0.0	5.5	2.0	1.6	1.6	1.1	2.6	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	0.0	40.4	44.2	0.0	42.9	24.9	3.1	3.1	28.4	4.7	5.7
LnGrp LOS	D	A	D	D	A	D	C	A	A	C	A	A
Approach Vol, veh/h		166			193			997			1618	
Approach Delay, s/veh		45.9			43.3			4.6			5.5	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.4	56.0		23.6	26.4	60.0		23.6				
Change Period (Y+Rc), s	5.5	6.5		5.0	5.5	6.5		5.0				
Max Green Setting (Gmax), s	11.5	49.5		32.0	7.5	53.5		32.0				
Max Q Clear Time (g_c+I1), s	14.5	10.4		10.7	3.3	3.6		18.1				
Green Ext Time (p_c), s	0.0	15.9		0.9	0.0	7.5		0.6				
Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	3	6	0	0	11	11	1021	3	44	1247	73
Future Volume (veh/h)	11	3	6	0	0	11	11	1021	3	44	1247	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	3	7	0	0	12	12	1110	3	48	1355	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	140	26	61	0	99	468	40	2863	8	432	2770	1235
Arrive On Green	0.05	0.05	0.05	0.00	0.00	0.05	0.02	0.54	0.54	0.49	1.00	1.00
Sat Flow, veh/h	1402	498	1163	0	1870	1585	1781	5258	14	1781	3554	1585
Grp Volume(v), veh/h	12	0	10	0	0	12	12	719	394	48	1355	79
Grp Sat Flow(s),veh/h/ln	1402	0	1661	0	1870	1585	1781	1702	1868	1781	1777	1585
Q Serve(g_s), s	0.9	0.0	0.6	0.0	0.0	0.0	0.7	13.4	13.4	1.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.6	0.0	0.0	0.0	0.7	13.4	13.4	1.6	0.0	0.0
Prop In Lane	1.00		0.70	0.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	140	0	88	0	99	468	40	1854	1017	432	2770	1235
V/C Ratio(X)	0.09	0.00	0.11	0.00	0.00	0.03	0.30	0.39	0.39	0.11	0.49	0.06
Avail Cap(c_a), veh/h	397	0	393	0	444	761	131	1854	1017	432	2770	1235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	0.0	49.6	0.0	0.0	27.5	52.9	14.5	14.5	21.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.6	0.0	0.0	0.0	4.2	0.6	1.1	0.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.6	0.0	0.5	0.0	0.0	0.7	0.7	7.5	8.3	1.2	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.0	50.2	0.0	0.0	27.5	57.1	15.1	15.6	22.0	0.6	0.1
LnGrp LOS	D	A	D	A	A	C	E	B	B	C	A	A
Approach Vol, veh/h		22			12			1125			1482	
Approach Delay, s/veh		50.1			27.5			15.7			1.3	
Approach LOS		D			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	92.2		10.4	33.2	66.4		10.4
Change Period (Y+Rc), s	4.9	6.5		4.6	6.5	* 6.5		* 4.6
Max Green Setting (Gmax), s	8.1	59.9		26.0	8.1	* 60		* 26
Max Q Clear Time (g_c+I1), s	2.7	2.0		2.9	3.6	15.4		2.0
Green Ext Time (p_c), s	0.0	16.2		0.0	0.0	9.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	662	63	58	407	101	29	661	55	207	546	236
Future Volume (veh/h)	265	662	63	58	407	101	29	661	55	207	546	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	288	720	68	63	442	110	32	718	60	225	593	257
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	465	1303	671	317	1073	648	287	966	529	316	1144	711
Arrive On Green	0.13	0.37	0.37	0.06	0.30	0.30	0.06	0.27	0.27	0.11	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	288	720	68	63	442	110	32	718	60	225	593	257
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.7	17.7	2.8	2.6	10.9	4.9	1.4	20.3	2.9	9.6	14.9	11.7
Cycle Q Clear(g_c), s	11.7	17.7	2.8	2.6	10.9	4.9	1.4	20.3	2.9	9.6	14.9	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	1303	671	317	1073	648	287	966	529	316	1144	711
V/C Ratio(X)	0.62	0.55	0.10	0.20	0.41	0.17	0.11	0.74	0.11	0.71	0.52	0.36
Avail Cap(c_a), veh/h	537	1303	671	336	1073	648	348	966	529	392	1144	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	27.7	19.1	23.6	30.6	20.7	25.7	36.5	25.4	26.2	30.4	20.0
Incr Delay (d2), s/veh	0.9	1.7	0.3	0.1	1.2	0.6	0.1	4.7	0.4	3.0	1.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	7.2	10.6	2.0	2.0	7.1	3.3	1.0	12.3	2.1	6.4	9.3	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	29.4	19.4	23.7	31.8	21.2	25.7	41.2	25.7	29.2	32.0	21.4
LnGrp LOS	C	C	B	C	C	C	C	D	C	C	C	C
Approach Vol, veh/h		1076			615			810			1075	
Approach Delay, s/veh		26.8			29.1			39.4			28.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	46.3	10.8	41.4	18.5	39.2	16.3	35.9
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	8.0	35.4	10.0	35.4	18.4	25.0	16.4	29.0
Max Q Clear Time (g_c+I1), s	4.6	19.7	3.4	16.9	13.7	12.9	11.6	22.3
Green Ext Time (p_c), s	0.0	4.7	0.0	4.8	0.2	2.6	0.1	2.8

Intersection Summary		
HCM 6th Ctrl Delay		30.7
HCM 6th LOS		C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	381	92	126	106	126	37	598	21	184	1038	221
Future Volume (veh/h)	65	381	92	126	106	126	37	598	21	184	1038	221
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	414	100	137	115	137	40	650	23	200	1128	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	538	1022	245	382	1299	783	69	1050	37	229	1432	
Arrive On Green	0.05	0.36	0.36	0.05	0.37	0.37	0.04	0.30	0.30	0.13	0.40	0.00
Sat Flow, veh/h	1781	2844	681	1781	3554	1585	1781	3501	124	1781	3554	1585
Grp Volume(v), veh/h	71	257	257	137	115	137	40	330	343	200	1128	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1585	1781	1777	1848	1781	1777	1585
Q Serve(g_s), s	2.7	11.9	12.1	5.4	2.3	0.9	2.4	17.5	17.6	12.1	30.5	0.0
Cycle Q Clear(g_c), s	2.7	11.9	12.1	5.4	2.3	0.9	2.4	17.5	17.6	12.1	30.5	0.0
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	538	638	628	382	1299	783	69	533	554	229	1432	
V/C Ratio(X)	0.13	0.40	0.41	0.36	0.09	0.17	0.58	0.62	0.62	0.87	0.79	
Avail Cap(c_a), veh/h	549	638	628	382	1299	783	97	533	554	243	1432	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.1	26.4	26.5	21.3	22.9	8.1	52.0	33.1	33.1	47.0	28.7	0.0
Incr Delay (d2), s/veh	0.0	1.9	2.0	0.2	0.1	0.5	2.9	5.3	5.1	27.0	4.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.0	7.8	7.8	3.8	1.8	2.3	2.0	11.3	11.6	9.8	17.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	28.3	28.4	21.5	23.0	8.5	54.9	38.4	38.2	74.1	33.2	0.0
LnGrp LOS	C	C	C	C	C	A	D	D	D	E	C	
Approach Vol, veh/h		585			389			713			1328	A
Approach Delay, s/veh		27.4			17.4			39.2			39.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	45.7	8.8	50.3	9.9	46.4	20.2	39.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	6.0	* 6
Max Green Setting (Gmax), s	6.0	34.4	6.0	42.4	6.0	34.4	15.0	* 33
Max Q Clear Time (g_c+I1), s	7.4	14.1	4.4	32.5	4.7	4.3	14.1	19.6
Green Ext Time (p_c), s	0.0	4.3	0.0	7.4	0.0	1.8	0.1	4.7

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	264	83	434	375	50	61	384	668	84	726	33
Future Volume (veh/h)	27	264	83	434	375	50	61	384	668	84	726	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	287	90	472	408	54	66	417	544	91	789	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	425	1157	516	551	1431	188	150	905	656	177	926	42
Arrive On Green	0.03	0.33	0.33	0.16	0.45	0.45	0.02	0.08	0.08	0.05	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	3456	3157	415	1781	3554	1585	3456	3461	158
Grp Volume(v), veh/h	29	287	90	472	229	233	66	417	544	91	405	420
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1796	1781	1777	1585	1728	1777	1842
Q Serve(g_s), s	1.2	6.5	4.5	14.6	8.9	9.0	3.3	12.3	19.9	2.8	23.8	23.8
Cycle Q Clear(g_c), s	1.2	6.5	4.5	14.6	8.9	9.0	3.3	12.3	19.9	2.8	23.8	23.8
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	425	1157	516	551	805	814	150	905	656	177	475	493
V/C Ratio(X)	0.07	0.25	0.17	0.86	0.28	0.29	0.44	0.46	0.83	0.51	0.85	0.85
Avail Cap(c_a), veh/h	466	1157	516	785	805	814	163	905	656	188	475	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	27.2	26.5	45.0	18.9	18.9	37.1	43.2	15.7	50.9	38.2	38.2
Incr Delay (d2), s/veh	0.0	0.5	0.7	5.9	0.9	0.9	1.2	1.4	9.7	1.7	17.3	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.9	4.6	3.2	9.4	5.9	6.0	2.7	8.4	12.9	2.3	16.2	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	27.7	27.2	50.9	19.8	19.8	38.3	44.6	25.4	52.6	55.5	55.1
LnGrp LOS	C	C	C	D	B	B	D	D	C	D	E	E
Approach Vol, veh/h		406			934			1027			916	
Approach Delay, s/veh		27.3			35.5			34.0			55.0	
Approach LOS		C			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	41.8	10.2	35.4	8.5	55.8	11.6	34.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	25.0	29.0	6.0	28.0	6.0	48.0	6.0	* 28
Max Q Clear Time (g_c+I1), s	16.6	8.5	5.3	25.8	3.2	11.0	4.8	21.9
Green Ext Time (p_c), s	0.9	2.1	0.0	1.1	0.0	3.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	581	297	135	784	1202	245
Future Volume (veh/h)	581	297	135	784	1202	245
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	632	323	147	852	1307	266
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	796	365	176	2357	1813	809
Arrive On Green	0.23	0.23	0.10	0.66	0.68	0.68
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	632	323	147	852	1307	266
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	19.0	21.7	8.9	11.7	25.5	7.6
Cycle Q Clear(g_c), s	19.0	21.7	8.9	11.7	25.5	7.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	796	365	176	2357	1813	809
V/C Ratio(X)	0.79	0.89	0.84	0.36	0.72	0.33
Avail Cap(c_a), veh/h	858	393	227	2357	1813	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.56	0.56
Uniform Delay (d), s/veh	39.9	40.9	48.7	8.2	12.7	9.9
Incr Delay (d2), s/veh	5.1	20.1	15.3	0.4	1.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	11.6	24.1	7.0	6.5	10.2	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.9	61.0	64.0	8.6	14.2	10.5
LnGrp LOS	D	E	E	A	B	B
Approach Vol, veh/h	955			999	1573	
Approach Delay, s/veh	50.4			16.8	13.5	
Approach LOS	D			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		79.0		31.0	16.8	62.1
Change Period (Y+Rc), s		6.0		* 5.7	6.0	6.0
Max Green Setting (Gmax), s		71.0		* 27	14.0	51.0
Max Q Clear Time (g_c+I1), s		13.7		23.7	10.9	27.5
Green Ext Time (p_c), s		11.2		1.7	0.1	15.5

Intersection Summary		
HCM 6th Ctrl Delay		24.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	391	277	103	254	152	100	541	53	195	1166	124
Future Volume (veh/h)	188	391	277	103	254	152	100	541	53	195	1166	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	425	301	112	276	165	109	588	58	212	1267	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	947	422	295	827	369	201	1393	621	435	1518	677
Arrive On Green	0.09	0.27	0.27	0.06	0.23	0.23	0.05	0.39	0.39	0.09	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	204	425	301	112	276	165	109	588	58	212	1267	135
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.4	11.0	18.9	5.2	7.1	9.8	4.0	13.3	2.5	7.6	34.9	5.9
Cycle Q Clear(g_c), s	9.4	11.0	18.9	5.2	7.1	9.8	4.0	13.3	2.5	7.6	34.9	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	947	422	295	827	369	201	1393	621	435	1518	677
V/C Ratio(X)	0.52	0.45	0.71	0.38	0.33	0.45	0.54	0.42	0.09	0.49	0.83	0.20
Avail Cap(c_a), veh/h	393	947	422	295	827	369	228	1393	621	479	1518	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	33.6	36.5	29.6	35.1	36.1	24.2	24.4	21.1	17.5	28.0	19.7
Incr Delay (d2), s/veh	0.9	1.5	9.8	0.6	1.1	3.9	1.7	0.9	0.3	0.6	5.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.2	7.2	11.4	3.8	5.1	6.3	3.1	8.2	1.8	4.9	19.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	35.2	46.4	30.2	36.2	40.0	25.8	25.3	21.4	18.1	33.6	20.4
LnGrp LOS	C	D	D	C	D	D	C	C	C	B	C	C
Approach Vol, veh/h		930			553			755			1614	
Approach Delay, s/veh		37.3			36.1			25.1			30.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	35.3	10.4	53.0	15.0	31.6	14.3	49.1
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	6.7	27.7	7.4	47.0	10.4	24.0	12.4	42.0
Max Q Clear Time (g_c+I1), s	7.2	20.9	6.0	36.9	11.4	11.8	9.6	15.3
Green Ext Time (p_c), s	0.0	2.2	0.0	6.4	0.0	1.8	0.1	4.5

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	458	1102	412	10	29	315
Future Volume (veh/h)	458	1102	412	10	29	315
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	498	1198	448	11	0	376
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	763	2488	1738	43	344	613
Arrive On Green	0.17	0.70	0.49	0.49	0.00	0.19
Sat Flow, veh/h	1781	3647	3638	87	1781	3170
Grp Volume(v), veh/h	498	1198	224	235	0	376
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1855	1781	1585
Q Serve(g_s), s	11.3	13.7	6.6	6.6	0.0	9.8
Cycle Q Clear(g_c), s	11.3	13.7	6.6	6.6	0.0	9.8
Prop In Lane	1.00			0.05	1.00	1.00
Lane Grp Cap(c), veh/h	763	2488	871	910	344	613
V/C Ratio(X)	0.65	0.48	0.26	0.26	0.00	0.61
Avail Cap(c_a), veh/h	1161	2488	871	910	344	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	6.1	13.4	13.4	0.0	33.2
Incr Delay (d2), s/veh	1.0	0.7	0.7	0.7	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.8	6.6	4.4	4.6	0.0	6.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.3	6.8	14.1	14.1	0.0	37.8
LnGrp LOS	A	A	B	B	A	D
Approach Vol, veh/h		1696	459		376	
Approach Delay, s/veh		7.2	14.1		37.8	
Approach LOS		A	B		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.9	49.1		22.0		68.0
Change Period (Y+Rc), s	4.0	* 5		4.6		* 5
Max Green Setting (Gmax), s	35.0	* 24		17.4		* 63
Max Q Clear Time (g_c+I1), s	13.3	8.6		11.8		15.7
Green Ext Time (p_c), s	1.6	2.4		0.8		12.3
Intersection Summary						
HCM 6th Ctrl Delay			13.0			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	559	34	175	446	78	41	580	72	190	1233	75
Future Volume (veh/h)	191	559	34	175	446	78	41	580	72	190	1233	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	208	608	37	190	485	85	45	630	78	207	1340	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1354	82	275	1414	631	144	1656	205	363	1770	108
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	842	3403	207	785	3554	1585	377	3183	393	741	3402	208
Grp Volume(v), veh/h	208	317	328	190	485	85	45	351	357	207	698	724
Grp Sat Flow(s),veh/h/ln	842	1777	1833	785	1777	1585	377	1777	1800	741	1777	1833
Q Serve(g_s), s	25.2	14.4	14.4	25.7	10.5	3.8	11.8	13.0	13.0	25.5	34.2	34.4
Cycle Q Clear(g_c), s	35.6	14.4	14.4	40.2	10.5	3.8	46.2	13.0	13.0	38.6	34.2	34.4
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.22	1.00		0.11
Lane Grp Cap(c), veh/h	320	707	729	275	1414	631	144	925	936	363	925	954
V/C Ratio(X)	0.65	0.45	0.45	0.69	0.34	0.13	0.31	0.38	0.38	0.57	0.76	0.76
Avail Cap(c_a), veh/h	335	738	762	289	1476	659	144	925	936	363	925	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	35.5	24.3	24.3	39.0	23.1	21.1	39.2	15.8	15.8	27.3	20.8	20.9
Incr Delay (d2), s/veh	4.1	0.4	0.4	6.5	0.1	0.1	5.6	1.2	1.2	5.8	5.2	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	7.9	8.6	8.9	7.8	6.6	2.5	2.4	7.9	8.0	7.2	18.7	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	24.7	24.7	45.5	23.2	21.2	44.8	17.0	17.0	33.1	26.1	26.1
LnGrp LOS	D	C	C	D	C	C	D	B	B	C	C	C
Approach Vol, veh/h		853			760			753			1629	
Approach Delay, s/veh		28.4			28.6			18.6			27.0	
Approach LOS		C			C			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.7		48.3		61.7		48.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.3		45.7		55.3		45.7				
Max Q Clear Time (g_c+I1), s		48.2		37.6		40.6		42.2				
Green Ext Time (p_c), s		2.9		3.3		9.7		1.6				
Intersection Summary												
HCM 6th Ctrl Delay			26.0									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	34	6	37	8	0	2	0	29	0	0	0
Future Vol, veh/h	0	34	6	37	8	0	2	0	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	37	7	40	9	0	2	0	32	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	44	0	0	130	130	41	146	133	9
Stage 1	-	-	-	-	-	-	41	41	-	89	89	-
Stage 2	-	-	-	-	-	-	89	89	-	57	44	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1611	-	-	1564	-	-	843	761	1030	823	758	1073
Stage 1	-	-	-	-	-	-	974	861	-	918	821	-
Stage 2	-	-	-	-	-	-	918	821	-	955	858	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1611	-	-	1564	-	-	826	741	1030	782	738	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	826	741	-	782	738	-
Stage 1	-	-	-	-	-	-	974	861	-	918	800	-
Stage 2	-	-	-	-	-	-	894	800	-	926	858	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.1	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1014	1611	-	-	1564	-	-	-
HCM Lane V/C Ratio	0.033	-	-	-	0.026	-	-	-
HCM Control Delay (s)	8.7	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑		
Traffic Volume (veh/h)	1011	125	64	806	0	0
Future Volume (veh/h)	1011	125	64	806	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1099	136	70	876		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	3338	1489	471	3338		
Arrive On Green	0.94	0.94	1.00	1.00		
Sat Flow, veh/h	3647	1585	451	3647		
Grp Volume(v), veh/h	1099	136	70	876		
Grp Sat Flow(s),veh/h/ln	1777	1585	451	1777		
Q Serve(g_s), s	3.3	0.7	0.6	0.0		
Cycle Q Clear(g_c), s	3.3	0.7	3.9	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	3338	1489	471	3338		
V/C Ratio(X)	0.33	0.09	0.15	0.26		
Avail Cap(c_a), veh/h	3338	1489	471	3338		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.64	0.64		
Uniform Delay (d), s/veh	0.3	0.2	0.1	0.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(85%),veh/ln	0.2	0.1	0.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.6	0.4	0.5	0.1		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	1235			946		
Approach Delay, s/veh	0.6			0.1		
Approach LOS	A			A		

Timer - Assigned Phs		2				6
Phs Duration (G+Y+Rc), s		120.0				120.0
Change Period (Y+Rc), s		7.3				7.3
Max Green Setting (Gmax), s		112.7				112.7
Max Q Clear Time (g_c+I1), s		5.9				5.3
Green Ext Time (p_c), s		9.7				12.1

Intersection Summary			
HCM 6th Ctrl Delay			0.4
HCM 6th LOS			A

HCM 6th Signalized Intersection Summary
3: N Hollywood Way NB Off Ramp & Vanowen St

06/30/2021

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↰	↱
Traffic Volume (veh/h)	1022	0	0	730	139	115
Future Volume (veh/h)	1022	0	0	730	139	115
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1111	0	0	793	151	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2668	0	0	2668	267	238
Arrive On Green	0.25	0.00	0.00	0.75	0.15	0.15
Sat Flow, veh/h	3741	0	0	3741	1781	1585
Grp Volume(v), veh/h	1111	0	0	793	151	125
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1781	1585
Q Serve(g_s), s	31.5	0.0	0.0	8.6	9.4	8.7
Cycle Q Clear(g_c), s	31.5	0.0	0.0	8.6	9.4	8.7
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2668	0	0	2668	267	238
V/C Ratio(X)	0.42	0.00	0.00	0.30	0.57	0.53
Avail Cap(c_a), veh/h	2668	0	0	2668	267	238
HCM Platoon Ratio	0.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	0.0	4.8	47.4	47.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	8.4	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	19.0	0.0	0.0	4.6	7.1	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.2	0.0	0.0	5.1	55.8	55.1
LnGrp LOS	C	A	A	A	E	E
Approach Vol, veh/h	1111			793	276	
Approach Delay, s/veh	23.2			5.1	55.5	
Approach LOS	C			A	E	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		97.4		22.6		97.4
Change Period (Y+Rc), s		7.3		4.6		7.3
Max Green Setting (Gmax), s		36.1		18.0		46.7
Max Q Clear Time (g_c+I1), s		10.6		11.4		33.5
Green Ext Time (p_c), s		6.1		0.4		6.5

Intersection Summary			
HCM 6th Ctrl Delay			20.7
HCM 6th LOS			C

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	184	0	0	0	0	1458	254	0	1192	0
Future Vol, veh/h	0	0	184	0	0	0	0	1458	254	0	1192	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	200	0	0	0	0	1585	276	0	1296	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	-	-	648				-	0	0	-	-	0
Stage 1	-	-	-				-	-	-	-	-	-
Stage 2	-	-	-				-	-	-	-	-	-
Critical Hdwy	-	-	6.94				-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-				-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32				-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	413				0	-	-	0	-	0
Stage 1	0	0	-				0	-	-	0	-	0
Stage 2	0	0	-				0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	0	413				-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-	-	-	-
Stage 1	-	0	-				-	-	-	-	-	-
Stage 2	-	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBT
Capacity (veh/h)	-	-	413	-
HCM Lane V/C Ratio	-	-	0.484	-
HCM Control Delay (s)	-	-	21.6	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	2.6	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	2	22	104	1	271	19	1566	42	67	1299	4
Future Volume (veh/h)	25	2	22	104	1	271	19	1566	42	67	1299	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	2	24	113	1	295	21	1702	46	73	1412	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	405	343	359	385	343	307	2041	55	189	3001	9
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.58	0.58	0.06	0.57	0.57
Sat Flow, veh/h	1083	1870	1585	1385	1777	1585	1781	3535	95	1781	5257	15
Grp Volume(v), veh/h	27	2	24	113	1	295	21	853	895	73	914	502
Grp Sat Flow(s),veh/h/ln	1083	1870	1585	1385	1777	1585	1781	1777	1853	1781	1702	1868
Q Serve(g_s), s	3.0	0.1	1.4	8.4	0.1	21.5	0.0	46.8	47.3	2.3	18.9	18.9
Cycle Q Clear(g_c), s	24.4	0.1	1.4	8.5	0.1	21.5	0.0	46.8	47.3	2.3	18.9	18.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		0.01
Lane Grp Cap(c), veh/h	101	405	343	359	385	343	307	1026	1070	189	1943	1066
V/C Ratio(X)	0.27	0.00	0.07	0.31	0.00	0.86	0.07	0.83	0.84	0.39	0.47	0.47
Avail Cap(c_a), veh/h	101	405	343	359	385	343	331	1026	1070	201	1943	1066
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	36.9	37.4	40.2	36.8	45.2	19.2	20.6	20.7	25.8	15.1	15.1
Incr Delay (d2), s/veh	1.4	0.0	0.1	0.5	0.0	19.1	0.1	7.8	7.8	1.0	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.5	0.1	1.0	4.7	0.0	13.6	0.6	25.3	26.5	1.8	10.2	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	36.9	37.5	40.7	36.8	64.3	19.2	28.4	28.5	26.7	15.9	16.6
LnGrp LOS	E	D	D	D	D	E	B	C	C	C	B	B
Approach Vol, veh/h		53			409			1769			1489	
Approach Delay, s/veh		48.1			57.7			28.3			16.7	
Approach LOS		D			E			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	75.0		32.0	12.2	75.8		32.0				
Change Period (Y+Rc), s	6.5	* 6.5		6.0	4.9	6.5		6.0				
Max Green Setting (Gmax), s	8.1	* 69		26.0	8.1	68.5		26.0				
Max Q Clear Time (g_c+I1), s	2.0	20.9		23.5	4.3	49.3		26.4				
Green Ext Time (p_c), s	0.0	14.1		0.6	0.0	12.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.2									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	36	171	192	120	146	164	1186	127	54	1180	183
Future Volume (veh/h)	210	36	171	192	120	146	164	1186	127	54	1180	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	228	39	186	209	130	159	178	1289	138	59	1283	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	465	232	196	332	222	198	389	2308	1163	221	1522	679
Arrive On Green	0.08	0.12	0.12	0.08	0.12	0.12	0.33	1.00	1.00	0.43	0.43	0.43
Sat Flow, veh/h	3456	1870	1585	1781	1777	1585	1781	3554	1585	375	3554	1585
Grp Volume(v), veh/h	228	39	186	209	130	159	178	1289	138	59	1283	199
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1781	1777	1585	375	1777	1585
Q Serve(g_s), s	6.7	2.2	9.7	10.1	8.3	11.7	2.3	0.0	0.0	12.8	38.8	6.8
Cycle Q Clear(g_c), s	6.7	2.2	9.7	10.1	8.3	11.7	2.3	0.0	0.0	12.8	38.8	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	232	196	332	222	198	389	2308	1163	221	1522	679
V/C Ratio(X)	0.49	0.17	0.95	0.63	0.59	0.80	0.46	0.56	0.12	0.27	0.84	0.29
Avail Cap(c_a), veh/h	466	390	330	332	372	332	389	2308	1163	221	1522	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	47.0	24.9	43.2	49.6	51.1	32.5	0.0	0.0	23.3	30.7	10.8
Incr Delay (d2), s/veh	0.8	0.3	25.1	2.9	2.5	7.4	0.5	0.8	0.2	2.9	5.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.7	1.9	7.3	8.6	5.9	7.4	5.4	0.4	0.1	2.4	21.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	47.4	50.0	46.1	52.0	58.5	33.0	0.8	0.2	26.2	36.5	11.8
LnGrp LOS	D	D	D	D	D	E	C	A	A	C	D	B
Approach Vol, veh/h		453			498			1605			1541	
Approach Delay, s/veh		45.6			51.6			4.3			33.0	
Approach LOS		D			D			A			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	36.5	57.9	14.6	21.0		84.4	14.7	20.9				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.0		6.5	4.6	6.0				
Max Green Setting (Gmax), s	11.5	* 51	10.0	25.1		67.8	10.1	25.0				
Max Q Clear Time (g_c+I1), s	14.3	40.8	8.7	13.7		2.0	12.1	11.7				
Green Ext Time (p_c), s	0.2	7.3	0.1	1.3		15.6	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			25.4									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	10	48	53	24	153	75	1134	34	18	1009	21
Future Volume (veh/h)	95	10	48	53	24	153	75	1134	34	18	1009	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	11	52	58	26	166	82	1233	37	20	1097	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	60	283	299	46	295	300	1864	56	211	2466	52
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.34	1.00	1.00	0.24	0.96	0.96
Sat Flow, veh/h	1191	284	1344	1339	219	1399	1781	3523	106	1781	5147	108
Grp Volume(v), veh/h	103	0	63	58	0	192	82	622	648	20	725	395
Grp Sat Flow(s),veh/h/ln	1191	0	1628	1339	0	1618	1781	1777	1851	1781	1702	1851
Q Serve(g_s), s	10.2	0.0	3.8	4.5	0.0	12.7	4.0	0.0	0.0	1.1	1.9	1.9
Cycle Q Clear(g_c), s	22.9	0.0	3.8	8.3	0.0	12.7	4.0	0.0	0.0	1.1	1.9	1.9
Prop In Lane	1.00		0.83	1.00		0.86	1.00		0.06	1.00		0.06
Lane Grp Cap(c), veh/h	184	0	343	299	0	341	300	940	980	211	1631	887
V/C Ratio(X)	0.56	0.00	0.18	0.19	0.00	0.56	0.27	0.66	0.66	0.09	0.44	0.44
Avail Cap(c_a), veh/h	251	0	434	375	0	432	300	940	980	211	1631	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	52.7	0.0	38.9	42.3	0.0	42.4	34.4	0.0	0.0	40.7	1.3	1.3
Incr Delay (d2), s/veh	2.6	0.0	0.3	0.3	0.0	1.5	2.2	3.6	3.5	0.6	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.0	0.0	2.8	2.7	0.0	7.6	3.3	1.7	1.7	0.9	1.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	0.0	39.1	42.6	0.0	43.9	36.6	3.6	3.5	41.4	1.9	2.5
LnGrp LOS	E	A	D	D	A	D	D	A	A	D	A	A
Approach Vol, veh/h		166			250			1352			1140	
Approach Delay, s/veh		49.2			43.6			5.6			2.8	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.7	64.0		30.3	19.7	70.0		30.3				
Change Period (Y+Rc), s	5.5	6.5		5.0	5.5	6.5		5.0				
Max Green Setting (Gmax), s	13.5	57.5		32.0	7.5	63.5		32.0				
Max Q Clear Time (g_c+I1), s	6.0	3.9		14.7	3.1	2.0		24.9				
Green Ext Time (p_c), s	0.1	10.0		1.2	0.0	12.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	0	24	0	0	49	11	1580	17	18	1290	67
Future Volume (veh/h)	83	0	24	0	0	49	11	1580	17	18	1290	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	0	26	0	0	53	12	1717	18	20	1402	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	174	0	134	0	158	134	39	3017	32	338	2702	1205
Arrive On Green	0.08	0.00	0.08	0.00	0.00	0.08	0.02	0.58	0.58	0.38	1.00	1.00
Sat Flow, veh/h	1351	0	1585	0	1870	1585	1781	5210	55	1781	3554	1585
Grp Volume(v), veh/h	90	0	26	0	0	53	12	1122	613	20	1402	73
Grp Sat Flow(s),veh/h/ln	1351	0	1585	0	1870	1585	1781	1702	1861	1781	1777	1585
Q Serve(g_s), s	7.8	0.0	1.8	0.0	0.0	3.8	0.8	24.8	24.8	0.9	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	1.8	0.0	0.0	3.8	0.8	24.8	24.8	0.9	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	174	0	134	0	158	134	39	1972	1078	338	2702	1205
V/C Ratio(X)	0.52	0.00	0.19	0.00	0.00	0.40	0.31	0.57	0.57	0.06	0.52	0.06
Avail Cap(c_a), veh/h	369	0	362	0	427	362	120	1972	1078	338	2702	1205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	0.0	51.1	0.0	0.0	52.0	57.8	15.8	15.9	30.4	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.7	0.0	0.0	1.9	4.3	1.2	2.2	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.5	0.0	1.4	0.0	0.0	5.4	0.7	12.9	14.3	0.7	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	0.0	51.9	0.0	0.0	53.9	62.1	17.0	18.0	30.5	0.7	0.1
LnGrp LOS	E	A	D	A	A	D	E	B	B	C	A	A
Approach Vol, veh/h		116			53			1747			1495	
Approach Delay, s/veh		55.3			53.9			17.7			1.1	
Approach LOS		E			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	97.7		14.7	29.3	76.0		14.7
Change Period (Y+Rc), s	4.9	6.5		4.6	6.5	* 6.5		4.6
Max Green Setting (Gmax), s	8.1	68.5		27.4	7.1	* 70		27.4
Max Q Clear Time (g_c+I1), s	2.8	2.0		9.8	2.9	26.8		5.8
Green Ext Time (p_c), s	0.0	17.6		0.3	0.0	18.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	326	829	37	116	955	389	46	673	49	286	666	349
Future Volume (veh/h)	326	829	37	116	955	389	46	673	49	286	666	349
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	354	901	40	126	1038	423	50	732	53	311	724	379
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	1404	733	459	1113	726	180	711	615	318	1027	885
Arrive On Green	0.27	0.40	0.40	0.19	0.31	0.31	0.07	0.20	0.20	0.15	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	354	901	40	126	1038	423	50	732	53	311	724	379
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.3	24.7	1.1	0.0	34.0	6.3	2.8	24.0	0.0	16.8	21.8	4.0
Cycle Q Clear(g_c), s	16.3	24.7	1.1	0.0	34.0	6.3	2.8	24.0	0.0	16.8	21.8	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	545	1404	733	459	1113	726	180	711	615	318	1027	885
V/C Ratio(X)	0.65	0.64	0.05	0.27	0.93	0.58	0.28	1.03	0.09	0.98	0.70	0.43
Avail Cap(c_a), veh/h	545	1404	733	459	1113	726	208	711	615	318	1027	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.54	0.54	0.54	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	29.4	10.2	36.3	40.0	24.0	42.4	48.0	23.3	49.4	38.1	11.3
Incr Delay (d2), s/veh	2.1	2.3	0.1	0.1	14.9	3.4	0.2	32.8	0.1	43.9	4.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	12.4	14.3	0.6	4.9	21.3	12.6	2.1	16.9	1.7	16.4	13.3	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	31.7	10.4	36.4	54.9	27.4	42.6	80.8	23.4	93.3	42.1	12.8
LnGrp LOS	D	C	B	D	D	C	D	F	C	F	D	B
Approach Vol, veh/h		1295			1587			835			1414	
Approach Delay, s/veh		32.9			46.1			74.9			45.5	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.1	53.4	12.7	40.7	36.9	43.6	23.4	30.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	6.0	* 6
Max Green Setting (Gmax), s	10.0	47.4	10.0	31.4	19.8	37.6	17.4	* 24
Max Q Clear Time (g_c+I1), s	12.0	26.7	4.8	23.8	18.3	36.0	18.8	26.0
Green Ext Time (p_c), s	0.1	6.7	0.0	3.7	0.1	1.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	269	72	64	259	462	56	1122	19	170	767	105
Future Volume (veh/h)	141	269	72	64	259	462	56	1122	19	170	767	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	292	78	70	282	502	61	1220	21	185	834	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	821	216	355	1022	641	138	1281	22	208	1413	
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.08	0.36	0.36	0.12	0.40	0.00
Sat Flow, veh/h	1781	2785	731	1781	3554	1585	1781	3575	62	1781	3554	1585
Grp Volume(v), veh/h	153	184	186	70	282	502	61	606	635	185	834	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1739	1781	1777	1585	1781	1777	1859	1781	1777	1585
Q Serve(g_s), s	0.0	9.8	10.1	0.0	7.4	19.1	3.9	39.9	39.9	12.3	22.2	0.0
Cycle Q Clear(g_c), s	0.0	9.8	10.1	0.0	7.4	19.1	3.9	39.9	39.9	12.3	22.2	0.0
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	318	524	513	355	1022	641	138	637	666	208	1413	
V/C Ratio(X)	0.48	0.35	0.36	0.20	0.28	0.78	0.44	0.95	0.95	0.89	0.59	
Avail Cap(c_a), veh/h	318	524	513	355	1022	641	144	637	666	208	1413	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.6	33.3	33.4	35.9	33.1	31.2	52.9	37.5	37.5	52.2	28.5	0.0
Incr Delay (d2), s/veh	0.4	1.9	2.0	0.1	0.7	9.3	0.8	25.7	25.0	34.6	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.3	6.7	6.8	3.0	5.2	10.9	3.2	26.4	27.4	10.3	13.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	35.1	35.4	36.0	33.8	40.5	53.7	63.2	62.5	86.8	30.3	0.0
LnGrp LOS	D	D	D	D	C	D	D	E	E	F	C	
Approach Vol, veh/h		523			854			1302			1019	A
Approach Delay, s/veh		36.6			37.9			62.4			40.5	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	41.4	14.3	53.7	11.5	40.5	19.0	49.0
Change Period (Y+Rc), s	4.6	6.0	5.0	* 6	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	35.4	9.7	* 48	6.9	34.5	14.0	43.0
Max Q Clear Time (g_c+I1), s	2.0	12.1	5.9	24.2	2.0	21.1	14.3	41.9
Green Ext Time (p_c), s	0.0	3.1	0.0	10.7	0.1	4.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
11: Buena Vista St & Empire Ave

06/30/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	361	90	565	574	150	111	812	872	104	516	52
Future Volume (veh/h)	45	361	90	565	574	150	111	812	872	104	516	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	392	98	614	624	163	121	883	711	113	561	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	1154	515	696	1355	353	149	829	689	169	783	79
Arrive On Green	0.04	0.32	0.32	0.20	0.49	0.49	0.02	0.08	0.08	0.05	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	3456	2789	727	1781	3554	1585	3456	3258	330
Grp Volume(v), veh/h	49	392	98	614	397	390	121	883	711	113	305	313
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1739	1781	1777	1585	1728	1777	1811
Q Serve(g_s), s	2.2	10.0	5.3	20.7	17.8	17.8	6.0	28.0	27.5	3.9	18.9	19.0
Cycle Q Clear(g_c), s	2.2	10.0	5.3	20.7	17.8	17.8	6.0	28.0	27.5	3.9	18.9	19.0
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	355	1154	515	696	863	845	149	829	689	169	427	436
V/C Ratio(X)	0.14	0.34	0.19	0.88	0.46	0.46	0.81	1.06	1.03	0.67	0.71	0.72
Avail Cap(c_a), veh/h	373	1154	515	979	863	845	149	829	689	173	427	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	30.7	29.2	46.5	20.4	20.4	45.1	55.4	17.8	56.1	41.8	41.8
Incr Delay (d2), s/veh	0.1	0.8	0.8	6.5	1.8	1.8	15.6	42.1	33.4	8.6	9.8	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.7	6.6	3.7	12.7	10.6	10.4	2.2	22.3	21.3	3.3	12.6	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	31.5	30.0	53.0	22.2	22.2	60.8	97.4	51.2	64.7	51.6	51.6
LnGrp LOS	C	C	C	D	C	C	E	F	F	E	D	D
Approach Vol, veh/h		539			1401			1715			731	
Approach Delay, s/veh		30.7			35.7			75.7			53.6	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.2	45.0	11.0	34.9	9.8	64.3	11.9	34.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	24.0	30.0	6.0	28.0	6.0	58.0	6.0	* 28
Max Q Clear Time (g_c+I1), s	22.7	12.0	8.0	21.0	4.2	19.8	5.9	30.0
Green Ext Time (p_c), s	1.4	2.7	0.0	2.2	0.0	5.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	774	332	234	1493	1245	360
Future Volume (veh/h)	774	332	234	1493	1245	360
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	841	361	254	1623	1353	391
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	909	417	280	2272	1537	686
Arrive On Green	0.26	0.26	0.16	0.64	0.58	0.58
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	841	361	254	1623	1353	391
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	28.4	26.1	16.8	36.4	39.3	18.7
Cycle Q Clear(g_c), s	28.4	26.1	16.8	36.4	39.3	18.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	909	417	280	2272	1537	686
V/C Ratio(X)	0.93	0.87	0.91	0.71	0.88	0.57
Avail Cap(c_a), veh/h	930	427	282	2272	1537	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.71	0.71
Uniform Delay (d), s/veh	43.1	42.2	49.7	14.4	22.8	18.4
Incr Delay (d2), s/veh	14.6	16.8	30.2	2.0	5.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	17.8	27.8	13.1	18.2	18.8	8.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.7	59.0	79.9	16.3	28.4	20.9
LnGrp LOS	E	E	E	B	C	C
Approach Vol, veh/h	1202			1877	1744	
Approach Delay, s/veh	58.1			24.9	26.7	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		82.7		37.3	24.8	57.9
Change Period (Y+Rc), s		6.0		* 5.7	6.0	6.0
Max Green Setting (Gmax), s		76.0		* 32	19.0	51.0
Max Q Clear Time (g_c+I1), s		38.4		30.4	18.8	41.3
Green Ext Time (p_c), s		24.3		1.1	0.0	8.0

Intersection Summary						
HCM 6th Ctrl Delay			33.8			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	656	232	164	619	229	360	1207	107	267	922	199
Future Volume (veh/h)	259	656	232	164	619	229	360	1207	107	267	922	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	282	713	252	178	673	249	391	1312	116	290	1002	216
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	948	423	233	755	337	404	1273	568	289	1066	476
Arrive On Green	0.12	0.27	0.27	0.07	0.21	0.21	0.19	0.36	0.36	0.13	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	282	713	252	178	673	249	391	1312	116	290	1002	216
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.6	22.1	16.6	8.4	22.1	17.6	21.3	43.0	6.1	15.4	33.0	13.3
Cycle Q Clear(g_c), s	14.6	22.1	16.6	8.4	22.1	17.6	21.3	43.0	6.1	15.4	33.0	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	948	423	233	755	337	404	1273	568	289	1066	476
V/C Ratio(X)	0.94	0.75	0.60	0.76	0.89	0.74	0.97	1.03	0.20	1.00	0.94	0.45
Avail Cap(c_a), veh/h	298	948	423	233	755	337	404	1273	568	289	1066	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	40.4	38.4	37.9	45.9	44.1	35.5	38.5	26.7	36.4	40.9	34.0
Incr Delay (d2), s/veh	37.4	5.5	6.1	13.5	15.0	13.6	36.2	33.3	0.8	54.2	16.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	12.5	13.7	10.0	7.4	14.8	11.1	14.3	30.0	0.2	13.2	20.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.2	45.9	44.5	51.3	60.9	57.7	71.6	71.8	27.5	90.6	57.4	37.1
LnGrp LOS	E	D	D	D	E	E	E	F	C	F	E	D
Approach Vol, veh/h		1247			1100			1819			1508	
Approach Delay, s/veh		51.1			58.6			68.9			60.9	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	38.0	27.0	42.0	19.5	31.5	20.0	49.0				
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0				
Max Green Setting (Gmax), s	8.4	32.0	22.4	36.0	14.9	25.5	15.4	43.0				
Max Q Clear Time (g_c+I1), s	10.4	24.1	23.3	35.0	16.6	24.1	17.4	45.0				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.7	0.0	0.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			60.9									
HCM 6th LOS			E									

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	281	693	745	14	28	750
Future Volume (veh/h)	281	693	745	14	28	750
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	305	753	810	15	0	847
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	473	2148	1583	29	515	916
Arrive On Green	0.12	0.60	0.44	0.44	0.00	0.29
Sat Flow, veh/h	1781	3647	3663	66	1781	3170
Grp Volume(v), veh/h	305	753	403	422	0	847
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1858	1781	1585
Q Serve(g_s), s	7.8	9.6	14.7	14.7	0.0	23.3
Cycle Q Clear(g_c), s	7.8	9.6	14.7	14.7	0.0	23.3
Prop In Lane	1.00			0.04	1.00	1.00
Lane Grp Cap(c), veh/h	473	2148	788	824	515	916
V/C Ratio(X)	0.64	0.35	0.51	0.51	0.00	0.92
Avail Cap(c_a), veh/h	686	2148	788	824	515	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	8.9	18.0	18.0	0.0	31.1
Incr Delay (d2), s/veh	1.5	0.5	2.4	2.3	0.0	16.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.7	5.4	8.9	9.2	0.0	14.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	9.4	20.4	20.3	0.0	47.4
LnGrp LOS	B	A	C	C	A	D
Approach Vol, veh/h		1058	825		847	
Approach Delay, s/veh		10.7	20.3		47.4	
Approach LOS		B	C		D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.5	44.9		30.6		59.4
Change Period (Y+Rc), s	4.0	* 5		4.6		* 5
Max Green Setting (Gmax), s	21.2	* 29		26.0		* 54
Max Q Clear Time (g_c+I1), s	9.8	16.7		25.3		11.6
Green Ext Time (p_c), s	0.7	4.2		0.3		6.3

Intersection Summary		
HCM 6th Ctrl Delay		25.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	705	28	119	689	109	84	940	101	163	816	133
Future Volume (veh/h)	202	705	28	119	689	109	84	940	101	163	816	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	766	30	129	749	118	91	1022	110	177	887	145
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	1394	55	318	1421	634	245	1295	139	221	1223	200
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	638	3486	137	682	3554	1585	547	3236	348	497	3057	500
Grp Volume(v), veh/h	220	390	406	129	749	118	91	561	571	177	515	517
Grp Sat Flow(s),veh/h/ln	638	1777	1846	682	1777	1585	547	1777	1808	497	1777	1780
Q Serve(g_s), s	10.8	7.6	7.6	8.1	7.2	2.2	7.0	12.5	12.5	5.5	11.0	11.0
Cycle Q Clear(g_c), s	18.0	7.6	7.6	15.7	7.2	2.2	18.0	12.5	12.5	18.0	11.0	11.0
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.19	1.00		0.28
Lane Grp Cap(c), veh/h	313	711	738	318	1421	634	245	711	723	221	711	712
V/C Ratio(X)	0.70	0.55	0.55	0.41	0.53	0.19	0.37	0.79	0.79	0.80	0.73	0.73
Avail Cap(c_a), veh/h	313	711	738	318	1421	634	245	711	723	221	711	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	10.4	10.4	16.4	10.3	8.8	19.3	11.8	11.8	21.5	11.4	11.4
Incr Delay (d2), s/veh	6.9	0.9	0.9	0.8	0.4	0.1	4.3	8.7	8.6	25.5	6.4	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.4	4.1	4.2	2.1	3.8	1.1	2.0	7.9	8.0	5.1	6.8	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	11.3	11.3	17.2	10.6	8.9	23.6	20.5	20.4	47.0	17.8	17.8
LnGrp LOS	C	B	B	B	B	A	C	C	C	D	B	B
Approach Vol, veh/h		1016			996			1223			1209	
Approach Delay, s/veh		14.4			11.3			20.7			22.0	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		20.0		20.0		17.7				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	2	33	15	0	11	0	12	0	0	0
Future Vol, veh/h	0	15	2	33	15	0	11	0	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	2	36	16	0	12	0	13	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	16	0	0	18	0	0	105	105	17	112	106	16
Stage 1	-	-	-	-	-	-	17	17	-	88	88	-
Stage 2	-	-	-	-	-	-	88	88	-	24	18	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1602	-	-	1599	-	-	875	785	1062	866	784	1063
Stage 1	-	-	-	-	-	-	1002	881	-	920	822	-
Stage 2	-	-	-	-	-	-	920	822	-	994	880	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1602	-	-	1599	-	-	859	767	1062	840	766	1063
Mov Cap-2 Maneuver	-	-	-	-	-	-	859	767	-	840	766	-
Stage 1	-	-	-	-	-	-	1002	881	-	920	803	-
Stage 2	-	-	-	-	-	-	899	803	-	982	880	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	5	8.9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	954	1602	-	-	1599	-	-	-
HCM Lane V/C Ratio	0.026	-	-	-	0.022	-	-	-
HCM Control Delay (s)	8.9	0	-	-	7.3	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	951	138	38	453	0	0
Future Volume (veh/h)	951	138	38	453	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1034	150	41	492		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	3318	1480	494	3318		
Arrive On Green	0.93	0.93	1.00	1.00		
Sat Flow, veh/h	3647	1585	473	3647		
Grp Volume(v), veh/h	1034	150	41	492		
Grp Sat Flow(s),veh/h/ln	1777	1585	473	1777		
Q Serve(g_s), s	3.0	0.8	0.3	0.0		
Cycle Q Clear(g_c), s	3.0	0.8	3.3	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	3318	1480	494	3318		
V/C Ratio(X)	0.31	0.10	0.08	0.15		
Avail Cap(c_a), veh/h	3318	1480	494	3318		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.86	0.86		
Uniform Delay (d), s/veh	0.3	0.3	0.0	0.0		
Incr Delay (d2), s/veh	0.2	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(85%),veh/ln	0.2	0.1	0.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.6	0.4	0.3	0.1		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	1184			533		
Approach Delay, s/veh	0.6			0.1		
Approach LOS	A			A		

Timer - Assigned Phs		2				6
Phs Duration (G+Y+Rc), s		110.0				110.0
Change Period (Y+Rc), s		7.3				7.3
Max Green Setting (Gmax), s		102.7				102.7
Max Q Clear Time (g_c+I1), s		5.3				5.0
Green Ext Time (p_c), s		4.6				11.1

Intersection Summary		
HCM 6th Ctrl Delay		0.4
HCM 6th LOS		A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↰	↱
Traffic Volume (veh/h)	939	0	0	409	87	68
Future Volume (veh/h)	939	0	0	409	87	68
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1021	0	0	445	95	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2542	0	0	2542	314	280
Arrive On Green	0.72	0.00	0.00	0.72	0.18	0.18
Sat Flow, veh/h	3741	0	0	3741	1781	1585
Grp Volume(v), veh/h	1021	0	0	445	95	74
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1781	1585
Q Serve(g_s), s	12.6	0.0	0.0	4.5	5.1	4.4
Cycle Q Clear(g_c), s	12.6	0.0	0.0	4.5	5.1	4.4
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2542	0	0	2542	314	280
V/C Ratio(X)	0.40	0.00	0.00	0.18	0.30	0.26
Avail Cap(c_a), veh/h	2542	0	0	2542	314	280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	5.1	39.4	39.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	2.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.3	0.0	0.0	2.8	4.1	3.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.3	0.0	0.0	5.2	41.9	41.4
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	1021			445	169	
Approach Delay, s/veh	6.3			5.2	41.7	
Approach LOS	A			A	D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0
Change Period (Y+Rc), s		7.3		4.6		7.3
Max Green Setting (Gmax), s		24.7		19.4		46.7
Max Q Clear Time (g_c+I1), s		6.5		7.1		14.6
Green Ext Time (p_c), s		2.8		0.3		8.9
Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱					↑↑	↱		↑↑	
Traffic Vol, veh/h	0	0	164	0	0	0	0	1107	155	0	1300	0
Future Vol, veh/h	0	0	164	0	0	0	0	1107	155	0	1300	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	178	0	0	0	0	1203	168	0	1413	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	-	-	707				-	0	0	-	-	0
Stage 1	-	-	-				-	-	-	-	-	-
Stage 2	-	-	-				-	-	-	-	-	-
Critical Hdwy	-	-	6.94				-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-				-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32				-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	378				0	-	-	0	-	0
Stage 1	0	0	-				0	-	-	0	-	0
Stage 2	0	0	-				0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	0	378				-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-	-	-	-
Stage 1	-	0	-				-	-	-	-	-	-
Stage 2	-	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBT
Capacity (veh/h)	-	-	378	-
HCM Lane V/C Ratio	-	-	0.472	-
HCM Control Delay (s)	-	-	22.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	2.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	85	339	38	94	57	372	910	108	201	1745	358
Future Volume (veh/h)	315	85	339	38	94	57	372	910	108	201	1745	358
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	299	230	41	102	62	404	989	117	218	1897	389
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	557	403	342	123	471	267	388	2079	245	460	1899	381
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.18	0.45	0.45	0.16	0.45	0.45
Sat Flow, veh/h	2444	1870	1585	874	2185	1239	1781	4630	546	1781	4264	856
Grp Volume(v), veh/h	342	299	230	41	82	82	404	727	379	218	1506	780
Grp Sat Flow(s),veh/h/ln	1222	1870	1585	874	1777	1647	1781	1702	1772	1781	1702	1716
Q Serve(g_s), s	14.8	16.4	14.6	5.1	4.2	4.5	19.9	16.4	16.5	0.9	48.4	49.0
Cycle Q Clear(g_c), s	19.3	16.4	14.6	21.5	4.2	4.5	19.9	16.4	16.5	0.9	48.4	49.0
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.31	1.00		0.50
Lane Grp Cap(c), veh/h	557	403	342	123	383	355	388	1529	796	460	1516	764
V/C Ratio(X)	0.61	0.74	0.67	0.33	0.21	0.23	1.04	0.48	0.48	0.47	0.99	1.02
Avail Cap(c_a), veh/h	608	442	375	142	420	389	388	1529	796	460	1516	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	40.3	39.6	50.3	35.5	35.6	32.6	21.2	21.2	33.2	30.4	30.5
Incr Delay (d2), s/veh	1.6	6.0	4.2	1.6	0.3	0.3	57.1	1.1	2.0	0.6	21.6	37.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.8	11.1	8.6	2.1	3.2	3.3	18.9	9.3	10.0	7.4	28.6	33.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	46.3	43.7	51.9	35.7	36.0	89.7	22.3	23.3	33.7	52.0	68.3
LnGrp LOS	D	D	D	D	D	D	F	C	C	C	D	F
Approach Vol, veh/h		871			205			1510			2504	
Approach Delay, s/veh		45.2			39.1			40.6			55.5	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.8	55.5		29.7	24.4	55.9		29.7				
Change Period (Y+Rc), s	4.9	6.5		6.0	6.5	* 6.5		6.0				
Max Green Setting (Gmax), s	19.9	46.7		26.0	17.2	* 49		26.0				
Max Q Clear Time (g_c+I1), s	21.9	51.0		23.5	2.9	18.5		21.3				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.4	9.0		1.8				
Intersection Summary												
HCM 6th Ctrl Delay			48.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	21	10	202	89	81	10	1445	236	140	1917	10
Future Volume (veh/h)	10	21	10	202	89	81	10	1445	236	140	1917	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	23	11	220	97	88	11	1571	257	152	2084	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	136	115	311	255	210	461	3012	491	167	2097	11
Arrive On Green	0.03	0.07	0.07	0.09	0.14	0.14	0.44	1.00	1.00	0.40	0.40	0.40
Sat Flow, veh/h	3456	1870	1585	1781	1850	1523	1781	4423	721	255	5242	28
Grp Volume(v), veh/h	11	23	11	220	93	92	11	1208	620	152	1353	742
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1596	1781	1702	1741	255	1702	1865
Q Serve(g_s), s	0.3	1.3	0.5	10.0	5.2	5.8	0.0	0.0	0.0	44.0	43.5	43.6
Cycle Q Clear(g_c), s	0.3	1.3	0.5	10.0	5.2	5.8	0.0	0.0	0.0	44.0	43.5	43.6
Prop In Lane	1.00		1.00	1.00		0.95	1.00		0.41	1.00		0.01
Lane Grp Cap(c), veh/h	390	136	115	311	245	220	461	2318	1185	167	1362	746
V/C Ratio(X)	0.03	0.17	0.10	0.71	0.38	0.42	0.02	0.52	0.52	0.91	0.99	0.99
Avail Cap(c_a), veh/h	614	425	360	311	404	363	461	2318	1185	167	1362	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	47.9	19.4	42.8	43.2	43.4	23.8	0.0	0.0	40.3	32.9	32.9
Incr Delay (d2), s/veh	0.0	0.6	0.4	6.1	1.0	1.3	0.0	0.7	1.3	48.8	23.0	31.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.2	1.1	0.5	2.5	4.0	4.0	0.3	0.4	0.8	9.1	26.5	30.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	48.5	19.8	48.9	44.1	44.7	23.8	0.7	1.3	89.1	55.8	64.5
LnGrp LOS	D	D	B	D	D	D	C	A	A	F	E	E
Approach Vol, veh/h		45			405			1839			2247	
Approach Delay, s/veh		40.6			46.9			1.0			60.9	
Approach LOS		D			D			A			E	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	30.9	50.5	7.5	21.1		81.4	14.6	14.0
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	9.0	* 44	10.0	25.0		57.9	10.0	25.0
Max Q Clear Time (g_c+I1), s	2.0	46.0	2.3	7.8		2.0	12.0	3.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9		23.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	9	65	23	25	152	64	1012	44	57	1515	45
Future Volume (veh/h)	96	9	65	23	25	152	64	1012	44	57	1515	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	10	71	25	27	165	70	1100	48	62	1647	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	43	302	292	49	297	292	1643	72	282	2386	71
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.33	0.95	0.95	0.32	0.94	0.94
Sat Flow, veh/h	1191	199	1416	1317	228	1392	1781	3469	151	1781	5096	152
Grp Volume(v), veh/h	104	0	81	25	0	192	70	563	585	62	1100	596
Grp Sat Flow(s),veh/h/ln	1191	0	1615	1317	0	1620	1781	1777	1843	1781	1702	1843
Q Serve(g_s), s	9.4	0.0	4.6	1.8	0.0	11.6	3.2	5.0	5.0	2.8	6.4	6.4
Cycle Q Clear(g_c), s	21.0	0.0	4.6	6.3	0.0	11.6	3.2	5.0	5.0	2.8	6.4	6.4
Prop In Lane	1.00		0.88	1.00		0.86	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	194	0	345	292	0	346	292	842	873	282	1594	863
V/C Ratio(X)	0.54	0.00	0.23	0.09	0.00	0.56	0.24	0.67	0.67	0.22	0.69	0.69
Avail Cap(c_a), veh/h	275	0	455	382	0	456	292	842	873	282	1594	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	48.0	0.0	35.8	38.4	0.0	38.6	32.0	1.7	1.7	32.6	2.1	2.1
Incr Delay (d2), s/veh	2.3	0.0	0.3	0.1	0.0	1.4	1.9	4.2	4.1	1.3	1.8	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.7	0.0	3.2	1.0	0.0	7.0	2.7	3.1	3.2	2.3	2.3	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	0.0	36.2	38.6	0.0	40.0	33.9	5.9	5.7	33.9	3.9	5.4
LnGrp LOS	D	A	D	D	A	D	C	A	A	C	A	A
Approach Vol, veh/h		185			217			1218			1758	
Approach Delay, s/veh		44.1			39.8			7.4			5.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.5	58.0		28.5	22.9	58.6		28.5				
Change Period (Y+Rc), s	5.5	6.5		5.0	5.5	6.5		5.0				
Max Green Setting (Gmax), s	10.5	51.5		31.0	9.9	52.1		31.0				
Max Q Clear Time (g_c+I1), s	5.2	8.4		13.6	4.8	7.0		23.0				
Green Ext Time (p_c), s	0.0	18.3		1.1	0.0	10.2		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		10.5
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	3	6	0	0	11	11	1240	3	46	1341	76
Future Volume (veh/h)	11	3	6	0	0	11	11	1240	3	46	1341	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	3	7	0	0	12	12	1348	3	50	1458	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	140	26	61	0	99	483	40	2817	6	448	2770	1235
Arrive On Green	0.05	0.05	0.05	0.00	0.00	0.05	0.02	0.54	0.54	0.50	1.00	1.00
Sat Flow, veh/h	1402	498	1163	0	1870	1585	1781	5261	12	1781	3554	1585
Grp Volume(v), veh/h	12	0	10	0	0	12	12	872	479	50	1458	83
Grp Sat Flow(s),veh/h/ln	1402	0	1661	0	1870	1585	1781	1702	1868	1781	1777	1585
Q Serve(g_s), s	0.9	0.0	0.6	0.0	0.0	0.0	0.7	17.6	17.6	1.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.6	0.0	0.0	0.0	0.7	17.6	17.6	1.6	0.0	0.0
Prop In Lane	1.00		0.70	0.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	140	0	88	0	99	483	40	1823	1000	448	2770	1235
V/C Ratio(X)	0.09	0.00	0.11	0.00	0.00	0.02	0.30	0.48	0.48	0.11	0.53	0.07
Avail Cap(c_a), veh/h	397	0	393	0	444	775	131	1823	1000	448	2770	1235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	0.0	49.6	0.0	0.0	26.8	52.9	16.0	16.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.6	0.0	0.0	0.0	4.2	0.9	1.6	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.6	0.0	0.5	0.0	0.0	0.7	0.7	9.6	10.6	1.2	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.0	50.2	0.0	0.0	26.8	57.1	16.9	17.6	21.0	0.7	0.1
LnGrp LOS	D	A	D	A	A	C	E	B	B	C	A	A
Approach Vol, veh/h		22			12			1363			1591	
Approach Delay, s/veh		50.1			26.8			17.5			1.3	
Approach LOS		D			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	92.2		10.4	34.2	65.4		10.4
Change Period (Y+Rc), s	4.9	6.5		4.6	6.5	* 6.5		* 4.6
Max Green Setting (Gmax), s	8.1	59.9		26.0	9.1	* 59		* 26
Max Q Clear Time (g_c+I1), s	2.7	2.0		2.9	3.6	19.6		2.0
Green Ext Time (p_c), s	0.0	18.5		0.0	0.0	12.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	312	748	65	60	446	112	30	823	57	216	603	254
Future Volume (veh/h)	312	748	65	60	446	112	30	823	57	216	603	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	339	813	71	65	485	122	33	895	62	235	655	276
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	447	1209	631	268	880	552	195	1034	561	265	1232	796
Arrive On Green	0.16	0.34	0.34	0.06	0.25	0.25	0.06	0.29	0.29	0.10	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	339	813	71	65	485	122	33	895	62	235	655	276
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.0	21.5	3.1	2.9	13.1	1.8	1.5	26.3	1.8	9.0	16.2	11.6
Cycle Q Clear(g_c), s	15.0	21.5	3.1	2.9	13.1	1.8	1.5	26.3	1.8	9.0	16.2	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	447	1209	631	268	880	552	195	1034	561	265	1232	796
V/C Ratio(X)	0.76	0.67	0.11	0.24	0.55	0.22	0.17	0.87	0.11	0.89	0.53	0.35
Avail Cap(c_a), veh/h	471	1209	631	286	880	552	254	1034	561	328	1232	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	31.1	20.9	27.8	36.1	9.4	31.7	37.0	10.3	46.7	28.8	16.5
Incr Delay (d2), s/veh	5.8	3.0	0.4	0.2	2.5	0.9	0.1	8.3	0.3	18.6	1.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	9.6	12.8	2.2	2.2	8.5	2.1	1.2	15.8	1.5	10.5	9.9	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	34.1	21.2	28.0	38.5	10.3	31.8	45.3	10.6	65.3	30.4	17.7
LnGrp LOS	C	C	C	C	D	B	C	D	B	E	C	B
Approach Vol, veh/h		1223			672			990			1166	
Approach Delay, s/veh		32.3			32.4			42.6			34.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	43.4	11.0	44.1	21.7	33.2	17.1	38.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	6.0	* 6
Max Green Setting (Gmax), s	8.0	33.8	10.0	37.0	18.6	23.2	15.0	* 32
Max Q Clear Time (g_c+I1), s	4.9	23.5	3.5	18.2	17.0	15.1	11.0	28.3
Green Ext Time (p_c), s	0.0	4.2	0.0	5.4	0.1	2.3	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	517	98	131	289	131	52	599	22	191	1053	254
Future Volume (veh/h)	86	517	98	131	289	131	52	599	22	191	1053	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	562	107	142	314	142	57	651	24	208	1145	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	575	1480	281	451	1783	1006	80	1049	39	237	1424	
Arrive On Green	0.05	0.50	0.50	0.06	0.50	0.50	0.04	0.30	0.30	0.13	0.40	0.00
Sat Flow, veh/h	1781	2980	566	1781	3554	1585	1781	3495	129	1781	3554	1585
Grp Volume(v), veh/h	93	334	335	142	314	142	57	331	344	208	1145	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1781	1777	1585	1781	1777	1847	1781	1777	1585
Q Serve(g_s), s	2.7	12.8	12.9	4.3	5.3	1.0	3.5	17.6	17.6	12.6	31.3	0.0
Cycle Q Clear(g_c), s	2.7	12.8	12.9	4.3	5.3	1.0	3.5	17.6	17.6	12.6	31.3	0.0
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	575	883	878	451	1783	1006	80	533	554	237	1424	
V/C Ratio(X)	0.16	0.38	0.38	0.31	0.18	0.14	0.71	0.62	0.62	0.88	0.80	
Avail Cap(c_a), veh/h	582	883	878	451	1783	1006	100	533	554	243	1424	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.0	17.2	17.2	13.0	15.0	8.1	51.8	33.1	33.1	46.8	29.2	0.0
Incr Delay (d2), s/veh	0.0	1.2	1.3	0.1	0.2	0.3	10.5	5.4	5.2	28.5	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.9	7.9	7.9	3.0	3.7	2.4	3.2	11.3	11.7	10.3	17.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	18.4	18.4	13.1	15.2	8.4	62.3	38.5	38.3	75.3	34.1	0.0
LnGrp LOS	B	B	B	B	B	A	E	D	D	E	C	
Approach Vol, veh/h		762			598			732			1353	A
Approach Delay, s/veh		17.6			13.1			40.2			40.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	61.2	9.5	50.1	10.3	61.8	20.6	39.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	6.0	* 6
Max Green Setting (Gmax), s	6.2	34.2	6.2	42.2	6.1	34.3	15.0	* 33
Max Q Clear Time (g_c+I1), s	6.3	14.9	5.5	33.3	4.7	7.3	14.6	19.6
Green Ext Time (p_c), s	0.0	5.7	0.0	6.8	0.0	3.8	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	178	90	450	346	69	112	458	692	99	787	32
Future Volume (veh/h)	26	178	90	450	346	69	112	458	692	99	787	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	193	98	489	376	75	122	498	565	108	855	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	413	1103	492	561	1305	258	163	937	675	188	949	39
Arrive On Green	0.03	0.31	0.31	0.16	0.44	0.44	0.02	0.09	0.09	0.05	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	3456	2958	584	1781	3554	1585	3456	3479	142
Grp Volume(v), veh/h	28	193	98	489	224	227	122	498	565	108	437	453
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1765	1781	1777	1585	1728	1777	1845
Q Serve(g_s), s	1.2	4.4	5.0	15.2	8.9	9.1	6.0	14.8	20.1	3.4	26.1	26.1
Cycle Q Clear(g_c), s	1.2	4.4	5.0	15.2	8.9	9.1	6.0	14.8	20.1	3.4	26.1	26.1
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	413	1103	492	561	784	779	163	937	675	188	485	503
V/C Ratio(X)	0.07	0.18	0.20	0.87	0.29	0.29	0.75	0.53	0.84	0.57	0.90	0.90
Avail Cap(c_a), veh/h	454	1103	492	691	784	779	163	937	675	220	485	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	27.7	27.9	44.9	19.6	19.7	37.9	43.7	15.1	50.7	38.6	38.6
Incr Delay (d2), s/veh	0.1	0.3	0.9	9.5	0.9	0.9	13.4	1.7	9.4	2.0	22.5	21.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.9	3.3	3.5	10.0	5.9	5.9	5.1	9.7	12.9	2.7	18.1	18.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	28.0	28.8	54.4	20.6	20.6	51.4	45.4	24.5	52.8	61.0	60.4
LnGrp LOS	C	C	C	D	C	C	D	D	C	D	E	E
Approach Vol, veh/h		319			940			1185			998	
Approach Delay, s/veh		27.9			38.2			36.1			59.9	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	40.1	11.0	36.0	8.4	54.6	12.0	35.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	22.0	30.0	6.0	30.0	6.0	46.0	7.0	* 29
Max Q Clear Time (g_c+I1), s	17.2	7.0	8.0	28.1	3.2	11.1	5.4	22.1
Green Ext Time (p_c), s	0.7	1.5	0.0	1.1	0.0	3.0	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	620	308	140	903	1275	263
Future Volume (veh/h)	620	308	140	903	1275	263
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	674	335	152	982	1386	286
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	814	373	181	2338	1784	796
Arrive On Green	0.24	0.24	0.10	0.66	0.67	0.67
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	674	335	152	982	1386	286
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	20.4	22.5	9.2	14.4	29.6	8.7
Cycle Q Clear(g_c), s	20.4	22.5	9.2	14.4	29.6	8.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	814	373	181	2338	1784	796
V/C Ratio(X)	0.83	0.90	0.84	0.42	0.78	0.36
Avail Cap(c_a), veh/h	858	393	227	2338	1784	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.46	0.46
Uniform Delay (d), s/veh	39.9	40.7	48.5	8.9	14.0	10.5
Incr Delay (d2), s/veh	6.7	22.2	16.8	0.6	1.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	12.5	25.0	7.2	7.7	11.7	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.6	62.9	65.3	9.4	15.6	11.1
LnGrp LOS	D	E	E	A	B	B
Approach Vol, veh/h	1009			1134	1672	
Approach Delay, s/veh	52.0			16.9	14.9	
Approach LOS	D			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		78.4		31.6	17.2	61.2
Change Period (Y+Rc), s		6.0		* 5.7	6.0	6.0
Max Green Setting (Gmax), s		71.0		* 27	14.0	51.0
Max Q Clear Time (g_c+I1), s		16.4		24.5	11.2	31.6
Green Ext Time (p_c), s		13.8		1.4	0.1	14.2

Intersection Summary						
HCM 6th Ctrl Delay			25.3			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	407	287	107	270	157	104	594	55	202	1218	152
Future Volume (veh/h)	257	407	287	107	270	157	104	594	55	202	1218	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	442	312	116	293	171	113	646	60	220	1324	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	965	431	297	788	351	189	1354	604	410	1486	663
Arrive On Green	0.11	0.27	0.27	0.06	0.22	0.22	0.05	0.38	0.38	0.09	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	279	442	312	116	293	171	113	646	60	220	1324	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.4	11.4	19.6	5.5	7.7	10.4	4.2	15.1	2.7	8.0	38.0	7.4
Cycle Q Clear(g_c), s	12.4	11.4	19.6	5.5	7.7	10.4	4.2	15.1	2.7	8.0	38.0	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	965	431	297	788	351	189	1354	604	410	1486	663
V/C Ratio(X)	0.69	0.46	0.72	0.39	0.37	0.49	0.60	0.48	0.10	0.54	0.89	0.25
Avail Cap(c_a), veh/h	407	965	431	297	788	351	201	1354	604	466	1486	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	33.3	36.3	30.3	36.3	37.3	25.8	25.8	21.9	18.3	29.7	20.8
Incr Delay (d2), s/veh	4.4	1.6	10.2	0.6	1.3	4.8	3.7	1.2	0.3	0.8	8.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	8.6	7.5	11.8	4.0	5.4	6.7	3.4	9.2	1.9	5.2	21.8	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	34.9	46.5	30.9	37.7	42.1	29.5	27.0	22.2	19.1	38.1	21.7
LnGrp LOS	C	C	D	C	D	D	C	C	C	B	D	C
Approach Vol, veh/h		1033			580			819			1709	
Approach Delay, s/veh		37.9			37.6			27.0			34.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	35.9	10.6	52.0	17.0	30.4	14.7	47.9
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	6.9	29.1	6.8	46.0	12.4	23.6	13.6	39.2
Max Q Clear Time (g_c+I1), s	17.5	21.6	6.2	40.0	14.4	12.4	10.0	17.1
Green Ext Time (p_c), s	0.0	2.5	0.0	4.4	0.0	1.9	0.2	4.7

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	512	1148	431	10	30	331
Future Volume (veh/h)	512	1148	431	10	30	331
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	557	1248	468	11	0	395
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	778	2527	1711	40	325	578
Arrive On Green	0.18	0.71	0.48	0.48	0.00	0.18
Sat Flow, veh/h	1781	3647	3642	83	1781	3170
Grp Volume(v), veh/h	557	1248	234	245	0	395
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1855	1781	1585
Q Serve(g_s), s	12.7	14.1	7.1	7.1	0.0	10.5
Cycle Q Clear(g_c), s	12.7	14.1	7.1	7.1	0.0	10.5
Prop In Lane	1.00			0.04	1.00	1.00
Lane Grp Cap(c), veh/h	778	2527	857	895	325	578
V/C Ratio(X)	0.72	0.49	0.27	0.27	0.00	0.68
Avail Cap(c_a), veh/h	1182	2527	857	895	325	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.5	5.8	13.9	13.9	0.0	34.4
Incr Delay (d2), s/veh	1.2	0.7	0.8	0.8	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.3	6.6	4.7	4.8	0.0	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.8	6.5	14.7	14.7	0.0	40.8
LnGrp LOS	A	A	B	B	A	D
Approach Vol, veh/h		1805	479		395	
Approach Delay, s/veh		7.2	14.7		40.8	
Approach LOS		A	B		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.6	48.4		21.0		69.0
Change Period (Y+Rc), s	4.0	* 5		4.6		* 5
Max Green Setting (Gmax), s	37.0	* 23		16.4		* 64
Max Q Clear Time (g_c+I1), s	14.7	9.1		12.5		16.1
Green Ext Time (p_c), s	1.9	2.4		0.6		13.1

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	579	35	181	462	81	42	715	75	197	1307	85
Future Volume (veh/h)	222	579	35	181	462	81	42	715	75	197	1307	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	629	38	197	502	88	46	777	82	214	1421	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	1346	81	264	1405	627	126	1695	179	305	1772	114
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	826	3405	205	769	3554	1585	346	3243	342	643	3389	219
Grp Volume(v), veh/h	241	328	339	197	502	88	46	426	433	214	743	770
Grp Sat Flow(s),veh/h/ln	826	1777	1833	769	1777	1585	346	1777	1809	643	1777	1831
Q Serve(g_s), s	31.9	15.1	15.1	28.1	10.9	3.9	13.9	16.5	16.5	34.4	37.7	38.1
Cycle Q Clear(g_c), s	42.8	15.1	15.1	43.2	10.9	3.9	52.0	16.5	16.5	51.0	37.7	38.1
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.19	1.00		0.12
Lane Grp Cap(c), veh/h	310	703	725	264	1405	627	126	929	945	305	929	957
V/C Ratio(X)	0.78	0.47	0.47	0.75	0.36	0.14	0.36	0.46	0.46	0.70	0.80	0.80
Avail Cap(c_a), veh/h	310	703	725	264	1405	627	126	929	945	305	929	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	38.5	24.7	24.7	40.7	23.4	21.3	43.1	16.5	16.5	32.5	21.5	21.6
Incr Delay (d2), s/veh	11.8	0.5	0.5	11.0	0.2	0.1	7.9	1.6	1.6	11.4	6.4	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	10.2	9.0	9.2	8.6	6.8	2.6	2.6	9.7	9.8	8.6	20.6	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	25.1	25.1	51.6	23.6	21.4	51.0	18.1	18.1	43.9	28.0	28.1
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		908			787			905			1727	
Approach Delay, s/veh		31.8			30.3			19.8			30.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		62.0		48.0		62.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		57.5		43.5		57.5		43.5
Max Q Clear Time (g_c+I1), s		54.0		44.8		53.0		45.2
Green Ext Time (p_c), s		1.9		0.0		3.8		0.0

Intersection Summary			
HCM 6th Ctrl Delay			28.3
HCM 6th LOS			C

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	35	6	38	8	0	2	0	30	0	0	0
Future Vol, veh/h	0	35	6	38	8	0	2	0	30	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	38	7	41	9	0	2	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	45	0	0	133	133	42	149	136	9
Stage 1	-	-	-	-	-	-	42	42	-	91	91	-
Stage 2	-	-	-	-	-	-	91	91	-	58	45	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1611	-	-	1563	-	-	839	758	1029	819	755	1073
Stage 1	-	-	-	-	-	-	972	860	-	916	820	-
Stage 2	-	-	-	-	-	-	916	820	-	954	857	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1611	-	-	1563	-	-	822	738	1029	777	735	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	822	738	-	777	735	-
Stage 1	-	-	-	-	-	-	972	860	-	916	799	-
Stage 2	-	-	-	-	-	-	892	799	-	924	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.1	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1013	1611	-	-	1563	-	-	-
HCM Lane V/C Ratio	0.034	-	-	-	0.026	-	-	-
HCM Control Delay (s)	8.7	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1054	130	80	842	0	0
Future Volume (veh/h)	1054	130	80	842	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1146	141	87	915		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	3338	1489	451	3338		
Arrive On Green	0.94	0.94	1.00	1.00		
Sat Flow, veh/h	3647	1585	429	3647		
Grp Volume(v), veh/h	1146	141	87	915		
Grp Sat Flow(s),veh/h/ln	1777	1585	429	1777		
Q Serve(g_s), s	3.5	0.7	1.0	0.0		
Cycle Q Clear(g_c), s	3.5	0.7	4.4	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	3338	1489	451	3338		
V/C Ratio(X)	0.34	0.09	0.19	0.27		
Avail Cap(c_a), veh/h	3338	1489	451	3338		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.58	0.58		
Uniform Delay (d), s/veh	0.3	0.2	0.1	0.0		
Incr Delay (d2), s/veh	0.3	0.1	0.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(85%),veh/ln	0.2	0.1	0.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.6	0.4	0.6	0.1		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h	1287			1002		
Approach Delay, s/veh	0.6			0.2		
Approach LOS	A			A		
Timer - Assigned Phs		2				6
Phs Duration (G+Y+Rc), s		120.0				120.0
Change Period (Y+Rc), s		7.3				7.3
Max Green Setting (Gmax), s		112.7				112.7
Max Q Clear Time (g_c+I1), s		6.4				5.5
Green Ext Time (p_c), s		11.0				13.0
Intersection Summary						
HCM 6th Ctrl Delay			0.4			
HCM 6th LOS			A			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1066	0	0	776	144	127
Future Volume (veh/h)	1066	0	0	776	144	127
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1159	0	0	843	157	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2668	0	0	2668	267	238
Arrive On Green	0.75	0.00	0.00	0.75	0.15	0.15
Sat Flow, veh/h	3741	0	0	3741	1781	1585
Grp Volume(v), veh/h	1159	0	0	843	157	138
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1781	1585
Q Serve(g_s), s	14.5	0.0	0.0	9.3	9.9	9.7
Cycle Q Clear(g_c), s	14.5	0.0	0.0	9.3	9.9	9.7
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2668	0	0	2668	267	238
V/C Ratio(X)	0.43	0.00	0.00	0.32	0.59	0.58
Avail Cap(c_a), veh/h	2668	0	0	2668	267	238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.5	0.0	0.0	4.9	47.5	47.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	9.1	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.9	0.0	0.0	4.9	7.4	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.6	0.0	0.0	5.2	56.7	57.4
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1159			843	295	
Approach Delay, s/veh	5.6			5.2	57.0	
Approach LOS	A			A	E	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		97.4		22.6		97.4
Change Period (Y+Rc), s		7.3		4.6		7.3
Max Green Setting (Gmax), s		36.1		18.0		46.7
Max Q Clear Time (g_c+I1), s		11.3		11.9		16.5
Green Ext Time (p_c), s		6.5		0.4		10.4

Intersection Summary			
HCM 6th Ctrl Delay			12.1
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	205	0	0	0	0	1579	271	0	1432	0
Future Vol, veh/h	0	0	205	0	0	0	0	1579	271	0	1432	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	223	0	0	0	0	1716	295	0	1557	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	-	779	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	339	0	-	-	0	-	0
Stage 1	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	-	-	0	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	339	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBT
Capacity (veh/h)	-	-	339	-
HCM Lane V/C Ratio	-	-	0.657	-
HCM Control Delay (s)	-	-	33.8	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	4.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	96	379	108	84	284	337	1389	44	77	1339	309
Future Volume (veh/h)	370	96	379	108	84	284	337	1389	44	77	1339	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	335	258	117	91	309	366	1510	48	84	1455	336
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	514	436	156	489	436	402	2666	85	199	1608	370
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.19	0.52	0.52	0.06	0.39	0.39
Sat Flow, veh/h	1969	1870	1585	824	1777	1585	1781	5084	162	1781	4148	954
Grp Volume(v), veh/h	402	335	258	117	91	309	366	1011	547	84	1193	598
Grp Sat Flow(s),veh/h/ln	985	1870	1585	824	1777	1585	1781	1702	1841	1781	1702	1699
Q Serve(g_s), s	11.9	19.0	16.9	14.0	4.7	21.1	19.3	24.1	24.1	3.8	39.7	39.9
Cycle Q Clear(g_c), s	33.0	19.0	16.9	33.0	4.7	21.1	19.3	24.1	24.1	3.8	39.7	39.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.56
Lane Grp Cap(c), veh/h	316	514	436	156	489	436	402	1785	966	199	1319	658
V/C Ratio(X)	1.27	0.65	0.59	0.75	0.19	0.71	0.91	0.57	0.57	0.42	0.90	0.91
Avail Cap(c_a), veh/h	316	514	436	156	489	436	413	1785	966	223	1319	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	38.4	37.7	54.2	33.2	39.2	45.7	19.3	19.3	29.3	34.7	34.7
Incr Delay (d2), s/veh	145.2	2.9	2.1	18.0	0.2	5.3	23.4	1.3	2.4	1.1	10.4	18.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	16.5	12.2	9.5	6.5	3.6	11.9	17.0	12.9	14.1	3.0	22.4	24.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.5	41.3	39.8	72.2	33.4	44.4	69.1	20.6	21.7	30.4	45.0	53.4
LnGrp LOS	F	D	D	E	C	D	E	C	C	C	D	D
Approach Vol, veh/h		995			517			1924			1875	
Approach Delay, s/veh		105.7			48.8			30.1			47.1	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	28.8	53.0		39.0	12.4	69.4		39.0
Change Period (Y+Rc), s	6.5	* 6.5		6.0	4.9	6.5		6.0
Max Green Setting (Gmax), s	23.1	* 47		33.0	9.1	60.5		33.0
Max Q Clear Time (g_c+I1), s	21.3	41.9		35.0	5.8	26.1		35.0
Green Ext Time (p_c), s	0.2	3.8		0.0	0.0	14.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	4	10	276	106	163	10	1659	206	56	1878	10
Future Volume (veh/h)	10	4	10	276	106	163	10	1659	206	56	1878	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	4	11	300	115	177	11	1803	224	61	2041	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	139	118	316	241	215	182	3206	396	165	3315	18
Arrive On Green	0.03	0.07	0.07	0.09	0.14	0.14	0.02	0.70	0.70	0.63	0.63	0.63
Sat Flow, veh/h	3456	1870	1585	1781	1777	1585	1781	4604	568	210	5241	28
Grp Volume(v), veh/h	11	4	11	300	115	177	11	1330	697	61	1325	727
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1781	1702	1768	210	1702	1865
Q Serve(g_s), s	0.3	0.2	0.8	10.4	7.2	13.0	0.2	23.4	23.7	24.7	28.1	28.1
Cycle Q Clear(g_c), s	0.3	0.2	0.8	10.4	7.2	13.0	0.2	23.4	23.7	40.7	28.1	28.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.02
Lane Grp Cap(c), veh/h	265	139	118	316	241	215	182	2371	1231	165	2153	1180
V/C Ratio(X)	0.04	0.03	0.09	0.95	0.48	0.82	0.06	0.56	0.57	0.37	0.62	0.62
Avail Cap(c_a), veh/h	465	390	330	316	376	336	275	2371	1231	165	2153	1180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	51.5	51.8	50.2	47.9	50.5	10.5	9.1	9.1	21.2	13.3	13.3
Incr Delay (d2), s/veh	0.1	0.1	0.3	37.2	1.5	9.1	0.1	0.6	1.1	6.3	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.3	0.2	0.6	10.1	5.2	8.2	0.2	10.4	11.1	2.7	13.9	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	51.6	52.1	87.4	49.4	59.6	10.5	9.6	10.2	27.5	14.6	15.7
LnGrp LOS	D	D	D	F	D	E	B	A	B	C	B	B
Approach Vol, veh/h		26			592			2038			2113	
Approach Delay, s/veh		50.7			71.7			9.9			15.3	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	7.7	82.4	7.7	22.3		90.1	15.0	14.9
Change Period (Y+Rc), s	4.9	6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	9.0	53.6	10.0	25.4		67.5	10.4	25.0
Max Q Clear Time (g_c+I1), s	2.2	42.7	2.3	15.0		25.7	12.4	2.8
Green Ext Time (p_c), s	0.0	9.4	0.0	1.2		23.9	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		20.2
HCM 6th LOS		C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	50	23	25	164	78	1273	6	24	1331	34
Future Volume (veh/h)	110	10	50	23	25	164	78	1273	6	24	1331	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	11	54	25	27	178	85	1384	7	26	1447	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	63	311	325	49	324	226	2050	10	111	2522	64
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.25	1.00	1.00	0.02	0.16	0.16
Sat Flow, veh/h	1177	275	1352	1337	213	1405	1781	3626	18	1781	5120	131
Grp Volume(v), veh/h	120	0	65	25	0	205	85	678	713	26	962	522
Grp Sat Flow(s),veh/h/ln	1177	0	1627	1337	0	1618	1781	1777	1867	1781	1702	1847
Q Serve(g_s), s	12.0	0.0	3.8	1.8	0.0	13.4	4.7	0.0	0.0	1.7	31.3	31.3
Cycle Q Clear(g_c), s	25.4	0.0	3.8	5.7	0.0	13.4	4.7	0.0	0.0	1.7	31.3	31.3
Prop In Lane	1.00		0.83	1.00		0.87	1.00		0.01	1.00		0.07
Lane Grp Cap(c), veh/h	200	0	375	325	0	373	226	1005	1056	111	1676	910
V/C Ratio(X)	0.60	0.00	0.17	0.08	0.00	0.55	0.38	0.67	0.68	0.23	0.57	0.57
Avail Cap(c_a), veh/h	233	0	420	362	0	418	226	1005	1056	111	1676	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	51.9	0.0	37.0	39.3	0.0	40.7	40.8	0.0	0.0	55.9	38.6	38.6
Incr Delay (d2), s/veh	3.2	0.0	0.2	0.1	0.0	1.3	4.7	3.6	3.5	3.4	1.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.7	0.0	2.8	1.1	0.0	7.9	3.9	1.8	1.8	1.6	17.8	19.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	0.0	37.2	39.4	0.0	42.0	45.5	3.6	3.5	59.3	39.6	40.4
LnGrp LOS	E	A	D	D	A	D	D	A	A	E	D	D
Approach Vol, veh/h		185			230			1476			1510	
Approach Delay, s/veh		48.8			41.7			6.0			40.2	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.8	65.6		32.6	13.0	74.4		32.6
Change Period (Y+Rc), s	6.5	* 6.5		5.0	5.5	6.5		5.0
Max Green Setting (Gmax), s	12.9	* 59		31.0	7.5	64.5		31.0
Max Q Clear Time (g_c+I1), s	16.7	33.3		15.4	3.7	2.0		27.4
Green Ext Time (p_c), s	0.1	12.1		1.1	0.0	14.9		0.2

Intersection Summary		
HCM 6th Ctrl Delay		25.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	0	25	0	0	51	11	1714	18	19	1547	69
Future Volume (veh/h)	86	0	25	0	0	51	11	1714	18	19	1547	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	0	27	0	0	55	12	1863	20	21	1682	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	177	0	137	0	162	137	39	3082	33	312	2694	1202
Arrive On Green	0.09	0.00	0.09	0.00	0.00	0.09	0.02	0.59	0.59	0.35	1.00	1.00
Sat Flow, veh/h	1349	0	1585	0	1870	1585	1781	5208	56	1781	3554	1585
Grp Volume(v), veh/h	93	0	27	0	0	55	12	1217	666	21	1682	75
Grp Sat Flow(s),veh/h/ln	1349	0	1585	0	1870	1585	1781	1702	1860	1781	1777	1585
Q Serve(g_s), s	8.1	0.0	1.9	0.0	0.0	3.9	0.8	27.3	27.3	0.9	0.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	1.9	0.0	0.0	3.9	0.8	27.3	27.3	0.9	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	177	0	137	0	162	137	39	2014	1101	312	2694	1202
V/C Ratio(X)	0.53	0.00	0.20	0.00	0.00	0.40	0.31	0.60	0.60	0.07	0.62	0.06
Avail Cap(c_a), veh/h	352	0	343	0	405	343	119	2014	1101	312	2694	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	50.9	0.0	0.0	51.9	57.8	15.6	15.6	32.5	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.7	0.0	0.0	1.9	4.3	1.4	2.5	0.1	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.6	0.0	1.4	0.0	0.0	5.5	0.7	13.9	15.4	0.8	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.0	51.6	0.0	0.0	53.7	62.1	16.9	18.0	32.6	1.1	0.1
LnGrp LOS	E	A	D	A	A	D	E	B	B	C	A	A
Approach Vol, veh/h		120			55			1895			1778	
Approach Delay, s/veh		55.1			53.7			17.6			1.4	
Approach LOS		E			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	97.5		15.0	27.5	77.5		15.0
Change Period (Y+Rc), s	4.9	6.5		4.6	6.5	* 6.5		4.6
Max Green Setting (Gmax), s	8.0	70.0		26.0	7.0	* 71		26.0
Max Q Clear Time (g_c+I1), s	2.8	2.0		10.1	2.9	29.3		5.9
Green Ext Time (p_c), s	0.0	25.2		0.3	0.0	21.2		0.1

Intersection Summary			
HCM 6th Ctrl Delay			11.8
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	901	38	120	1057	406	48	756	51	304	850	405
Future Volume (veh/h)	353	901	38	120	1057	406	48	756	51	304	850	405
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	979	41	130	1149	441	52	822	55	330	924	440
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	354	1339	706	256	1072	700	197	770	486	309	1024	718
Arrive On Green	0.16	0.38	0.38	0.09	0.30	0.30	0.07	0.22	0.22	0.14	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	384	979	41	130	1149	441	52	822	55	330	924	440
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	19.8	28.4	1.1	1.6	36.2	12.3	2.6	26.0	0.8	16.8	30.0	4.9
Cycle Q Clear(g_c), s	19.8	28.4	1.1	1.6	36.2	12.3	2.6	26.0	0.8	16.8	30.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	1339	706	256	1072	700	197	770	486	309	1024	718
V/C Ratio(X)	1.09	0.73	0.06	0.51	1.07	0.63	0.26	1.07	0.11	1.07	0.90	0.61
Avail Cap(c_a), veh/h	354	1339	706	256	1072	700	224	770	486	309	1024	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	32.2	8.1	48.8	41.9	9.3	33.8	47.0	13.3	35.4	41.1	11.2
Incr Delay (d2), s/veh	72.5	3.6	0.2	0.7	48.9	4.3	0.2	45.3	0.3	69.9	12.6	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	22.9	16.4	0.9	5.6	29.2	6.7	2.0	20.3	1.2	17.5	18.8	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.9	35.7	8.2	49.4	90.8	13.6	33.9	92.3	13.6	105.3	53.7	15.1
LnGrp LOS	F	D	A	D	F	B	C	F	B	F	D	B
Approach Vol, veh/h		1404			1720			929			1694	
Approach Delay, s/veh		58.2			67.9			84.4			53.8	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	51.2	12.8	40.6	24.4	42.2	21.4	32.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	10.8	45.2	10.0	32.8	19.8	36.2	16.8	26.0
Max Q Clear Time (g_c+I1), s	13.6	30.4	4.6	32.0	21.8	38.2	18.8	28.0
Green Ext Time (p_c), s	0.1	6.2	0.0	0.6	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.0
HCM 6th LOS	E

Notes

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	172	473	92	66	399	479	64	1139	20	176	775	128
Future Volume (veh/h)	172	473	92	66	399	479	64	1139	20	176	775	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	514	100	72	434	521	70	1238	22	191	842	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	876	170	265	1016	647	142	1250	22	217	1395	
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.08	0.35	0.35	0.12	0.39	0.00
Sat Flow, veh/h	1781	2969	575	1781	3554	1585	1781	3572	63	1781	3554	1585
Grp Volume(v), veh/h	187	307	307	72	434	521	70	616	644	191	842	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1781	1777	1585	1781	1777	1859	1781	1777	1585
Q Serve(g_s), s	0.4	17.6	17.8	0.0	11.9	20.1	4.5	41.4	41.4	12.7	22.6	0.0
Cycle Q Clear(g_c), s	0.4	17.6	17.8	0.0	11.9	20.1	4.5	41.4	41.4	12.7	22.6	0.0
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	280	524	521	265	1016	647	142	622	651	217	1395	
V/C Ratio(X)	0.67	0.59	0.59	0.27	0.43	0.81	0.49	0.99	0.99	0.88	0.60	
Avail Cap(c_a), veh/h	280	524	521	265	1016	647	153	622	651	223	1395	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.2	36.0	36.1	43.2	34.9	31.3	52.9	38.8	38.8	51.8	29.0	0.0
Incr Delay (d2), s/veh	4.8	4.7	4.8	0.2	1.3	10.3	1.0	33.7	33.0	30.3	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	8.2	11.3	11.4	3.4	7.8	11.5	3.6	28.5	29.6	10.3	13.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	40.8	40.9	43.4	36.2	41.7	53.9	72.5	71.8	82.1	31.0	0.0
LnGrp LOS	D	D	D	D	D	D	D	E	E	F	C	
Approach Vol, veh/h		801			1027			1330			1033	A
Approach Delay, s/veh		43.2			39.5			71.2			40.4	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	41.4	14.6	53.1	12.0	40.3	19.7	48.0
Change Period (Y+Rc), s	4.6	6.0	5.0	* 6	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	35.4	10.3	* 47	7.1	34.3	15.0	42.0
Max Q Clear Time (g_c+I1), s	2.0	19.8	6.5	24.6	2.4	22.1	14.7	43.4
Green Ext Time (p_c), s	0.0	4.6	0.0	10.6	0.1	5.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	335	144	585	511	176	123	902	903	128	606	52
Future Volume (veh/h)	45	335	144	585	511	176	123	902	903	128	606	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	364	157	636	555	191	134	980	739	139	659	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	859	383	922	1237	424	176	888	819	173	800	69
Arrive On Green	0.04	0.24	0.24	0.27	0.48	0.48	0.08	0.42	0.42	0.05	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	3456	2596	891	1781	3554	1585	3456	3310	286
Grp Volume(v), veh/h	49	364	157	636	379	367	134	980	739	139	353	363
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1710	1781	1777	1585	1728	1777	1819
Q Serve(g_s), s	2.7	10.4	10.0	19.8	17.1	17.2	2.8	30.0	18.0	4.8	22.6	22.7
Cycle Q Clear(g_c), s	2.7	10.4	10.0	19.8	17.1	17.2	2.8	30.0	18.0	4.8	22.6	22.7
Prop In Lane	1.00		1.00	1.00		0.52	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	144	859	383	922	847	815	176	888	819	173	429	440
V/C Ratio(X)	0.34	0.42	0.41	0.69	0.45	0.45	0.76	1.10	0.90	0.80	0.82	0.82
Avail Cap(c_a), veh/h	161	859	383	950	847	815	191	888	819	173	429	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	38.4	38.3	39.5	20.9	20.9	52.2	34.9	7.2	56.4	43.1	43.1
Incr Delay (d2), s/veh	1.0	1.5	3.2	1.9	1.7	1.8	6.7	54.3	7.5	22.9	16.2	16.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.2	7.0	6.4	11.7	10.3	10.0	5.4	22.0	9.7	4.3	15.4	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	40.0	41.5	41.5	22.6	22.7	58.9	89.3	14.7	79.3	59.3	59.1
LnGrp LOS	D	D	D	D	C	C	E	F	B	E	E	E
Approach Vol, veh/h		570			1382			1853			855	
Approach Delay, s/veh		40.4			31.3			57.4			62.5	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.0	35.0	12.0	35.0	9.8	63.2	11.0	36.0
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	33.0	* 29	7.0	* 29	6.0	56.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	21.8	12.4	4.8	24.7	4.7	19.2	6.8	32.0
Green Ext Time (p_c), s	1.5	2.7	0.0	1.8	0.0	5.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰	↱	↰	↑↑	↑↑	↱
Traffic Volume (veh/h)	817	344	242	1601	1392	393
Future Volume (veh/h)	817	344	242	1601	1392	393
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	888	374	263	1740	1513	427
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	922	423	267	2260	1549	691
Arrive On Green	0.27	0.27	0.15	0.64	0.44	0.44
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	888	374	263	1740	1513	427
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	30.4	27.2	17.7	41.9	50.2	25.0
Cycle Q Clear(g_c), s	30.4	27.2	17.7	41.9	50.2	25.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	922	423	267	2260	1549	691
V/C Ratio(X)	0.96	0.88	0.98	0.77	0.98	0.62
Avail Cap(c_a), veh/h	922	423	267	2260	1549	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.63	0.63
Uniform Delay (d), s/veh	43.4	42.2	50.9	15.6	33.3	26.1
Incr Delay (d2), s/veh	21.3	19.7	50.4	2.6	13.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	19.7	29.0	15.1	20.8	27.9	12.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.7	61.9	101.3	18.2	46.7	28.8
LnGrp LOS	E	E	F	B	D	C
Approach Vol, veh/h	1262			2003	1940	
Approach Delay, s/veh	63.9			29.1	42.8	
Approach LOS	E			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		82.3		37.7	24.0	58.3
Change Period (Y+Rc), s		6.0		* 5.7	6.0	6.0
Max Green Setting (Gmax), s		76.3		* 32	18.0	52.3
Max Q Clear Time (g_c+I1), s		43.9		32.4	19.7	52.2
Green Ext Time (p_c), s		23.6		0.0	0.0	0.1

Intersection Summary			
HCM 6th Ctrl Delay			42.6
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	688	240	170	644	237	373	1267	111	277	994	274
Future Volume (veh/h)	310	688	240	170	644	237	373	1267	111	277	994	274
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	748	261	185	700	258	405	1377	121	301	1080	298
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	980	437	225	720	321	387	1273	568	278	1057	472
Arrive On Green	0.14	0.28	0.28	0.07	0.20	0.20	0.18	0.36	0.36	0.12	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	337	748	261	185	700	258	405	1377	121	301	1080	298
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.8	23.2	17.1	8.0	23.5	18.6	22.0	43.0	6.4	14.7	35.7	19.5
Cycle Q Clear(g_c), s	16.8	23.2	17.1	8.0	23.5	18.6	22.0	43.0	6.4	14.7	35.7	19.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	313	980	437	225	720	321	387	1273	568	278	1057	472
V/C Ratio(X)	1.08	0.76	0.60	0.82	0.97	0.80	1.05	1.08	0.21	1.08	1.02	0.63
Avail Cap(c_a), veh/h	313	980	437	225	720	321	387	1273	568	278	1057	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	39.9	37.7	40.6	47.5	45.6	37.9	38.5	26.7	36.1	42.1	36.5
Incr Delay (d2), s/veh	72.3	5.6	5.9	20.6	27.5	18.9	58.8	50.3	0.9	77.5	33.2	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	17.9	14.2	10.2	4.8	16.8	12.1	22.7	34.4	4.2	16.5	25.3	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.5	45.5	43.6	61.2	75.0	64.5	96.7	88.8	27.6	113.6	75.4	42.8
LnGrp LOS	F	D	D	E	E	E	F	F	C	F	F	D
Approach Vol, veh/h		1346			1143			1903			1679	
Approach Delay, s/veh		60.4			70.4			86.6			76.4	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	39.1	26.6	41.7	21.4	30.3	19.3	49.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	8.0	33.1	22.0	35.7	16.8	24.3	14.7	43.0
Max Q Clear Time (g_c+I1), s	10.0	25.2	24.0	37.7	18.8	25.5	16.7	45.0
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	74.9
HCM 6th LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	301	725	779	15	29	820
Future Volume (veh/h)	301	725	779	15	29	820
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	327	788	847	16	0	925
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	479	2211	1631	31	483	859
Arrive On Green	0.12	0.62	0.46	0.46	0.00	0.27
Sat Flow, veh/h	1781	3647	3661	67	1781	3170
Grp Volume(v), veh/h	327	788	422	441	0	925
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1858	1781	1585
Q Serve(g_s), s	8.1	9.7	15.2	15.2	0.0	24.4
Cycle Q Clear(g_c), s	8.1	9.7	15.2	15.2	0.0	24.4
Prop In Lane	1.00			0.04	1.00	1.00
Lane Grp Cap(c), veh/h	479	2211	812	850	483	859
V/C Ratio(X)	0.68	0.36	0.52	0.52	0.00	1.08
Avail Cap(c_a), veh/h	680	2211	812	850	483	859
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	8.3	17.4	17.4	0.0	32.8
Incr Delay (d2), s/veh	1.7	0.5	2.4	2.3	0.0	53.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.9	5.4	9.1	9.4	0.0	20.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.9	8.7	19.8	19.7	0.0	86.1
LnGrp LOS	B	A	B	B	A	F
Approach Vol, veh/h		1115	863		925	
Approach Delay, s/veh		10.2	19.7		86.1	
Approach LOS		B	B		F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.9	46.1		29.0		61.0
Change Period (Y+Rc), s	4.0	* 5		4.6		* 5
Max Green Setting (Gmax), s	21.0	* 31		24.4		* 56
Max Q Clear Time (g_c+I1), s	10.1	17.2		26.4		11.7
Green Ext Time (p_c), s	0.8	4.7		0.0		6.7

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	730	29	123	714	113	87	1023	105	169	978	165
Future Volume (veh/h)	220	730	29	123	714	113	87	1023	105	169	978	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	793	32	134	776	123	95	1112	114	184	1063	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1378	56	204	1407	627	183	1722	176	189	1611	271
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	619	3481	140	664	3554	1585	448	3254	333	455	3044	511
Grp Volume(v), veh/h	239	405	420	134	776	123	95	607	619	184	620	622
Grp Sat Flow(s),veh/h/ln	619	1777	1845	664	1777	1585	448	1777	1810	455	1777	1778
Q Serve(g_s), s	27.2	21.4	21.4	23.7	20.3	6.1	23.4	29.3	29.4	34.1	30.2	30.4
Cycle Q Clear(g_c), s	47.5	21.4	21.4	45.1	20.3	6.1	53.8	29.3	29.4	63.5	30.2	30.4
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.18	1.00		0.29
Lane Grp Cap(c), veh/h	201	703	730	204	1407	627	183	940	958	189	940	941
V/C Ratio(X)	1.19	0.58	0.58	0.66	0.55	0.20	0.52	0.65	0.65	0.97	0.66	0.66
Avail Cap(c_a), veh/h	201	703	730	204	1407	627	183	940	958	189	940	941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.48	0.48	0.48
Uniform Delay (d), s/veh	50.5	28.4	28.4	46.0	28.0	23.7	40.0	20.2	20.2	48.0	20.4	20.5
Incr Delay (d2), s/veh	124.6	1.2	1.1	7.3	0.5	0.2	10.1	3.4	3.4	38.8	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	18.7	12.4	12.8	6.5	11.7	3.9	4.9	16.4	16.7	9.6	15.2	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.0	29.5	29.5	53.4	28.5	23.9	50.0	23.6	23.6	86.8	22.2	22.2
LnGrp LOS	F	C	C	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		1064			1033			1321			1426	
Approach Delay, s/veh		62.2			31.2			25.5			30.5	
Approach LOS		E			C			C			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		68.0		52.0		68.0		52.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		63.5		47.5		63.5		47.5
Max Q Clear Time (g_c+I1), s		55.8		49.5		65.5		47.1
Green Ext Time (p_c), s		5.1		0.0		0.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	2	33	151	0	11	0	12	0	0	0
Future Vol, veh/h	0	37	2	33	151	0	11	0	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	2	36	164	0	12	0	13	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	164	0	0	42	0	0	277	277	41	284	278	164
Stage 1	-	-	-	-	-	-	41	41	-	236	236	-
Stage 2	-	-	-	-	-	-	236	236	-	48	42	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1414	-	-	1567	-	-	675	631	1030	668	630	881
Stage 1	-	-	-	-	-	-	974	861	-	767	710	-
Stage 2	-	-	-	-	-	-	767	710	-	965	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1414	-	-	1567	-	-	662	615	1030	647	614	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	662	615	-	647	614	-
Stage 1	-	-	-	-	-	-	974	861	-	767	692	-
Stage 2	-	-	-	-	-	-	748	692	-	953	860	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.3	9.6	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	814	1414	-	-	1567	-	-	-
HCM Lane V/C Ratio	0.031	-	-	-	0.023	-	-	-
HCM Control Delay (s)	9.6	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

HCM 6th Signalized Intersection Summary
2: N Hollywood Way SB On Ramp & Vanowen St

07/06/2021

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑		
Traffic Volume (veh/h)	996	168	99	499	0	0
Future Volume (veh/h)	996	168	99	499	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1083	183	108	542		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2829	1262	201	3354		
Arrive On Green	0.80	0.80	0.11	0.94		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	1083	183	108	542		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	11.6	3.5	7.4	1.3		
Cycle Q Clear(g_c), s	11.6	3.5	7.4	1.3		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	2829	1262	201	3354		
V/C Ratio(X)	0.38	0.15	0.54	0.16		
Avail Cap(c_a), veh/h	2829	1262	206	3354		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.81	0.81		
Uniform Delay (d), s/veh	3.9	3.1	54.4	0.2		
Incr Delay (d2), s/veh	0.4	0.2	2.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(85%),veh/ln	5.6	1.8	5.2	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.3	3.3	56.6	0.3		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1266			650		
Approach Delay, s/veh	4.1			9.7		
Approach LOS	A			A		

Timer - Assigned Phs	2	5	6
Phs Duration (G+Y+Rc), s	130.0	19.2	110.8
Change Period (Y+Rc), s	* 7.3	4.5	7.3
Max Green Setting (Gmax), s	* 1.1E2	15.0	102.7
Max Q Clear Time (g_c+I1), s	3.3	9.4	13.6
Green Ext Time (p_c), s	4.3	0.1	12.1

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	984	0	0	475	128	109
Future Volume (veh/h)	984	0	0	475	128	109
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1070	0	0	516	139	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2575	0	0	2575	298	265
Arrive On Green	0.72	0.00	0.00	0.72	0.17	0.17
Sat Flow, veh/h	3741	0	0	3741	1781	1585
Grp Volume(v), veh/h	1070	0	0	516	139	118
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1781	1585
Q Serve(g_s), s	13.1	0.0	0.0	5.1	7.8	7.4
Cycle Q Clear(g_c), s	13.1	0.0	0.0	5.1	7.8	7.4
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2575	0	0	2575	298	265
V/C Ratio(X)	0.42	0.00	0.00	0.20	0.47	0.45
Avail Cap(c_a), veh/h	2575	0	0	2575	298	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	4.9	41.4	41.2
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	5.2	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.4	0.0	0.0	3.1	5.9	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	0.0	0.0	5.1	46.5	46.5
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	1070			516	257	
Approach Delay, s/veh	6.1			5.1	46.5	
Approach LOS	A			A	D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		87.0		23.0		87.0
Change Period (Y+Rc), s		7.3		4.6		7.3
Max Green Setting (Gmax), s		26.7		18.4		45.7
Max Q Clear Time (g_c+I1), s		7.1		9.8		15.1
Green Ext Time (p_c), s		3.4		0.4		9.4

Intersection Summary			
HCM 6th Ctrl Delay			11.4
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	281	0	0	0	0	1133	237	0	1335	0
Future Vol, veh/h	0	0	281	0	0	0	0	1133	237	0	1335	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	305	0	0	0	0	1232	258	0	1451	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	-	-	726				-	0	0	-	-	0
Stage 1	-	-	-				-	-	-	-	-	-
Stage 2	-	-	-				-	-	-	-	-	-
Critical Hdwy	-	-	6.94				-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-				-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32				-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	367				0	-	-	0	-	0
Stage 1	0	0	-				0	-	-	0	-	0
Stage 2	0	0	-				0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	0	367				-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-	-	-	-
Stage 1	-	0	-				-	-	-	-	-	-
Stage 2	-	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.5	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBT
Capacity (veh/h)	-	-	367	-
HCM Lane V/C Ratio	-	-	0.832	-
HCM Control Delay (s)	-	-	48.5	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	7.5	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	85	339	38	94	57	372	954	108	201	1788	358
Future Volume (veh/h)	315	85	339	38	94	57	372	954	108	201	1788	358
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	299	230	41	102	62	404	1037	117	218	1943	389
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	557	403	342	123	471	267	384	2087	235	457	1916	375
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.18	0.45	0.45	0.16	0.45	0.45
Sat Flow, veh/h	2444	1870	1585	874	2185	1239	1781	4656	524	1781	4285	838
Grp Volume(v), veh/h	342	299	230	41	82	82	404	758	396	218	1534	798
Grp Sat Flow(s),veh/h/ln	1222	1870	1585	874	1777	1647	1781	1702	1776	1781	1702	1719
Q Serve(g_s), s	14.8	16.4	14.6	5.1	4.2	4.5	19.7	17.4	17.4	1.2	49.2	49.2
Cycle Q Clear(g_c), s	19.3	16.4	14.6	21.5	4.2	4.5	19.7	17.4	17.4	1.2	49.2	49.2
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.30	1.00		0.49
Lane Grp Cap(c), veh/h	557	403	342	123	383	355	384	1526	796	457	1522	769
V/C Ratio(X)	0.61	0.74	0.67	0.33	0.21	0.23	1.05	0.50	0.50	0.48	1.01	1.04
Avail Cap(c_a), veh/h	608	442	375	142	420	389	384	1526	796	457	1522	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	40.3	39.6	50.3	35.5	35.6	32.6	21.5	21.6	33.3	30.4	30.4
Incr Delay (d2), s/veh	1.6	6.0	4.2	1.6	0.3	0.3	59.9	1.2	2.2	0.6	25.0	42.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.8	11.1	8.6	2.1	3.2	3.3	19.2	9.8	10.5	7.4	29.9	35.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	46.3	43.7	51.9	35.7	36.0	92.5	22.7	23.8	33.9	55.4	73.1
LnGrp LOS	D	D	D	D	D	D	F	C	C	C	F	F
Approach Vol, veh/h		871			205			1558			2550	
Approach Delay, s/veh		45.2			39.1			41.1			59.1	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.6	55.7		29.7	24.5	55.8		29.7				
Change Period (Y+Rc), s	4.9	6.5		6.0	6.5	* 6.5		6.0				
Max Green Setting (Gmax), s	19.7	46.9		26.0	17.3	* 49		26.0				
Max Q Clear Time (g_c+I1), s	21.7	51.2		23.5	3.2	19.4		21.3				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.4	9.4		1.8				

Intersection Summary			
HCM 6th Ctrl Delay			50.6
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	21	10	202	89	81	10	1489	236	140	1960	10
Future Volume (veh/h)	10	21	10	202	89	81	10	1489	236	140	1960	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	23	11	220	97	88	11	1618	257	152	2130	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	136	115	311	255	210	461	3027	479	163	2097	11
Arrive On Green	0.03	0.07	0.07	0.09	0.14	0.14	0.44	1.00	1.00	0.40	0.40	0.40
Sat Flow, veh/h	3456	1870	1585	1781	1850	1523	1781	4445	703	243	5242	27
Grp Volume(v), veh/h	11	23	11	220	93	92	11	1238	637	152	1383	758
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1596	1781	1702	1744	243	1702	1865
Q Serve(g_s), s	0.3	1.3	0.5	10.0	5.2	5.8	0.0	0.0	0.0	44.0	44.0	44.0
Cycle Q Clear(g_c), s	0.3	1.3	0.5	10.0	5.2	5.8	0.0	0.0	0.0	44.0	44.0	44.0
Prop In Lane	1.00		1.00	1.00		0.95	1.00		0.40	1.00		0.01
Lane Grp Cap(c), veh/h	390	136	115	311	245	220	461	2318	1187	163	1362	746
V/C Ratio(X)	0.03	0.17	0.10	0.71	0.38	0.42	0.02	0.53	0.54	0.93	1.02	1.02
Avail Cap(c_a), veh/h	614	425	360	311	404	363	461	2318	1187	163	1362	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	47.9	19.4	42.8	43.2	43.4	23.8	0.0	0.0	40.9	33.0	33.0
Incr Delay (d2), s/veh	0.0	0.6	0.4	6.1	1.0	1.3	0.0	0.7	1.3	54.9	28.3	37.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.2	1.1	0.5	2.5	4.0	4.0	0.3	0.4	0.8	9.4	28.2	32.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	48.5	19.8	48.9	44.1	44.7	23.8	0.7	1.3	95.8	61.3	70.0
LnGrp LOS	D	D	B	D	D	D	C	A	A	F	F	F
Approach Vol, veh/h		45			405			1886			2293	
Approach Delay, s/veh		40.6			46.9			1.0			66.5	
Approach LOS		D			D			A			E	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	10.9	50.5	7.5	21.1		81.4	14.6	14.0
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	9.0	* 44	10.0	25.0		57.9	10.0	25.0
Max Q Clear Time (g_c+I1), s	2.0	46.0	2.3	7.8		2.0	12.0	3.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9		24.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
7: Hollywood Way & Avon St

07/06/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	9	65	23	25	170	64	1038	44	57	1558	45
Future Volume (veh/h)	96	9	65	23	25	170	64	1038	44	57	1558	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	10	71	25	27	185	70	1128	48	62	1693	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	45	319	308	46	318	254	1676	71	245	2434	70
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.29	0.97	0.97	0.27	0.95	0.95
Sat Flow, veh/h	1170	199	1416	1317	206	1411	1781	3473	148	1781	5100	148
Grp Volume(v), veh/h	104	0	81	25	0	212	70	577	599	62	1130	612
Grp Sat Flow(s),veh/h/ln	1170	0	1615	1317	0	1616	1781	1777	1844	1781	1702	1844
Q Serve(g_s), s	9.6	0.0	4.5	1.7	0.0	12.9	3.4	3.5	3.5	3.0	4.9	4.9
Cycle Q Clear(g_c), s	22.4	0.0	4.5	6.2	0.0	12.9	3.4	3.5	3.5	3.0	4.9	4.9
Prop In Lane	1.00		0.88	1.00		0.87	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	192	0	364	308	0	364	254	858	890	245	1625	880
V/C Ratio(X)	0.54	0.00	0.22	0.08	0.00	0.58	0.28	0.67	0.67	0.25	0.70	0.70
Avail Cap(c_a), veh/h	248	0	441	371	0	441	254	858	890	245	1625	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	48.0	0.0	34.7	37.3	0.0	38.0	34.9	1.0	1.0	35.5	1.4	1.4
Incr Delay (d2), s/veh	2.4	0.0	0.3	0.1	0.0	1.5	2.7	4.2	4.1	1.8	1.8	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.7	0.0	3.2	1.0	0.0	7.6	2.9	2.7	2.8	2.4	1.9	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	0.0	35.1	37.4	0.0	39.5	37.5	5.2	5.1	37.3	3.2	4.8
LnGrp LOS	D	A	D	D	A	D	D	A	A	D	A	A
Approach Vol, veh/h		185			237			1246			1804	
Approach Delay, s/veh		43.7			39.2			7.0			4.9	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.2	59.0		29.8	20.6	59.6		29.8				
Change Period (Y+Rc), s	5.5	6.5		5.0	5.5	6.5		5.0				
Max Green Setting (Gmax), s	10.5	52.5		30.0	9.9	53.1		30.0				
Max Q Clear Time (g_c+I1), s	15.4	6.9		14.9	5.0	5.5		24.4				
Green Ext Time (p_c), s	0.0	19.5		1.2	0.0	10.7		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			10.1									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	3	28	0	0	11	74	1259	3	46	1400	169
Future Volume (veh/h)	100	3	28	0	0	11	74	1259	3	46	1400	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	3	30	0	0	12	80	1368	3	50	1522	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	201	14	141	0	181	153	118	2841	6	362	2457	1096
Arrive On Green	0.10	0.10	0.10	0.00	0.00	0.10	0.07	0.54	0.54	0.41	1.00	1.00
Sat Flow, veh/h	1402	146	1461	0	1870	1585	1781	5261	12	1781	3554	1585
Grp Volume(v), veh/h	109	0	33	0	0	12	80	885	486	50	1522	184
Grp Sat Flow(s),veh/h/ln	1402	0	1607	0	1870	1585	1781	1702	1868	1781	1777	1585
Q Serve(g_s), s	8.4	0.0	2.1	0.0	0.0	0.8	4.8	17.8	17.8	1.9	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	2.1	0.0	0.0	0.8	4.8	17.8	17.8	1.9	0.0	0.0
Prop In Lane	1.00		0.91	0.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	201	0	156	0	181	153	118	1838	1009	362	2457	1096
V/C Ratio(X)	0.54	0.00	0.21	0.00	0.00	0.08	0.68	0.48	0.48	0.14	0.62	0.17
Avail Cap(c_a), veh/h	397	0	380	0	442	375	147	1838	1009	362	2457	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	45.8	0.0	0.0	45.2	50.2	15.7	15.7	26.6	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.7	0.0	0.0	0.2	8.5	0.9	1.6	0.2	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.9	0.0	1.6	0.0	0.0	1.3	4.0	9.6	10.7	1.5	0.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	46.5	0.0	0.0	45.4	58.7	16.6	17.4	26.8	1.2	0.3
LnGrp LOS	D	A	D	A	A	D	E	B	B	C	A	A
Approach Vol, veh/h		142			12			1451			1756	
Approach Delay, s/veh		49.9			45.4			19.2			1.8	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.2	82.5		15.2	28.9	65.9		15.2
Change Period (Y+Rc), s	4.9	6.5		4.6	6.5	* 6.5		4.6
Max Green Setting (Gmax), s	9.1	58.9		26.0	8.6	* 59		26.0
Max Q Clear Time (g_c+I1), s	6.8	2.0		10.4	3.9	19.8		2.8
Green Ext Time (p_c), s	0.0	20.8		0.4	0.0	12.8		0.0

Intersection Summary			
HCM 6th Ctrl Delay			11.5
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	748	65	60	446	118	30	880	57	216	665	272
Future Volume (veh/h)	331	748	65	60	446	118	30	880	57	216	665	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	360	813	71	65	485	128	33	957	62	235	723	296
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	1164	611	258	788	517	189	1066	575	264	1277	837
Arrive On Green	0.17	0.33	0.33	0.06	0.22	0.22	0.06	0.30	0.30	0.10	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	360	813	71	65	485	128	33	957	62	235	723	296
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.5	21.9	3.2	3.0	13.5	2.0	1.5	28.4	1.7	9.4	18.0	11.9
Cycle Q Clear(g_c), s	16.5	21.9	3.2	3.0	13.5	2.0	1.5	28.4	1.7	9.4	18.0	11.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	446	1164	611	258	788	517	189	1066	575	264	1277	837
V/C Ratio(X)	0.81	0.70	0.12	0.25	0.62	0.25	0.17	0.90	0.11	0.89	0.57	0.35
Avail Cap(c_a), veh/h	459	1164	611	275	788	517	248	1066	575	305	1277	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	32.2	21.8	29.8	38.6	10.2	31.3	36.9	9.8	46.7	28.3	15.1
Incr Delay (d2), s/veh	9.2	3.5	0.4	0.2	3.6	1.1	0.1	9.8	0.3	21.9	1.8	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	10.9	13.1	2.2	2.3	8.9	2.3	1.2	17.0	1.4	10.8	10.8	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	35.7	22.1	30.0	42.2	11.3	31.4	46.7	10.1	68.5	30.2	16.2
LnGrp LOS	D	D	C	C	D	B	C	D	B	E	C	B
Approach Vol, veh/h		1244			678			1052			1254	
Approach Delay, s/veh		34.8			35.2			44.0			34.1	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	42.0	11.0	45.5	23.2	30.4	17.5	39.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	6.0	* 6
Max Green Setting (Gmax), s	8.0	33.8	10.0	37.0	19.4	22.4	14.0	* 33
Max Q Clear Time (g_c+I1), s	5.0	23.9	3.5	20.0	18.5	15.5	11.4	30.4
Green Ext Time (p_c), s	0.0	4.1	0.0	5.7	0.1	2.1	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	517	101	131	289	131	58	604	22	191	1058	254
Future Volume (veh/h)	86	517	101	131	289	131	58	604	22	191	1058	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	562	110	142	314	142	63	657	24	208	1150	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	575	1473	287	449	1783	1006	83	1049	38	237	1418	
Arrive On Green	0.05	0.50	0.50	0.06	0.50	0.50	0.05	0.30	0.30	0.13	0.40	0.00
Sat Flow, veh/h	1781	2965	578	1781	3554	1585	1781	3497	128	1781	3554	1585
Grp Volume(v), veh/h	93	336	336	142	314	142	63	334	347	208	1150	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1777	1585	1781	1777	1847	1781	1777	1585
Q Serve(g_s), s	2.7	12.9	13.0	4.3	5.3	1.0	3.8	17.8	17.8	12.6	31.6	0.0
Cycle Q Clear(g_c), s	2.7	12.9	13.0	4.3	5.3	1.0	3.8	17.8	17.8	12.6	31.6	0.0
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	575	883	877	449	1783	1006	83	533	554	237	1418	
V/C Ratio(X)	0.16	0.38	0.38	0.32	0.18	0.14	0.76	0.63	0.63	0.88	0.81	
Avail Cap(c_a), veh/h	582	883	877	449	1783	1006	107	533	554	243	1418	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.0	17.2	17.2	13.0	15.0	8.1	51.8	33.2	33.2	46.8	29.4	0.0
Incr Delay (d2), s/veh	0.0	1.2	1.3	0.1	0.2	0.3	14.7	5.5	5.3	28.5	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.9	7.9	7.9	3.0	3.7	2.4	3.5	11.4	11.8	10.3	18.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	18.4	18.5	13.2	15.2	8.4	66.6	38.7	38.5	75.3	34.5	0.0
LnGrp LOS	B	B	B	B	B	A	E	D	D	E	C	
Approach Vol, veh/h		765			598			744			1358	A
Approach Delay, s/veh		17.7			13.1			40.9			40.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	61.2	9.7	49.9	10.3	61.8	20.6	39.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	6.0	* 6
Max Green Setting (Gmax), s	6.2	34.2	6.6	41.8	6.1	34.3	15.0	* 33
Max Q Clear Time (g_c+I1), s	6.3	15.0	5.8	33.6	4.7	7.3	14.6	19.8
Green Ext Time (p_c), s	0.0	5.7	0.0	6.3	0.0	3.8	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	178	90	494	346	69	118	469	741	99	795	32
Future Volume (veh/h)	26	178	90	494	346	69	118	469	741	99	795	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	193	98	537	376	75	128	510	605	108	864	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	1054	470	609	1305	258	163	937	697	188	949	38
Arrive On Green	0.03	0.30	0.30	0.18	0.44	0.44	0.02	0.09	0.09	0.05	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	3456	2958	584	1781	3554	1585	3456	3481	141
Grp Volume(v), veh/h	28	193	98	537	224	227	128	510	605	108	441	458
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1765	1781	1777	1585	1728	1777	1845
Q Serve(g_s), s	1.2	4.4	5.1	16.7	8.9	9.1	6.0	15.1	20.9	3.4	26.4	26.4
Cycle Q Clear(g_c), s	1.2	4.4	5.1	16.7	8.9	9.1	6.0	15.1	20.9	3.4	26.4	26.4
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	400	1054	470	609	784	779	163	937	697	188	485	503
V/C Ratio(X)	0.07	0.18	0.21	0.88	0.29	0.29	0.79	0.54	0.87	0.57	0.91	0.91
Avail Cap(c_a), veh/h	441	1054	470	723	784	779	163	937	697	220	485	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	28.8	29.0	44.2	19.6	19.7	38.8	43.9	14.5	50.7	38.7	38.7
Incr Delay (d2), s/veh	0.1	0.4	1.0	10.5	0.9	0.9	16.8	1.7	10.8	2.0	23.7	23.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.9	3.4	3.6	10.9	5.9	5.9	5.4	9.9	13.6	2.7	18.5	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	29.2	30.0	54.7	20.6	20.6	55.6	45.6	25.3	52.8	62.4	61.8
LnGrp LOS	C	C	C	D	C	C	E	D	C	D	E	E
Approach Vol, veh/h		319			988			1243			1007	
Approach Delay, s/veh		29.1			39.1			36.7			61.1	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	38.6	11.0	36.0	8.4	54.6	12.0	35.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	23.0	29.0	6.0	30.0	6.0	46.0	7.0	* 29
Max Q Clear Time (g_c+I1), s	18.7	7.1	8.0	28.4	3.2	11.1	5.4	22.9
Green Ext Time (p_c), s	0.7	1.5	0.0	0.9	0.0	3.0	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	686	328	154	903	1275	315
Future Volume (veh/h)	686	328	154	903	1275	315
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	746	357	167	982	1386	342
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	858	393	196	2294	1709	762
Arrive On Green	0.25	0.25	0.11	0.65	0.64	0.64
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	746	357	167	982	1386	342
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	22.8	24.0	10.1	14.9	32.1	12.0
Cycle Q Clear(g_c), s	22.8	24.0	10.1	14.9	32.1	12.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	858	393	196	2294	1709	762
V/C Ratio(X)	0.87	0.91	0.85	0.43	0.81	0.45
Avail Cap(c_a), veh/h	889	408	227	2294	1709	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.43	0.43
Uniform Delay (d), s/veh	39.6	40.1	48.1	9.6	16.1	12.4
Incr Delay (d2), s/veh	9.2	23.5	20.8	0.6	1.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	14.1	26.5	8.1	8.0	13.0	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.9	63.6	68.9	10.1	18.0	13.3
LnGrp LOS	D	E	E	B	B	B
Approach Vol, veh/h	1103			1149	1728	
Approach Delay, s/veh	53.6			18.7	17.0	
Approach LOS	D			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		77.0		33.0	18.1	58.9
Change Period (Y+Rc), s		6.0		* 5.7	6.0	6.0
Max Green Setting (Gmax), s		70.0		* 28	14.0	50.0
Max Q Clear Time (g_c+I1), s		16.9		26.0	12.1	34.1
Green Ext Time (p_c), s		13.7		1.3	0.0	12.3

Intersection Summary						
HCM 6th Ctrl Delay			27.7			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	408	287	107	276	161	103	604	55	211	1228	152
Future Volume (veh/h)	257	408	287	107	276	161	103	604	55	211	1228	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	443	312	116	300	175	112	657	60	229	1335	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	963	429	297	788	352	186	1341	598	409	1486	663
Arrive On Green	0.11	0.27	0.27	0.06	0.22	0.22	0.05	0.38	0.38	0.10	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	279	443	312	116	300	175	112	657	60	229	1335	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.4	11.4	19.7	5.5	7.9	10.6	4.2	15.5	2.7	8.3	38.5	7.4
Cycle Q Clear(g_c), s	12.4	11.4	19.7	5.5	7.9	10.6	4.2	15.5	2.7	8.3	38.5	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	963	429	297	788	352	186	1341	598	409	1486	663
V/C Ratio(X)	0.69	0.46	0.73	0.39	0.38	0.50	0.60	0.49	0.10	0.56	0.90	0.25
Avail Cap(c_a), veh/h	404	963	429	297	788	352	199	1341	598	485	1486	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	33.4	36.4	30.2	36.4	37.4	26.0	26.2	22.2	18.4	29.8	20.8
Incr Delay (d2), s/veh	4.6	1.6	10.3	0.6	1.4	5.0	3.8	1.3	0.3	0.9	9.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	8.7	7.5	11.8	4.0	5.5	6.8	3.4	9.4	1.9	5.4	22.1	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	35.0	46.7	30.9	37.8	42.4	29.7	27.4	22.5	19.3	38.8	21.7
LnGrp LOS	C	C	D	C	D	D	C	C	C	B	D	C
Approach Vol, veh/h		1034			591			829			1729	
Approach Delay, s/veh		38.0			37.8			27.4			34.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	35.8	10.6	52.0	17.0	30.4	15.1	47.5
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	7.0	29.0	6.8	46.0	12.4	23.6	15.2	37.6
Max Q Clear Time (g_c+I1), s	7.5	21.7	6.2	40.5	14.4	12.6	10.3	17.5
Green Ext Time (p_c), s	0.0	2.4	0.0	4.1	0.0	1.9	0.2	4.7

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	512	1186	475	22	38	331
Future Volume (veh/h)	512	1186	475	22	38	331
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	557	1289	516	24	0	404
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	745	2515	1651	77	331	588
Arrive On Green	0.19	0.71	0.48	0.48	0.00	0.19
Sat Flow, veh/h	1781	3647	3551	161	1781	3170
Grp Volume(v), veh/h	557	1289	265	275	0	404
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1841	1781	1585
Q Serve(g_s), s	12.9	15.0	8.2	8.3	0.0	10.7
Cycle Q Clear(g_c), s	12.9	15.0	8.2	8.3	0.0	10.7
Prop In Lane	1.00			0.09	1.00	1.00
Lane Grp Cap(c), veh/h	745	2515	848	879	331	588
V/C Ratio(X)	0.75	0.51	0.31	0.31	0.00	0.69
Avail Cap(c_a), veh/h	1146	2515	848	879	331	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	6.0	14.4	14.5	0.0	34.2
Incr Delay (d2), s/veh	1.5	0.7	1.0	0.9	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.5	7.0	5.3	5.5	0.0	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	6.8	15.4	15.4	0.0	40.6
LnGrp LOS	A	A	B	B	A	D
Approach Vol, veh/h		1846	540		404	
Approach Delay, s/veh		7.6	15.4		40.6	
Approach LOS		A	B		D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.7	48.0		21.3		68.7
Change Period (Y+Rc), s	4.0	* 5		4.6		* 5
Max Green Setting (Gmax), s	37.0	* 23		16.7		* 64
Max Q Clear Time (g_c+I1), s	14.9	10.3		12.7		17.0
Green Ext Time (p_c), s	1.9	2.6		0.6		13.8

Intersection Summary		
HCM 6th Ctrl Delay		13.9
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	579	35	181	462	81	42	737	75	197	1332	123
Future Volume (veh/h)	256	579	35	181	462	81	42	737	75	197	1332	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	278	629	38	197	502	88	46	801	82	214	1448	134
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	1346	81	264	1405	627	112	1701	174	296	1720	158
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	826	3405	205	769	3554	1585	323	3254	333	629	3290	303
Grp Volume(v), veh/h	278	328	339	197	502	88	46	437	446	214	778	804
Grp Sat Flow(s),veh/h/ln	826	1777	1833	769	1777	1585	323	1777	1810	629	1777	1816
Q Serve(g_s), s	32.6	15.1	15.1	28.1	10.9	3.9	15.6	17.1	17.1	35.9	40.9	41.7
Cycle Q Clear(g_c), s	43.5	15.1	15.1	43.2	10.9	3.9	57.4	17.1	17.1	53.1	40.9	41.7
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.18	1.00		0.17
Lane Grp Cap(c), veh/h	310	703	725	264	1405	627	112	929	946	296	929	949
V/C Ratio(X)	0.90	0.47	0.47	0.75	0.36	0.14	0.41	0.47	0.47	0.72	0.84	0.85
Avail Cap(c_a), veh/h	310	703	725	264	1405	627	112	929	946	296	929	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	40.7	24.7	24.7	40.7	23.4	21.3	47.1	16.6	16.6	33.4	22.3	22.5
Incr Delay (d2), s/veh	26.8	0.5	0.5	11.0	0.2	0.1	10.8	1.7	1.7	12.4	7.8	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	18.3	9.0	9.2	8.6	6.8	2.6	2.9	10.0	10.2	8.8	22.3	23.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	25.1	25.1	51.6	23.6	21.4	57.9	18.3	18.3	45.8	30.0	30.6
LnGrp LOS	E	C	C	D	C	C	E	B	B	D	C	C
Approach Vol, veh/h		945			787			929			1796	
Approach Delay, s/veh		37.6			30.3			20.3			32.2	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		62.0		48.0		62.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		57.5		43.5		57.5		43.5
Max Q Clear Time (g_c+I1), s		59.4		45.5		55.1		45.2
Green Ext Time (p_c), s		0.0		0.0		2.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	167	6	38	33	0	2	0	30	0	0	0
Future Vol, veh/h	0	167	6	38	33	0	2	0	30	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	182	7	41	36	0	2	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	36	0	0	189	0	0	304	304	186	320	307	36
Stage 1	-	-	-	-	-	-	186	186	-	118	118	-
Stage 2	-	-	-	-	-	-	118	118	-	202	189	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1575	-	-	1385	-	-	648	609	856	633	607	1037
Stage 1	-	-	-	-	-	-	816	746	-	887	798	-
Stage 2	-	-	-	-	-	-	887	798	-	800	744	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1575	-	-	1385	-	-	633	591	856	595	589	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	633	591	-	595	589	-
Stage 1	-	-	-	-	-	-	816	746	-	887	774	-
Stage 2	-	-	-	-	-	-	860	774	-	770	744	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.1	9.5	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	838	1575	-	-	1385	-	-	-
HCM Lane V/C Ratio	0.042	-	-	-	0.03	-	-	-
HCM Control Delay (s)	9.5	0	-	-	7.7	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑		
Traffic Volume (veh/h)	1050	154	149	902	0	0
Future Volume (veh/h)	1050	154	149	902	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1141	167	162	980		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2874	1282	191	3368		
Arrive On Green	0.81	0.81	0.11	0.95		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	1141	167	162	980		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	12.7	3.2	12.5	2.8		
Cycle Q Clear(g_c), s	12.7	3.2	12.5	2.8		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	2874	1282	191	3368		
V/C Ratio(X)	0.40	0.13	0.85	0.29		
Avail Cap(c_a), veh/h	2874	1282	191	3368		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.45	0.45		
Uniform Delay (d), s/veh	3.8	2.9	61.4	0.3		
Incr Delay (d2), s/veh	0.4	0.2	15.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(85%),veh/ln	6.1	1.7	8.2	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.2	3.1	76.5	0.4		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1308			1142		
Approach Delay, s/veh	4.0			11.2		
Approach LOS	A			B		

Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		140.0			19.5	120.5
Change Period (Y+Rc), s		* 7.3			4.5	7.3
Max Green Setting (Gmax), s		* 1.2E2			15.0	112.7
Max Q Clear Time (g_c+I1), s		4.8			14.5	14.7
Green Ext Time (p_c), s		9.4			0.0	13.1

Intersection Summary						
HCM 6th Ctrl Delay			7.4			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
	→	↘	↙	←	↖	↗
Lane Configurations	↑↑			↑↑	↰	↱
Traffic Volume (veh/h)	1062	0	0	829	221	183
Future Volume (veh/h)	1062	0	0	829	221	183
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1154	0	0	901	240	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2588	0	0	2588	307	273
Arrive On Green	0.73	0.00	0.00	0.73	0.17	0.17
Sat Flow, veh/h	3741	0	0	3741	1781	1585
Grp Volume(v), veh/h	1154	0	0	901	240	199
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1781	1585
Q Serve(g_s), s	15.7	0.0	0.0	11.1	15.5	14.3
Cycle Q Clear(g_c), s	15.7	0.0	0.0	11.1	15.5	14.3
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2588	0	0	2588	307	273
V/C Ratio(X)	0.45	0.00	0.00	0.35	0.78	0.73
Avail Cap(c_a), veh/h	2588	0	0	2588	307	273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.6	0.0	0.0	5.9	47.5	47.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	17.7	15.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	7.6	0.0	0.0	5.9	11.4	9.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.7	0.0	0.0	6.3	65.2	62.6
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1154			901	439	
Approach Delay, s/veh	6.7			6.3	64.0	
Approach LOS	A			A	E	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		94.7		25.3		94.7
Change Period (Y+Rc), s		7.3		4.6		7.3
Max Green Setting (Gmax), s		36.2		20.7		43.9
Max Q Clear Time (g_c+I1), s		13.1		17.5		17.7
Green Ext Time (p_c), s		6.8		0.4		9.8

Intersection Summary			
HCM 6th Ctrl Delay			16.6
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	259	0	0	0	0	1589	404	0	1431	0
Future Vol, veh/h	0	0	259	0	0	0	0	1589	404	0	1431	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	282	0	0	0	0	1727	439	0	1555	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	-	778	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	339	0	-	-	0	-	0
Stage 1	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	-	-	0	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	339	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	51.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBT
Capacity (veh/h)	-	-	339	-
HCM Lane V/C Ratio	-	-	0.83	-
HCM Control Delay (s)	-	-	51.1	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	7.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	96	379	108	84	284	337	1411	44	77	1356	309
Future Volume (veh/h)	370	96	379	108	84	284	337	1411	44	77	1356	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	335	258	117	91	309	366	1534	48	84	1474	336
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	514	436	156	489	436	408	2690	84	198	1612	366
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.19	0.53	0.53	0.06	0.39	0.39
Sat Flow, veh/h	1969	1870	1585	824	1777	1585	1781	5087	159	1781	4160	944
Grp Volume(v), veh/h	402	335	258	117	91	309	366	1027	555	84	1205	605
Grp Sat Flow(s),veh/h/ln	985	1870	1585	824	1777	1585	1781	1702	1842	1781	1702	1700
Q Serve(g_s), s	11.9	19.0	16.9	14.0	4.7	21.1	19.3	24.4	24.4	3.8	40.3	40.6
Cycle Q Clear(g_c), s	33.0	19.0	16.9	33.0	4.7	21.1	19.3	24.4	24.4	3.8	40.3	40.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.56
Lane Grp Cap(c), veh/h	316	514	436	156	489	436	408	1800	974	198	1319	659
V/C Ratio(X)	1.27	0.65	0.59	0.75	0.19	0.71	0.90	0.57	0.57	0.43	0.91	0.92
Avail Cap(c_a), veh/h	316	514	436	156	489	436	411	1800	974	223	1319	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	38.4	37.7	54.2	33.2	39.2	45.3	19.1	19.1	29.5	34.8	34.9
Incr Delay (d2), s/veh	145.2	2.9	2.1	18.0	0.2	5.3	21.4	1.3	2.4	1.1	11.2	19.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	16.5	12.2	9.5	6.5	3.6	11.9	16.7	13.0	14.3	3.0	22.8	24.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.5	41.3	39.8	72.2	33.4	44.4	66.7	20.4	21.5	30.5	46.0	54.9
LnGrp LOS	F	D	D	E	C	D	E	C	C	C	D	D
Approach Vol, veh/h		995			517			1948			1894	
Approach Delay, s/veh		105.7			48.8			29.4			48.2	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	29.4	53.0		39.0	12.4	70.0		39.0
Change Period (Y+Rc), s	6.5	* 6.5		6.0	4.9	6.5		6.0
Max Green Setting (Gmax), s	23.1	* 47		33.0	9.2	60.4		33.0
Max Q Clear Time (g_c+I1), s	21.3	42.6		35.0	5.8	26.4		35.0
Green Ext Time (p_c), s	0.2	3.3		0.0	0.0	15.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	4	10	276	106	163	10	1681	206	56	1895	10
Future Volume (veh/h)	10	4	10	276	106	163	10	1681	206	56	1895	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	4	11	300	115	177	11	1827	224	61	2060	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	139	118	316	241	215	180	3211	391	143	3315	18
Arrive On Green	0.03	0.07	0.07	0.09	0.14	0.14	0.02	0.47	0.47	0.63	0.63	0.63
Sat Flow, veh/h	3456	1870	1585	1781	1777	1585	1781	4612	562	205	5241	28
Grp Volume(v), veh/h	11	4	11	300	115	177	11	1345	706	61	1338	733
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1781	1702	1769	205	1702	1865
Q Serve(g_s), s	0.3	0.2	0.8	10.4	7.2	13.0	0.2	34.4	34.8	30.2	28.5	28.6
Cycle Q Clear(g_c), s	0.3	0.2	0.8	10.4	7.2	13.0	0.2	34.4	34.8	57.4	28.5	28.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.01
Lane Grp Cap(c), veh/h	265	139	118	316	241	215	180	2371	1232	143	2153	1180
V/C Ratio(X)	0.04	0.03	0.09	0.95	0.48	0.82	0.06	0.57	0.57	0.43	0.62	0.62
Avail Cap(c_a), veh/h	465	390	330	316	376	336	273	2371	1232	143	2153	1180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.58	0.58	0.58	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	51.5	51.8	50.2	47.9	50.5	10.7	18.9	19.0	30.1	13.3	13.4
Incr Delay (d2), s/veh	0.1	0.1	0.3	37.2	1.5	9.1	0.1	0.6	1.1	9.0	1.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.3	0.2	0.6	10.1	5.2	8.2	0.2	17.8	18.8	3.2	14.1	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	51.6	52.1	87.4	49.4	59.6	10.7	19.5	20.1	39.2	14.7	15.8
LnGrp LOS	D	D	D	F	D	E	B	B	C	D	B	B
Approach Vol, veh/h		26			592			2062			2132	
Approach Delay, s/veh		50.7			71.7			19.7			15.8	
Approach LOS		D			E			B			B	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	7.7	82.4	7.7	22.3		90.1	15.0	14.9
Change Period (Y+Rc), s	4.9	6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	9.0	53.6	10.0	25.4		67.5	10.4	25.0
Max Q Clear Time (g_c+I1), s	2.2	59.4	2.3	15.0		36.8	12.4	2.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2		20.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
7: Hollywood Way & Avon St

07/06/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	50	23	25	176	78	1283	6	24	1348	34
Future Volume (veh/h)	110	10	50	23	25	176	78	1283	6	24	1348	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	11	54	25	27	191	85	1395	7	26	1465	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	66	322	336	48	337	212	2022	10	111	2522	64
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.24	1.00	1.00	0.02	0.16	0.16
Sat Flow, veh/h	1163	275	1352	1337	200	1415	1781	3626	18	1781	5122	129
Grp Volume(v), veh/h	120	0	65	25	0	218	85	684	718	26	974	528
Grp Sat Flow(s),veh/h/ln	1163	0	1627	1337	0	1616	1781	1777	1867	1781	1702	1847
Q Serve(g_s), s	12.2	0.0	3.8	1.8	0.0	14.3	4.8	0.0	0.0	1.7	31.7	31.7
Cycle Q Clear(g_c), s	26.4	0.0	3.8	5.6	0.0	14.3	4.8	0.0	0.0	1.7	31.7	31.7
Prop In Lane	1.00		0.83	1.00		0.88	1.00		0.01	1.00		0.07
Lane Grp Cap(c), veh/h	199	0	388	336	0	385	212	991	1041	111	1676	910
V/C Ratio(X)	0.60	0.00	0.17	0.07	0.00	0.57	0.40	0.69	0.69	0.23	0.58	0.58
Avail Cap(c_a), veh/h	222	0	420	363	0	417	212	991	1041	111	1676	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	51.9	0.0	36.3	38.5	0.0	40.2	42.1	0.0	0.0	55.9	38.8	38.8
Incr Delay (d2), s/veh	3.8	0.0	0.2	0.1	0.0	1.5	5.5	3.9	3.8	3.4	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.8	0.0	2.8	1.1	0.0	8.3	4.0	1.9	2.0	1.6	18.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	36.5	38.6	0.0	41.8	47.6	3.9	3.8	59.3	39.8	40.7
LnGrp LOS	E	A	D	D	A	D	D	A	A	E	D	D
Approach Vol, veh/h		185			243			1487			1528	
Approach Delay, s/veh		48.9			41.4			6.3			40.4	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	65.6		33.6	13.0	73.4		33.6
Change Period (Y+Rc), s	6.5	* 6.5		5.0	5.5	6.5		5.0
Max Green Setting (Gmax), s	12.9	* 59		31.0	7.5	64.5		31.0
Max Q Clear Time (g_c+I1), s	6.8	33.7		16.3	3.7	2.0		28.4
Green Ext Time (p_c), s	0.1	12.2		1.2	0.0	15.1		0.2

Intersection Summary		
HCM 6th Ctrl Delay		26.2
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	0	63	0	0	51	46	1757	18	19	1586	83
Future Volume (veh/h)	186	0	63	0	0	51	46	1757	18	19	1586	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	0	68	0	0	55	50	1910	20	21	1724	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	286	0	266	0	314	266	96	3065	32	173	2291	1022
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.17	0.05	0.59	0.59	0.19	1.00	1.00
Sat Flow, veh/h	1349	0	1585	0	1870	1585	1781	5210	55	1781	3554	1585
Grp Volume(v), veh/h	202	0	68	0	0	55	50	1248	682	21	1724	90
Grp Sat Flow(s),veh/h/ln	1349	0	1585	0	1870	1585	1781	1702	1861	1781	1777	1585
Q Serve(g_s), s	17.6	0.0	4.5	0.0	0.0	3.6	3.3	28.6	28.6	1.2	0.0	0.0
Cycle Q Clear(g_c), s	17.6	0.0	4.5	0.0	0.0	3.6	3.3	28.6	28.6	1.2	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	286	0	266	0	314	266	96	2003	1095	173	2291	1022
V/C Ratio(X)	0.71	0.00	0.26	0.00	0.00	0.21	0.52	0.62	0.62	0.12	0.75	0.09
Avail Cap(c_a), veh/h	357	0	349	0	411	349	120	2003	1095	173	2291	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	0.0	43.4	0.0	0.0	43.0	55.2	16.1	16.1	44.1	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	0.5	0.0	0.0	0.4	4.3	1.5	2.7	0.3	2.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	8.9	0.0	3.2	0.0	0.0	5.3	2.9	14.5	16.1	1.0	1.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	0.0	43.9	0.0	0.0	43.4	59.5	17.5	18.7	44.4	2.3	0.2
LnGrp LOS	D	A	D	A	A	D	E	B	B	D	A	A
Approach Vol, veh/h		270			55			1980			1835	
Approach Delay, s/veh		51.1			43.4			19.0			2.7	
Approach LOS		D			D			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	83.9		24.7	18.2	77.1		24.7				
Change Period (Y+Rc), s	4.9	6.5		4.6	6.5	* 6.5		4.6				
Max Green Setting (Gmax), s	8.1	69.5		26.4	7.0	* 71		26.4				
Max Q Clear Time (g_c+I1), s	15.3	2.0		19.6	3.2	30.6		5.6				
Green Ext Time (p_c), s	0.0	26.5		0.6	0.0	21.5		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			14.2									
HCM 6th LOS			B									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	365	901	38	120	1057	395	48	786	51	298	882	420
Future Volume (veh/h)	365	901	38	120	1057	395	48	786	51	298	882	420
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	397	979	41	130	1149	429	52	854	55	324	959	457
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	1427	745	265	1155	719	182	740	465	289	953	681
Arrive On Green	0.16	0.40	0.40	0.08	0.32	0.32	0.07	0.21	0.21	0.13	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	397	979	41	130	1149	429	52	854	55	324	959	457
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	19.4	27.3	1.0	0.4	38.7	11.5	2.6	25.0	0.7	15.4	32.2	5.2
Cycle Q Clear(g_c), s	19.4	27.3	1.0	0.4	38.7	11.5	2.6	25.0	0.7	15.4	32.2	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	1427	745	265	1155	719	182	740	465	289	953	681
V/C Ratio(X)	1.14	0.69	0.06	0.49	0.99	0.60	0.29	1.15	0.12	1.12	1.01	0.67
Avail Cap(c_a), veh/h	348	1427	745	265	1155	719	208	740	465	289	953	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	29.6	7.2	47.8	40.4	8.8	34.9	47.5	14.4	34.6	43.9	12.8
Incr Delay (d2), s/veh	92.2	2.7	0.1	0.5	25.3	3.6	0.2	78.0	0.3	90.2	30.8	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	24.8	15.7	0.9	5.6	25.4	6.2	2.0	24.2	1.3	18.6	22.6	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.8	32.3	7.3	48.3	65.7	12.4	35.1	125.5	14.7	124.7	74.7	18.0
LnGrp LOS	F	C	A	D	E	B	D	F	B	F	F	B
Approach Vol, veh/h		1417			1708			961			1740	
Approach Delay, s/veh		62.0			51.0			114.2			69.1	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	54.2	12.8	38.2	24.0	45.0	20.0	31.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	10.2	48.2	10.0	30.4	19.4	39.0	15.4	25.0
Max Q Clear Time (g_c+I1), s	21.4	29.3	4.6	34.2	21.4	40.7	17.4	27.0
Green Ext Time (p_c), s	0.1	7.1	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.5
HCM 6th LOS	E

Notes

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	473	98	66	399	479	68	1142	20	176	777	128
Future Volume (veh/h)	172	473	98	66	399	479	68	1142	20	176	777	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	514	107	72	434	521	74	1241	22	191	845	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	878	182	261	1019	639	151	1280	23	208	1386	
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.09	0.36	0.36	0.12	0.39	0.00
Sat Flow, veh/h	1781	2931	607	1781	3554	1585	1781	3572	63	1781	3554	1585
Grp Volume(v), veh/h	187	311	310	72	434	521	74	617	646	191	845	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1761	1781	1777	1585	1781	1777	1859	1781	1777	1585
Q Serve(g_s), s	7.0	17.8	18.0	3.4	11.9	15.7	4.8	41.0	41.0	12.7	22.8	0.0
Cycle Q Clear(g_c), s	7.0	17.8	18.0	3.4	11.9	15.7	4.8	41.0	41.0	12.7	22.8	0.0
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	274	532	527	261	1019	639	151	637	666	208	1386	
V/C Ratio(X)	0.68	0.58	0.59	0.28	0.43	0.81	0.49	0.97	0.97	0.92	0.61	
Avail Cap(c_a), veh/h	274	532	527	269	1019	639	157	637	666	208	1386	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.9	35.7	35.7	29.1	34.8	18.7	52.4	37.8	37.9	52.4	29.3	0.0
Incr Delay (d2), s/veh	5.6	4.6	4.8	0.2	1.3	11.0	0.9	28.9	28.2	40.8	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	8.5	11.4	11.4	2.6	7.7	9.3	3.7	27.5	28.6	11.0	13.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	40.3	40.5	29.3	36.1	29.6	53.3	66.7	66.0	93.3	31.3	0.0
LnGrp LOS	D	D	D	C	D	C	D	E	E	F	C	
Approach Vol, veh/h		808			1027			1337			1036	A
Approach Delay, s/veh		40.0			32.3			65.6			42.7	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	41.9	15.2	52.8	11.6	40.4	19.0	49.0
Change Period (Y+Rc), s	4.6	6.0	5.0	* 6	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	35.4	10.6	* 47	7.0	34.4	14.0	43.0
Max Q Clear Time (g_c+I1), s	15.4	20.0	6.8	24.8	9.0	17.7	14.7	43.0
Green Ext Time (p_c), s	0.0	4.7	0.0	10.5	0.0	6.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱	↰↰	↑↱	
Traffic Volume (veh/h)	45	335	144	608	511	176	127	909	927	128	615	52
Future Volume (veh/h)	45	335	144	608	511	176	127	909	927	128	615	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	364	157	661	555	191	138	988	758	139	668	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	888	396	893	1237	424	188	888	806	173	746	64
Arrive On Green	0.04	0.25	0.25	0.26	0.48	0.48	0.11	0.42	0.42	0.05	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	3456	2596	891	1781	3554	1585	3456	3314	283
Grp Volume(v), veh/h	49	364	157	661	379	367	138	988	758	139	358	367
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1710	1781	1777	1585	1728	1777	1820
Q Serve(g_s), s	2.6	10.3	9.9	21.1	17.1	17.2	4.1	30.0	20.3	4.8	23.5	23.5
Cycle Q Clear(g_c), s	2.6	10.3	9.9	21.1	17.1	17.2	4.1	30.0	20.3	4.8	23.5	23.5
Prop In Lane	1.00		1.00	1.00		0.52	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	150	888	396	893	847	815	188	888	806	173	400	409
V/C Ratio(X)	0.33	0.41	0.40	0.74	0.45	0.45	0.73	1.11	0.94	0.80	0.90	0.90
Avail Cap(c_a), veh/h	167	888	396	922	847	815	203	888	806	173	400	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	37.6	37.5	40.8	20.9	20.9	50.5	34.9	7.8	56.4	45.1	45.1
Incr Delay (d2), s/veh	0.9	1.4	2.9	2.9	1.7	1.8	4.7	57.5	10.2	22.9	25.1	24.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.1	6.9	6.3	12.4	10.3	10.0	5.3	22.4	10.9	4.3	16.8	17.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	39.0	40.4	43.8	22.6	22.7	55.3	92.4	18.0	79.3	70.2	70.0
LnGrp LOS	D	D	D	D	C	C	E	F	B	E	E	E
Approach Vol, veh/h		570			1407			1884			864	
Approach Delay, s/veh		39.4			32.6			59.8			71.6	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.0	36.0	14.0	33.0	9.8	63.2	11.0	36.0
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	32.0	* 30	9.0	* 27	6.0	56.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	23.1	12.3	6.1	25.5	4.6	19.2	6.8	32.0
Green Ext Time (p_c), s	1.4	2.7	0.1	0.7	0.0	5.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	852	362	263	1601	1392	425
Future Volume (veh/h)	852	362	263	1601	1392	425
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	926	393	286	1740	1513	462
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	930	427	282	2251	1510	674
Arrive On Green	0.27	0.27	0.16	0.63	0.43	0.43
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	926	393	286	1740	1513	462
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	32.1	28.9	19.0	42.2	51.0	28.4
Cycle Q Clear(g_c), s	32.1	28.9	19.0	42.2	51.0	28.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	930	427	282	2251	1510	674
V/C Ratio(X)	1.00	0.92	1.01	0.77	1.00	0.69
Avail Cap(c_a), veh/h	930	427	282	2251	1510	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.55	0.55
Uniform Delay (d), s/veh	43.8	42.6	50.5	15.8	34.5	28.0
Incr Delay (d2), s/veh	28.4	25.4	57.2	2.7	17.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	21.5	30.9	16.8	21.0	29.0	13.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	72.1	68.0	107.7	18.5	52.1	31.1
LnGrp LOS	E	E	F	B	F	C
Approach Vol, veh/h	1319			2026	1975	
Approach Delay, s/veh	70.9			31.1	47.2	
Approach LOS	E			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		82.0		38.0	25.0	57.0
Change Period (Y+Rc), s		6.0		* 5.7	6.0	6.0
Max Green Setting (Gmax), s		76.0		* 32	19.0	51.0
Max Q Clear Time (g_c+I1), s		44.2		34.1	21.0	53.0
Green Ext Time (p_c), s		23.3		0.0	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay			46.9
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	689	234	170	639	247	367	1278	111	283	1006	274
Future Volume (veh/h)	310	689	234	170	639	247	367	1278	111	283	1006	274
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	749	254	185	695	268	399	1389	121	308	1093	298
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	965	431	225	711	317	384	1273	568	283	1072	478
Arrive On Green	0.14	0.27	0.27	0.07	0.20	0.20	0.18	0.36	0.36	0.13	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	337	749	254	185	695	268	399	1389	121	308	1093	298
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.8	23.3	16.7	8.2	23.3	19.5	21.8	43.0	6.4	15.0	36.2	19.4
Cycle Q Clear(g_c), s	16.8	23.3	16.7	8.2	23.3	19.5	21.8	43.0	6.4	15.0	36.2	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	313	965	431	225	711	317	384	1273	568	283	1072	478
V/C Ratio(X)	1.08	0.78	0.59	0.82	0.98	0.85	1.04	1.09	0.21	1.09	1.02	0.62
Avail Cap(c_a), veh/h	313	965	431	225	711	317	384	1273	568	283	1072	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	40.3	37.9	40.4	47.7	46.2	38.0	38.5	26.7	36.3	41.9	36.0
Incr Delay (d2), s/veh	73.3	6.1	5.8	20.6	28.8	23.3	56.8	53.8	0.9	79.6	32.5	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	18.0	14.4	9.9	4.6	16.9	13.0	17.0	35.3	4.2	15.8	25.5	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.6	46.4	43.7	61.0	76.5	69.5	94.8	92.3	27.6	115.9	74.4	42.0
LnGrp LOS	F	D	D	E	E	E	F	F	C	F	F	D
Approach Vol, veh/h		1340			1148			1909			1699	
Approach Delay, s/veh		61.3			72.4			88.7			76.2	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	38.6	26.4	42.2	21.4	30.0	19.6	49.0
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	4.6	6.0
Max Green Setting (Gmax), s	8.2	32.6	21.8	36.2	16.8	24.0	15.0	43.0
Max Q Clear Time (g_c+I1), s	10.2	25.3	23.8	38.2	18.8	25.3	17.0	45.0
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	76.1
HCM 6th LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	301	742	796	23	48	820
Future Volume (veh/h)	301	742	796	23	48	820
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	327	807	865	25	0	947
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	463	2172	1566	45	503	895
Arrive On Green	0.12	0.61	0.44	0.44	0.00	0.28
Sat Flow, veh/h	1781	3647	3620	102	1781	3170
Grp Volume(v), veh/h	327	807	436	454	0	947
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1852	1781	1585
Q Serve(g_s), s	8.3	10.3	16.3	16.3	0.0	25.4
Cycle Q Clear(g_c), s	8.3	10.3	16.3	16.3	0.0	25.4
Prop In Lane	1.00			0.06	1.00	1.00
Lane Grp Cap(c), veh/h	463	2172	789	822	503	895
V/C Ratio(X)	0.71	0.37	0.55	0.55	0.00	1.06
Avail Cap(c_a), veh/h	640	2172	789	822	503	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	8.8	18.4	18.4	0.0	32.3
Incr Delay (d2), s/veh	2.1	0.5	2.8	2.7	0.0	46.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.1	5.7	9.7	10.0	0.0	19.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.3	9.3	21.2	21.1	0.0	79.1
LnGrp LOS	B	A	C	C	A	F
Approach Vol, veh/h		1134	890		947	
Approach Delay, s/veh		11.0	21.1		79.1	
Approach LOS		B	C		E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	45.0		30.0		60.0
Change Period (Y+Rc), s	4.0	* 5		4.6		* 5
Max Green Setting (Gmax), s	20.0	* 31		25.4		* 55
Max Q Clear Time (g_c+I1), s	10.3	18.3		27.4		12.3
Green Ext Time (p_c), s	0.7	4.7		0.0		6.8

Intersection Summary		
HCM 6th Ctrl Delay		35.8
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	730	29	123	714	113	87	1035	105	169	991	184
Future Volume (veh/h)	238	730	29	123	714	113	87	1035	105	169	991	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	793	32	134	776	123	95	1125	114	184	1077	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	1407	57	212	1436	641	168	1697	172	180	1559	289
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	619	3481	140	664	3554	1585	433	3258	330	449	2993	554
Grp Volume(v), veh/h	259	405	420	134	776	123	95	613	626	184	638	639
Grp Sat Flow(s),veh/h/ln	619	1777	1845	664	1777	1585	433	1777	1811	449	1777	1771
Q Serve(g_s), s	28.5	21.1	21.1	23.4	20.0	6.0	25.3	30.3	30.4	32.1	32.2	32.5
Cycle Q Clear(g_c), s	48.5	21.1	21.1	44.5	20.0	6.0	57.7	30.3	30.4	62.5	32.2	32.5
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.18	1.00		0.31
Lane Grp Cap(c), veh/h	207	718	746	212	1436	641	168	925	943	180	925	922
V/C Ratio(X)	1.25	0.56	0.56	0.63	0.54	0.19	0.56	0.66	0.66	1.02	0.69	0.69
Avail Cap(c_a), veh/h	207	718	746	212	1436	641	168	925	943	180	925	922
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.32	0.32	0.32
Uniform Delay (d), s/veh	49.9	27.6	27.6	44.8	27.3	23.1	43.2	21.0	21.1	49.3	21.5	21.6
Incr Delay (d2), s/veh	145.8	1.0	1.0	6.0	0.4	0.1	13.0	3.7	3.7	43.3	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	21.3	12.2	12.6	6.3	11.5	3.9	5.2	17.0	17.3	9.4	15.5	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	195.7	28.6	28.6	50.8	27.7	23.2	56.2	24.8	24.7	92.6	22.9	23.0
LnGrp LOS	F	C	C	D	C	C	E	C	C	F	C	C
Approach Vol, veh/h		1084			1033			1334			1461	
Approach Delay, s/veh		68.5			30.1			27.0			31.7	
Approach LOS		E			C			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.0	53.0	67.0	53.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	62.5	48.5	62.5	48.5
Max Q Clear Time (g_c+I1), s	59.7	50.5	64.5	46.5
Green Ext Time (p_c), s	2.1	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Appendix G

Driveway
Level of Service Worksheets

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	24	0	0	12	0
Future Vol, veh/h	0	24	0	0	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	26	0	0	13	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	26	0	0	-	0	0
Stage 1	0	-	-	-	-	-
Stage 2	26	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	989	-	-	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	997	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	989	-	-	-	-	-
Mov Cap-2 Maneuver	989	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	-
HCM Lane LOS	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱		↰	↑	Y	
Traffic Vol, veh/h	1125	17	20	485	17	43
Future Vol, veh/h	1125	17	20	485	17	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1223	18	22	527	18	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1241	0	1803	1232
Stage 1	-	-	-	-	1232	-
Stage 2	-	-	-	-	571	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	561	-	87	216
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	565	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	561	-	84	216
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	543	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	29.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	211	-	-	561	-
HCM Lane V/C Ratio	0.309	-	-	0.039	-
HCM Control Delay (s)	29.5	-	-	11.7	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	1.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↰	
Traffic Vol, veh/h	0	60	0	0	234	37
Future Vol, veh/h	0	60	0	0	234	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	0	0	254	40

Major/Minor	Minor2				Major2	
Conflicting Flow All	-	274			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	6.22			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.318			-	-
Pot Cap-1 Maneuver	0	765			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	765			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-

Approach	EB				SB	
HCM Control Delay, s	10.1				0	
HCM LOS	B					

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	765	-	-
HCM Lane V/C Ratio	0.085	-	-
HCM Control Delay (s)	10.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	0	43	223	28	96	0
Future Vol, veh/h	0	43	223	28	96	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	242	30	104	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	304	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	47	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	-	688	782
Stage 1	0	-	-	-	786	-
Stage 2	0	-	-	-	975	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	688	782
Mov Cap-2 Maneuver	-	-	-	-	688	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	975	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	688
HCM Lane V/C Ratio	-	-	-	0.152
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection						
Int Delay, s/veh	1.1					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	0	0	26	136	22	0
Future Vol, veh/h	0	0	26	136	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	28	148	24	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	102	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	-	896	953
Stage 1	0	-	-	-	922	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	896	953
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	896
HCM Lane V/C Ratio	-	-	-	0.027
HCM Control Delay (s)	-	-	-	9.1
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	1137	3	9	493	19	5
Future Vol, veh/h	1137	3	9	493	19	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1236	3	10	536	21	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1239	0	1794	1238
Stage 1	-	-	-	-	1238	-
Stage 2	-	-	-	-	556	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	562	-	89	214
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	562	-	87	214
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	560	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	22.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	236	-	-	562	-
HCM Lane V/C Ratio	0.111	-	-	0.017	-
HCM Control Delay (s)	22.1	-	-	11.5	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	16	0	0	27	0
Future Vol, veh/h	0	16	0	0	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	0	0	29	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	58	0	0	-	0	0
Stage 1	0	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	949	-	-	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	965	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	949	-	-	-	-	-
Mov Cap-2 Maneuver	949	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s			0			
HCM LOS	-					

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	-
HCM Lane LOS	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1212	37	44	895	11	29
Future Vol, veh/h	1212	37	44	895	11	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1317	40	48	973	12	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1357	0	2406	1337
Stage 1	-	-	-	-	1337	-
Stage 2	-	-	-	-	1069	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	507	-	36	187
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	330	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	507	-	33	187
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	299	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	33.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	170	-	-	507	-
HCM Lane V/C Ratio	0.256	-	-	0.094	-
HCM Control Delay (s)	33.3	-	-	12.8	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	1	-	-	0.3	-

Intersection						
Int Delay, s/veh	1.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↰	
Traffic Vol, veh/h	0	40	0	0	225	81
Future Vol, veh/h	0	40	0	0	225	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	43	0	0	245	88

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	289		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	750		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	750		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	750	-	-
HCM Lane V/C Ratio	0.058	-	-
HCM Control Delay (s)	10.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection						
Int Delay, s/veh	1.6					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	0	243	106	62	64	0
Future Vol, veh/h	0	243	106	62	64	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	264	115	67	70	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	413	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	264	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	-	595	898
Stage 1	0	-	-	-	879	-
Stage 2	0	-	-	-	780	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	595	898
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	780	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	595
HCM Lane V/C Ratio	-	-	-	0.117
HCM Control Delay (s)	-	-	-	11.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection						
Int Delay, s/veh	7.3					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	0	0	10	25	132	0
Future Vol, veh/h	0	0	10	25	132	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	11	27	143	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	25	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	-	991	1051
Stage 1	0	-	-	-	998	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	991	1051
Mov Cap-2 Maneuver	-	-	-	-	991	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	991
HCM Lane V/C Ratio	-	-	-	0.145
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1246	8	19	887	13	3
Future Vol, veh/h	1246	8	19	887	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1354	9	21	964	14	3

Major/Minor	Major1			Major2	Minor1	
Conflicting Flow All	0	0	1363	0	2365	1359
Stage 1	-	-	-	-	1359	-
Stage 2	-	-	-	-	1006	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	504	-	39	182
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	353	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	504	-	35	182
Mov Cap-2 Maneuver	-	-	-	-	183	-
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	321	-

Approach	EB			WB	NB	
HCM Control Delay, s	0			0.3	26.7	
HCM LOS					D	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	183	-	-	504	-
HCM Lane V/C Ratio	0.095	-	-	0.041	-
HCM Control Delay (s)	26.7	-	-	12.4	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Attachment B
Water Supply Assessment

Final

2311 N. HOLLYWOOD WAY PROJECT

Water Supply Assessment

Prepared for
City of Burbank

September 2021

Final

2311 N. HOLLYWOOD WAY PROJECT

Water Supply Assessment

Prepared for
City of Burbank

September 2021

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SECTION 1
Introduction

In 2001, California adopted Senate Bill (SB) 610[1] and SB 221, thereby amending the California Water Code (Water Code). Under these new laws, certain types of development projects are now required to provide detailed water supply assessments to planning agencies. Any proposed project that is subject to CEQA and would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, is subject to SB 610 and is required to prepare a Water Supply Assessment (WSA).

The primary purpose of a WSA is to determine whether the identified water supply or water supplier will be able to meet projected demands for the Project, in addition to existing and planned future uses, over a 20-year planning period in normal, single-dry, and multiple-dry water years. Secondarily, a WSA provides decision-makers a regional framework on which to base a decision about the sufficiency of water supplies for the proposed project.

The proposed Project is subject to CEQA and is a mixed-use development that includes more than 500 dwelling units. Therefore, this WSA was prepared in accordance with SB 610 and the Water Code. The SB 610 requirements and their applicability to the Project are addressed in detail in Section 3, Water Supply Planning.

This WSA assesses the availability of identified water supplies under normal-, single-dry-, and multiple-dry-year conditions, accounting for the projected water demand of the Project in addition to other existing and planned future uses of the identified water supply. This WSA examines, the regional water providers and their supplies (Section 4.2), the reliability of these sources (Section 4.4), the projected short-term and long-term water demand of the Project (Section 5), and Section 6 is the comparison of supply and demand as required in a WSA.

The Project Site is located in the City of Burbank (City), within the service area of Burbank Water and Power (BWP). Therefore, BWP is the water supplier responsible for preparing WSAs for projects within the City.

[1] An act to amend Public Resources Code Section 21151.9; to amend Water Code Sections 10631, 10656, 10910, 10911, 10912, and 10915; to repeal Water Code Section 10913; and to add and repeal Water Code Section 10657 relating to water.

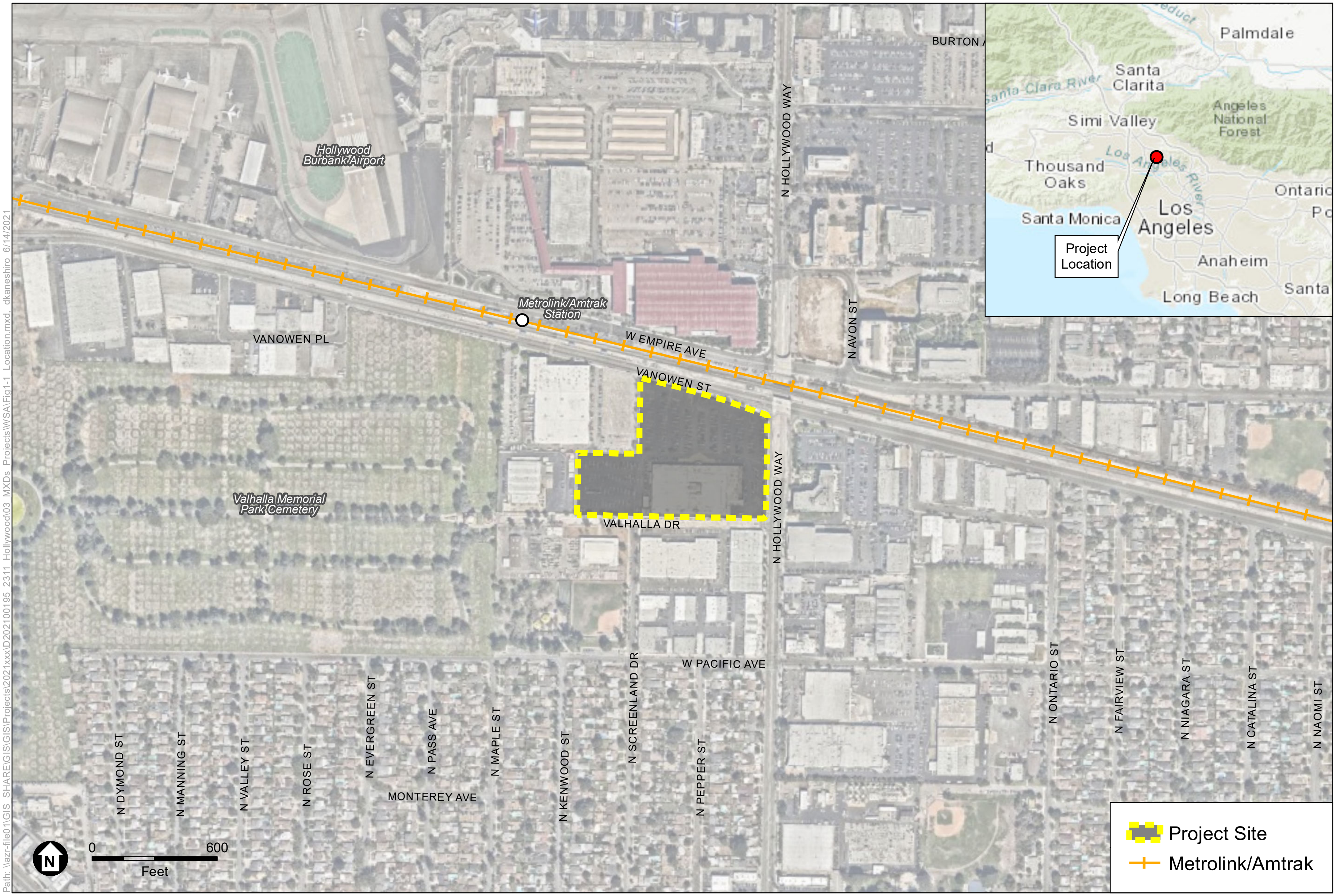
1.1 Project Overview

1.1.1 Project Location

The Project Site, consists of one parcel of 10.43 acres (454,286 square feet [sf]) is located at 2311 N. Hollywood Way. The Project Site is bound by Vanowen Street to the north, N. Hollywood Way to the east, Valhalla Drive to the south, and commercial uses and Valhalla Memorial Park to the west. Regional access to the Project Site is provided by Interstate 5 (I-5), which runs north-south, and is located approximately 1.14 miles east and 1.4 miles north of the Project Site; State Route (SR) 134, which runs east-west, and is located approximately 2.61 miles south of the Project Site; and SR 170, which runs north–south, and is located approximately 3.02 miles west of the Project Site. The general vicinity and relationship of the Project Site to surrounding streets is illustrated in **Figure 1-1**.

1.1.2 Project Description

The proposed project would construct a mixed-use development with office, commercial, and residential uses within four proposed buildings (Project). **Figure 1-2** and **Figure 1-3** show the proposed layout of the Project Site. As detailed in **Table 1-1**, the Project would develop a total of approximately 937,613 sf of office, commercial, and residential uses across the Project Site, as well as open publicly accessible areas.



SOURCE: Mapbox; Los Angeles County, 2020.

2311 N. Hollywood Way Project

Figure 1-1
Regional and Site Location Map

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TABLE 1-1
PROPOSED PROJECT SITE AND LAYOUT

	Total Square Footage (Across Project Site)
Non-residential Uses	
Office	151,800 sf
Commercial	9,700 sf
Subtotal Non-residential Uses	*161,500 sf*
Residential Uses	
Studio (334 units)	171,450 sf
1-Bedroom (363 units)	280,614 sf
1-Bedroom Live/Work (1 unit)	1,900 sf
2-Bedroom (133 units)	146,178 sf
2-Bedroom Live/Work (5 units)	8,681 sf
3-Bedroom (20 units)	28,000 sf
3-Bedroom Townhouse (6 units)	10,380 sf
Common Amenities	11,000 sf
Residential Lobbies	4,510 sf
Circulation	113,400 sf
Subtotal Residential Uses	*862 units | 776,113 sf*
Total Uses	***937,613 sf***
Vehicle Parking	
Residential Required per BMC	1,598 vehicle parking spaces
Residential Provided[a]	1,132 vehicle spaces
Restaurant Required per BMC	32 vehicle parking spaces
Restaurant Provided	32 vehicle parking spaces
Office Required	455 vehicle parking spaces
Office Provided	455 vehicle parking spaces
Total Required per BMC	**2,085 vehicle parking spaces**
Total Vehicle Parking Provided	***1,619 vehicle parking spaces***
Open Space	
Fry's Way Plaza	15,000 sf
Three (3) Courtyards on Level 2 Podium	8,000 sf
Two (2) Residential Pool Decks on Level 6	34,000 sf
Plaza on Level 1	25,000 sf
Private Open Space (Balconies)	43,100 sf
Total Open Space Provided	***125,100 sf***

SOURCE: Urban Architecture Lab 2021.

NOTES:

sf = square feet

[a] The Project Applicant has elected, pursuant to Assembly Bill [AB] 744, State density bonus law, to provide 1,132 residential parking spaces. Pursuant to AB 744, the Project Applicant could elect to provide only 526 spaces for the Project's residential component.

SOURCE: LaTerra Development, LLC, 2021

2311 N. Hollywood Way Project

Figure 1-2
Representative Floor Plan – Residential Buildings

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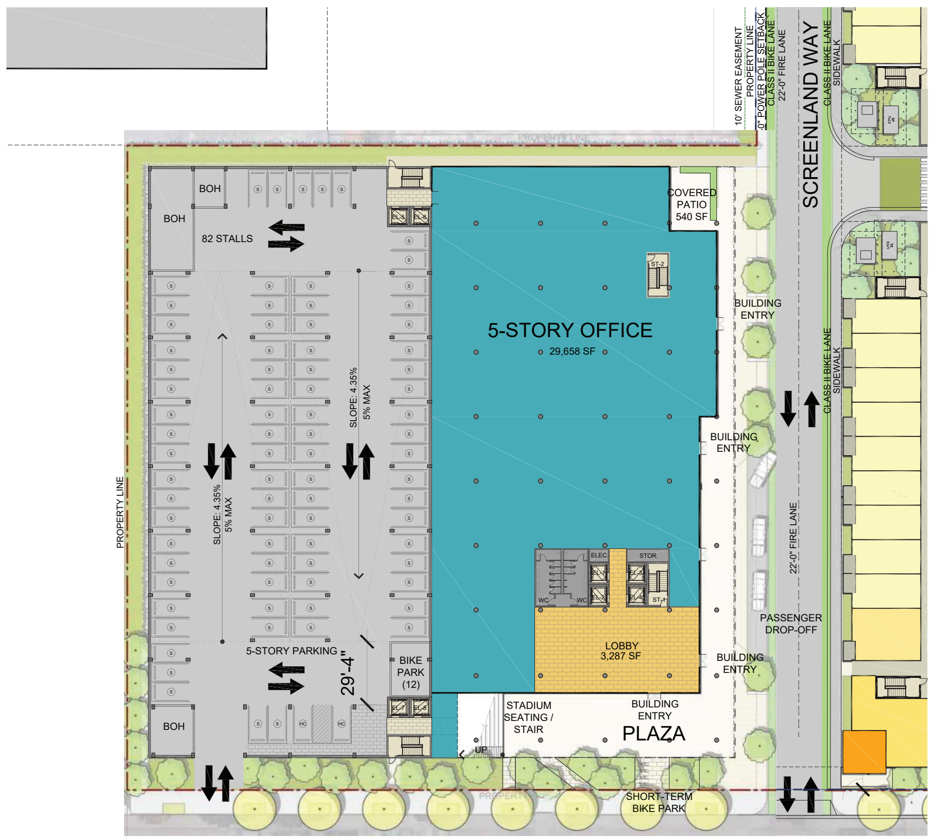
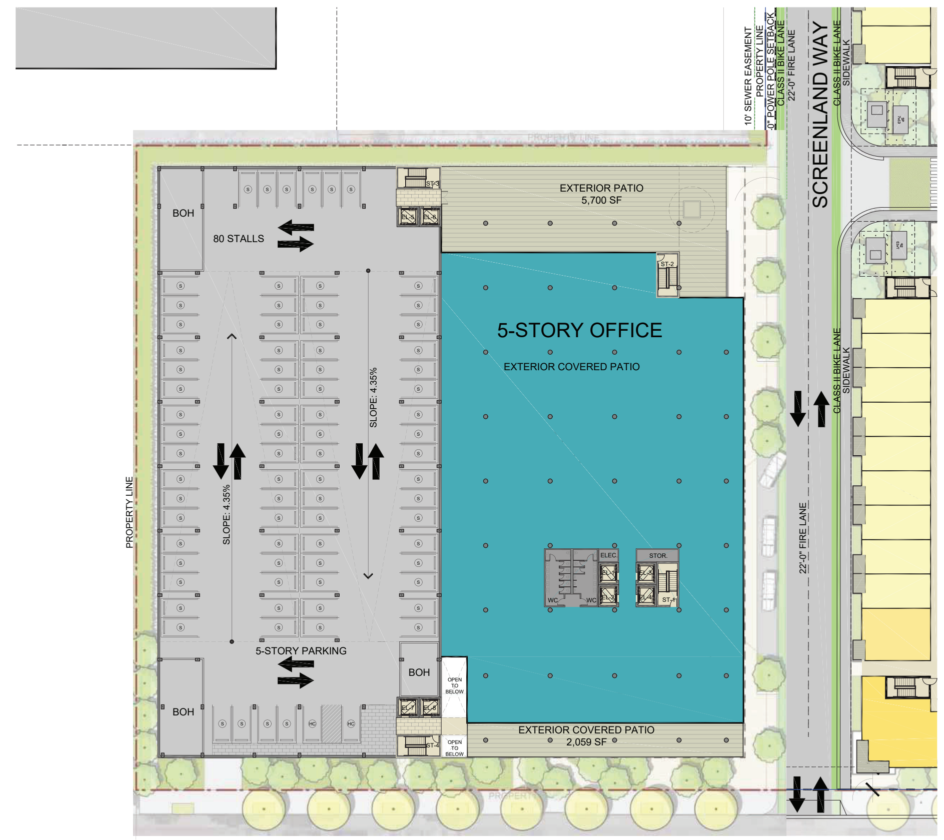
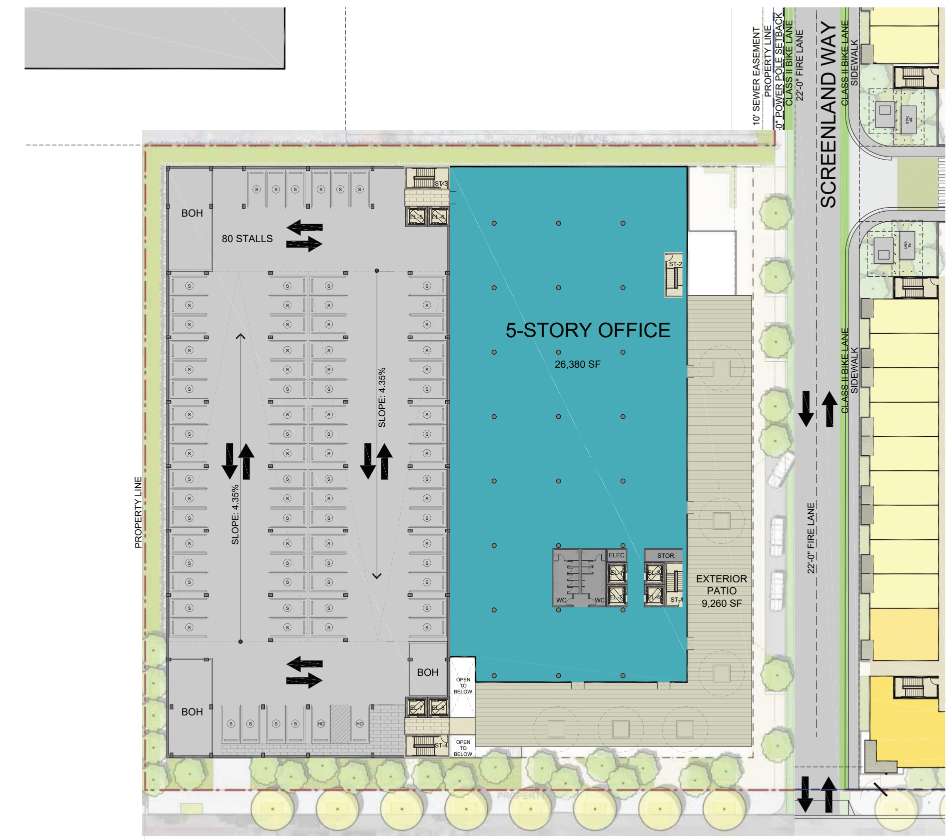


Office Building: First Floor Plan



Office Building: Third Floor Plan



Office Building: Fith Floor Plan

UNITS (STUDIO) UNITS (1B) UNITS (2B) UNITS (3B) LOBBY COMMON OFFICE CIRCULATION BOH / BIKE PARKING TERRACE RETAIL

0 128 Feet

D202100195.00 - 2311 N. Hollywood Way SCEA\GIS Graphics-GIS-Modeling\

SOURCE: LaTerra Development, LLC, 2021

2311 N. Hollywood Way Project

Figure 1-3
Representative Floor Plans – Office Building

ESA

1.2 Document Structure

This report is organized following a basic hierarchy to describe each issue: regional context (BWP service area and the underlying groundwater basin); local context (City service area), Project-level analysis for the proposed Project; and the assessment as a comparison of water supply and demand for the Project, existing and future demand in all water year types. The report organization is as follows:

1. Introduction; project overview, location, and description; and document structure
2. City background information and land use planning
3. General information on water supply planning under SB 610
4. Water supply setting – including local climate, surface and groundwater supplies, capacities, and reliability
5. Regional, City, and project water demands – historical, projected, and projected dry-year demands
6. Supply-demand comparisons on a regional, City, and project-level basis
7. Conclusions

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SECTION 2

City Information and Proposed Project Land Use Designation

This section describes background information, land use planning for County, and the City.

2.1 City Population and Community

According to its 2015 Urban Water Management Plan (UWMP), in 2015, the City's population was 106,084; current (2020) population was 105,861, which is a reduction of 223 persons but is consistent with California's Department of Finance estimates of population for the City. Projected population includes population projections as provided in the Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Demographic & Growth Forecast plus the expected population growth associated with the Housing Element goal, which assumes a population of 2.46 per housing unit based on the persons per household estimated by the California Department of Finance. There are an estimated 45,000 housing units, approximately half single-family and half multi-family, with a 5 percent vacancy rate. The occupied housing units average 2.46 persons per housing unit. Employment is about 100,000 (Burbank 2035 General Plan Housing Element, January 2014). Employment is in a variety of commercial and industrial operations, notably entertainment/media, retail, health care, and manufacturing. BWP's draft 2020 UWMP uses SCAG for its population projections. the City is currently updating its Housing Element, the City's Planning Department estimates population increases will occur over the next 20 years but at higher rates through redevelopment and infill projects, similar to the proposed project. As shown in **Table 2-1**, the City's population is expected to increase over the next 20 years.

TABLE 2-1
BURBANK POPULATION – CURRENT AND PROJECTED

Year	2020	2025	2030	2035	2040	2045
Population (SCAG)	105,861	107,765	109,599	111,531	113,460	115,482
Burbank Housing Element (Estimates)	0	9,840	24,816	29,520	29,520	29,520
Population Total – Estimated	***105,861***	***117,605***	***134,415***	***141,051***	***142,980***	***145,002***

SOURCE: BWP's draft 2020 UWMP, pg. 6

2.2 Local Land Use Designations

2.2.1 Existing General Plan Land Use and Zoning Designations

The Project Site is located within the Commercial General Business Zone (C-3) and has a General Plan Land Use Designation of Regional Commercial.

The Project Site is located within the Airport Land Use Plan Noise Contour Zone for the Hollywood-Burbank Airport. The Project Site is also located within a Transit Priority Area (TPA), which is defined by Public Resources Code (PRC) Section 21099 as an area within 0.5 miles of an existing or planned major transit stop, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Code of Federal Regulations Title 23, Section 450.216 or 450.322. As shown in Figure 1-1, the Project Site is located in an urbanized area and the surrounding land uses include airport, commercial, medical, educational, open space, and residential uses.

SECTION 3
Water Supply Planning

California has different processes to plan for development or maintenance of water supplies on a regional level. UWMPs, Groundwater Management Plans (GMPs), Integrated Regional Water Management Plans (IRWMPs), Municipal Service Reviews (MSRs) and water resources components of General Plans all integrate some degree of regional planning of water supply and demand.

To complement these large-scale planning processes, the Governor signed into law SB 610 and SB 221 in 2002, which emphasize the incorporation of water supply and demand analysis at the earliest possible stage in the planning process for projects undergoing more specific or detailed planning level analysis. These legislations primarily apply to the planning of water supplies and sources for individual subdivision projects, and are completed at the time the project is being proposed and permitted. SB 610 amended portions of the Water Code, including Section 10631, which contains the Urban Water Management Planning Act, and added Sections 10910, 10911, 10912, 10913, and 10915, which describe the required elements of a WSA. SB 221, which requires completion of a Water Supply Verification (WSV), amended Section 65867.5 and added Sections 66455.3 and 66473.7 to the Government Code.[2]

3.1 Water Supply Planning under SB 610 and SB 221

As the public water system that will supply water to proposed projects in the area, the City is required to prepare WSAs and WSVs, under the requirements of SB 610 and SB 221, codified in Government Code Sections 65867.5, 66455.3, and 66473.7 if a proposed project meets certain criteria. There are three primary areas to be addressed in a WSA: (1) all relevant water supply entitlements, water rights, and water contracts; (2) a description of the available water supplies and the infrastructure, either existing or proposed, to deliver the water; and (3) an analysis of the demand placed on those supplies, by the project, and relevant existing and planned future uses in the area. In addition to these items, WSVs incorporate more detailed confirmation that the appropriate infrastructure planning and funding are in place to fully commit water supplies to a project. The proposed Project does not include a "subdivision" as defined by Government Code Section 66473.7(a)(1); therefore, a WSV is not required for the proposed project.[3]

---

2 Department of Water Resources, *Guidebook for Implementation of SB 610 and SB 221 of 2001*, 2003.

3 Government Code Section 66473.7(a)(2) states:

> 'Sufficient water supply' means the total water supplies variable during a normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the propose subdivision,

SB 610 is applicable to projects subject to the California Environmental Quality Act (CEQA) or considered a “project” under Water Code Section 10912(a) or (b), builds on the information that is typically contained in a UWMP. The amendments to Water Code Section 10631 were designed to make WSAs and UWMPs consistent. A key difference between the WSAs and UWMPs is that UWMPs are required to be revised every five years, in years ending with either zero or five for those water systems that meet the specific connection criteria, while WSAs are required as part of the environmental review process for each individually qualifying project. As a result, the 20-year planning horizons for each qualifying project may cover slightly different planning periods than other WSAs or the current UWMP. BWP in its draft 2020 UWMP extended the planning horizon to 25 years, to 2045 for applicability over the next five years for WSAs and WSVs that require a 20-year forecast from the year in which they are prepared. Additionally, not all water providers who must prepare a WSA for a qualifying project under SB 610 are required to prepare an UWMP as defined in the Urban Water Management Planning Act.

Especially pertinent to this WSA for the proposed Project, and all projects to be served by BWP, are the provisions under SB 610 that involve documentation of supply if groundwater is to be used as a source. A detailed discussion of the groundwater basin and groundwater production can be found in Sections 4.2 and 4.3.

The SB 610 WSA process involves answering the following questions:

- Is the project subject to CEQA?
- Is it a project under SB 610?
- Is there a public water system?
- Is there a current UWMP that accounts for the project demand?
- Is groundwater a component of the supplies for the project?
- Are there sufficient supplies available to serve the project over the next 20 years?

3.1.1 “Is the Project Subject to CEQA?”

The first step in the SB 610 process is determining whether the project is subject to CEQA. SB 610 amended Public Resources Code Section 21151.9 to read: “Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division [i.e., CEQA], it shall comply with part 2.10 (commencing with Section 10910) of

in addition to existing and planned future uses, including, but not limited to agricultural and industrial uses. In determining ‘sufficient water supply’, all of the following factors shall be considered:

(a) *The availability of water supplies over a historical record of at least 20 years.*

(b) *The applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages.*

(c) *The reduction in water supply allocated to specific water use sector pursuant to a resolution or ordinance adopted or a contract entered into, by the public water system, a long as that resolution, ordinance, or contract does not conflict with Section 354 of the Water Code.*

(d) *The amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including program identified under federal, state, and local water initiatives such as CALFED and Colorado River tentative agreements, to the extent that these water supplies meet the criteria of subdivision (d).*

Division 6 of the Water Code." The Project is currently under environmental review pursuant to the requirements of CEQA; therefore, the information contained in this assessment will be used to support the Environmental Analysis for the Project-level analysis.

3.1.2 "Is It a Project under SB 610?"

The second step in the SB 610 process is to determine if a project meets the definition of a "Project" under Water Code Section 10912(a). Under this section, a "Project" is defined as meeting any of the following criteria:

1) A proposed residential development of more than 500 dwelling units;
2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (ft^2) of floor space;
3) A commercial building employing more than 1,000 persons or having more than 250,000 ft^2 of floor space;
4) A hotel or motel with more than 500 rooms;
5) A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 ft^2 of floor area;
6) A mixed-use project that includes one or more of these elements; or
7) A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" also includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. Because the proposed Project is a mixed-use development that includes 862 residential dwelling units it meets the requirements as a "Project" under the Water Code.

3.1.3 "Is There a Public Water System?"

The third step in the SB 610 process is determining if there is a "public water system" to serve the project. Water Code Section 10912(c) states: "[A] public water system means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections."

The BWP is identified as the public water supplier for the project site. BWP serves approximately 26,000 water service connections through its potable water system that includes approximately 286 miles of pipelines ranging in size from 30 inches to 1.5 inches in diameter, 35 booster pumps, 21 tanks and reservoirs, eight wells, and five connections to the Metropolitan Water District of Southern California (MWD) system.

3.1.4 "Is There a Current UWMP That Accounts for the Project Demand?"

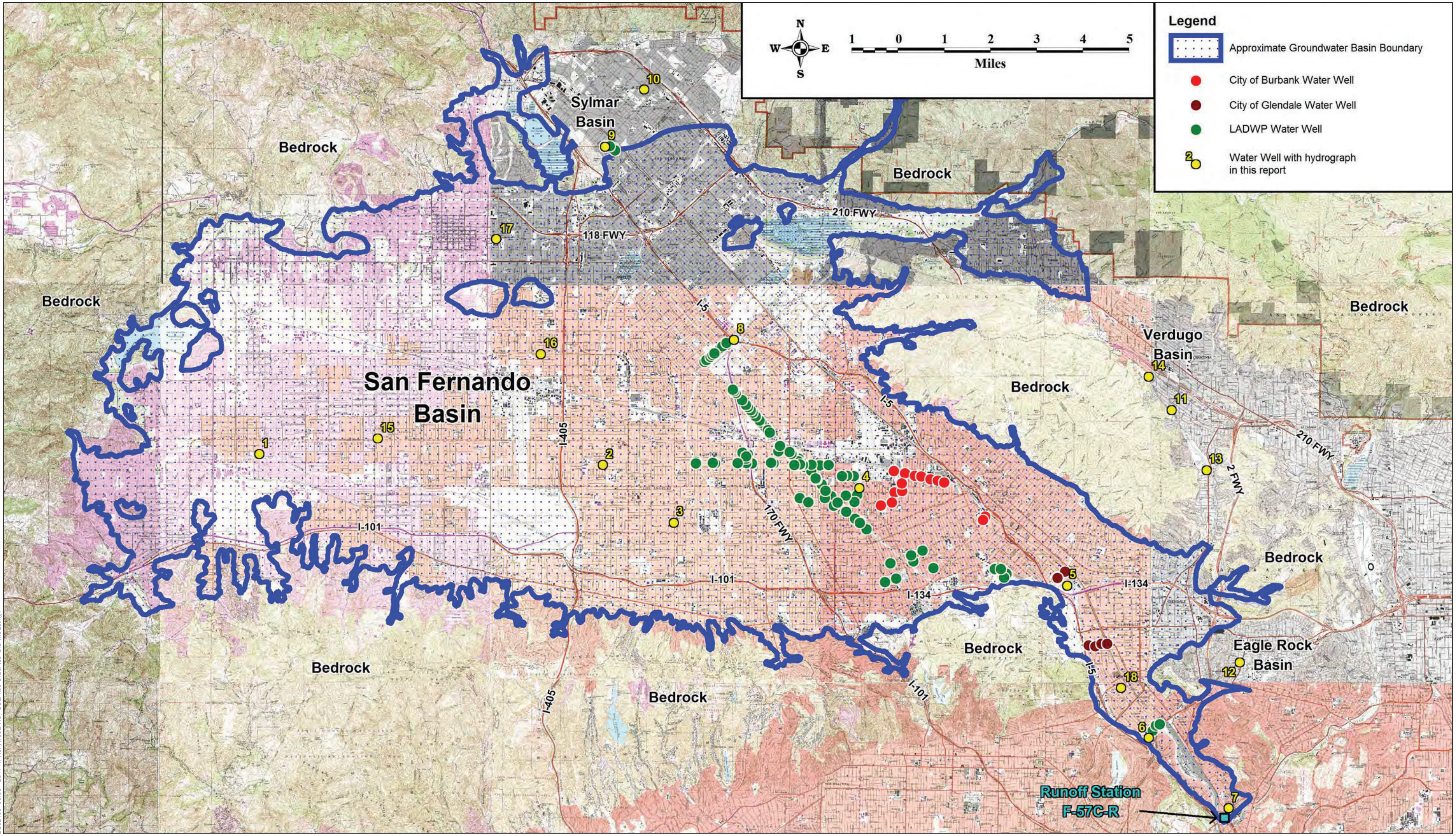
Step four in the SB 610 process involves determining if there is a current UWMP that considers the projected water demand for the project area. The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet (af) annually, must prepare an UWMP, and this plan must be updated at least every five years on or before December 31, in years ending in five and zero. Water Code Section 10910(c)(2) states, "If the projected water demand associated with the Project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g) [i.e., the WSA]."

The City anticipates an increase in mixed-use developments along transportation corridors in the next several decades and consistent with the City's growth projections as reported in its adopted 2015 UWMP. Moreover, the proposed project is consistent with SCAG's growth forecasts, which were used to calculate service areas water demands in BWP's draft 2020 UWMP and also MWD's 2020 UWMP and its supporting documents. Accordingly, BWP's draft 2020 UWMP accounts for the water demand of the proposed Project. Water supply availability and demand data relevant to this WSA is provided in BWP's draft 2020 UWMP and MWD's 2020 UWMP.

The City's current 2015 UWMP was adopted in June 2016. BWP is currently working on its 2020 UWMP for adoption and release in July 2021. Water demand and growth since 2015 is consistent with the adopted UWMP, and the City continues to implement the recommended water conservation programs outlined in that UWMP. This WSA relied on data and information contained in the draft BWP 2020 UWMP as it includes the most recent and up-to-date water resources planning information, regional water supplies, service area information and potential water demands that would be generated by land uses associated with the proposed Project. With that understanding, this WSA, per the requirements of SB 610 calculates the water demands of the current proposed Project by assigning water demands factors associated with these proposed uses.

3.1.5 "Is Groundwater a Component of the Supplies for the Project?"

The requirements of Water Code Section 10910(f), Parts 1 through 5, apply if groundwater is a source of supply for a Project. BWP extracts groundwater to supplement imported water supply sources. BWP pumps its groundwater from the aquifer in the San Fernando Basin (SFB). The SFB consists of 112,000 acres and comprises over 90 percent of the total San Fernando Valley. A map of the SFB is shown in **Figure 3-1**. The San Rafael Hills, Verdugo Mountains, and San Gabriel Mountains bound the SFB on the east and northeast. The northern border of the basin is defined by the San Gabriel Mountains and the eroded south limb of the Little Tujunga Syncline which separates it from the Sylmar Basin. The basin is bounded on the northwest and west by the Santa Susana Mountains and Simi Hills and on the south by the Santa Monica Mountains.



SOURCE: ULARA Watermaster, 2021. http://ularawatermaster.com/
Hyperlink: http://ularawatermaster.com/public_resources/SanFernandoGWB.pdf , Accessed June 14 , 2021

2311 N. Hollywood Way Project

Figure 3-1
San Fernando Groundwater Basin

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The ownership or rights to naturally occurring water in the SFB, also known as the Upper Los Angeles River Area (ULARA), was decided in Superior Court Case No. 650079, *City of Los Angeles vs. the City of San Fernando*, et al and are adjudicated in the Final Judgment (Judgment) entered on January 26, 1979.

The Judgment upheld the Pueblo Water Rights of the City of Los Angeles to all groundwater in the SFB derived from precipitation (infiltration of direct rain fall plus surface water runoff) within ULARA. The Judgment included provisions for an Import Return Credit (IRC), storage of imported water, stored water credits, and Physical Solution Water for certain parties. Per the IRC, The City is entitled to an IRC of 20 percent of all water delivered in the City, including recycled water. This provision was incorporated into the Judgment since a portion of the water delivered in the City, which originates from outside ULARA, percolates into the aquifer, becoming part of the groundwater supply.

The City is entitled to an IRC of 20 percent of all water delivered in the City, including recycled water. This provision was incorporated into the Judgment since a portion of the water delivered in the City, which originates from outside ULARA, percolates into the aquifer, becoming part of the groundwater supply. The IRC is calculated on an annual basis by the ULARA Watermaster. For example, total deliveries in the 2017–18 water year were 19,937 af, the 20 percent ICR is calculated to be 3,987 af. The ULARA Watermaster prepares an annual report that describes pumping activities for the basin. Additional information regarding the SFB can be found on the ULARA Watermaster’s website at http://ularawatermaster.com/.

The City can use imported water as groundwater recharge through spreading and percolation into the local aquifer, per the IRC, recharged water can be pumped for and used for municipal purposes. As an added benefit, the City is allowed to accumulate these groundwater credits if they are unused in the year they are earned or created.

The provision of a right to Physical Solution Water recognized the investment in wells, pumping equipment, and transmission mains that were made by the City and others prior to the Judgment when the parties in ULARA, other than the City of Los Angeles, were believed to have rights to pump water originating from local precipitation. Physical Solution Water stipulates a right to a specified volume of groundwater “credits” that may be purchased from the City of Los Angeles at the sole discretion of the purchasing party on an annual basis. The cost of this water is set by a formula in the Judgment and is tied to the average cost of water supply to the City of Los Angeles in the preceding year. Per the IRC, the City can purchase 4,200 af of Physical Solution Water annually.

Groundwater Basin Management

Local Groundwater Supplies

The Project Site overlies the SFB, as shown in Figure 3-1. The SFB is located beneath the San Fernando Valley in Southern California, stretching across 112,000 acres. BWP owns and operates eight groundwater wells across the SFB. As previously mentioned, BWP does not have ownership rights to naturally occurring local groundwater supplies (through precipitation), but is entitled to extract groundwater supplies under terms outlined in the 1979 groundwater adjudication (discussed in detail in Section 4.2.2; the Adjudication Judgment is appended as Appendix A). However, BWP receives groundwater credits for 20 percent of the total water distributed in its service area, including recycled water. Moreover, BWP purchases untreated water from MWD to replenish and augment its groundwater supplies. Untreated water is introduced into the SFB via the Pacoima and Lopez spreading grounds in the north San Fernando Valley. BWP receives 100 percent groundwater credit for these imports (BWP draft 2021 UWMP).

The following sections describe the characteristics of the SFB.

Basin Characteristics

As described in Department of Water Resources (DWR) Bulletin 118, the SFB is bounded by the San Rafael Hills, Verdugo Mountains, and San Gabriel Mountains on the east and northeast, the Santa Susana Mountains on the north and northwest, the Simi Hills on the west, and Santa Monica Mountains and Chalk Hills on the south (DWR 2004). Figure 3-1 shows the boundaries of the basin. The total storage capacity for the basin is 3.2 million af (Langridge et al. 2016).

Water Bearing Formations

The water-bearing sediments consist of the lower Pleistocene Saugus Formation, as well as Pleistocene and Holocene age alluvium. Most groundwater in the basin is unconfined; some confinement exists in the Saugus Formation in the western portion of the basin and in the Sylmar and Eagle Rock areas (DWR 2004).

Restrictive Structures

Several restrictive structures interrupt groundwater flow through the SFB. The Verdugo fault acts as a partial barrier to flow in the north and contributes to a groundwater cascade in the south. The Little Tujunga syncline affects groundwater movement through the northern portion of the basin. Differences in rock type along the Raymond fault block flow from the Eagle Rock area toward the Los Angeles River Narrows. Other barriers to groundwater flow include unnamed faults and subsurface dams (DWR 2004).

Recharge and Connectivity

The San Fernando Valley is drained by the Los Angeles River and its tributaries. The groundwater basin is recharged via spreading of imported water and runoff in the Pacoima, Tujunga, and Hansen Spreading Grounds. Runoff contains water from local precipitation falling on impervious areas, natural streamflow from the surrounding mountains, reclaimed wastewater, and industrial discharges (DWR 2004).

Groundwater Level Trends

Groundwater levels have declined across the basin since the 1940s due to increased pumping (Langridge et al. 2016). Further recent declines have been attributed to increased urbanization and runoff leaving the basin, reduced artificial recharge, and continued groundwater extractions (ULARA Watermaster 2017b).

Safe Yield/Budget

The "safe yield" of a groundwater basin is the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect. The groundwater "budget" is an accounting of all inflows into a basin compared to all outflows from the basin. The budget is often used to determine a basin's safe production yields. The groundwater adjudication process defined the safe yield and native safe yield in the SFB.

Water Quality and Drainage Considerations

Contaminants of concern in the SFB include trichloroethylene (a common degreaser and cleaning product), perchloroethylene (commonly used in dry cleaning of clothing), hexavalent chromium, nitrate, sulfate, and total dissolved solids (Leadership Committee of the GLAC IRWMP 2014).

There are four United States Environmental Protection Agency (USEPA) superfund sites within the boundaries of the SFB (Langridge et al. 2016). In the 1980s, volatile organic compound (VOC) contamination was discovered in groundwater from the City's production wells. Potential contaminating activities include automobile repair shops, petroleum pipeline, National Pollutant Discharge Elimination System (NPDES) permitted discharges, metal plating, underground storage tanks, and automobile gas stations (BWP draft 2020 UWMP). Groundwater production was halted until treatment plants could be built. The City currently has two treatment plants for VOC removal. All groundwater extracted in the City is treated to remove VOCs prior to entering the distribution system (BWP 2015 UWMP).

3.1.6 "Are There Sufficient[4] Supplies to Serve the Project over the Next Twenty Years?"

The final step in the SB 610 process is to illustrate the available water supplies, including the availability of these supplies in all water-year conditions (normal, single dry year and multiple dry years) over a 20-year planning horizon, and an assessment of how these supplies relate to project-specific and cumulative demands over that same 20-year period. In this case, the period is

[4] Government Code Section 66473.7(a)(2) states:

> "Sufficient water supply" means the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses. In determining "sufficient water supply," all of the following factors shall be considered:
>
> (A) The availability of water supplies over a historical record of at least 20 years.
>
> (B) The applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages.
>
> (C) The reduction in water supply allocated to a specific water use sector pursuant to a resolution or ordinance adopted, or a contract entered into, by the public water system, as long as that resolution, ordinance, or contract does not conflict with Section 354 of the Water Code.
>
> (D) The amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including programs identified under federal, state, and local water initiatives such as CALFED and Colorado River tentative agreements, to the extent that these water supplies meet the criteria of subdivision (d).

projected to 2040. The water supply and demand comparisons are presented and discussed in Section 6.

The sufficiency of water supply sources to serve the proposed Project is assessed in the following sections, which address surface water as imported and delivered through MWD’s water supply systems and local groundwater supplies underlying the City. The BWP 2020 UWMP does not specifically identify the proposed Project; however, it does rely on the overall growth in the City as projected in the Burbank 2035 General Plan and water demand generated by anticipated mixed-use development along transportation corridors and/or similar residential developments. Furthermore, the proposed Project does not include a General Plan Amendment and is consistent with SCAG’s growth forecasts, which were used to calculate water demand forecasts in the BWP draft 2020 UWMP and MWD’s UWMP. Therefore, through these processes the proposed project’s water demand has been accounted for in the BWP draft 2020 UWMP.

Based on the information provided in this WSA, there are sufficient water supplies in the Project area to meet the needs of the proposed Project over the next 20 years (the assessment period required per SB 610). As described in Section 7, Conclusions is the sufficiency of available water supplies to meet existing and proposed project demand in the near-term and over the next 25 years.

SECTION 4
Water Supply Setting

This section presents a discussion of BWP and its service area. BWP would serve the proposed project's domestic water needs. The City's water supplies are provided from two sources: local groundwater from the SFB and water purchased from MWD. MWD is a regional wholesaler in Southern California. MWD provides the City with water imported from the Colorado River Aqueduct (CRA) and the State Water Project (SWP). BWP does not have ownership rights to the naturally occurring groundwater underlying the City's service area. However, BWP receives a right to pump groundwater through groundwater credits, which are described in detail under Section 3.1.5 under *Local Groundwater Supplies*. In addition, BWP uses locally-produced recycled water to meet some of its non-potable water needs such as outdoor irrigation and power plant cooling (BWP draft 2020 UWMP).

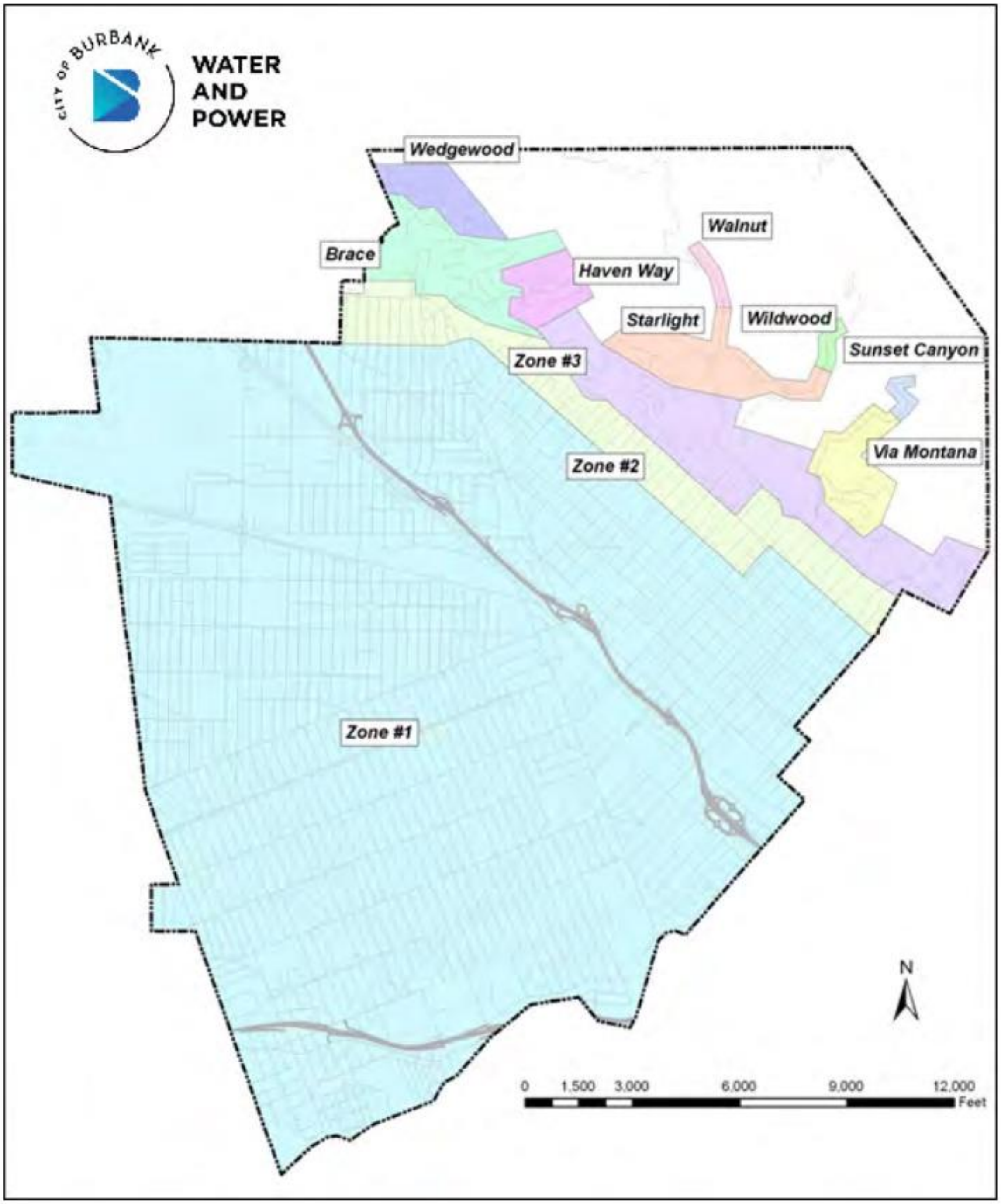

Figure 4-1
Burbank Water Service Area

4.1 Climate

The City's climate is considered Mediterranean, which is warm and dry during summer and cool and wet during winter. A summary of monthly climate data is contained in **Table 4-1**. The warmest month of the year is August with an average high temperature near 90˚ Fahrenheit (F), while the coldest month of the year is December with an average low in the low 40°F. Temperature variations between night and day tend to be moderate during summer and winter.

TABLE 4-1
AVERAGE ANNUAL PRECIPITATION, EVAPOTRANSPIRATION, AND IRRIGATION DEMANDS

Month	ETo (in)[a]	Average Total Precipitation (in)[a]	Irrigation Demand (in)[b]
January	2.20	3.35	0
February	2.45	3.84	0
March	3.64	2.84	0.8
April	4.74	1.17	3.57
May	5.31	0.27	5.04
June	6.06	0.07	5.99
July	6.75	0.01	6.74
August	6.66	0.01	6.56
September	5.01	0.02	4.81
October	3.95	0.6	3.35
November	2.73	1.51	1.22
December	2.31	2.34	0
Annual	***51.81***	***16.3***	***38.08***

NOTES
a Western Regional Climate Center. Burbank Valley Pump, California (041194)
b 5 percent leaching fraction and 90 percent distribution uniformity.

The historical annual average precipitation in the City is 16.3 inches. Winter months tend to be wetter than summer months. The wettest month of the year is February with an average rainfall of 3.8 inches.

The total average evapotranspiration (ET) deficit, which must be made up with irrigation, is over 38 inches (in)/year (yr). Water meter data indicates that historic irrigation rates between 42 in/yr and 48 in/yr are common for turf areas. Table 4-1 shows the average annual precipitation, evapotranspiration and irrigation demands in and around the Project area.

As described in BWP's draft 2020 UWMP climate change adds uncertainties to the projection of water supply planning. The effects of higher temperatures and precipitation changes induced by climate change may impact water supplies in a number of ways including:

- Reduction in Sierra Nevada snowpack
- Changes in runoff pattern and amount
- Increased intensity and frequency of extreme weather events

- Prolonged drought periods
- Water quality issues associated with increase in wildfires
- Rising sea levels resulting in potential pumping cutbacks on the State Water Project
- Effects on the groundwater basin
- Changes in demand levels and patterns
- Increased evapotranspiration from higher temperatures

While it is unknown what the magnitude and timing of these impacts will be, the City is participating in regional planning efforts that incorporate climate change into long range supply planning.

4.2 Supply Sources

The City's water is provided through two sources: local groundwater from the San Fernando Basin and water purchased from MWD. MWD is a regional wholesaler in Southern California. MWD provides the City with water imported from the CRA and the SWP. BWP does not have ownership rights to the naturally occurring groundwater underlying the City. However, BWP receives a right to pump groundwater through groundwater credits, which are described in detail in Section 3.1.5, *Local Groundwater Supplies*. In addition, BWP uses recycled water to meet some of its non-potable water needs specifically, outdoor irrigation and cooling at BWP's power plant cooling (BWP 2021). **Table 4-2** summarizes BWP's water supply sources and estimated volumes available now and over the next 25 years.

TABLE 4-2
BURBANK WATER SUPPLY SOURCES AND QUANTITIES

	2025	2030	2035	2040	2045
Imported Water	7,407	9,722	10,714	11,012	11,310
Groundwater	10,655	10,658	10,672	10,700	10,700
Subtotal Potable Water	*18,062*	*20,380*	*21,386*	*21,712*	*22,010*
Purchased/ Imported Water	6,800	6,800	6,800	6,800	6,800
Recycled Water	3,540	3,540	3,540	3,540	3,540
Subtotal Non-potable Water	*10,340*	*10,340*	*10,340*	*10,340*	*10,340*
Total Supplies	***28,402***	***30,720***	***31,726***	***32,052***	***32,350***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 25.

The following section discusses the BWP's water supply sources available to meet the needs of the proposed Project.

4.2.1 Imported Water Supplies

The water supply for the City is imported from outside the region through the City's membership in MWD. MWD delivers both treated and untreated water to Southern California via two sources.

Water from Northern California is imported by way of the SWP, and water from the Colorado River reaches the region through the CRA. MWD has five treatment plants, which supply most of Southern California with treated water through their distribution system. The City obtained about 38 percent of its treated potable water from MWD in the Calendar Year 2020.

The City has five treated potable water connections to the MWD system, with a maximum rated capacity of 115 cubic feet per second (cfs), or 51,610 gallons per minute (gpm). The MWD system pressure is high enough to deliver water to the City's Zone 1 and Zone 2 without pumping, but booster pumps are available at MWD connections B-1 and B-2 to increase the capacity for periods of high demand.

The City's service connections to MWD's system are not equipped to accommodate the maximum flows as shown in **Table 4-3**, although if future demands make it necessary, improvements to these connections could be performed to realize their maximum potential. BWP in its draft 2020 UWMP uses the normal range of flow rates for its planning purposes as the maximum capacity of all connections is vastly more than expected demand requirements over the next 25 years (**Table 4-4**).

TABLE 4-3
BURBANK CONNECTIONS TO THE MWD SYSTEM

MWD Connection	Minimum Flow	Normal Range	90% of Maximum	Maximum Flow
B-1	3.0 cfs	15.0–22.0 cfs	27.0 cfs	30.0 cfs
B-2	1.5 cfs	3.0–7.0 cfs	13.5 cfs	15.0 cfs
B-3	1.0 cfs	3.0–4.0 cfs	9.0 cfs	10.0 cfs
B-4	2.0 cfs	11.0–14.0 cfs	18.0 cfs	20.0 cfs
B-5	2.5 cfs	7.0–26.0 cfs	36.0 cfs	40.0 cfs
Total Treated	***n/a***	***39.0–73.0 cfs***	***103.5 cfs***	***115.0 cfs***
B-6 Untreated Water: Connected at Pacoima	3 cfs	25–65 cfs	63 cfs	70 cf

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 15.
NOTES: cfs = cubic feet per second

TABLE 4-4
IMPORTED WATER SUPPLIES

Source	2020 (af) (actual)	2025 (af)	2030 (af)	2035 (af)	2040 (af)	2045 (af)
MWD Treated Potable	6,165	7,407	9,722	10,714	11,012	11,310
MWD Replenishment	152	6,800	6,800	6,800	6,800	6,800

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 16.
NOTES: af = acre-feet
MWD Replenishment supply was especially low in 2020 due to previous recharge of large quantities of surplus water through MWD's cyclic storage program. BWP assumes approximately 6,800 acre-feet per year is required to balance groundwater supplies.

4.2.2 Local Groundwater

The City overlies the SFB. The SFB consists of 112,000 acres and comprises over 90 percent of the total San Fernando Valley. A map of the SFB is shown in Figure 3-1. The SFB is bounded by the San Rafael Hills, Verdugo Mountains, and San Gabriel Mountains on the east and northeast. The northern border of the basin is defined by the San Gabriel Mountains and the eroded south limb of the Little Tujunga Syncline which separates it from the Sylmar Basin. The basin is bounded on the northwest and west by the Santa Susana Mountains and Simi Hills and on the south by the Santa Monica Mountains.

The City has historically utilized its groundwater resources from the SFB. Imported water from MWD in the early years was a supplemental supply. During this time, well and pumping capacity was adequate to serve most of the City's needs with local groundwater. As the City grew, it used more MWD water, but groundwater was still a major source. As shown in Figure 3-1, the City has several groundwater wells for pumping water from the SFB.

The ownership or rights to naturally occurring water in the SFB, also known as ULARA, was decided in the Judgment entered on January 26, 1979 (included as Appendix A). The Judgment upheld the Pueblo Water Rights of the City of Los Angeles to all groundwater in the SFB derived from precipitation (infiltration of direct rain fall plus surface water runoff) within ULARA. The Judgment also included provisions for an IRC, storage of imported water, stored water credits, and Physical Solution Water for certain parties.

The City is entitled to an IRC of 20 percent of all water delivered in the City, including recycled water. The Judgment incorporated this provision as a portion of the water delivered in the City, which originates from outside ULARA, percolates into the aquifer, becoming part of the groundwater supply. The IRC is calculated on an annual basis by the ULARA Watermaster. In 2017–2018, water deliveries were 19,937 af, the City's ICR at 20 percent is calculated to be 3,987 af. The Watermaster prepares an annual report which describes pumping activities for the basin. Additional information regarding the SFB can be found on the ULARA Watermaster's website at http://ularawatermaster.com/.

The provision of a right to Physical Solution Water recognized the investment in wells, pumping equipment, and transmission mains that were made by the City and others prior to the Judgment when the parties in ULARA, other than the City of Los Angeles, were believed to have rights to pump water originating from local precipitation. Physical Solution stipulates a right to a specified volume of groundwater "credits" that may be purchased from the City of Los Angeles at the sole discretion of the purchasing party on an annual basis. The cost of this water is set by a formula in the Judgment and is tied to the average cost of water supply to the City of Los Angeles in the preceding year. The City is entitled to purchase 4,200 af of Physical Solution Water annually.

The City is entitled to use imported water for groundwater recharge. Imported water is spread and percolated into the SFB aquifer to add to the local groundwater supplies. This entitlement also BWP to the right to pump recharged groundwater in any year and to accumulate these groundwater credits year over year if credits go unused in the year created.

Groundwater Adjudication

In 1955, the City of Los Angeles sued the cities of San Fernando, Glendale, Burbank, and other pumpers, asserting a prior right to the San Fernando Valley groundwater basins in the northern portion of the City of Los Angeles and a pueblo right to all the water in the Los Angeles River. This region is referred to as ULARA and includes four groundwater basins: the San Fernando, Eagle Rock, Sylmar, and Verdugo basins. The SFB is the largest of the four basins, and comprises 91.2 percent of the total valley fill in ULARA (Langridge et al. 2016; ULARA Watermaster 2017b).

The court ordered a series of hydrogeological reports documenting the decrease in groundwater levels between the 1920s and 1950s. Subsequent court decisions relied on a 1962 State Water Rights Board Referee Report as the principal basis for technical data. In 1968, the Trial Court ruled against the City of Los Angeles in a decision that was later reversed by the Appeals Court. In 1975, the California Supreme Court agreed with the Appeals Court and remanded the case back to Trial Court. In 1979, the Final Trial Court Judgment mostly upheld the determination of water rights consistent with the opinion of the California Supreme Court (Langridge et al. 2016).

The final Judgment established water rights in the ULARA and set out a separate safe yield and overdraft conditions for each of the four groundwater basins. The Judgment also includes provisions and stipulations regarding imported return water credit, water storage, water storage credit, and arrangements for physical solution water. The court ultimately awarded water rights to 28 of the 214 parties. The cities of Los Angeles, Glendale, Burbank, and San Fernando were given rights to a percentage of surface and groundwater from the ULARA. The Judgment also provides for a Court-appointed Watermaster to enforce the Judgment, as well as an Administrative Committee to collaborate with the Watermaster. The Administrative Committee consists of one voting member from each of the following five municipal water agencies: Los Angeles, Glendale, Burbank, San Fernando, and the Crescenta Valley Water District (Langridge et al. 2016; ULARA Watermaster 2017a).

In the SFB, the Judgment granted the City of Los Angeles an exclusive right to extract and utilize the entire native safe yield of the basin. The court determined the native safe yield of the SFB to be 43,660 acre-feet per year (afy), and the safe yield (which includes return flows from imported water) to be 90,680 afy (Langridge et al. 2016). Of the imported return water, the cities of Los Angeles, Burbank, and Glendale each have a right to extract defined percentages of imported return water from the SFB. Additionally, the cities of Los Angeles, Burbank, and Glendale each have a right to store groundwater in the basin and to extract equivalent amounts (ULARA Watermaster 2017b).

Table 4-5 summarizes the SFB extraction rights established to different parties by the Judgment.

TABLE 4-5
SAN FERNANDO BASIN EXTRACTION RIGHTS

Party	Native Water	Import Return Water	Stored Water
Los Angeles	43,660 afy	20.8% of all delivered water to valley fill lands of the basin	Can store groundwater via artificial spreading or by in-lieu activities, and can extract equivalent amounts
Burbank	None	20% of all delivered water to the basin and its tributary hill and mountain areas	Can store groundwater via artificial spreading or by in-lieu activities, and can extract equivalent amounts
Glendale	None	20% of all delivered water to the basin and its tributary hill and mountain areas	Can store groundwater via artificial spreading or by in-lieu activities, and can extract equivalent amounts

SOURCE: ULARA Watermaster 2017b.

NOTES:

afy = acre-feet per year

Physical solution water is also available to several additional smaller, but private, parties. These parties are granted a limited entitlement to extract groundwater chargeable to the rights of others upon payment of specified charges.

Sustainable Groundwater Management Act

In 2015, Sustainable Groundwater Management Act (SGMA) 2019 was enacted to provide for the sustainable management of groundwater basins in California. SGMA planning requirements are mandatory for the high- and medium-priority groundwater basins identified by DWR. In these basins, qualifying local agencies are required to create a Groundwater Sustainability Agency (GSA) and adopt a SGMA-compliant Groundwater Sustainability Plan (GSP). Under SGMA, groundwater basin boundaries are as identified in DWR Bulletin 118.

The SGMA 2019 Basin Prioritization process was conducted to reassess the priority of the groundwater basins following the 2016 basin boundary modifications, as required by the Water Code. For the SGMA 2019 Basin Prioritization, DWR followed the process and methodology developed for the CASGEM 2014 Basin Prioritization, adjusted as required by SGMA and related legislation. DWR used the following list of components to re-evaluate prioritization:

1) The population overlying the basin or subbasin.
2) The rate of current and projected growth of the population overlying the basin or subbasin.
3) The number of public supply wells that draw from the basin or subbasin.
4) The total number of wells that draw from the basin or subbasin.
5) The irrigated acreage overlying the basin or subbasin.
6) The degree to which persons overlying the basin or subbasin rely on groundwater as their primary source of water.
7) Any documented impacts on the groundwater within the basin or subbasin, including overdraft, subsidence, saline intrusion, and other water quality degradation.
8) Any other information determined to be relevant by the department, including adverse impacts on local habitat and local streamflows.

The SFB (DWR Basin No. 4-011.04) has been classified as a very low-priority basin, and is not required to form a GSA and adopt a GSP or submit an alternative to a GSP. DWR determined that as a "Basin with Adjudication & Non-Adjudicated GW Use <9,500 af," under Component 8C&D of DWR's review, the Basin is a "very low-priority basin." The ULARA Watermaster continues to submit information to the State's SGMA website to help verify that ULARA maintains its compliance with SGMA.

Recycled Water Collection and Treatment

Wastewater generated within the City is collected and conveyed by approximately 230 miles of pipelines ranging in diameter from 6" to 30", two pump stations, and 19 diversion manholes. The Los Angeles 48" North Outfall Sewer (NOS) line runs from west to east through the southern portion of the City. Wastewater flows to the Burbank Water Reclamation Plant (BWRP) which currently treats 8.5 million gallons per day (mgd) with a design capacity of 12.5 mgd. BWRP produces a disinfected tertiary effluent which meets discharge limitations contained in its NPDES permit issued by the Los Angeles Regional Water Quality Control Board (RWQCB-LA). BWRP's effluent also meets the most stringent criteria for recycled water defined in the California Code of Regulations Title 22, Division 4, Chapter 3, requirement as Disinfected Tertiary Recycled Water in that it is approved for all uses, including full body contact, with the exception of human consumption. As shown in **Table 4-6**, of this treatment capacity, BWRP can produce 7,138 af of recycled water for specific applications in the City.

TABLE 4-6
BWRP RECYCLED WATER COLLECTION AND TREATMENT CAPACITY

Name of Wastewater Collection Agency	Volume of Wastewater Collected from UWMP Service Area in 2020 (AF)	Treatment Plant Name
Burbank	7,138	Burbank Water Reclamation Plant
Total Wastewater Collected from Service Area in 2020	***7,138***	

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 28.

Recycled Water Availability and Uses

As shown in **Table 4-7**, of the 7,138 af of recycled water collected and treated, 6,940 af is available for recycled water uses. Per its NPDES permit, the City discharges 3,790 af to the Burbank Western Channel that flows to the LA River and eventually to the Pacific Ocean. The balance of the recycled water (3,105 af) is currently used for:

- Power plant production water
- Landscape irrigation
- Evaporative cooling uses

According to BWP, recycled is readily available as recycled water main traverses the project site. With this understanding, the proposed Project can connect to the existing recycled water system and use recycled water for construction activities and for outdoor irrigation and cooling towers, if applicable.[5] The recycled water produced at BWRP is considered highly reliable and accessible at the Project. Based on this existing infrastructure, recycled water can be used for outdoor irrigation purposes. As discussed in Section 5.5, the proposed Project water demand includes all indoor and outdoor water uses in all water year types.

TABLE 4-7
RECYCLED WATER AVAILABILITY AND USES

Recycled Water Availability and Uses	Tertiary
Wastewater Treated (af)	6,940
Discharged Treated Wastewater (af)	3,790
Recycled within Service Area (af)	3,105

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 29.

Transfer Agreements and Opportunities

The City has two system interconnections with the City of Glendale. These have been used on several occasions to solve short-term operational problems, such as a need for extra water because an MWD connection or pump station is out of service. However, unless a short-term operational problem occurs, the City is not currently planning any long-term exchanges or transfers of water.

4.3 Summary of Existing and Planned Sources of Water

The total water supplies produced or purchased by the City in 2020 are shown in **Table 4-8**. As indicated in Table 4-8, the water supply types available for use by the City are projected to remain unchanged between now and 2045, and increases in demands are largely expected to be met using treated, imported water.

5 BWP Comment on the Draft Water Supply Assessment for the 2311 N. Hollywood Way Project, June 22, 2021.

TABLE 4-8
TOTAL WATER SUPPLIES PRODUCED OR PURCHASED BY BURBANK IN 2020

Water Supplies (acre-feet)	2020	2025	2030	2035	2040	2045
Potable						
MWD imported	6,165	7,407	9,722	10,714	11,012	11,310
Supplier-Produced Groundwater	9,997	10,655	10,658	10,672	10,700	10,700
Subtotal Potable	*16,162*	*18,062*	*20,380*	*21,386*	*21,712*	*22,010*
Non-Potable						
MWD Replenishment	152	6,800	6,800	6,800	6,800	6,800
Recycled Water	3,149	3,540	3,540	3,540	3,540	3,540
Subtotal Non-potable	*3,301*	*10,340*	*10,340*	*10,340*	*10,340*	*10,340*
Totals	***19,463***	***28,402***	***30,720***	***31,726***	***32,052***	***32,350***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 25.

4.3.1 Water Management Plans and Programs

The Metropolitan Water District of Southern California Urban Water Management Plan

The Water Code requires any municipal water supplier serving over 3,000 connections or 3,000 afy to prepare an UWMP. MWD is a regional wholesaler with no retail customers; it provides treated and untreated water directly to its 26 member agencies. Member agencies include 14 cities, 11 municipal water districts, and one county water authority. MWD's service area covers the Southern California coastal plain, including the City (MWD 2020).

Each of MWD's qualifying member agencies is also responsible for submitting its own UWMP. MWD's 2015 UWMP therefore does not explicitly discuss specific activities undertaken by its member agencies unless they relate to one of MWD's programs.

MWD's 2020 UWMP describes and evaluates sources of supply, efficient uses, water recycling, and conservation activities across the Southern California region (MWD 2020).

Burbank Water and Power 2020 Urban Water Management Plan

The UWMP for BWP forecasts future water demands within the service area under average and dry year conditions, identifies future water supply projects, and evaluates future supply reliability. The UWMP discusses the provider's supply portfolio, including current and planned water conservation and recycling activities (BWP draft UWMP 2020).

The Greater Los Angeles County Region Integrated Regional Water Management Plan

The mission of the Greater Los Angeles County Integrated Regional Water Management Plan (IRWMP) is to address the water needs of the Region in an integrated and collaborative manner.

BWP sits on the Steering Committee for ULARA. The first IRWMP for the Greater Los Angeles County Region was published in 2006, following a multi-year collaborative effort between water retailers, wastewater agencies, stormwater and flood managers, watershed groups, businesses, tribes, the agriculture community, and non-profits. It provided a mechanism for improving water resources planning in the Los Angeles Basin. In 2014, the Integrated Regional Water Management (IRWM) group updated the IRWMP to comply with new State integrated planning requirements and update the content. (Leadership Committee of the GLAC IRWMP 2014)

MWD's Integrated Water Resources Plan – 2015 Water Tomorrow Update

MWD's Integrated Water Resources Plan (IRP) was first developed in 1996 to establish targets for a diversified portfolio of supply investments. The 2015 Update is a plan to provide water supplies under a wide range of potential future conditions and risks. It identifies supply actions including recycled water, seawater desalination, stormwater capture, conservation, and groundwater cleanup to ensure local water supply reliability. The 2015 Update was adopted by MWD's board of directors in January 2016 (MWD 2016b).

4.4 Water Supply Reliability

Sustainable water supply is the aggregated quantities of the aforementioned sources; briefly, these include: imported water purchased from MWD; groundwater from the SFB, and recycled water.

4.4.1 MWD Supply Reliability

The City relies on MWD for its water supply since the City does not have the right to pump native groundwater in the SFB, as the City of Los Angeles owns all naturally occurring groundwater. The City maximizes local resources and minimizes the need to import water from other regions through aggressive use of recycled water, spreading and storing imported water when feasible, and promoting potable water conservation.

The City's location in MWD's distribution system allows it to be supplied by two separate MWD treatment plants, Weymouth and Jensen. The Weymouth plant can treat water from the CRA and the SWP. The Jensen plant can only treat water from the SWP. MWD's multiple supplies allow operational flexibility in case of a treatment plant shutdown or temporary problem within the distribution system. The City also purchases untreated MWD water for groundwater replenishment. Untreated water delivered through the city's MWD B-6 connection is spread at Pacoima or Lopez spreading grounds in order to add to its stored groundwater credits.

MWD discusses regional water supply reliability in its 2020 UWMP. The MWD UWMP uses lessons learned from their previous planning efforts to inform how uncertainty and reliability are evaluated. These plans include the previous and 2020 IRP, the 1999 Water Surplus and Drought Management (WSDM) Plan, and Water Supply Allocation Plan (WSAP). The 2020 IRP is different than previous IRPs in that scenario planning components are being implemented to capture a broader range of possible futures both on the demand and supply side. The reliability assessments included in MWD's UWMP, including the Water Shortage Contingency Planning and Drought Risk Assessments, mirror a similar approach. The assumptions in their UWMP fall within the plausible future scenarios analyzed in the 2020 IRP to ensure the two efforts complement each other. To develop average year supply and demand estimates, MWD used the historic hydrology for 1922 through 2017. This 96-year period was selected based on the historical hydrology period reported in the 2019 SWP Delivery Capability Report, which represents MWD's largest and most variable supply. During that period, the driest one-year period occurred in 1977. A five-consecutive year (1988–1992) dry period was additionally used for MWD's water service reliability and drought risk assessments, representing the driest five-year consecutive period during that time frame.

MWD strives for a "diverse water portfolio" that allows it to meet demands even in years when its primary supplies would not be enough. Part of MWD's 2020 UWMP is to have water storage capacity to draw on when supplies are short. Using surplus water from normal and wet years, MWD's large storage portfolio contains both dry-year storage and emergency storage that can be used to meet demand in case of a shortage. MWD has completed extensive modeling to create management options that will handle future variations in supply and demand.

As discussed in the draft 2020 UWMP, if MWD has a sufficient water supply, then through existing agreements and delivery systems BWP has sufficient supplies as well. In the 2015 IRP update, MWD describes unprecedented challenges on both the SWP and the CRA imported water supplies. The 2020 IRP looks beyond these experienced challenges and recognizes that the future is not predicable. Expanding the range of planning scenarios that MWD considers in their supply and demand modeling will only increase the reliability of this resource for BWP. MWD does not anticipate any reductions in water supply availability from SWP and CRA supplies due to water quality concerns over the study period.

4.4.2 Groundwater Supply Reliability

Groundwater helps BWP's overall supply reliability by providing a reserve during emergencies or droughts. The capacity and reliability of BWP's groundwater supply requires consideration of many issues including:

- Water rights
- Aquifer storage capacity
- Physical well and pump capacity
- Treatment capacity
- Water quality issues

City of Los Angeles owns the native groundwater rights to the SFB as detailed in the Judgment described in Section 4.2. The Judgment gives the City the right to store water in the aquifer under the administration of the ULARA Watermaster.

BWP can purchase MWD water for groundwater replenishment through spreading in order to add to its stored water credits. To maintain and optimize groundwater pumping, BWP needs to acquire about 7,000 af of groundwater per year, on average, through replenishment or a combination of replenishment and “physical solution” purchases.

Unavailable replenishment water during a long drought could limit the City’s ability to add to its groundwater “bank”. However, the City plans to keep a reserve of 10,000 af in groundwater credits. This would allow normal extractions to continue for about three years without replenishment, assuming the purchase of 4,200 afy of physical solution water annually from the Los Angeles Department of Water and Power (LADWP) (see Section 4.2). After that, assuming the groundwater basin still held enough water, BWP would have to negotiate the purchase of additional groundwater from LADWP. For more information on BWP’s groundwater treatment to ensure reliability, please refer to Section 6.2 of the draft 2020 UWMP.

4.4.3 Recycled Water Supply Reliability

All of the City’s recycled water is supplied by BWRP. According to BWP’s 2020 UWMP, the City plans for contingencies in the event recycled water outages occur. The existing recycled water distribution system includes potable water makeup facilities at the BWRP, Stough Tank, and the Golf Course Tank. A recycled water system interconnect with the City of Glendale was completed in 2010 that provides backup recycled water supply from the LA-Glendale Water Reclamation Plant. Magnolia Power Project has the ability to supplement or replace the recycled water supply with water from the City’s well, which normally feeds the Lake Street Granular Activated Carbon (GAC).

SECTION 5
Water Demands

Analysis of water demand, both historical and projected, is based on the same regional, local, areas as the analysis for supplies. The regional demand analysis addresses the greater regional demand which includes MWD demands; the local demand analysis addresses the the City's water system specifically, and the Project-specific analysis demand calculations are based on the most recent land-use map and information from the Project Applicant.

5.1 Recent, Historical, and Projected Demands

5.1.1 City 2020 Demand

BWP provides potable and non-potable water for a mix of urban uses that includes residential, commercial, and governmental uses. There are no agricultural water services in the BWP's service area; however, a portion of water delivered is provided exclusively for landscape irrigation purposes.

The total water demands are based on water use sectors by starting with 2020 records of water sales by customer class, then using projected growth numbers for housing units and employment. Demands incorporate passive conservation (code-based and price-effect savings) and active conservation (for installed active devices through 2020). Losses are assumed to be equal to the five-year average of losses from 2015 to 2019, which is approximately 4 percent of potable direct use demand. It is assumed that existing codes and ordinances will remain in place, which include those codes related to water conservation in the City's Title 9 Building Regulations, and the City's Sustainable Water Use Ordinance passed in June 2008.

In calendar year 2020, water deliveries were comprised of residential and commercial, percentages of deliveries to customers are as follows:

- 50 percent single-family residential
- 27 percent multi-family residential
- 17 percent commercial
- 1 percent City departments
- 0.1 percent fire protection

Water losses in calendar year 2020 are estimated as 3.8 percent of water delivered and is based on unaccounted-for water from 2015 to 2019 (which is equivalent to 4 percent of metered potable use). Unaccounted-for water is calculated as the difference between water delivered to the system and metered sales to customers, accounting for changes in reservoir storage. Unaccounted-for water is lost through unmetered use (flow testing, reservoir cleaning, main flushing, firefighting, etc.), faulty meters, evaporation, sheared hydrants, and system leaks. The industry average for unaccounted-for water is 7 percent, the City's unaccounted-for water is substantially less than unaccounted-for water losses for a municipal utility. Actual demands in BWP service area are shown in **Table 5-1**.

TABLE 5-1
BURBANK'S 2020 WATER DEMANDS

Water Use Category		Total Volume (af)
Single-family residential		7,940
Multi-family residential		4,275
Other Potable		0
Commercial		2,738
Institutional/Governmental		155
Other Potable		11
Losses		614
	Total Direct Use Demand	***15,733***
Groundwater Recharge Demand (Raw Water)		152
	Total	***15,885***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 11.
NOTES:
af = acre-feet
Total demand in this table differs by 9 af from the total demand in BWP's draft 2020 UWMP, which shows a total direct use demand of 15,724 af.

In 2009, the California Water Conservation Act (also known as Senate Bill X7-7 or SBX7-7) was passed into law and requires urban water suppliers to reduce per capita water use 20 percent by 2020 (20x2020). To assist water purveyors, DWR provides a guidance manual with methodologies for calculating water use targets to reduce water demands and meet the 20X2020 goals. The water use target calculation was recalculated in the 2015 UWMP using 2010 census population data. Based on this recalculation, in BWP service area, the 2020 target changed from 156 gallons per capita per day (gpcd) to 157 gpcd. Notably, based on the City's 2020 population of 105,861 and associated demand of 15,885 in all water use categories including groundwater recharge, actual daily per capita water use was 133 gpcd, which is significantly lower than its 156 gpcd target. A minor difference between water supply production and actual water deliveries to customers as BWP's 2020 potable supply production was 16,162 af, which equates to 138 gpcd, which is still well below the BWP's 2020 target of 157 gpcd (BWP draft 2020 UWMP).

The City's service area water demands have decreased in the last 30 years when compared to level of demand in the early 1970s. In fact, the average daily water demand decreased from 24.0

to 19.6 mgd between 1970 and 1999. Maximum day water demands were 37 to 39 mgd in the early 1970s, but have not exceeded 36 mgd since 1976.

In response to the 1977 drought of record and the multiple year drought of 1990–1992, the City's service area water uses have decreased through active and passive water conservation. Water use efficiencies have also played a role, especially in response to the significant water shortage in 2015. In addition, industrial use has also declined as some major industries within the service area are closed. BWP has increased its water meter maintenance, testing, and replacement to significantly reduce unaccounted-for water losses.

5.1.2 City Projected Demands

Land Use and Population

The City consists of a mix of land uses, including residential, commercial, industrial, institutional and open space, with residential and commercial being the dominating uses. The City is largely built-out, meaning there are few vacant sites available for new developments and growth is expected to be due primarily to increases in housing density and land use intensity.

According to the City's General Plan (Burbank2035) prepared in 2013, notes that the greatest amount of growth in the next several decades is expected to be in the commercial area. The City expects to see an intensification of commercial land use in the downtown area and an increased amount of mixed-use development (i.e., residential/commercial/retail) along transportation corridors and transportation nodes. According to Burbank2035, new residential development will be predominantly multi-family that will increase the population density due to redevelopment of older single-family homes on lots zoned for multi-family use. Redevelopment of areas adjacent to downtown is expected to continue, especially along the San Fernando Boulevard corridor and the area around the Metrolink station.

The City is currently updating the Housing Element of the General Plan. BWP staff coordinated with the City's Community Development Department to obtain information related to expected changes to housing growth. The Housing Element the foundation to facilitate the City's goal for 12,000 new units through 2035. For regional planning purposes, additional information regarding housing and employment growth was obtained from the SCAG demographic projections developed for the 2020–2045 RTP/SCS (referred to as Connect SoCal). These projections incorporate data from past trends, key demographic and economic assumptions, and local, regional, state and national policy. The SCAG forecasting process also incorporates participation of local jurisdictions and stakeholders.

Employment growth is expected in a variety of commercial and industrial operations, notably entertainment/media, retail, health care, and manufacturing. (Burbank 2035 General Plan Housing Element, January 2014.; United States Census Bureau Quick Facts, July 2019).

According to the draft 2020 UWMP, the Housing Element goal of 12,000 new housing units is in addition to the SCAG housing unit growth projections.

Base on growth was used to develop future water demand in BWP's service area. The current (2020) population is consistent with California's Department of Finance estimates of population for the City. Projected population includes population projections as provided in the SCAG 2020-2045 RTP/SCS Demographic & Growth Forecast plus the expected population growth associated with the Housing Element goal, which assumes a population of 2.46 per housing unit based on the persons per household estimated by the California Department of Finance.

MWD as the regional wholesale water supplier, prepares water resources reports, studies and plans necessary to manage its regional water supplies based on current and future supply and demand scenarios. As part of its 2020 UWMP, MWD provided BWP and other member agencies with population and supply and demand calculations. Potable water demand for 2025, 2030, 2035, 2040, and 2045 are estimated by using the total retail demand projections provided by MWD as part of the regional planning process. contains the projected demands by water use classes. In general, as shown in **Table 5-2**, total demands are expected to increase, primarily due to the expected increase in housing units as discussed in Section 2.1.

TABLE 5-2
PROJECTED WATER DEMAND (AF)

Water Use Category	2025	2030	2035	2040	2045
Single Family	8,166	8,245	8,238	8,292	8,300
Multi-Family	4,511	4,710	4,945	5,136	5,366
Other	1,160	2,926	3,480	3,480	3,480
Commercial	3,314	3,473	3,638	3,702	3,745
Institutional/Governmental	205	230	249	254	259
Fire Protection	11	12	13	13	13
Unaccounted-for Losses	695	768	823	835	847
Subtotal Potable Demand	*18,062*	*20,380*	*21,386*	*21,712*	*22,010*
Groundwater Recharge	6,800	6,800	6,800	6,800	6,800
Total	***24,862***	***27,180***	***28,186***	***28,512***	***28,810***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, p. 13.

5.1.3 Proposed Project Demands

Proposed Project Demand – Construction and Operation

Proposed Project construction activities are anticipated to commence as early as July 2022 and would be completed as early as December 2025. Over this 3.5-year period water would be used for dust control purposes during grading activities, equipment cleaning, vehicle wash downs, washout basins, soil excavation, and re-compaction of backfill materials, and similar uses. Based on a review of construction projects of similar size and duration, a conservative estimate of construction water use ranges from 10,000 to 15,000 gallons per day (gpd).[6] Based on this conservative estimate of water use this WSA assumed a mid-point of 12,500 gpd. Water use over

6 2311 North Hollywood Way, Utility Infrastructure Technical Report, July 1, 2021, p. 8.

the 3.5 year (1,280 days) construction period would be up to 16 million-gallons or 49.10 acre-feet. Calculated annually this would be 14.02 acre-feet.

The expected water use of the proposed Project was determined by analyzing demand based on planned uses as described in Section 1 and as shown in Table 1-1, and with water demand shown in **Table 5-3**. To determine the water demand factors of the proposed project, water use demand factors were formulated based on data from the draft 2020 UWMP as well as current and historical uses at similar facilities along with information similar mixed-use projects. The proposed Project water demand includes all indoor (commercial and residential) and outdoor water uses in all water year types. The calculated demand of 236.59 afy represents the worst-case scenario of the potential demand for the proposed Project. Outdoor irrigation for landscaping and plants in common areas is calculated to be 4,520 gpd or 5.06 afy and would be supplied by new plumbing for recycled water that is available through an existing recycled water pipeline at the project site.[7] Table 5-3 shows that the proposed Project would contribute approximately 222.40 afy in net demands above historical water demands (14.20 afy) at the Project Site. Construction related water demand would be similar to previous water use demands at the project site.

Projected Single Dry-Year and Multiple-Dry-Year Demand

In all water year types including single dry and multiple dry years, it is anticipated that the proposed Project demand of approximately 236.59 afy will remain unchanged unless consumers within the City's service area are specifically asked to reduce water use through active conservation measures described in Section 8 of BWP's draft 2020 UWMP.

Historical Project-Site Demands

Historically, the 10.43-acre Project Site has been used for commercial uses. Since 1995, Fry's Electronics Store and associated surface parking; in addition, two additional ancillary structures are co-located on the project site. The Fry's Electronics Store and ancillary structures are approximately 105,626 sf. The daily water use associated with these previous uses is calculated to be 12,675 gpd or 14.20 afy.[8] The proposed Project gross water demands compared to previous uses are considered the net change in water demands.

7 BWP Comment on the Draft Water Supply Assessment for the 2311 N. Hollywood Way Project, June 22, 2021.

8 Consistent with Burbank's approved development projects, this assumes a 120 percent increase for potable water demand above wastewater generation rates.

TABLE 5-3
PROJECTED PROJECT WATER DEMAND

Category	Area		Water Generation Rates	GPD	AFY
Non-Residential Uses[1]					
Office	151,800 sf		200 gpd/1,000 sf	36,432	40.81
Commercial (Two restaurants)	9,700 sf		125 gpd/1,000 sf	1,455	1.63
Subtotal Non-Residential Uses				*37,887*	*42.44*
Residential Uses[1]					
	Area (sf)	**Units**			
Studio (334 units)	171,450	334	156 gpd/unit	62,525	70.04
1-Bedroom (363 units)	280,614	363	156 gpd/unit	67,954	76.12
1-Bedroom Live/Work (1 unit)	1,900	1	156 gpd/unit	187	0.21
2-Bedroom (133 units)	146,178	133	195 gpd/unit	31,122	34.86
2-Bedroom Live/Work (5 units)	8,681	5	156 gpd/unit	936	1.05
3-Bedroom (20 units)	28,000	20	195 gpd/unit	4,680	5.24
3-Bedroom Townhouse (6 units)	10,380	6	195 gpd/unit	1,404	1.57
Subtotal Residential Uses	*647,203*	*862*		*168,808*	*189.09*
Commercial and Residential Water Use Totals				***206,695***	***231.53***
Outdoor Landscaping/Plantings[b]	36,555		Mix of ornamental and grasses that require low or moderate water use	4,520	5.06
Water Use Totals				***211,215***	***236.59***
Common Amenities	11,000		NA0		
Residential Lobbies	4,510		NA		
Circulation	113,400		NA		

NOTES:

gpd = gallons per day; afy – acre-feet per year; sf = square feet

[a] Indoor water demands are assumed to be 120 percent of anticipated wastewater generation amounts associated with the Project's indoor uses. Los Angeles County Sanitation Districts wastewater generation factors used in calculations.

[b] As required by City of Burbank – Community Development Department, Building Division. Per the Water Budget Form outdoor water use for landscaping and planted areas is calculated through a two-step process. Step 1 – determines that Maximum Applied Water Allowance and Step 2 calculates the Estimated Total Water Use through this equation:

$$ETWU = (32.05)\left(\frac{PF \text{ X } HA}{0.71}\right)$$

Where:
ETWU = Estimated total water use per year
32.05 = Equation constant
PF = Look up Plant Factor for Region 4 from the WUCOLS III Table (www.owue.water.ca.gov/docs/wucols00.pdf).
For VL (very low) use 0.05, for L (low) use 0.2, for M (moderate) use 0.5, for H (high) use 0.8
HA = Hydrozone Area (high, medium, and low water use areas) in square feet
0.71 = Default Minimum Irrigation Efficiency value, (the amount of water beneficially used divided by the amount applied)

SECTION 6
Supply-Demand Comparison

This section reviews the regional, local, and Project-level supply and demand considerations.

6.1 MWD's Water Supply Sufficiency

MWD strives for a "diverse water portfolio" that allows it to meet demands even in years when its primary supplies would be inadequate. In fact, MWD has developed a water supply portfolio capable of meeting all demands in any given year. As documented in MWD's 2020 UWMP that it plans for drought conditions and potential water shortages, and therefore has taken measures to have water in storage within its existing water supply systems and facilities to use during years when SWP and CRA supplies are curtailed. Using surplus water from normal and wet years, MWD's large storage portfolio contains both dry-year storage and emergency storage that can be used to meet demand in case of shortages. As documented in its 2020 IRP scenario planning components are being used to predict a broader range of possible water supply and demand futures. As previously discussed, MWD's UWMP, its Water Shortage Contingency Planning and Drought Risk Assessments use a similar approach to assess reliability of water supplies and sufficiency to meet demand. Expanding the range of planning scenarios that MWD considers in their supply and demand modeling would likely increase the reliability water supplies to MWD and its member agencies. Operational studies used in this assessment demonstrate that MWD has sufficient water supply to meet this future demand for every hydrologic year on record. Therefore, MWD does not anticipate any reductions in water supply availability from SWP and CRA supplies due to water quality concerns over the study period.

Table 6-1 through Table 6-4 illustrate the available water supplies as hydrologic conditions change when compared to demand changes of the next 25 years. In years of above-average rainfall, MWD could possibly store more water throughout its storage system effectively building up more supplies for dry or multiple dry years.

6.2 Local Water Supply Sufficiency

Table 6-1 compares the City's projected supply and demand over a 25-year planning horizon out to 2045 under normal water year conditions. As shown in Table 6-1, the City can satisfy all customer demands in each year.

TABLE 6-1
BURBANK NORMAL-YEAR SUPPLY AND DEMAND COMPARISON – POTABLE (AFY)

	2025	2030	2035	2040	2045
Supply Totals	18,062	20,380	21,386	21,712	22,010
Demand Totals	18,062	20,380	21,386	21,712	22,010
Difference	***0***	***0***	***0***	***0***	***0***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, Table 6-2, p. 40.

The future water demands for the City and the entire region have been estimated by MWD using its new Econometric Demand Model. This model uses forecast data from SCAG for variables including population, housing units, and employment. Although the City is using lower demand projections which take into account the reductions to meet 20x2020 targets, these MWD projections provide the basis for dry-year reliability planning.

Generally, dry weather, especially hot, dry weather, causes an increase in water demand, mostly for landscape irrigation. However, water use efficiencies and conservation practices during past droughts have successfully lowered water demand. The City achieved a 10 percent reduction in water use during the 1990–1992 multiyear drought, a 20 percent reduction in demand during the 2008–2010 drought, and a 24 percent reduction in demand in 2015. Based on MWD's analysis, reliability of water supply for the City assumed a slight decrease in potable water demand in a single dry year (decrease of 0.4 percent); however, the analysis shows a slight increase in potable demands during multiple dry years that start at 0.85 percent in 2025 and increase to 1.8 percent in 2045. Non-potable demands are assumed to be unchanged during dry periods because the recycled water produced at BWRP is considered highly reliable and accessible at the Project site. Based on this existing infrastructure, recycled water can be relied on for outdoor irrigation purposes.

For water supply planning purposes, BWP in its draft 2020 UWMP presented a comparison of projected water supply and demand for over a 20-year planning horizon; however, for this 2020 UWMP cycle, the City extended this through 2045, based on this information, BWP's draft 2020 UWMP can be used through the next four to five years 2021–2025) specifically for WSA's and WSVs that require a 20-year planning horizon from MWD, based on its 2020 UWMP projects 100 percent water supply reliability through the year 2045. As a result, the City as a MWD member agency does not expect critical shortages during the 25-year planning period. If necessary, the City will implement specific water shortage response actions as described in the Water Shortage Contingency Plan (Section 7 of its draft 2020 UWMP). the City will continue to rely on MWD for water either for direct use or for groundwater replenishment. the City cooperates with MWD's regional water supply planning. MWD relies on its member agencies to continue with their ongoing demand management efforts as MWD's water demand projections include significant increases in conservation throughout its service area and over the planning period. Groundwater and recycled water supplies are assumed to drought resistant and are available during dry and critical dry years.

Table 6-2, **Table 6-3**, and **Table 6-4** provide a comparison of supply to demand during single-dry- and multiple-dry-year periods. As shown in these tables, water demand in the City will increase over the 25-year planning period. Water supplies provided by MWD and supplemented by groundwater supplies in addition to recycled water for irrigation are sufficient to meet demand. As shown, the City can meet existing demand in addition to new demands created by the proposed project and no shortfall will occur.

TABLE 6-2
SINGLE-DRY-YEAR SUPPLY AND DEMAND COMPARISON – POTABLE (AFY)

	2025	2030	2035	2040	2045
Supply Totals	17,989	20,298	21,300	21,625	21,922
Demand Totals	17,989	20,298	21,300	21,625	21,922
Difference	***0***	***0***	***0***	***0***	***0***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, Table 6-4, p. 41.

6.2.1 Multiple Dry Years

As shown in Table 6-3 and Table 6-4, BWP uses MWD's projections to provide the basis for dry-year reliability planning. BWP's draft 2020 UWMP evaluates supply and demand comparisons for multiple dry years.

TABLE 6-3
MULTIPLE-DRY-YEAR SUPPLY AND DEMAND COMPARISON – POTABLE

Years 1–3	2025	2030	2035	2040	2045
Supply Totals	18,214	20,730	21,693	22,111	22,406
Demand Totals	18,214	20,730	21,693	22,111	22,406
Difference	***0***	***0***	***0***	***0***	***0***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, Table 6-6, pp. 41–42.

TABLE 6-4
MULTIPLE-DRY-YEAR SUPPLY AND DEMAND COMPARISON – POTABLE

Years 4–6	2025	2030	2035	2040	2045
Supply Totals	18,214	20,730	21,693	22,111	22,406
Demand Totals	18,214	20,730	21,693	22,111	22,406
Difference	***0***	***0***	***0***	***0***	***0***

SOURCE: BWP, *2020 Urban Water Management Plan, Draft*, May 2021, Table 6-4, pp. 41–42.

Furthermore, MWD's contingency plan for responding to water shortages is the WSAP.[9] WSAP is based on a guiding principle for allocating shortages across MWD's service area. The WSAP

9 WSAP approved by MWD Board of Directors in February 2008.

formula uses different adjustments and credits to balance impacts of water shortage at the retail level, where local supplies can vary dramatically, and provide equity on the wholesale level among member agencies. It also takes into account the following: growth in demand, local investments, change in local supply conditions, the reduction in potable water demand from recycled water, and the implementation of water conservation programs.[10]

The City's water supply during a dry period could exceed the supplies used during a normal year given the ability to purchase additional imported supplies from its wholesaler, MWD. Further MWD projects sufficient supplies and storage to meet demands in future single- and multiple-dry-year scenarios. The City's supply is determined to be reliable in normal-, single-dry-, and multiple-dry-year scenarios, with additional supplies purchased from MWD to meet demands in dry years as needed.

This WSA finds that the City has sufficient water supplies provided by MWD and within its existing groundwater pumping IRC under all hydrologic conditions. Because of MWD's long-term success of delivery of water to all customers and commitment to continue to serve treated water to all retailers, when SWP and CRA curtailments occur, MWD has supply flexibility through its vast network of water supply facilities and long-term water management programs to continue to meet all demands. In addition, BWP could pump additional local groundwater during drought, emergency or other surface supply reductions to meet demands in the future. Furthermore, as presented in Section 5 consumers and retailers could effectively reduce demands by 10 or 25 percent to relieve demand pressure on local and regional supplies. It is reasonable to assume, based on the consumer demand reductions shown in Section 5 above that BWP customers would continue to curb per-capita use and when necessary based on water supply allocations, customers could reduce per capita demands by up to 25 percent.

Project Water Supply Sufficiency

In normal years, the proposed Project would create an estimated 213.53 afy of new water demand, or about 1.2 percent of the City's anticipated total system demand of 18,062 afy in 2025, and 1.0 percent of overall treated water demands of 22,010 afy in 2045 As stated previously, the draft 2020 UWMP consistent with SCAG population and employment projections and the City's Housing Element includes potential water demands that would be generated by land use changes and new commercial and residential developments similar to the proposed project. To convey water to the proposed Project Site, this WSA assumes the proposed Project would use treated water delivered through existing or upgraded infrastructure connected to and expanded upon the City's existing water conveyance systems.

[10] WSAP and the WSDM were incorporated into MWD's 2020 WSCP and prepared in conjunction with MWD's 2020 UWMP.

SECTION 7
Conclusion

According to the requirements of Water Code Section 10910(c)(3) "the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

As previously shown in Table 6-1 through Table 6-4, MWD can meet all water demands in normal, single dry, and multiple dry years by utilizing its current and diverse water portfolio. Voluntary and when required demand reduction measures during dry years would alleviate system demand capacities during periods of SWP and CRA curtailments (for drought, emergency, or environmental mitigation reasons). As discussed in Section 5, customers in the City's service area successfully reduced water uses and curbed demand in previous multiple-year droughts in 1990–1992 and 2008–2010 and significantly reduced demand in 2015 by 24 percent. Therefore, it is reasonable to assume that this level of conservation could be achieved again. As shown in Table 5-1, the City's total demand in 2020 was 15,733, or 136 gpcd, which is significantly lower than its 156 gpcd target—demand hardening is expected to occur over time; however, some level of conservation measures can still successfully reduce demand if necessary.

This WSA finds that MWD, as the wholesale potable water supplier has sufficient water supplies available to serve its member agencies now and over a 25-year planning horizon. Furthermore, the City's groundwater supplies stored in the SFB are reliable in all water year types. With that understanding, the City as a MWD member agency has sufficient water supplies provided through MWD and supplemented with its local groundwater to meet existing demands combined with the proposed Project demands and cumulative demands in 2025, in 2035, and to the 2045 planning horizon of its draft 2020 UWMP.

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SECTION 8
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